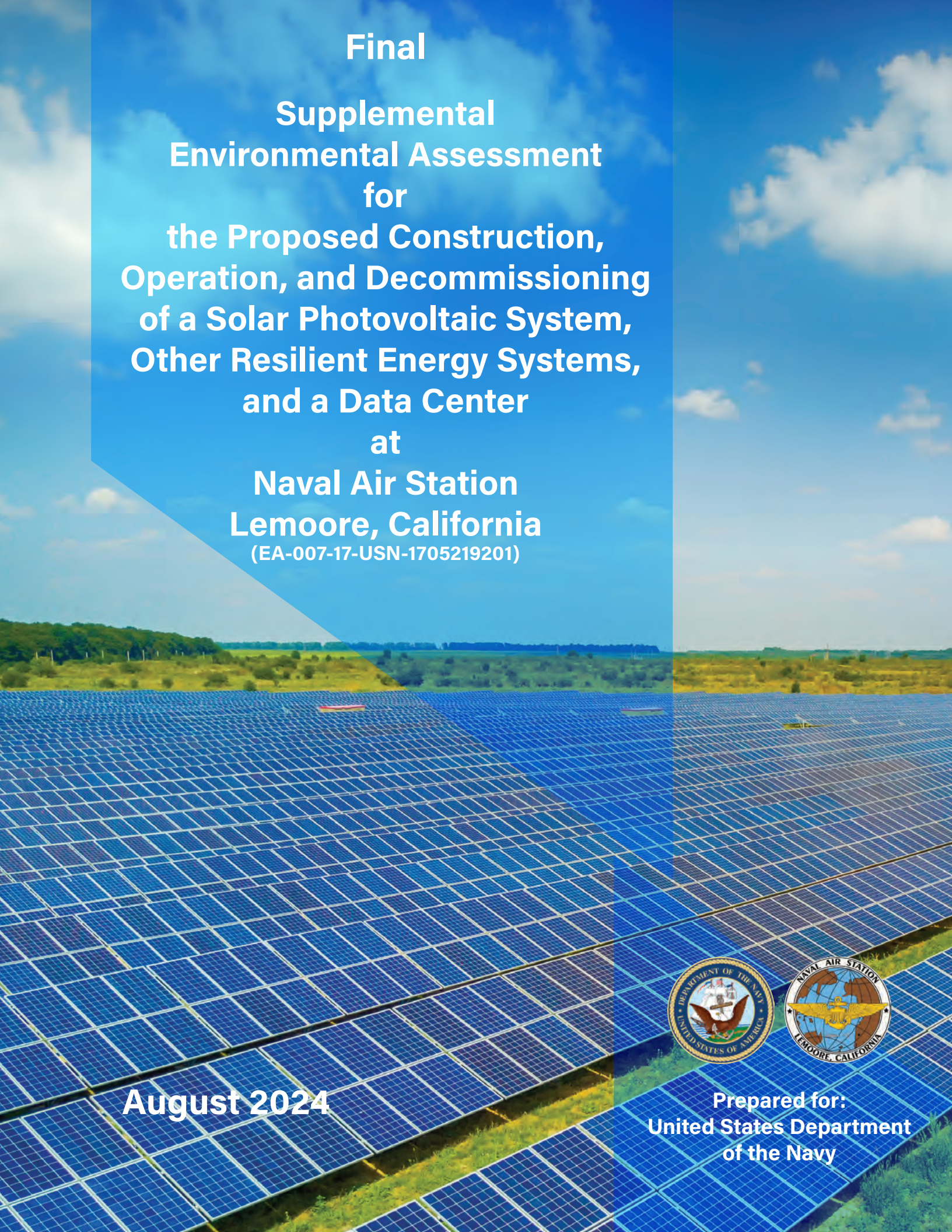
Final

Supplemental Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System, Other Resilient Energy Systems, and a Data Center at Naval Air Station Lemoore, California

(EA-007-17-USN-1705219201)



August 2024

Prepared for:
United States Department of the Navy

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DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR THE SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER AT NAVAL AIR STATION LEMOORE, KINGS COUNTY AND FRESNO COUNTY, CALIFORNIA (EA-007-17-USN-1705219201)

Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the National Environmental Policy Act (NEPA), U.S. Department of the Navy (Navy) NEPA regulations (32 CFR Part 775), and Chief of Naval Operations Manual-5090.1, the Navy gives notice that a Supplemental Environmental Assessment(SEA) has been prepared and an Environmental Impact Statement is not required for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic (PV) System, Other Resilient Energy Systems, and a Data Center at Naval Air Station (NAS) Lemoore, Kings County and Fresno County, California.

Proposed Action: The purpose of the 2024 Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable and resilient energy generating assets at Navy installations. The need for the Proposed Action is to address Navy energy strategies and other regulations.

This SEA has been prepared to amend the 2015 Final Environmental Assessment (FEA) due to substantial changes to the Proposed Action that are beyond the scope of the original environmental planning document. The 2015 FEA evaluated a 2015 Proposed Action that included the lease of up to approximately 2,730 acres at NAS Lemoore to a private partner (also referred to herein as lessee) for the construction and operation of a solar PV system (390 megawatts [MW] or greater). The Navy's October 20, 2015, Finding of No Significant Impact (FONSI) selected the 2015 Proposed Action Alternative 1 for implementation.

Following the Navy's 2015 FEA and FONSI, approximately 930 acres were leased to a private partner for the construction and

operation of a 125 MW solar PV system at NAS Lemoore in 2016. Subsequently, the solar PV system was not constructed, and the 930-acre lease was transferred to another lessee who has maintained the 930 acres since 2019.

The lessee is now proposing a new 2024 Proposed Action within the same 930-acre lease parcel. Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems and a data center within the leased 930-acre lease parcel. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW solar PV system (for a total of up to 425 MW) and construction and operation of additional resilient energy systems (including electric vehicle charging stations, battery energy storage systems [BESS], and backup generation/microgrid), and a data center, along with related infrastructure.

The 2024 Proposed Action includes an option for wholesale energy offtake where the lessee sells energy to the regional utility grid; an option for the lessee to develop a data center and to provide solar PV power and power purchased from the regional utility grid to the data center; and an option which would involve the lessee participating in California's Demand Response programs whereby the lessee would provide backup power from diesel fuel generators to support the regional grid and NAS Lemoore in grid emergencies.

In return, the lessee would provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and Department of Defense energy resiliency objectives. The lessee would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system, resilient energy systems, and the data center.

Public Participation: The public participation process included the publication of a Notice of Availability of the Draft SEA in two local newspapers: the Fresno Bee and the Hanford Sentinel.

The Draft SEA was also made available for public review at the Lemoore Branch Library, the Kings County Library, and the Riverdale Branch Library. In addition, the Draft SEA was made available via the Navy Region Southwest website at https://cnrsw.cnic.navy.mil/Installations/NAS-Lemoore/Operations-and-Management/Program-Links/Environmental-Support/. The Draft SEA was made available for a 15-day public review period from June 28 to July 13, 2024. Four comments were received. Two comments were received from the public about BESS regulations and safety plans, which were incorporated into the SEA. One comment was from the San Joaquin Valley Air Pollution Control District, outlining District Rules for Air Quality compliance which were incorporated into the SEA. The fourth comment provided an updated name of a City of Hanford Planning Commissioner. A Notice of Availability of the Final SEA and FONSI will be published in the Fresno Bee and the Hanford Sentinel. Copies of the documents will also be available at the three libraries and on the Navy Region Southwest website.

Alternatives Analyzed:

1) 2024 Proposed Action (Preferred Alternative):

Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems and a data center within the leased 930-acre Project Site. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW solar PV system (for a total of 425 MW) and construction of a data center, electric vehicle charging stations, BESS, backup generation/microgrid, and related infrastructure.

The lessee would be responsible for all planning, design, obtaining necessary permits and approvals, construction, maintenance, operation, cybersecurity, and the eventual decommissioning of the resilient energy systems and the data center.

2) No Action Alternative:

Under the No Action Alternative, the 2024 Proposed Action would not occur and additional resilient energy system development and a data center would not occur within the Project Site. Following completion of the 2015 NEPA process, the Navy authorized a lease to construct and operate up to a 125 MW solar PV system and associated infrastructure that was consistent with, but involving fewer MW than, what was approved in the Preferred Alternative in the original EA. Thus, under the No Action Alternative, the existing lease would remain in effect and the existing lessee would continue to either manage the undeveloped property or elect to implement authorized solar development activities in accordance with the existing lease. If the lessee elects to implement the currently-authorized solar development activities, the No Action Alternative would still meet the original purpose and need for the 2015 Proposed Action. The potential effects of the 2015 Proposed Action Alternative 1 (i.e., up to 390 MW Solar PV system at NAS Lemoore Sites A and B) as identified and analyzed within the 2015 EA would still be applicable. The No Action Alternative served to establish a comparative baseline for analysis in this SEA.

Alternative to be Implemented: The 2024 Proposed Action (Preferred Alternative) has been selected for implementation as it best meets the purpose and need for the project and would have no significant impacts to the human or natural environment.

Existing Conditions: The 2024 Proposed Action would occur within the existing 930-acre Project Site.

The Area of Potential Effect (APE) for the 2024 Proposed Action addressed in this SEA includes the 930-acre leased Project Site and off-Station utility routes associated with the Proposed Action. The proposed Project Site is currently vacant but has been used for agriculture. There is one recorded historic resource within the APE, P-16-000136. P-16-000136 has not been evaluated for National Register of Historic Places (NRHP) eligibility but consists of a portion of the Camden Junction-Henrietta and Henrietta-Tulare Lake (Line Number 702) transmission line, a 31.55-mile 70-kilovolt line run between Camden Junction south to the Henrietta Substation and then south to the Tulare Lake Substation. Proposed Transmission Route 3

would hang a second line on the existing transmission poles associated with P-16-000136 for approximately 1.6 miles of the 31.55-mile-long line. Assuming the transmission line is NRHP-eligible for purposes of assessing effects, the addition of another cable to existing poles along approximately 5 percent of the existing transmission line would not cause adverse effects to the property as a whole or in part. Trenching for Fiber Route B along the same general route would be designed to avoid adverse effects on P-16-000136. The Navy engaged in an amended consultation in 2024 with the State Historic Preservation Officer for the Proposed Action under Section 106 of the National Historic Preservation Act. This amended consultation assumed eligibility for the purposes of assessing effects and resulted in a finding of No Adverse Effect on historic properties.

No federally-listed plant or animal species are known to occur in the project area.

Environmental Effects and Avoidance/Minimization Measures:

The following resource areas were evaluated for potential environmental consequences: public health and safety, socioeconomics and environmental justice, air quality, and utilities. As discussed in the SEA, a number of other resource areas were analyzed in detail in the 2015 EA and/or 2016 Addendum but are not analyzed in detail in the SEA because it was determined that potential impacts to such resource areas under the 2024 Proposed Action would be essentially unchanged from what was analyzed in the earlier documents.

Table ES-1 in the SEA summarizes the potential environmental impacts and avoidance/minimization measures associated with implementation of the 2024 Proposed Action Alternative and the No Action Alternative. No significant impacts to any resource area would occur with implementation of the Preferred Alternative, and some less than significant impacts would be further minimized or avoided with implementation of the identified avoidance/minimization measures. No mitigation is proposed. The following is a summary of the environmental consequences of the selected alternative.

Public Health and Safety: Under the 2024 Proposed Action, protective health and safety measures would be required during construction, operation and maintenance, and decommissioning of the solar PV system, data center, EV charging stations, BESS, backup generation/microgrid, and related infrastructure at NAS Lemoore. The lessee would be required to prepare a health and safety plan in compliance with applicable regulations and include standard safety measures to be implemented during construction. All facility operation and support activities, including health and safety training, would be managed in accordance with applicable Federal, State, local, Navy, and NAS Lemoore regulations.

The project would comply with the Construction General Permit, and a project-specific plan would be prepared and implemented along with the use of standard best management practices (BMPs). The BMPs would be implemented to minimize unwanted runoff from construction activities and prevent potential exposure to hazardous substances. Therefore, implementation of the Preferred Alternative would not have a significant impact to public health and safety.

Socioeconomics and Environmental Justice: There would be a minor and temporary benefit to the local economy from the use of local labor and supplies and indirect spending during construction. Additionally, there would be an additional 20 full-time employees associated with the operation of the 600,000 square foot data center building. It is anticipated that the new employees would be from the local labor force and would not migrate to the Region of Influence. Therefore, implementation of the Preferred Alternative would not have a significant impact to socioeconomic resources.

The Preferred Alternative would not have disproportionate human health or environmental effects on environmental justice communities. Although pollutants linked to asthma would be generated during construction, utilization of standard operating procedures would reduce these construction-phase impacts, and long-term beneficial impacts to air quality would result due to the addition of alternative energy development in the energy/power grid and reduced thermal power plant combustion emissions (which include particulate matter less than or equal

to 2.5 microns in diameter and ozone) and greenhouse gases. Minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system, data center, EV charging stations, BESS, backup generation/microgrid, transmission and fiber optic cable lines, and substations would not be significant and would be reduced by standard operating procedures during construction and offset by long-term beneficial impacts. Therefore, implementation of the Preferred Alternative would not result in disproportionate effects to environmental justice communities.

Air Quality: Project annual emissions would be well below the thresholds of concern for all pollutants except nitrogen oxide. The overwhelming majority of nitrogen oxide emissions would occur from the proposed diesel-powered emergency generators. San Joaquin Valley Air Pollution Control District regulations require that prior to obtaining a permit to operate, the lessee would have to demonstrate by dispersion modeling that emissions from these sources would not contribute to an exceedance of an ambient air quality or public health risk standard. Therefore, implementation of Preferred Alternative would not have a significant impact to air quality.

Utilities: Under the 2024 Proposed Action, there would be the potential for temporary and localized power disruption when the solar PV system with BESS and backup generation/microgrid comes online. With the exception of potable water for the 20 data center staff, the lessee would use offsite sources to meet all project water needs and "waterless cooling" technology would be utilized to reduce water consumption typically associated with data center operations. There would be an overall water use reduction by removing the 930 acres proposed for development from agricultural use. Therefore, implementation of the Preferred Alternative would not have a significant impact to utilities.

Cumulative Impacts: Potential cumulative effects of the Proposed Action in combination with other past, present, and foreseeable actions were analyzed and found to not be significant. Implementation of the Proposed Action would result in no significant cumulative impacts.

FINDING OF NO SIGNIFICANT IMPACT FOR THE SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER AT NAVAL AIR STATION LEMOORE, KINGS COUNTY AND FRESNO COUNTY, CALIFORNIA (EA-007-17-USN-1705219201)

Finding: Based on the analysis presented in the SEA, the Navy finds that implementation of the Proposed Action/Preferred Alternative would not significantly impact the quality of the human or natural environment.

The SEA prepared by the Navy addressing this action is on file and interested parties may obtain a copy from Mr. Jesse Martinez, Senior Environmental Planner/NEPA Project Manager, Naval Facilities Engineering Systems Command Southwest, 750 Pacific Highway, 12th floor, San Diego, CA 92132-5190 or email jesse.w.martinez1.civ@us.navy.mil.

11/7/2024

Date

B. N. ROSEN
Rear Admiral, U.S. Navy
Commander, Navy Region Southwest

FINAL

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

FOR

THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER

AT

NAVAL AIR STATION LEMOORE, CALIFORNIA

August 2024

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Abstract

Designation: Supplemental Environmental Assessment

Title of Proposed Action: Construction, Operation, and Decommissioning of a Solar Photovoltaic System, Other Resilient Energy Systems, and a Data Center at Naval Air Station Lemoore, California

Project Location: Naval Air Station Lemoore, California

Lead Agency: U.S. Department of the Navy

Affected Region: Kings and Fresno Counties, California

Action Proponent: Naval Air Station Lemoore

Point of Contact: Jesse Martinez
Naval Facilities Engineering Systems Command Southwest
750 Pacific Highway
San Diego, California 92132-5190

Date: August 2024

The United States Department of the Navy (Navy) has prepared this Supplemental Environmental Assessment (SEA) in accordance with the National Environmental Policy Act (NEPA) of 1969 and other applicable laws. This SEA analyzes the potential environmental impacts resulting from the construction, operation, and decommissioning of a solar photovoltaic system, other resilient energy systems, and a data center at Naval Air Station (NAS) Lemoore, California.

This SEA supplements the Environmental Assessment prepared in 2015 which allowed a lessee to construct and operate a 390 megawatt (MW) or greater solar photovoltaic (PV) system and associated infrastructure on 2,730 acres of leased land at NAS Lemoore which was not constructed. Later a lease was signed covering 930 acres of the same land for a 125 MW solar PV system that was not constructed. This SEA evaluates the construction and operation of an additional 35 MW solar PV system (over the 390 MW that was previously evaluated in 2015, for a total of up to 425 MW), along with options to construct and operate additional resilient energy systems (including electric vehicle charging stations, battery energy storage systems [BESS], and backup generation/microgrid), and a data center, along with related infrastructure, on the same 930 acres of land that was studied in 2015.

Under the Proposed Action, the Navy and the lessee would enter into a new agreement to allow the lessee to use Navy land to construct, operate, and own the solar photovoltaic system, and other resilient energy systems, and a data center within the 930-acre leased parcel. The lessee could sell the generated power to regional customers, including the onsite data center. In return, the lessee would provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and Department of Defense (DoD) energy resiliency objectives.

This SEA analyzes the Proposed Action Alternative and the No Action Alternative. This SEA includes a detailed analysis of the Proposed Action's potential environmental effects on the following resources: public health and safety, socioeconomics and environmental justice, air quality, and utilities.

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Executive Summary

ES.1 Proposed Action

The United States Department of the Navy (Navy) has prepared this Supplemental Environmental Assessment (SEA) in accordance with the National Environmental Policy Act (NEPA) of 1969 and other applicable laws. This SEA supplements the Final Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station (NAS) Lemoore, California, September 2015 (2015 EA).

This SEA has been prepared to amend the 2015 EA due to substantial changes that have been made to the Proposed Action that are beyond the scope of the original environmental planning document. The 2015 EA evaluated a 2015 Proposed Action that included the lease of up to approximately 2,730 acres of NAS Lemoore, California (CA) property to a private partner (also referred to herein as lessee) for the construction and operation of a solar photovoltaic (PV) system (390 megawatts [MW] or greater). The Navy's October 15, 2015, Finding of No Significant Impact (FONSI) selected the 2015 Proposed Action for implementation. Following the Navy's 2015 EA and FONSI, approximately 930 acres were leased to a private partner for the construction and operation of a 125 MW solar PV system at NAS Lemoore in 2016. Subsequently, the solar PV system was not constructed, and the 930-acre lease was transferred to another lessee who has maintained the 930 acres since 2019.

The lessee is now proposing a new 2024 Proposed Action within the same 930-acre lease parcel. Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems and an onsite data center within the leased 930-acre lease parcel. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW solar PV system (for a total of up to 425 MW) and resilient energy systems along with options to construct and operate additional resilient energy systems (including electric vehicle charging stations, battery energy storage systems [BESS], and backup generation/microgrid), and a data center, along with related infrastructure. The lessee could sell the generated power to regional customers, including the onsite data center. In return, the lessee would provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and Department of Defense (DoD) energy resiliency objectives. The lessee would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system, resilient energy systems, and the data center.

The purpose of the 2024 Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable and resilient energy generating assets at Navy installations. This SEA will assist Navy officials in making a decision about whether or not to implement the Proposed Action or the No Action Alternative. This document will also help determine whether significant impacts would occur as a result of implementation of the Proposed Action or whether an Environmental Impact Statement is needed.

The following resources areas were evaluated for potential environmental consequences: public health and safety, socioeconomics and environmental justice, air quality, and utilities. Table ES-1 summarizes the potential environmental impacts and avoidance/minimization measures associated with implementation of Proposed Action Alternative and the No Action Alternative. As shown in Table ES-1, no significant impacts to any resource area would occur with implementation of the alternatives; and some less than significant impacts would be further minimized or avoided with implementation of the identified avoidance/minimization measures.

Table ES-1 Summary of Impacts with Proposed Action and No Action Alternatives

Resource Area	Proposed Action Alternative	No Action Alternative
Public Health and Safety		
Impact Summary	No Significant Impact Under the 2024 Proposed Action (Preferred Alternative), protective health and safety measures would be required during construction, operation and maintenance, and decommissioning of an additional 300 MW solar PV system, a data center, EV charging stations, BESS, backup generation/microgrid, and related infrastructure at NAS Lemoore. The procedures, activities, and materials would be handled safely, appropriately, and in accordance with all applicable resource regulations, station plans, and Navy regulations. The lessee/construction contractor would be required to prepare a health and safety plan in compliance with applicable regulations and include standard safety measures to be implemented during construction. All facility operation and support activities, including health and safety training, would be managed in accordance with applicable federal, state, local, Navy, and NAS Lemoore regulations. The project would comply with the Construction General Permit, and a project-specific plan would be prepared and implemented along with the use of standard BMPs. The BMPs would be implemented to minimize unwanted runoff from construction activities and prevent potential exposure to hazardous substances. There would be no significant public health and safety impacts under this alternative with implementation of avoidance/minimization measures detailed in Section 3.3.3, *Public Health and Safety, Environmental Consequences* (pages 3-40 to 3-48), of the 2015 EA and summarized in Section 3.1.3.1, *No Action Alternative*, and 3.1.3.2, 2024 *Proposed Action (Preferred Alternative)*.	No Significant Impact The existing lease would remain in effect, and the existing private partner would continue to either manage the undeveloped property or elect to implement authorized solar development activities in accordance with the existing lease. The original EA determined that there would be no significant impact to public health and safety with implementation of avoidance/minimization measures detailed in Section 3.3.3, *Public Health and Safety, Environmental Consequences* (pages 3-40 to 3-48) of the 2015 EA.
Avoidance/ Minimization Measures	• Construction activities that have a potential to generate substantial amounts of dust (e.g., initial site grading) would be first coordinated and scheduled with NAS Lemoore Operations to avoid potential impacts to aviation training.	Avoidance/Minimization Measures would be the same as presented for the 2024 Proposed Action (Preferred Alternative).

Resource Area	Proposed Action Alternative	No Action Alternative
	• If the currently inactive skeet ranges are activated, work within the SDZ overlap of the Action Area would only occur when the skeet ranges are closed. • The construction contractor would develop a health and safety plan consistent with OSHA standards and regulations, including EM 385-1-1 and OSHA's electric power generation, transmission, and distribution standard, 29 CFR 1910.269 (safe work practices and worker training requirements). • Phase I of the siting of the solar PV system would be beyond 10,000 feet from Air Operations of the station to reduce uncertainty in Bird/Wildlife Aircraft Strike Hazard (BASH) risk. • A ground-mounted single-axis tracking solar PV system would be used to reduce glare, BASH risk, and potential "lake effect." • No cement would be used in installation of pilings to reduce ground squirrel habitat. • A rodent control, pest management, and weed abatement plan would be developed to control plant, insect, and vertebrate pest (e.g., ground squirrels and other rodents) populations in and around the solar PV systems. Ground sterilant used for vegetation control and tackifier to stabilize soils for dust control would be applied regularly under panels. • Consistent with the NAS Lemoore BASH Program, all work would be coordinated with NAS Lemoore, reducing the potential for bird and other animal aircraft strike hazards. BASH management strategies would be evaluated quarterly to ensure effectiveness and would require adaptive management if less effective than desired. • The solar PV system design would minimize glare to the greatest extent practicable. • If a buried oil pipeline (deactivated more than 60 years ago) is encountered during construction activities, measures would be taken to avoid release of and otherwise manage any asbestos-containing material from the pipeline in accordance with applicable laws and regulations.	

Resource Area	Proposed Action Alternative	No Action Alternative
	• Choosing a UL 9540-listed energy storage system (ESS) and ensuring compliance with the UL 9540A Test Method.	
Socioeconomics and Environmental Justice		
Impact Summary	No Significant Impact There would be a minor and temporary benefit to the local economy from the use of local labor and supplies and indirect spending during construction. Potential impacts to socioeconomic resources during operation of the proposed solar PV system would be similar to those described in Section 3.4.3.1 of the 2015 EA. Additionally, under the Preferred Alternative, there would be an additional 20 full-time employees associated with the operation of the 600,000 square foot data center building. It would be anticipated that the new employees would be from the local labor force and would not migrate to the ROI. However, if all 20 employees were to migrate to the area, the additional employees would represent a negligible change (less than 0.1 percent) to population, housing, or employment throughout the two-county ROI. Regarding environmental justice concerns, pollutants linked to asthma would be generated during construction under the 2024 Proposed Action (Preferred Alternative), which could result in disproportionate adverse effects in nearby environmental justice communities. However, determinations of disproportionate effects consider standard operating procedures to reduce construction impacts. Long-term beneficial impacts to air quality would result due to the addition of alternative energy development in the energy/power grid and reduced thermal power plant combustion emissions (which include $PM_{2.5}$ and ozone) and GHGs, offsetting the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system, data center, EV charging stations, battery energy storage system (BESS), backup generation/microgrid, transmission and fiber optic cable lines, and substations. Therefore, the Proposed Action would not result in disproportionate effects to environmental justice communities.	No Significant Impact Under the No Action Alternative, the potential effects of the 2015 Proposed Action as identified in Section 3.4.3.1 of the 2015 EA would still be applicable. There would be no significant impacts to socioeconomic resources under this alternative. If currently authorized solar development activities are implemented, the No Action Alternative would result in long-term beneficial impacts to air quality due to the benefits of contributing to the energy/power grid through alternative energy development and reducing thermal power plant combustion emissions (which include $PM_{2.5}$ and ozone) and GHGs, offsetting the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. Therefore, the No Action Alternative would not result in disproportionate effects to environmental justice communities.

Resource Area	Proposed Action Alternative	No Action Alternative
Avoidance/ Minimization Measures	No measures identified.	No measures identified.
Air Quality		
Impact Summary	No Significant Impact Project annual emissions would be well below the thresholds of concern for all pollutants except NO_x. The overwhelming majority of NO_x emissions would occur from the proposed diesel-powered emergency generators. SJVAPCD regulations require that prior to obtaining a permit to operate, the applicant would have to demonstrate by dispersion modeling that emissions from these sources would not contribute to an exceedance of an ambient air quality or public health risk standard. Assuming compliance with all SJVAPCD regulations, operation of the Proposed Action therefore would result in less than significant impacts to criteria pollutant or HAPs levels.	No Significant Impact Under the No Action Alternative, the potential effects of the 2015 Proposed Action as identified in Section 3.7.3.3 of the 2015 EA would still be applicable. Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing GHG. These potential long-term beneficial impacts would be expected to offset the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. There would be no significant impacts to air quality under this alternative.
Avoidance/ Minimization Measures	• Proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within design standards. • Dust suppression methods (such as using water trucks to wet the construction/ decommissioning area during construction, and the application of a soil stabilizer during operation) would minimize fugitive dust emissions. • Construction equipment with combustive engines would meet USEPA Tier 4 emission standards, as practicable to do so.	Avoidance/Minimization Measures would be the same as presented for the 2024 Proposed Action (Preferred Alternative).
Utilities		
Impact Summary	No Significant Impact Under the 2024 Proposed Action (Preferred Alternative), there would be the potential for temporary and localized power disruption when the solar PV system with BESS and backup generation/microgrid comes online. The 2024 Proposed Action (Preferred Alternative) would support achievement of the Navy's renewable energy goals and strategies. With the exception of potable water for the 20 data center staff, the private partner would use offsite sources to meet all project water needs. There	No Significant Impact Currently, the property is managed as undeveloped land and would not support the Navy's renewable energy goals and strategies. The existing electrical substations and transmission/distribution systems would continue to have adequate capacity to serve NAS Lemoore's demand. If elements of the 2015 Proposed Action are implemented in accordance with the existing lease, then the No Action Alternative would result in potential temporary and localized power disruption

Resource Area	Proposed Action Alternative	No Action Alternative
	would be an overall water use reduction by removing the 930 acres proposed for development from agricultural use. There would be negligible impacts to NAS Lemoore potable water supply or use. Therefore, implementation of the 2024 Proposed Action (Preferred Alternative) would not have a significant impact on utilities.	when the solar PV system comes online. The 2015 Proposed Action would support Navy renewable energy goals and strategies. Under the Model 2 and combination of Models 2 and 3, there would be an increase in regional power supply. Under Model 3, a local renewable energy source would be created for NAS Lemoore. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system. Water used in construction/decommissioning, dust suppression, and periodic solar PV panel cleaning would be sourced from offsite suppliers. There would be an overall water use reduction by removing a portion of the 2,730 acres analyzed in the 2015 EA from agricultural use if authorized development under the existing lease is implemented. There would be no effect to potable water or wastewater because there would be no increase in user population. Therefore, the No Action Alternative would not result in significant impacts to utilities.
Avoidance/ Minimization Measures	No measures identified.	No measures identified.

Legend: BASH = Bird/Wildlife Aircraft Strike Hazard; BESS = battery energy storage systems; BMP = best management practice; CFR = Code of Federal Regulations; EA = Environmental Assessment; EM = Engineer Manual; ESS = Energy Storage System; EV = electric vehicle; GHG = greenhouse gas; HAP = hazardous air pollutant; HAZWASTE = hazardous waste; MW = megawatt; NAS = Naval Air Station; NO_x = nitrogen oxides; OSHA = Occupational Safety and Health Administration; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PV = photovoltaic, ROI = Region of Influence; SDZ = surface danger zone; SJVAPCD = San Joaquin Valley Air Pollution Control District; USEPA = United States Environmental Protection Agency.

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Acronyms and Abbreviations

Acronyms	Definition
APE	Area of Potential Effects
BASH	Bird/Wildlife Aircraft Strike Hazard
BCE	Bright Canyon Energy
BESS	Battery energy storage systems
BMP	Best management practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
CARB	California Air Resources Board
CDA	Community Development Agency
CEQ	Council on Environmental Quality
CPUC	California Public Utilities Commission
CUP	Conditional Use Permit
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement

Acronyms	Definition
EO	Executive Order
ESS	Energy storage system
EUL	Enhanced-Use Leasing
EV	Electric vehicle
FONSI	Finding of No Significant Impact
GHG	Greenhouse gases
HAP	Hazardous air pollutants
HAZMAT	Hazardous materials
HAZWASTE	Hazardous waste
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NRHP	National Register of Historic Places
NSR	New Source Review
OSHA	Occupational Safety and Health Administration

Acronyms	Definition
PG&E	Pacific Gas & Electric
PV	Photovoltaic
ROI	Region of influence
SDZ	Surface danger zone
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOP	Standard Operating Procedures
SPCC	Spill Prevention, Control, and Countermeasure
UL	Underwriters Laboratories
U.S.	United States
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compounds
WWD	Westlands Water District

1 Purpose of and Need for the Proposed Action

1.1 Introduction

The United States (U.S.) Department of the Navy (Navy), serving as lead agency, has prepared this Supplemental Environmental Assessment (SEA) in accordance with the National Environmental Policy Act (NEPA), as implemented by the Council on Environmental Quality (CEQ) Regulations and Navy regulations for implementing NEPA.

This SEA supplements the Final Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station (NAS) Lemoore, California, September 2015 (2015 EA). The 2015 EA evaluated a 2015 Proposed Action that included the lease of up to approximately 2,730 acres of Naval Air Station (NAS) Lemoore, California (CA) property to a private partner (also referred to as lessee herein) for the construction and operation of a solar photovoltaic (PV) system (up to 390 megawatts [MW] or greater). The Navy's October 15, 2015, Finding of No Significant Impact (FONSI) selected the 2015 Proposed Action for implementation.

Following the Navy's 2015 EA and FONSI, approximately 930 acres were leased to a private partner for the construction and operation of a 125 MW solar PV system at NAS Lemoore in 2016. Subsequently, the solar PV system was not constructed, and the 930-acre lease was transferred to another lessee who has maintained the 930 acres since 2019.

The lessee is now proposing a new 2024 Proposed Action within the same 930-acre lease parcel. Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems within the leased 930-acre lease parcel. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW solar PV system (for a total of up to 425 MW), along with options to construct and operate additional resilient energy systems (including electric vehicle charging stations, battery energy storage systems [BESS], and backup generation/microgrid) and a data center, along with related infrastructure, on the same 930 acres of land that was studied in 2015. The purpose of the 2024 Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable and resilient energy generating assets at Navy installations.

This SEA has been prepared to amend the 2015 EA due to substantial changes that have been made to the Proposed Action that are beyond the scope of the original environmental planning document. The additional development now being proposed was not included or examined in the 2015 EA. See Table 1-1 for a summary of the changes between the 2015 Proposed Action and 2024 Proposed Action. The action proponent for this SEA is NAS Lemoore.

Table 1-1 Changes between 2015 Proposed Action and 2024 Proposed Action

Resilient Energy Facilities	2015 Proposed Action	2024 Proposed Action	Changes
Federal Action	Lease of Navy property to private partner for development of resilient energy systems	Modification of existing lease to allow development of additional resilient energy systems and a data center	Lease modification
Private partner (lessee) to construct and operate the following resilient energy systems on Navy property:			
Project Footprint	Up to 2,730 acres	930 acres (within the 2,730 acres analyzed in the 2015 EA)	Subtract 1,800 acres
Solar PV System (ground-mounted)	Up to 390 MW	Up to 425 MW	Add 35 MW
Battery Energy Storage System	Not included	Up to 1.5 GWh	Add 1.5 GWh
Data Center	Not included	Up to 600,000 square foot building	Add 600,000 square foot building
Data Center Full-time Employees	Not included	Up to 20 full-time employees	Add 20 employees
Backup Generation/Microgrid	Not included	Up to 185 MW (consisting of blocks of approximately four 625 kilowatt generators and associated fuel storage or similar capacity)	Add up to 185 MW (consisting of blocks of approximately four 625 kilowatt generators and associated fuel storage or similar capacity)
EV Charging Stations	Not included	Up to 20 stations	Add 20 stations
Infrastructure Connections/Improvements	Included	Includes additional on-station and off-station powerlines and fiber optic cable lines	Includes additional on-station and off-station powerlines and fiber optic cable lines

Legend: GWh =gigawatt-hours; MW = megawatt

(1) A microgrid is designed to function on the distribution grid and can separate (or island) from the grid to serve local electric loads, maintain operations, and reconnect a customer to the grid at a later point in time without customer disruption to electric service. Local generation within the microgrid that can be maintained for substantial amounts of time is key to a successful project such that installation resiliency requirements are met.

1.2 Location

NAS Lemoore is located in the central portion of the San Joaquin Valley, in Kings County and Fresno County, California (Figure 1.2-1). Situated between the Sierra Nevada Mountains on the east and the California Coast Range on the west, NAS Lemoore is at an elevation of 240 feet above mean sea level. Established in 1961, NAS Lemoore remains the Navy's newest, largest, and only West Coast Master Jet Base. NAS Lemoore's principal mission is to support Strike Fighter Wing, U.S. Pacific Fleet and its mission to man, train, and equip West Coast Strike Fighter squadrons.

NAS Lemoore encompasses 18,784 acres of Navy-owned land of which 15,744 acres are within Kings County and 3,040 acres are within Fresno County.

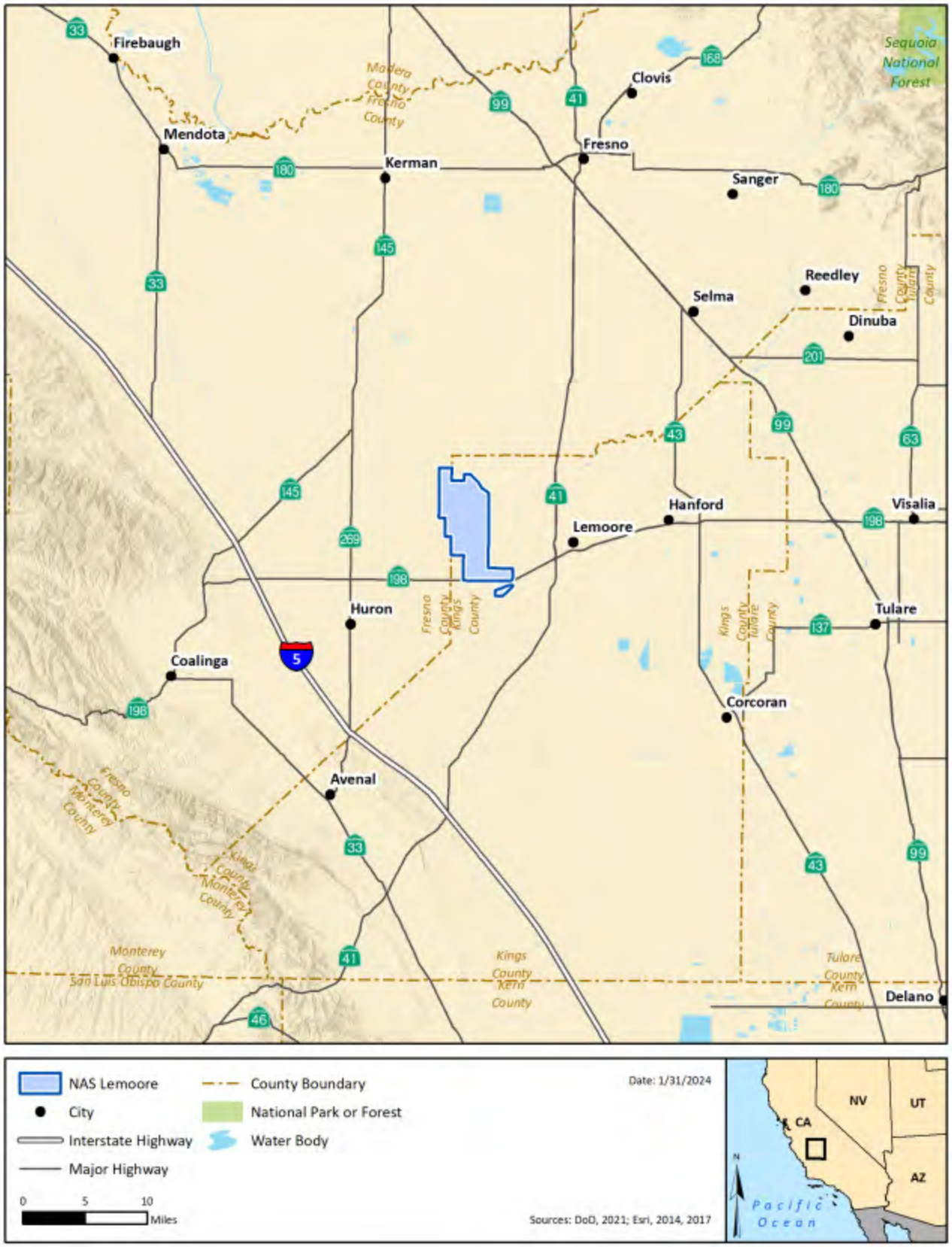


Figure 1.2-1 Regional Location of NAS Lemoore

The 2024 Proposed Action would occur within an approximate 930-acre parcel (Project Site) located in the southeast portion of NAS Lemoore (Figure 1.3-1). The Project Site for the Proposed Action is currently leased to a private partner (hereinafter also referred to as "lessee") for a term of 37-years (expiring October 31, 2053). The lease language states that the Lessee is required to remove improvements and restore the Leased Premises to substantially the same condition. The government has the right to provide written approval for exceptions to this requirement for example if land will no longer have a water allocation from Westlands Water District and therefore it could be restored to vacant/undeveloped conditions but might not be able to be returned to agricultural use.

1.3 Background

Under the 2024 Proposed Action, the Navy would modify an existing Enhanced-Use Lease (EUL) to allow the existing lessee to construct and operate additional resilient energy systems and a data center within the Project Site. The resilient energy systems would include additional solar PV systems, BESS, EV charging stations, backup generation/microgrid, and other infrastructure improvements. The lessee would sell the generated power to regional customers, including an onsite data center. In return, the lessee shall provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and Department of Defense (DoD) energy resiliency objectives. The lessee would be responsible for all planning, design, obtaining necessary permits and approvals, construction, maintenance, operation, and the eventual decommissioning of the energy systems.

The purpose of the 2024 Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of resilient energy systems at NAS Lemoore. To address agency energy strategies and other regulations, the Navy aims to provide uninterrupted supply of energy necessary to prepare and train United States Navy Sailors to defend our country. Central to this strategy is leveraging leasing agreements to implement large-scale projects, reduce operational risks, and maximize economic feasibility.

The 2024 Proposed Action is designed to provide an integrated energy solution to mitigate threats to NAS Lemoore's energy systems posed by wildfires and other natural disasters, climate change, bird air strikes, to protect against electric grid outages, as well as cyber and kinetic attacks. NAS Lemoore is host or adjacent to critical California electric grid infrastructure, which, combined with the installation's geographical features, makes it a resource-rich real estate asset.

1.3.1 Summary of Navy Energy Strategies and Related Regulations

1.3.1.1 Department of Defense Installation Energy Strategy

The DoD's installation energy strategy is designed to ensure mission assurance for the warfighter, reduce energy costs, and improve the energy resilience of our fixed installations. This includes:

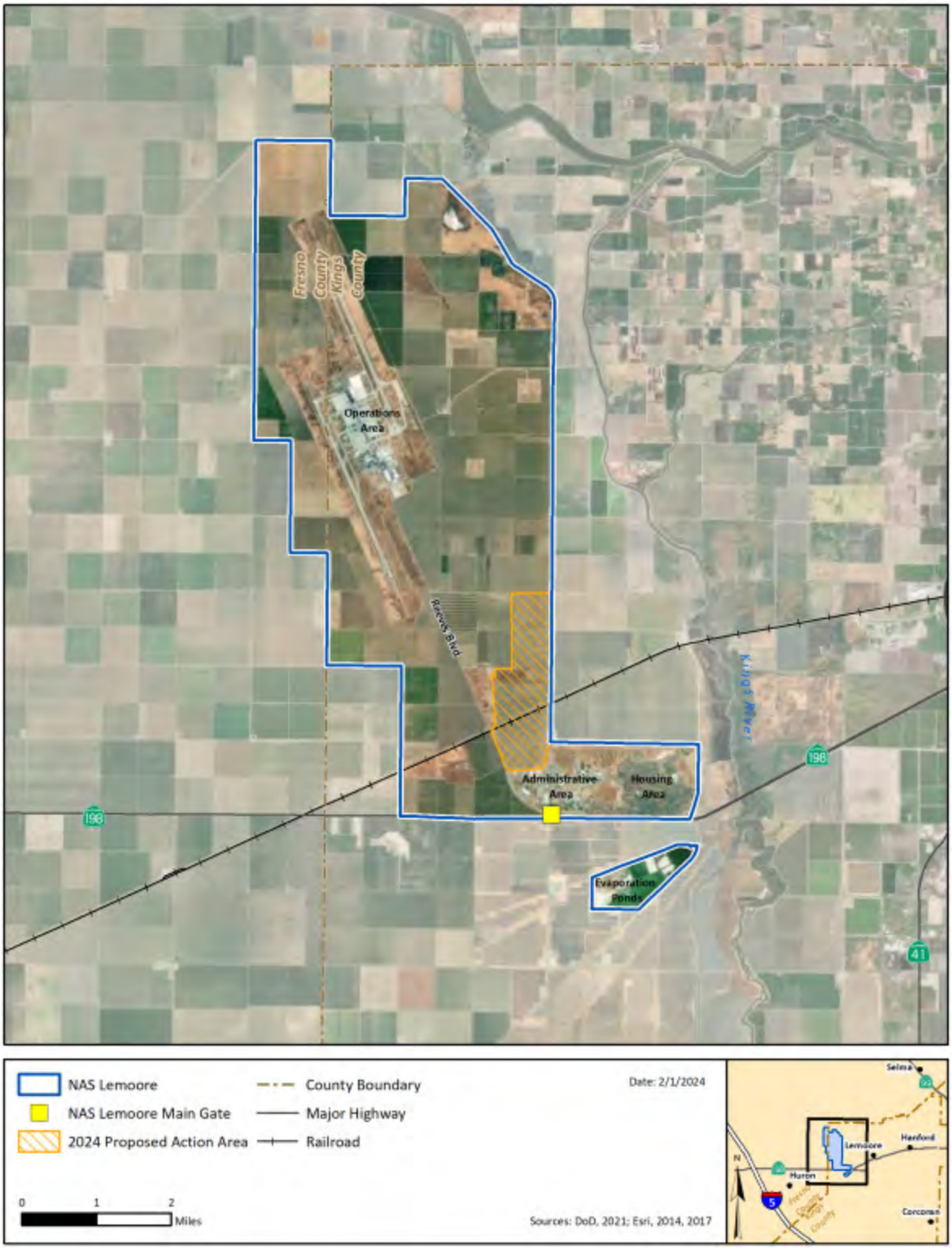


Figure 1.3-1 Proposed Action Area

- Reducing the demand for installation energy and water through conservation and efficiency
- Expanding the supply of distributed (on-site) energy for mission assurance
- Improving the energy grid and storage resilience of our installations
- Leveraging advanced technology for energy resource efficiencies and increased security
- Improving the cybersecurity of mission critical facility-related control systems

This strategy supports the DoD's strategic goals and the Nation's energy security goals. Successful implementation of this strategy would improve energy performance at DoD installations and ultimately lower energy costs, stimulate energy technology innovation in the private sector, improve mission assurance through the energy resilience of our military bases, and ensure the cyber security of facility-related control systems.

1.3.1.2 Department of the Navy Installation Energy Resilience Strategy, February 2020

The Installation Energy Resilience Strategy recognizes Navy and Marine Corps shore infrastructure as critical for generating, sustaining, and deploying tactical assets. The strategy directs the Navy to increase mission capability by integrating a higher degree of energy security through reliability, resilience, and efficiency consistent with the Navy's Energy Security Framework.

1.3.1.3 Executive Order (EO) 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability

EO 14057 (dated December 8, 2021) superseded EO 13834 (Efficient Federal Operations). The goal of EO 14057 is to reestablish the federal government as a leader in sustainability. As relevant to this SEA, EO 14057 identifies requirements relating to transitioning to 100 percent carbon pollution-free electricity; achieving net-zero emissions buildings, campuses, and installations; and increasing energy and water efficiency.

1.3.2 Enhanced-Use Leasing (EUL) Program

The Navy uses the outlease authority contained in Title 10 United States Code (U.S.C.) Section 2667 to lease Navy land to a contractor for the development of energy projects. Title 10 U.S.C. Section 2667 gives the Navy the authority to enter into long-term or short-term leases, lease land and/or buildings, and receive income on leased property, proceeds from which can be used to fund other new construction and do not have to be invested in the leased property. Under the Proposed Action, the Navy is using this authority to lease underutilized land to allow a private partner to develop, operate, and own energy facilities for renewable energy generation, storage, and distribution to the Navy and the commercial power grid, and to develop and operate a data center. In turn, for the use of their property, the Navy receives increased Navy installation energy security, operational capability, strategic flexibility, and resource availability as in-kind consideration in an amount no less than fair market value.

1.3.3 NEPA Evaluation and Lease Background

1.3.3.1 2015 EA Proposed Action

In 2015, to address Navy energy resiliency goals, the Navy proposed entering into an EUL that would allow a private partner to use Navy land at NAS Lemoore to construct and operate a large-scale solar PV system. The 2015 Proposed Action included the lease of up to approximately 2,730 acres of NAS

Lemoore property to a private partner for the construction and operation of a solar PV system (390 MW or greater). The private partner would sell the generated power to regional customers. The private partner would be responsible for the maintenance, operation, and the eventual decommissioning of the solar PV system.

The 2015 EA included an analysis of two action alternatives (i.e., Alternative 1 and Alternative 2) and a No Action Alternative. Under Alternative 1 (Preferred Alternative), an up to 390 MW solar PV system would be constructed and operated within an area up to 2,730 acres (i.e., 2015 EA Sites A and B). An Alternative 1 Option 1 was also analyzed and included the construction and operation of a 20 MW solar PV system within an area up to 145 acres (i.e., 2015 EA Site A only). Under Alternative 2, an up to 390 MW or greater Solar PV system would be constructed and operated within an area up to 2,730 acres (i.e., 2015 EA Sites A, B, D, and/or E). At the end of the lease, the solar PV system would be decommissioned and the site returned to its pre-project condition.

The following resource areas were evaluated in detail in the 2015 EA: land use, biological resources, public health and safety, socioeconomics, visual resources, cultural resources, air quality, utilities, and transportation. Based on the analysis contained within the 2015 NEPA EA, the Navy selected Alternative 1 for implementation and signed a FONSI on October 20, 2015 (Appendix A).

1.3.3.2 2016 EA Addendum

On February 25, 2016, an Addendum to the EA was prepared to include the addition of a new 230 kilovolt (kV) gen-tie power transmission line in a location outside of the footprint of the analyzed in the EA, off-station and to the southwest of NAS Lemoore (Appendix A).

1.3.3.3 2016 Lease to 'Liberty CO LLC'

On October 12, 2016, approximately 930 acres (i.e., Project Site) were leased to Liberty CO LLC for a term of 37-years (expiring October 31, 2053). Under the 2016 lease, the lessee could construct and operate up to a 125 MW solar PV system and related infrastructure for renewable energy generation and distribution to the Navy and the commercial power grid. Upon expiration of the lease, the lessee would remove the improvements and restore the property to the same condition in which it was received.

1.3.3.4 2018 Lease Transfer to 'Bright Canyon Energy Lemoore LLC'

In 2019, Liberty CO LLC decided that a large-scale export-only solar project was not viable because of the cost of infrastructure improvements. In this same year, the Navy was approached by Bright Canyon Energy (BCE) Lemoore LLC, to develop an energy project that would both be capable of exporting energy during normal grid conditions and also to support the installation in times of grid emergencies. The existing lease with Liberty CO LLC was then transferred to BCE on February 14, 2019. BCE maintained the leased land in its current undeveloped state. In January 2024, BCE was acquired by Ameresco, and thus, as of 2024, Ameresco is now the current lessee of the undeveloped land and hereinafter is referred to as "lessee."

Since the transfer of the lease to BCE/Ameresco, the previous 2015 Proposed Action and 2016 Addendum have not been implemented. Specifically, no development has been constructed to date within the Project Site. While Ameresco holds the current lease, aside from general required property maintenance, the Project Site has remained undeveloped and vacant.

1.3.3.5 2024 Supplemental EA Proposed Action

In 2022, the lessee developed a proposal (i.e., 2024 Proposed Action) to accelerate a resiliency solution for the installation that included a mission-compatible resilient energy system that would allow for the highest and best use development while supporting both NAS Lemoore and the regional public.

Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems within the leased 930-acre Project Site. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW of solar PV systems (for a total of up to 425 MW) and an option to construct a data center, EV charging stations, BESS, backup generation/microgrid, and related infrastructure. (Note the 2015 EA addressed up to 390 MW or greater. The 2024 Proposed Action addresses 425 MW, or an increase of 35 MW over what was previously addressed in the 2015 EA.)

As explained above, once the systems are operational, the lessee would sell the generated power to regional customers, including the onsite data center. In return, the lessee shall provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and DoD energy resiliency objectives. The lessee would be responsible for all costs associated with site planning, design, obtaining all applicable permits and approvals, construction, maintenance, operation, cybersecurity, and eventually decommissioning of the facilities.

Note that the original 2015 EA Proposed Action and subsequent lease only included a solar PV system within the Project Site. This SEA incorporates the changes between the 2015 and 2024 Proposed Action. The Navy would be required to modify the existing lease to address the changes to the Proposed Action and to identify any new lessee requirements.

This SEA has been prepared to amend the original environmental planning document to incorporate changes that have been made to the Proposed Action since the 2015 EA that are beyond the scope of the original environmental planning document. These include a more efficient solar PV system (i.e., capable of generating up to an additional 35 MW for total of up to 425 MW) on a smaller site (portion of 2015 EA Project Site), and the following additional development that was not included as part of the 2015 Proposed Action:

- Construction and operation of up to a 600,000 square foot data center building with up to 20 full-time employees,
- Construction and operation of up to 20 EV charging stations,
- Construction and operation of up to a 1.5 gigawatt-hour (GWh) BESS,
- Construction and operation of up to 185 MW backup generation/microgrid and associated fuel storage, and
- Related infrastructure improvements and utility connections.

See Table 1-1 for a summary of the changes between the 2015 Proposed and 2024 Proposed Action. Figure 1.3-2 provides a comparison of the 2015 Proposed Action Area (Alternative 1) and the 2024 Proposed Action Area.

1.4 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of resilient energy systems at NAS Lemoore.

The need for the Proposed Action is to address Navy energy strategies and other regulations. The Navy aims to provide uninterrupted supply of energy necessary to prepare and train United States Navy Sailors to defend our country. Central to this strategy is leveraging leasing agreements to implement large-scale projects that reduce operational risks and maximize economic feasibility.

The Proposed Action is designed to provide an integrated energy solution to mitigate energy threats posed to NAS Lemoore by wildfires and other natural disasters, climate change, bird air strikes, an unreliable electric grid, as well as cyber and kinetic attacks. NAS Lemoore is host or adjacent to critical California electric grid infrastructure, which, combined with the installation's geographical features, makes it a resource-rich real estate asset.

1.5 Decision to be Made

As a result of the analysis in this SEA, a determination needs to be made on whether an Environmental Impact Statement (EIS) needs to be prepared or not. An EIS will need to be prepared if it is determined that any alternative ultimately selected for implementation would have significant impacts to the human or natural environment. Should an EIS be deemed unnecessary based on the analysis of environmental impacts for the alternative selected for implementation, any such selection would be documented in a FONSI.

1.6 Scope of Environmental Analysis

1.6.1 Resource Areas Analyzed in the SEA

The SEA includes an analysis of potential environmental impacts associated with the 2024 Proposed Action and the No Action Alternative. The environmental resource areas analyzed in the SEA are similar to the resource areas analyzed in the 2015 EA. To the maximum extent possible, the prior 2015 EA analysis has been reviewed, validated, and incorporated by reference into the SEA, while new analysis has been provided for the additional components included with the 2024 Proposed Action. A summary of the resource area effects assessed in the 2015 EA and the approach to the same resource areas in the 2024 SEA is provided in Table 1-2.

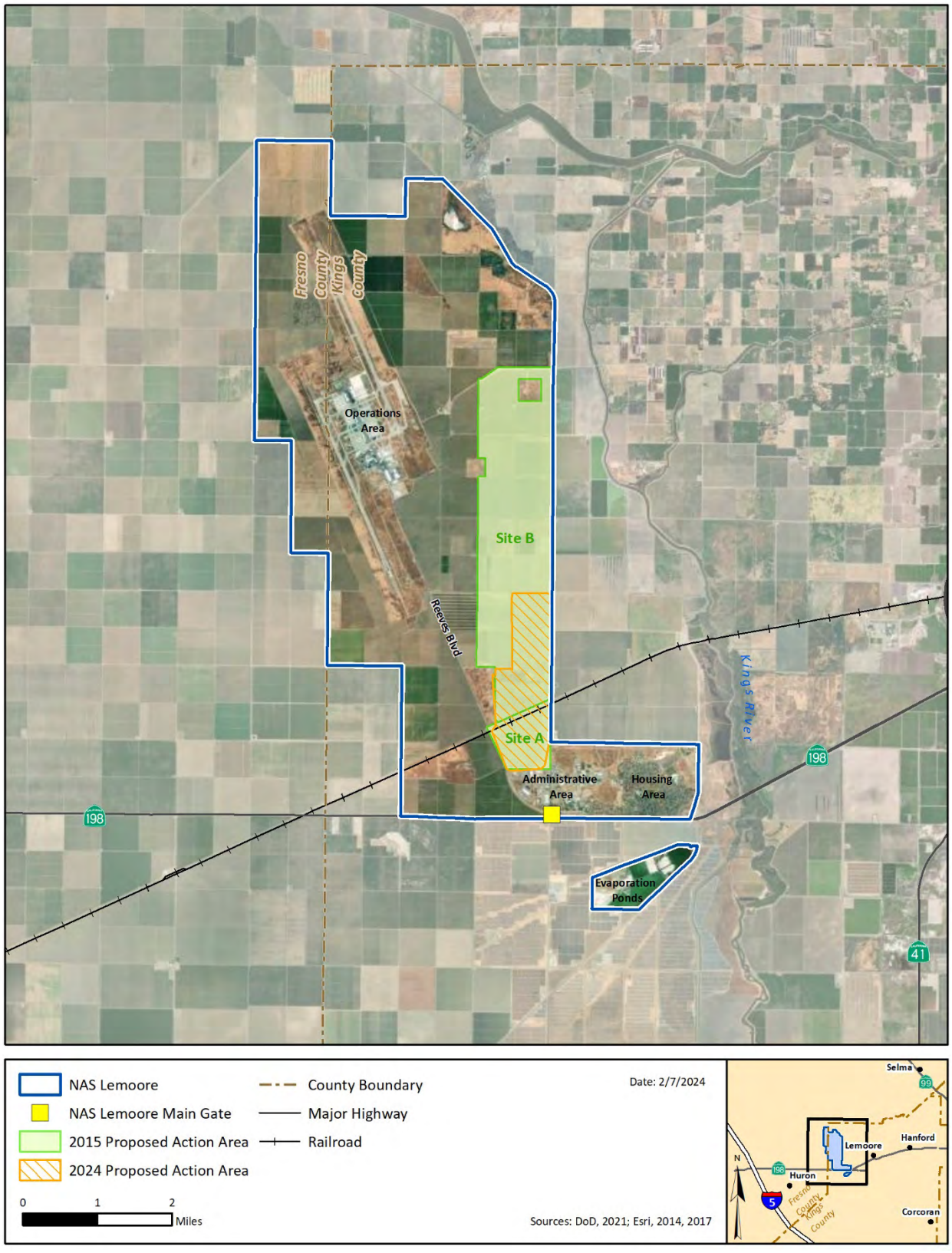


Figure 1.3-2 Comparison of 2015 and 2024 Proposed Action Areas

Table 1-2 Summary of 2015 EA Resource Area Effects and Approach to Analysis in 2024 SEA

Resource Area	2015 EA Effect Summary	Approach to Analysis in 2024 SEA
Land Use	The construction, operation, and decommissioning of the solar PV system would be consistent with the NAS Lemoore Master Plan. The 2015 Proposed Action would comply with requirements applicable to the operation of a solar PV system within an explosive safety quantity distance arc. Soils designated as farmland of statewide importance would be temporarily converted to non-farm uses (for the duration of the project) but would remain largely unchanged and would be available for future agricultural use. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to land use.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Biological Resources	The Project Site is located within the potential renewable energy area identified in NAS Lemoore's Integrated Natural Resource Management Plan. There would be no impact to federally listed species as none occur within the project area. No impact on native and/or natural plant communities at Sites A and B would occur as the solar PV system sites are located in active agricultural land. The impact avoidance/minimization measures listed in the 2015 EA would be implemented to lessen any potential impacts to biological resources. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to biological resources.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Public Health and Safety	To minimize Bird/Wildlife Aircraft Strike Hazard (BASH) potential, all phases of the 2015 Proposed Action would be implemented in accordance with the NAS Lemoore BASH adaptive management strategies to promote safe aircraft operations at NAS Lemoore by reducing the potential for bird and other animal aircraft strike hazards. With implementation of the rodent control, pest management, and weed abatement plans, fewer rodents and pests would be present in and around the solar PV system, therefore, reducing the number of birds drawn to the area. Also, Phase One of the siting of a solar PV system would be beyond 10,000 feet from the airfield and regular monitoring would occur to determine whether the solar PV panel system was or was not attracting additional birds to the area and adaptive management would be implemented, if needed. It is anticipated that as a result of these measures, less birds would be drawn to the project area and become potential BASH threats. Construction and operation of the solar PV system would not present issues with respect to airspace penetration, reflectivity, or interference with communications. Construction, maintenance, and decommissioning activities would be conducted in compliance with health and safety regulations and would not pose a risk to construction personnel or ongoing training. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to public health and safety.	Resource carried forward for full analysis.

Resource Area	2015 EA Effect Summary	Approach to Analysis in 2024 SEA
Socioeconomics	While the implementation of the 2015 Proposed Action would result in an impact to socioeconomics resulting from loss in crop production, as well as the impact from the loss of approximately 24 agriculture jobs, the loss accounts for 0.13 percent of the annual market value for crops in Kings and Fresno Counties. In addition, benefits associated with construction employment opportunities and more stable electricity rates could potentially offset this impact. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to socioeconomic resources.	Resource carried forward for full analysis.
Visual Resources	Construction impacts to visual resources would be temporary and limited to viewers from adjacent roadways and agriculture parcels. The solar PV system would be compatible with NAS Lemoore's visual character. Visual sensitivity of the new 230-kV transmission line would be limited to those within the NAS Lemoore Main Side Area and not change the context of the visual environment. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to visual resources.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Cultural Resources	Three archaeological sites are located within the Area of Potential Effects of the 2015 Proposed Action. However, these sites are either recommended ineligible for listing on the National Register of Historic Place (thus not considered historic properties) or would be avoided during construction, operation, and decommissioning activities. Based on the results of the records search and field investigation, no historic properties would be affected. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to cultural resources.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Air Quality	The 2015 Proposed Action would not exceed *de minimis* levels; therefore, a conformity determination would not be required. Hazardous air pollutant emissions would be negligible. Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development, therefore, reducing greenhouse gas emissions. These potential long-term beneficial impacts would be expected to offset the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to air quality.	Resource carried forward for full analysis.
Utilities	Under the 2015 Proposed Action, there would be the potential for temporary and localized power disruption when the solar PV system comes online. Alternative 1 would support achievement of Navy renewable energy goals and strategies. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system. The private partner would use offsite sources to meet all project water needs; NAS Lemoore would not supply water to the project. There would be no impact to NAS Lemoore water supply or use. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to utilities.	Resource carried forward for full analysis.

Resource Area	2015 EA Effect Summary	Approach to Analysis in 2024 SEA
Transportation	The 2015 Proposed Action would result in temporary increases in traffic associated with construction, operations, and maintenance, and decommissioning activities. Some of the trips associated with these activities (e.g., delivery of construction materials and equipment, the removal of construction debris, operations, and maintenance) would be periodic and would not regularly add traffic to the roadway network. Construction and decommissioning vehicle trips would occur throughout the associated project phase. The volume of vehicle trips would be relatively low and would not affect the existing traffic level of service. Moreover, since the construction areas are outside of fenced areas on NAS Lemoore, traffic from the 2015 Proposed Action should not contribute toward any delays or queues at NAS Lemoore Entry Control Points. Therefore, implementation of the 2015 Proposed Action would not have a significant impact to transportation.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Water Resources	Resource not evaluated in detail.	Resource not carried forward for analysis. See explanation in Section 1.6.2. Utility Resources Section to include analysis of some water resources.
Hazardous Materials and Waste	Resource not evaluated in detail.	Resource not carried forward for analysis. See explanation in Section 1.6.2. Public Health and Safety addresses battery storage.
Noise	Resource not evaluated in detail.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Topography, Geology, and Soils	Resource not evaluated in detail.	Resource not carried forward for analysis. See explanation in Section 1.6.2.
Environmental Justice	Resource not evaluated in detail.	Analysis is included in Socioeconomic Resources section.

Legend: BASH = Bird/Wildlife Aircraft Strike Hazard; kV = kilovolt; NAS = Naval Air Station; PV = photovoltaic

1.6.2 Resources Not Analyzed in Detail

Several resource areas typically assessed in environmental documents (including some previously analyzed in detail in the 2015 EA and/or 2016 Addendum) were considered but not carried forward for detailed analysis in this SEA. This is because any potential impacts to these resource areas from the action alternative would be essentially unchanged from what was analyzed in the 2015 EA and 2016 Addendum or would otherwise be either non-existent or considered negligible at most. The reasons for not analyzing the following resources in detail are presented below.

Land Use. Because the affected land is a subset of what was analyzed in the 2015 EA (930 acres versus up to 2,730 acres), Proposed Action impacts to land use would be less than those described in the 2015 EA. The Proposed Action would be consistent with the NAS Lemoore Master Plan, as the Proposed Action areas are identified for potential solar and/or commercial lease/development. Under the Proposed Action, all development is located outside of explosive distance quantity arcs and airfield accident potential zones. Furthermore, all proposed development structures would be under airfield imaginary surfaces height restrictions. Under the Proposed Action, 930 acres would be developed; approximately 850 acres would be utilized for the solar PV system, and the remaining approximately 80 acres would support the data center, EV charging stations, BESS, backup generation/microgrid, and substations. In the 2015 EA, after decommissioning and dismantling of the PV solar panels, the land would be returned to similar pre-development conditions in accordance with the lease; the current proposal is consistent with past lease obligations, and all land subject to development would be returned to similar pre-development conditions; however, development of the 930 acres will remove the site from the agricultural program and potentially affect future water rights. This area represents less than 8 percent of the agricultural outlease area at NAS Lemoore. Land outside of NAS Lemoore required for the new powerline/fiber optic easement(s) would not be significantly impacted. Land beneath the lines that are placed on above-ground structures would remain agricultural, with only the footprint of the towers removing a negligible area of land from agricultural use. Powerlines/fiber optic lines that are installed beneath the ground would be along the side of existing roadways and or in existing utility corridors and may or may not be removed. The lease language states that the Lessee is required to remove improvements and restore the Leased Premises to substantially the same condition. The Government has the right to provide written approval for exceptions to this requirement. Therefore, there would be no significant impact to land use at NAS Lemoore and this resource area is not carried forward for detailed discussion.

Biological Resources. The Proposed Action would occur on lands where the native vegetation has already been replaced, disturbed, and/or fragmented by intense agriculture or urbanization. No special status plant or wildlife species occur in the project area. Only commonly occurring wildlife species are likely to occur in the project area. Migratory birds are only expected to transit the project area, because of the general lack of foraging and nesting habitat, as well as the high potential for human disturbance. As part of the BASH requirements, the lessee discs the 930-acre project area twice a year to reduce and maintain vegetation specifically to limit habitat that would attract rodents and other pests that could attract avians. Similarly, mammals, reptiles, and invertebrates that may be present on other parts of the installation, are only likely to occur in the project area in transit. No native habitat, individuals, or populations of species would be adversely impacted. Biological resources were thoroughly analyzed in the 2015 EA and conditions have not changed. Therefore, impacts to biological resources from

implementation of the Proposed Action would be negligible and this resource area is not carried forward for detailed discussion.

Visual Resources. Visual resources include the natural and built features of the landscape visible from public views that contribute to the visual quality of an area. Visual perception is an important component of environmental quality that could be changed by implementing the Proposed Action. Visual impacts occur as a result of the relationship between people and the physical environment. The Proposed Action would be located on Navy property in the Managed Lands District. Permitted uses in this district include agricultural outleases, managed grazing lands, natural resources management, and solar PV development (NAS Lemoore, 2015). The topography of the area is relatively flat; the visual sensitivity of the solar PV system, battery storage, and data center would be minimal, as the project components would only be viewable from nearby roadways, buildings on NAS Lemoore, and adjacent parcels. In addition, the 2016 EA Addendum (NAS Lemoore, 2016) assessed the impact of a 230-kV power transmission line in association with the solar PV system. The EA Addendum concluded that the new power line would not be located near any residences and would not result in significant impacts to visual quality. Tree removals would result in a slight change in visual quality impacts from those described in the 2015 EA; however, impacts would be minor due to the area's limited view, resulting in minimal viewer sensitivity of the area. Consequently, the EA Addendum concluded that removal of the windbreak trees would not result in significant impacts to visual quality. Fiber optic cables would be located underground in rights-of-way and would not pose visual impacts after construction. The solar PV system would be compatible with the visual character of NAS Lemoore, consistent with the existing visual character of the area, and not located near any off-station residential areas (NAS Lemoore, 2015). Equipment used during proposed construction could create a short-term visual effect; however, construction would be on Navy property. Following completion of construction, these effects would be negligible. Based on the conclusions above, visual resources were not carried forward in this SEA. Glint and glare are discussed in Chapter 3.1, *Public Health and Safety*, and visual effects on historic properties in the Area of Potential Effects (APE) are discussed below.

Cultural Resources. The APE for the Proposed Action addressed in this SEA includes the 930-acre leased Project Site, which is a subset of the APE addressed in the 2015 EA. The proposed Project Site is currently vacant but had been used for agriculture. There are no identified historic properties (e.g., archaeological sites, architectural resources, traditional cultural properties) within the proposed Project Site, which includes the proposed areas for a BESS, data center, data center substation, utility substation, and Fiber Route C. Of the three recorded cultural resources identified within the boundary of the 2015 APE and discussed in the 2015 EA, none are located within the current APE. Additionally, none of the buildings in the nearby administrative area qualify as historic properties; therefore, there are no potential viewshed issues from the change in land use.

The project APE has been disturbed due to previous agricultural activities and construction of prior utilities. More than two-thirds of the land in NAS Lemoore is utilized for agricultural purposes and has been leased to farmers for many years. Ground-disturbing agricultural activities include cultivation, well drilling, irrigation, drainage ditch construction, sump construction, and 3–4-foot-deep soil ripping to break up hardpans (Milliken and Young 2000). There are no known archaeological historic properties within the APE, and there is a low probability of encountering intact archaeological deposits and features during ground-disturbing activities due to the extensive agricultural use and tilling, as well as

the geomorphology of the area (see Milliken and Young 2000). The off-station construction areas share a similar land use history as the on-station components, including extensive ground disturbance from agricultural activities. If buried cultural resources are encountered during excavation, construction would cease and the Navy would be contacted before construction could continue for work conducted on lands administered by NAS Lemoore.

There is one recorded historic resource within the APE, P-16-000136. P-16-000136 consists of a portion of the Camden Junction-Henrietta and Henrietta-Tulare Lake (Line Number 702) transmission line, a 31.55-mile 70- kV line run between Camden Junction south to the Henrietta Substation and then south to the Tulare Lake Substation. This utility line has not been evaluated for listing in the National Register of Historic Places (NRHP) (Dougherty and Jones 2015). Transmission Route 3 in the 2024 Proposed Action would hang a second line on the existing transmission poles associated with P-16-000136 for approximately 1.6 miles of the 31.55-mile-long line. Assuming the transmission line is NRHP-eligible, the addition of another cable to existing poles along approximately 5 percent of the existing transmission line would not cause adverse effects to the property as a whole or in part.

In compliance with Section 106 of the National Historic Preservation Act and pursuant to its implementing regulations, 36 Code of Federal Regulations (CFR) 800.4(d)(1), the Navy previously submitted a finding of no historic properties affected to the State Historic Preservation Officer (SHPO) in 2015 for the original photovoltaic system project. The SHPO concurred with this finding in 2016. The finding for this revised action is No Adverse Effect, assuming that P-16-000136 is NRHP-eligible for the purposes of assessing effects. The Navy reinitiated consultation with the SHPO in May of 2024. Results of the consultation will be provided in Appendix B. Thus, this resource area is not carried forward for detailed discussion.

Transportation. This SEA considered the conclusions in the 2015 EA, compared the proposed number of personnel during construction and operation, obtained population growth estimates from 2020 to 2022, and reviewed roadway capacity based on the Kings County Association of Governments' adopted *2022 Regional Transportation Plan and Communities Strategy*.

The 2015 EA stated that regional access to NAS Lemoore is via California State Route (SR) 198, which runs generally east–west from Interstate 5 through the City of Lemoore. There are four access gates to NAS Lemoore: (1) Post 1 (Main Gate), (2) Post 1A (Reeves Gate/Seabees Gate), (3) Post 2 (Schools/Housing Gate), and (4) Post 11 (Reeves CVI Gate). Secondary access to NAS Lemoore is provided by SR 41 and SR 269. SR 41 extends along a north–south axis from Fresno through SR 198. SR 269 also runs in a north–south direction and connects SR 145 to SR 198 and points south to the west of NAS Lemoore. Conclusions from the 2015 EA included:

- Construction vehicles and worker trips would result in a temporary increase in truck and passenger vehicle traffic on these roadways. Solar panel assembly would occur at the staging area(s), and other construction equipment and materials would be stored on-site at the staging area(s) for the duration of construction.
- Assuming each of the workers would drive alone to and from the construction zone, workers would generate a maximum of 740 daily trips during the construction period. Vehicle trips would be distributed to SR 198, SR 41, SR 269, and other local and regional roadways.

- The solar site is located outside the perimeter security fences that enclose the Operations Area and the Administrative Area/Family Housing Area. As a result, construction vehicles would not add to vehicles entering NAS Lemoore at the Main Gate, Operations Area Main Gate, or Reeves Gate.
- Once construction is complete, maintenance activities would be required that would be periodic and would only involve a small number of vehicle trips per year to the solar site. All maintenance trips would occur outside of the fenced areas of NAS Lemoore and would not contribute to delays and queues at the NAS Lemoore access gates (NAS Lemoore, 2015).

The 2015 EA estimated 370 construction workers, while the SEA is assuming 400 construction workers. The estimated construction worker numbers for 2015 and the SEA are similar and would not change impact conclusions. After construction, the 2015 EA indicated no additional employees but would require periodic maintenance such as lawn mowing, cleaning, and any equipment repairs. This SEA would have similar maintenance activities and an estimated 20 new personnel for the data center. Twenty additional employees compared to the existing 7,700 (PCSing.com, 2024) would represent 0.3 percent of the total station population and would not be significant.

According to the United States (U.S.) Bureau of Census, the City of Lemoore population growth from 2020 to 2022 is virtually the same (27,030 in 2020 and 27,185 in 2022) (USCB, 2023). Therefore, population growth would not contribute to additional traffic congestion on roadways.

The 2022 Regional Transportation Plan describes the current Kings County transportation system. In general, roadways in Kings County are both uncongested and reliable (Kings County Association of Governments, 2022). These roadways include Interstate 5, SR 41, and SR 198 for both morning and afternoon peak travel times for both cars and trucks. The only congestion in peak hours shown is largely for trucks reported near Hanford. Proposed roadway improvement projects listed in the plan focus on local streets in the City of Lemoore and consist of repaving, overlaying, and restriping.

In summary, the proposed construction would require use of heavy equipment and worker commutes that would generate short-term increases in traffic. The local roadway infrastructure would be sufficient to support these activities, and effects would be negligible. Construction workers would not have to access NAS Lemoore through the Main Gate and would not contribute to delays at the gate. Permanent employees would only increase by 20 and not contribute to additional traffic congestion. Because most of the work would take place on Navy property, road closures or detours would not occur. As a result, transportation was not carried forward for detailed analysis in this SEA.

Water Resources. Surface water features within the project area consist of agricultural irrigation ditches along the railroad tracks between the areas identified as Site A and Site B in the original EA and along the north end of the proposed 2024 Project Site. No wetlands are located within the Project Site. The 2024 Proposed Action would disturb approximately 1,800 acres less than that identified in the original EA. Implementation of the Proposed Action would not alter existing surface water features but would require compliance with the National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit Order WQ 2022-0057-DWQ), consistent with the original EA, because construction would include grading of more than 1 acre. Compliance and coverage requires preparation of an Erosion Control Plan and includes standard erosion control measures (e.g., silt fencing, soil stabilizers), among other requirements, to reduce potential impacts (e.g., soil loss and sedimentation) to water resources during

construction. Section 3.4, Utilities, considers potential impacts to water supply and use. Removal of 930 acres from the agricultural program would be less than the total removed acreage anticipated under the 2015 Proposed Action. In the short-term, water supply savings would be less than if the full acreage analyzed in the 2015 Proposed Action were removed. Following the life of the lease, if and when the site is returned to pre-development conditions, changes in water availability and priority for acreage removed from the agricultural program could change. No use of or impact to groundwater would occur from the construction or operation of the resilient energy systems or data center. Implementation of the Proposed Action would have a minimal positive effect on water quality due to a reduction in agricultural-related runoff in those areas replaced by infrastructure. Therefore, impacts to water resources from implementation of the alternatives would be negligible as compared to the 2015 Proposed Action. As a result, water resources are not carried forward for detailed analysis in this SEA.

Hazardous Materials and Waste. The Proposed Action would avoid any existing Installation Restoration sites located within or adjacent to the project area. Possible hazardous waste may be generated during the construction, operation, maintenance, and decommissioning of the diesel-powered backup generators, associated fuel storage system and BESS. Additionally small amounts of hazardous waste may be generated from the vehicles and equipment that would be used during the proposed construction, operation, and decommissioning phases of the solar PV system. To minimize/manage possible generation of hazardous waste, all project-related activities would be conducted in accordance with the NAS Lemoore Spill Prevention Control and Countermeasure Plan (NAS Lemoore 2022). Hazardous wastes that could be generated as part of the Proposed Action would be handled and disposed of in accordance with the NAS Lemoore Hazardous Waste Management Plan (NAS Lemoore 2022) conforming to all applicable federal, military, state and local regulations. Therefore, impacts from hazardous materials and/or wastes from implementation of the Proposed Action would be negligible. As a result, hazardous materials and waste were not carried forward for detailed analysis in this SEA.

Noise. Dominant noise levels both on- and off-station are the result of NAS Lemoore aircraft operations. The nearest sensitive receptors to the Proposed Action area are on-station residences located at approximately 5,000 feet and are within the 65-70 and 65-60 Community Noise Equivalent Level noise contours associated with the airfield (Navy 2010). These on-station residences have been implemented with noise attenuation measures to reduce aircraft noise, including double-paned windows and air conditioning (Navy 2010). Off-station areas immediately adjacent to NAS Lemoore and the Project Site consist of agricultural lands, specifically Agricultural Preserve absent of any sensitive receptors (Kings County 2024). Using a conservative estimate of 107 decibels (dB) at 3 feet for an unattenuated generator/chiller/exhaust/makeup air unit, noise levels at on-station residences would be approximately 43 dB; however, this type of equipment usually has exhaust silencers attached or is usually housed in a sound attenuating enclosure for a further reduction in noise levels (Cummins Power Generation 2007; Wilson IHRG 2019). Sound attenuated enclosures or equipment mufflers can result in a conservative noise reduction of 10 to 15 dB (Cummins Power Generation 2007; Wilson IHRG 2019). Therefore, impacts from noise associated with the Proposed Action would be negligible. As a result, noise was not carried forward for detailed analysis in this SEA.

Topography, Geology, and Soils. The geological characteristics of the potential solar PV system sites consist of regularly disturbed agriculture soils with very little relief. No unique topographic features exist in this highly disturbed environment. The 2024 Proposed Action would disturb up to 930 acres, most of

which would be temporary and associated with installation of solar panels and linear narrow trenching where fiber could be installed. This represents a decrease of approximately 1,800 acres of disturbance compared to the original EA. Implementation of the No Action Alternative would be consistent with the original EA. Implementation of the 2024 Proposed Action would temporarily and permanently disturb soils within the Project Site, resulting in an increased potential for dust generation and erosion. Most potential effects would be temporary, minor, and controlled through the implementation of the standard avoidance/minimization measures presented in Table ES-1, Summary Impacts. A spray-on erosion control fiber matrix (soil stabilizer) would be applied to the soil following construction, which would reduce the potential for soil erosion and dust. Under the No Action Alternative and the 2024 Proposed Action, the soil would not be subject to frequent tilling, disturbance, or the application of fertilizers and pesticides.

NAS Lemoore is not underlain by any active faults. While most of California can be considered seismically active (notably, the San Andreas Fault is approximately 60 miles to the west of the station), activities associated with the installation of new energy infrastructure and construction of the proposed data center would not be uniquely subject to seismic risk or increase the potential for seismic events to occur. Section 3.1, Land Use, in the original EA considered potential impacts to prime farmland. Therefore, impacts to geological resources from implementation of the alternatives would be negligible. As a result, topography, geology, and soils were not carried forward for detailed analysis in this SEA.

1.7 Key Documents

Key documents are sources of information incorporated into this SEA. Documents are considered to be key because of similar actions, analyses, or impacts that may apply to this Proposed Action. CEQ guidance encourages incorporating documents by reference. Documents incorporated by reference in part or in whole include:

- Final Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California, September 2015.
- Environmental Assessment Addendum for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California, February 2016. The Addendum analyzed the addition of a new 230 kV gen-tie power transmission line in a location outside of the project footprint analyzed in the 2015 EA. The Addendum concluded that the project description changes would result in minimal impact changes to those described in the 2015 EA and would not result in significant impacts to resources at NAS Lemoore (NAS Lemoore 2016).

Documents incorporated herein by reference are available upon request during the public review period by contacting the Navy via the information provided above in the Abstract.

1.8 Relevant Laws and Regulations

The Navy has prepared this SEA based upon federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action, including the following:

- NEPA (42 U.S.C. sections 4321–4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment

- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations parts 1500–1508)
- Navy regulations for implementing NEPA (32 Code of Federal Regulations part 775), which provides Navy policy for implementing CEQ regulations and NEPA
- Clean Air Act (42 U.S.C. section 7401 et seq.)
- Clean Water Act (33 U.S.C. section 1251 et seq.)
- National Historic Preservation Act (54 U.S.C. section 306108 et seq.)
- Endangered Species Act (16 U.S.C. section 1531 et seq.)
- Migratory Bird Treaty Act (16 U.S.C. sections 703–712)
- Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. section 9601 et seq.)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. sections 11001–11050)
- Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. section 136 et seq.)
- Resource Conservation and Recovery Act (42 U.S.C. section 6901 et seq.)
- Toxic Substances Control Act (15 U.S.C. sections 2601–2629)
- Farmland Protection Policy Act (7 U.S.C. section 4201 et seq.)
- EO 11988, Floodplain Management
- EO 12088, Federal Compliance with Pollution Control Standards
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- EO 13807 Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects

A description of the Proposed Action's consistency with these laws, policies and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in Table 5-1.

1.9 Public and Agency Participation and Intergovernmental Coordination

1.9.1 Public/Agency Participation

Pursuant to CEQ regulations (40 CFR part 1506.6), the Navy works to maximize public involvement in the development of the NEPA analysis for its Proposed Actions. The Navy has prepared this SEA to inform the public of the Proposed Action and to provide an opportunity for public review and comment.

A Notice of Availability (NOA) of the Draft SEA was published in two local newspapers (the Fresno Bee and the Hanford Sentinel) to initiate a 15-day public and agency review and comment period. In addition, the

NOA was mailed to project stakeholders. A copy of the NOA is included in Appendix C. The public comment period occurred from June 28, 2024, to July 13, 2024. A digital copy of the Draft SEA was made available for review on the Navy's website at:

https://cnrsw.cnic.navy.mil/Installations/NAS-Lemoore/Operations-and-Management/Program-Links/Environmental-Support/

Paper copies of the Draft SEA were made available for public review at the following libraries:

- Lemoore Branch Library Lemoore Branch Library, 457 C Street, Lemoore, CA 93245
- Kings County Library Kings County Library, 401 North Douty Street, Hanford, CA 93230
- Riverdale Branch Library, 20975 Malsbary Street, Riverdale, CA 93656

The public was invited to submit comments by either of the methods below:

- Electronically, via email to this email address: NASL_EUL_PM@Stantecgs.com
- In writing, by mail to: NASL EUL PM c/o Stantec, 514 Via De La Valle, Suite 308, Solana Beach, CA 92075

Comments received during the Draft SEA public comment period were considered during preparation of the Final SEA. Where appropriate, SEA sections were updated to respond to public and other agency comments. A summary of the comments received on the Draft SEA, along with the Navy's responses to these comments, is included in the Final SEA.

1.9.2 Agency Consultations

The Navy consulted with the SHPO and parties including tribes with cultural affiliation within the APE under Section 106 of the National Historic Preservation Act for potential impact to properties eligible for listing on the NRHP.

The Navy will continue to discuss issues and follow appropriate consultations associated with the 2024 Proposed Action with other agencies as the NEPA process continues. Agency consultation and coordination documentation is included in Appendix B.

Of note, the lessee is responsible for complying with all applicable local, state, and federal laws and regulations in implementing the 2024 Proposed Action, including the construction and operation of the proposed resilient energy facilities. This includes, at its sole cost and expense, complying with and obtaining all applicable permits and approvals required by local, state, and federal laws, ordinances, regulations, and standards that are applicable, or may become applicable, to lessee's activities within the leased parcel.

There are three regulatory courses of action that may be required of the lessee to implement the Proposed Action. The Proposed Action includes all three options, but all three may or may not be implemented and each could function independently of the other or could function together. Any California State regulatory approvals related to energy offtake would be obtained after the NEPA analysis is complete. The lessee would be responsible for obtaining any and all permits and approvals. Table 1-3 presents the potential California State regulatory permits or approvals that may be required to implement the Proposed Action in the future.

The lessee would obtain approval from the California Public Utilities Commission (CPUC) and the California Independent System Operator (CAISO) as required to support off-base station generation for on-base station consumption if Option 1 is implemented. For Option 2, which includes a data center and battery storage, no CPUC process is anticipated to be needed by the lessee because the customer service extension to the data center would be provided by the local utility provider. Option 3 does not need to be approved by the CPUC, but the lessee would need to qualify for the California Demand Response program. All options would require an on-station collector substation. Therefore, this Proposed Action includes an on-station collector substation for the PV system and may also require a utility substation to power the data center during periods of low solar energy. Improvements needed by the investor-owned utility to accommodate the additional power on the investor-owned utility's off-station infrastructure would be determined by the utility's system impact study (ongoing).

Approval from the CPUC, CAISO, and the San Joaquin Valley Air Pollution Control District (SJVAPCD) is not a requirement for this SEA (i.e., permitting may be needed after completion of the NEPA process), the lessee would obtain the approvals from these entities in the future for implementation as needed.

Table 1-3 Anticipated Regulatory Approvals Associated with the Proposed Action

Agency	Permit or Approval	Current Status	Option
CPUC[1]	Public Utilities Code Section 399.11	The lessee could obtain a power purchase agreement. The CPUC would approve the agreement if a regulated investor-owned utility (e.g., Pacific Gas & Electric) buys the power from the lessee.	1
CAISO[2]	Public Utilities Code Sections 2811-2816	The lessee could obtain an Interconnection Agreement from the CAISO. Request complete.	1
CPUC	General Order 131-D	Interconnection between the proposed on-base substation and the public grid may require a Certificate of Public Convenience and Necessity or a Permit to Construct if an investor-owned utility builds the interconnecting line between their substation and the project's collector substation (on-station).	1 and 3
SHPO	NHPA Section 106	Consultation concluded.	
SJVAPCD	Compliance with District Rules	The lessee would obtain relevant operating permits ahead of construction as applicable.	1, 2, and 3

Notes: [1] CPUC regulates investor-owned utilities in California, oversees the procurement of renewable energy in the state under the Renewable Portfolio Standard implementation program, and permits electrical transmission.
[2] CAISO is an independent, non-profit organization that oversees the operation of California's electric power system, transmission lines, and electricity market. Proposed connections from private power producers to investor-owned utilities are subject to the review and approval of the CAISO.

Legend: CAISO = California Independent System Operator; CPUC = California Public Utilities Commission; NHPA = National Historic Preservation Act; SJVAPCD = San Joaquin Valley Air Pollution Control District.

2 Proposed Action and Alternatives

2.1 Proposed Action

Under the 2024 Proposed Action, the existing lease would be modified to allow an existing Enhanced-Use Leasing (EUL) Program lessee to construct and operate additional resilient energy systems within the leased 930-acre Project Site. The existing lease allows the lessee to construct and operate up to a 125 MW solar photovoltaic (PV) system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW solar PV system (for a total of 425 megawatt [MW]) and an option to construct a data center, electric vehicle (EV) charging stations, battery energy storage systems (BESS), backup generation/microgrid, and related infrastructure.

The lessee would sell the generated power to regional customers, including the onsite data center. In return the lessee shall provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and DoD energy resiliency objectives. The Proposed Action includes Option 1 Wholesale energy offtake where the lessee sells energy to the regional utility grid; Option 2 where the lessee develops a data center and provides solar PV power and power purchased from the regional utility grid to the data center; and Option 3 which would involve the lessee participating in California's Demand Response programs whereas the lessee would provide backup power from diesel fuel generators to support the regional grid and NAS Lemoore in grid emergencies.

The lessee would be responsible for all planning, design, obtaining necessary permits and approvals, construction, maintenance, operation, cybersecurity, and the eventual decommissioning of the Proposed Action resilient energy systems, and the data center.

2.2 Screening Factors

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federally Proposed Action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and to meet the purpose and need require detailed analysis.

Potential alternatives that meet the purpose and need were evaluated against the following screening factors:

- Located within the existing 930-acre leased Project Site.
- Utilizing existing EUL authorities, construction and operation of the proposed resilient energy systems would be implemented by a private partner.
- Must not interfere with installation mission activities and operations or create unsafe conditions.
- Increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets.

- Address agency energy strategies and other regulations, the Navy aims to provide uninterrupted supply of energy necessary to prepare and train United States Navy Sailors to defend our country.
- Avoids significant impacts to sensitive natural resources.

2.3 Summary of Action Alternatives in the 2015 EA

This section summarizes the action alternatives assessed in the previous 2015 EA, including Alternative 1 (Preferred Alternative), Alternative 1 Option, Alternative 2, and a No Action Alternative. Under each action alternative assessed in the 2015 EA, the Navy and private partner would enter into an agreement to allow the private partner to use Navy land to construct, operate, and own the proposed solar PV system. The partner would sell the generated power to regional customers and/or the Navy. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system.

2.3.1 Alternative 1: Up to 390 MW Solar PV System at NAS Lemoore "Sites A and B" (2015 Preferred Alternative)

Up to approximately 2,730 acres within Sites A and B would be developed to support the construction and operation of up to 390 MW solar PV system and associated infrastructure at NAS Lemoore (Appendix A, Figure 2-2a). At the conclusion of the agreement (37 years), the solar PV system would be decommissioned and the site returned to its pre-project condition.

The 2015 EA Alternative 1 was identified as both the Navy's Preferred Alternative and selected for implementation in the 2015 FONSI. The Navy subsequently issued a 930-acre lease to a private partner to construct, operate, and decommission a proposed solar PV system and associated infrastructure at NAS Lemoore. The project was never implemented and is the No Action Alternative in this SEA.

2.3.2 Alternative 1 Option: 20 MW Solar PV System at NAS Lemoore "Site A" Only

Up to approximately 145 acres within Site A would be developed to support the construction and operation of up to 20 MW solar PV system and associated infrastructure at NAS Lemoore (Appendix A, Figure 2-2b). At the conclusion of the agreement (37 years), the solar PV system would be decommissioned and the site returned to its pre-project condition. The 2015 EA Alternative 1 Option was not identified as the Navy's Preferred Alternative or selected for implementation in the 2015 FONSI. Therefore, it was not considered in this SEA.

2.3.3 Alternative 2: Up to 390 MW Solar PV System at NAS Lemoore "Sites A, B, D, and/or E"

Up to approximately 2,730 acres within Sites A, B, D, and/or E would be developed to support the construction and operation of up to 390 MW solar PV system and associated infrastructure at NAS Lemoore (Appendix A, Figure 2-3). At the conclusion of the agreement (37 years), the solar PV system would be decommissioned and the site returned to its pre-project condition. The 2015 EA Alternative 2 was not identified as the Navy's Preferred Alternative or selected for implementation in the 2015 FONSI. Therefore, it was not considered in this SEA.

2.4 Alternatives Considered for Analysis in 2024

After considering the alternative screening factors and the purpose and need for the Proposed Action, and because this SEA focuses on the changes to the 2015 Proposed Action occurring within an existing 930-acre leased Project Site and on and off-station utilities to support the proposed development, it was determined that this SEA would only include a No Action Alternative and the 2024 Proposed Action (Preferred Alternative). An alternative that did not include battery storage and a data center was considered but dismissed because these features are needed for energy security and market flexibility when there is too much solar PV energy created during the day and battery storage is needed to support off-peak needs at night.

The existing lessee is responsible for site planning, design, obtaining all applicable permits and approvals, construction, maintenance, operation, cybersecurity, and the eventual decommissioning of the Proposed Action resilient energy systems, and the data center. No other reasonable action alternatives were identified or considered for detailed analysis.

2.4.1 No Action Alternative

Under the No Action Alternative, the 2024 Proposed Action would not occur and additional resilient energy system development would not occur within the Project Site. The Navy would not modify the existing lease to add 35 MW of solar power generation, battery energy storage systems (BESS), data center, and other 2024 Proposed Action elements. Following completion of the 2015 NEPA process, the Navy authorized a lease to construct and operate up to 125 MW solar PV system and associated infrastructure that was consistent with but less than the Preferred Alternative in the original EA. Thus, under the No Action Alternative, the existing lease would remain in effect and the existing lessee would continue to either manage the undeveloped property or elect to implement authorized solar development activities in accordance with the existing lease. If the lessee elects to implement the currently authorized solar development activities, the No Action Alternative would still meet the original purpose and need for the 2015 Proposed Action. The potential effects of the 2015 Proposed Action (i.e., up to 390 MW Solar PV system at NAS Lemoore Sites A and B) as identified within the 2015 EA would still be applicable. The No Action Alternative will serve to establish a comparative baseline for analysis.

2.4.2 2024 Proposed Action (Preferred Alternative)

Under the 2024 Proposed Action, the existing lease would be modified to allow the lessee to construct and operate additional resilient energy systems and a data center within the leased 930-acre Project Site. The existing lease allows the lessee to construct and operate up to a 125 MW solar PV system and associated infrastructure. The changes proposed as part of the 2024 Proposed Action would include the construction and operation of an additional 300 MW of solar PV systems (for a total of 425 MW) and an option to construct a data center, EV charging stations, BESS, backup generation/microgrid, and related infrastructure. In return, the lessee shall provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and DoD energy resiliency objectives. The lessee would also buy power from the regional service provider to augment the solar generated power if needed to run the onsite data center. A summary of the changes between the 2015 Proposed Action and 2024 Proposed Action is included in Table 1-1.

The lessee would be responsible for site planning, design, obtaining all applicable permits and approvals, construction, maintenance, operation, cybersecurity, and eventually decommissioning of the facilities at

the conclusion of the lease (expires October 31, 2053) and return the site to pre-project conditions. No federal tax dollars would be used for maintenance/service of the systems.

The components of the 2024 Proposed Action are detailed below. Areas leased for energy development as of 2024 are shown on Figure 2.4-1. The overall development area consists of three lease areas totaling approximately 930 acres in size.

Parcel 1 – 140 (South)

Parcel 2 – 180 (Middle)

Parcel 3 – 610 (North)

A conceptual site plan showing how the overall lease area would be developed is shown on Figure 2.4-2.

2.4.2.1 Solar PV System

The project would feature up to 425 MW solar PV system (Figure 2.4-3). The PV system panels would be mounted on a ground-based single-axis tracking system, covering up to 850-acres of the site on portions of all three parcels.

The panels would be interconnected via low-voltage cabling, facilitating the flow of electricity through power conversion equipment for consumption at the data center or to charge the battery energy storage system (see Section 2.4.2.4.). The solar PV system would generate clean electricity during the day, supplying it to the data center (see Section 2.4.2.2.) or storing it in the battery energy storage system for later use. The solar PV system can supply energy to the data center during daytime utility grid outages, ensuring uninterrupted operation. In addition, the battery energy storage system and backup generation (see Section 2.4.2.5.) will be accessible for backup power.

The solar PV system would be expected to have a useful life of up to 40 years with proper maintenance and upkeep. The PV system would receive regular maintenance but would be unmanned.

PV Panels

The solar panels used would resemble those commonly found on residential rooftops. While the specific manufacturer is yet to be determined, the panels would be sourced domestically from the United States. They would be equipped with an anti-reflective coating to minimize glare.

Mounting System

The panels would be installed on a ground-mounted single-axis tracking system, a motorized mechanism that optimizes their exposure to sunlight by continuously adjusting their position east-to-west throughout the day. The tracking system would require its own power supply, which can be obtained from the solar panels or an independent source such as a dedicated solar panel, battery, or the local utility. The tracking structure would be constructed from steel to ensure durability against environmental factors and would be permanently affixed to the ground to ensure structural integrity.

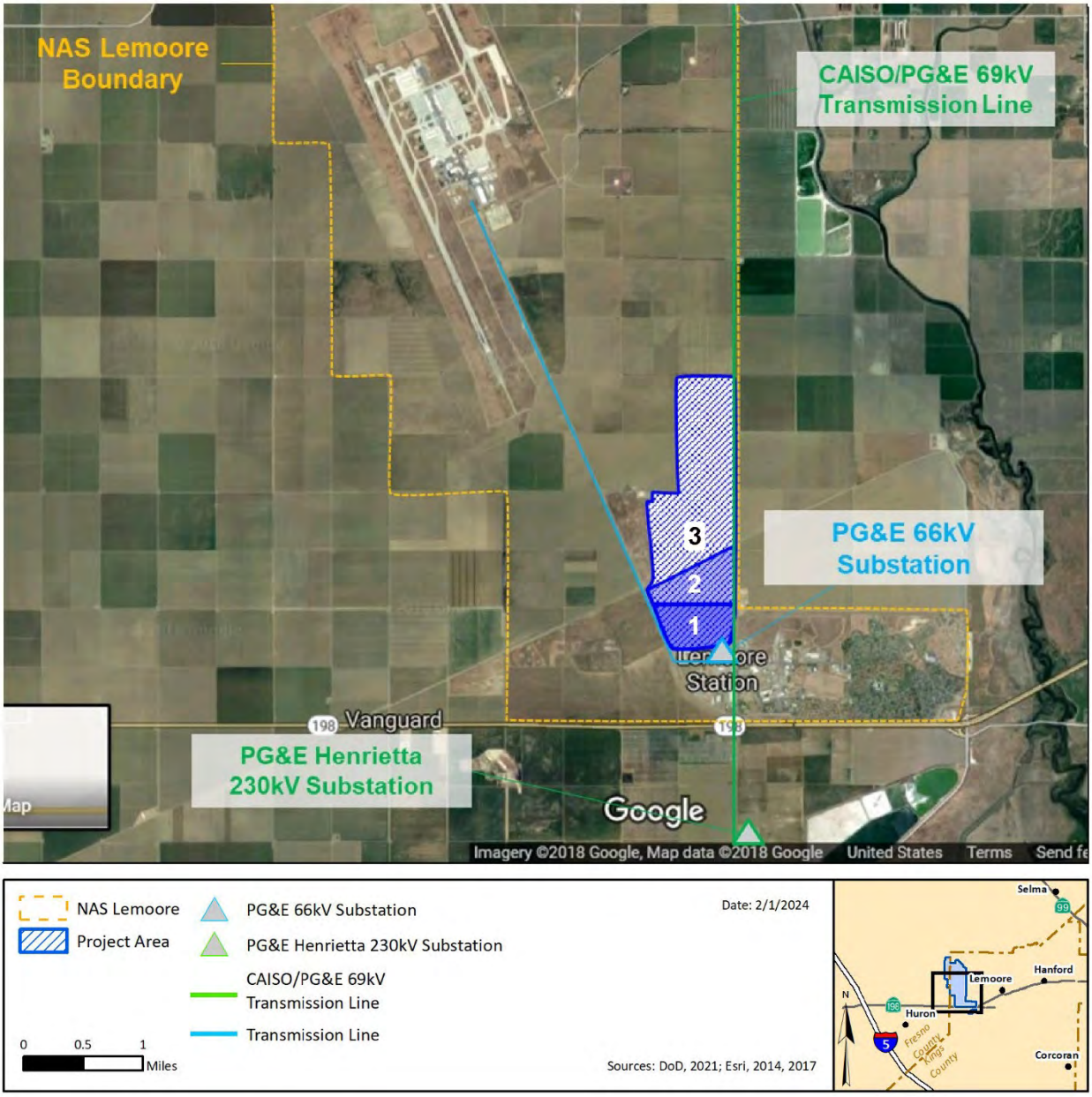


Figure 2.4-1 Energy Development Areas

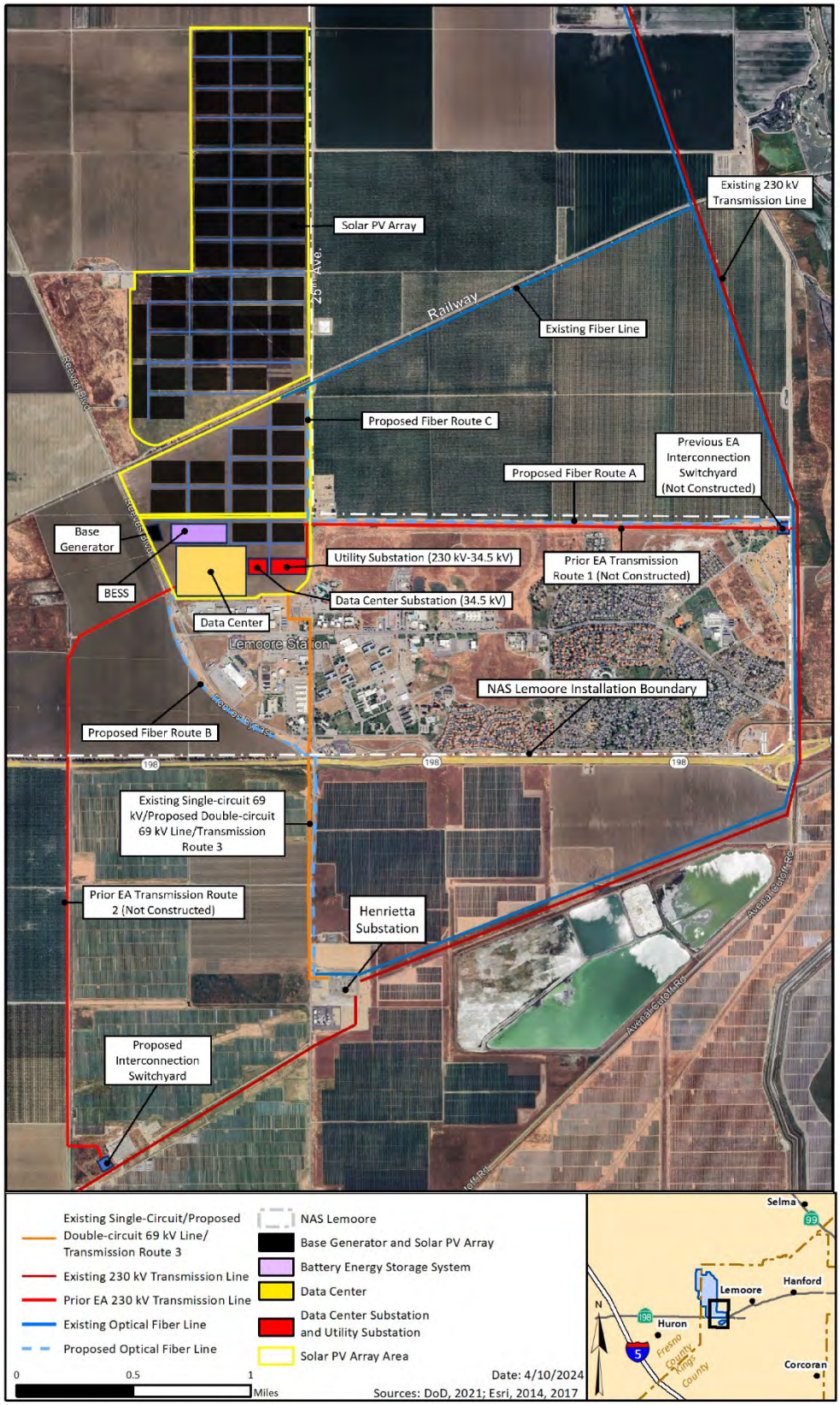


Figure 2.4-2 Conceptual Site Plan



Figure 2.4-3 Solar PV Generation System (Conceptual Illustration)

Collection and Control System

The solar PV system would incorporate direct current (DC) combiners, inverters, transformers, sensors, and switchgear to collect and convert solar energy into usable power for the data center and/or battery energy storage system. The collection system would be distributed uniformly across 850-acres of the site. A control algorithm would command the motorized tracking mechanism to adjust the panels accordingly.

Other Ancillary Equipment

Additionally, operations and maintenance storage would be included in the solar PV system to house spare parts and equipment necessary for maintenance purposes. This would include up to eight 40-foot standard shipping containers on concrete pads.

2.4.2.2 Data Center

The project would include a data center housed in a two-story building with a building footprint of up to 600,000 square feet, requiring up to 800,000 square feet of land. This building would be concrete tilt-wall construction or equivalent and 65-feet maximum height, including roof equipment such as air conditioning units and similar utility systems (Figure 2.4-4). The data center would be connected to high-speed long haul fiber optic network for receiving and transmitting data. The facility would be primarily powered by on-site solar and battery storage for most of the year (see equipment below) and would be connected to grid power for periods of low solar energy production.

What is a Data Center?

A data center is a facility used to house computer systems and associated components, such as servers, storage systems, networking equipment, and other hardware. It serves as a centralized location for organizations to store, process, manage, and distribute large amounts of data. Data centers are designed to provide a controlled environment with optimal conditions for the reliable operation of the computer systems. They have redundant power supplies, cooling systems, and backup generators to ensure uninterrupted operation. They also employ various security measures, such as access controls, surveillance systems, and fire suppression systems, to protect the valuable data and equipment housed within.

The data center would be secured by fences and gates and only accessible by authorized personnel or deliveries. Vehicles onsite would include employee vehicles, delivery trucks and service vehicles. During operations, the Project Site would have approximately 20 employees, with staffing 7 days per week, 24 hours per day.



Figure 2.4-4 Data Center (Conceptual Illustration)

Critical Systems and Associated Spaces

Areas housing the systems that support the data center spaces and information technology equipment include:

Critical Electrical:

- Includes on-site backup generators that are utilized in the event of a power failure.

- Typically includes: Medium and low-voltage switchgear, transformers, Uninterruptable Power Supply systems and distribution panels or busbar to power the individual information technology cabinets. Backup generators are provided to back up the full load of the data center in the event of an outage.

Critical Cooling:

- System is set up to cool the information technology equipment that is consuming the critical electrical power.
- Consists of external chillers that expel heat to the atmosphere. Internal air handling units transfer that heat via coils and closed-loop fluid system to the external units. The cooling system is also set up with a level of redundancy and connected to emergency power.
- Facilities utilize "waterless" cooling.
- The system features a primary "free cooling" loop that utilizes heat transfer fluid and a secondary mechanical cooling loop that utilizes refrigerant.

Water Usage

The only expected water consumption at the data center is for standard sinks and toilets typical of a small office space. Waterless cooling and dry landscaping would reduce water consumption typically associated with data center operations. Wastewater would be disposed of via a septic system.

2.4.2.3 EV Charging Stations

The project could feature an EV charging station with up to 20 DC fast chargers capable of supporting passenger vehicles and high-capacity electric trucks and military vehicles (Figures 2.4-5 and Figure 2.4-6). The system would be anchored by a microgrid-based charging platform and would support approximately 3.5 MW of peak charging load. The station would have a secured entrance separate from the data center facility.

The system consists of two main components: 1) the charging stations or portals, providing the connection cables to vehicles and user interface, and 2) the energy router backend(s) (power electronics) providing the interface point between the grid and the charging stations. The charging platform is used to charge any EV type vehicle (passenger cars or trucks) and adapts to the specific voltage and power requirement of each vehicle.



Figure 2.4-5 EV Charging Station (Conceptual Illustration)

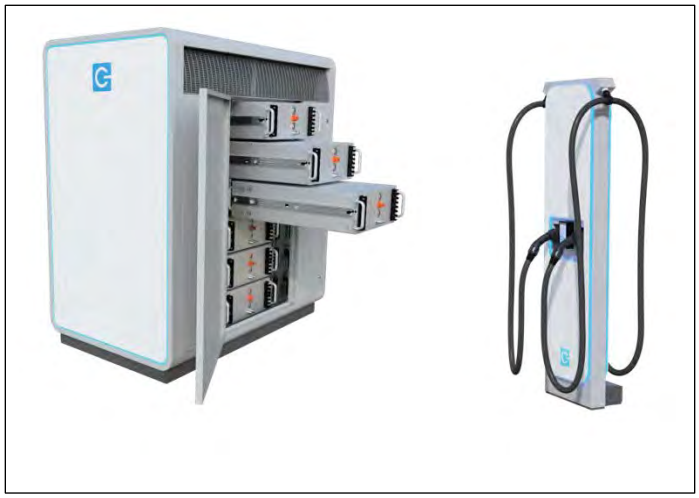


Figure 2.4-6 EV Charging Station (Representative Equipment)

2.4.2.4 Battery Energy Storage System

The Project Site would feature a battery energy storage system of up to 1.5 GWhs. A battery energy storage system is a type of energy storage technology that utilizes batteries to store electrical energy. It consists of many battery modules, which are interconnected together inside a container via power conversion and a battery management control system to form a larger system (Figure 2.4-7).

The primary purpose of a battery energy storage system is to store excess electricity during periods of low demand or high generation and release it when demand is high or generation is low. The proposed battery energy storage system can store up to 1.5 GWhs of energy. The battery energy storage system would be charged exclusively from the solar PV system; no energy would come from either utility or the

backup generation sources. Batteries would be replaced as the ability to hold a charge diminishes. The battery energy storage system would be expected to have a useful life of up to 40 years with proper maintenance and augmentation over the life of the system.



Figure 2.4-7 Battery Energy Storage System (Conceptual Illustration)

Battery Modules

These are the building blocks of the battery energy storage system and typically comprise lithium-ion, nickel hydrogen, or other rechargeable battery chemistries. While the specific manufacturer is yet to be determined, the battery modules would be sourced to meet New Source Review (NSR) requirements.

Battery Containers

The battery modules would be housed in self-contained units that are temperature controlled and closely monitored. These units would be equipped with fire suppression systems to ensure safety. Each battery supplier has undergone a comprehensive hazard assessment of their battery system, certifying compliance with the guidelines set by the National Fire Protection Association. Manufacturers are required to adhere to stringent design and testing standards, including durability and performance in outdoor conditions such as rain, humidity, dust, or sea spray, throughout the lifespan of the battery systems.

To provide a stable foundation, the containers would be placed on concrete pads. The Project Site would also comply with Unified Facilities Criteria standoff distances, local fire safety regulations, and would incorporate best practices, including adhering to local and national codes for vegetation management and creating fire breaks. These measures are implemented to prioritize safety and would ensure that the project meets the necessary safety standards and requirements. The concrete pads would not go any deeper than 2 feet.

Battery Management Systems

The battery energy storage system incorporates a range of controls to oversee battery module performance, state-of-charge, and overall health. These controls ensure optimal charging, discharging, and temperature management, thereby maximizing battery performance and longevity. Additionally, the battery energy storage system is equipped with inverters and other power electronics that facilitate

the conversion of stored DC electricity into alternating current electricity that can be transmitted and consumed by the connected data centers. Various sensors, relays, and circuit breakers are also integrated into the battery energy storage system to monitor its operation, safeguarding against voltage fluctuations, current surges, and electrical faults. To ensure safe and efficient operation, a thermal management system is employed to regulate battery temperature and prevent overheating.

2.4.2.5 Backup Generation/Microgrid

The Project Site would contain up to 160 MW backup generation for the data center and up to 25 MW peak generation for the installation (185 MW combined) that is anticipated to utilize Tier-Four Final (T4F) clean diesel capable generation system or a similar system powered by diesel, biofuel, or natural gas. This system would contain up to 74 individual generator sets or other configurations that achieve the required generation capacity (Figure 2.4-8). Each generator set is paralleled in a containerized configuration which consists of the engines, fuel tanks, selective catalytic reduction, and enclosure/controls. These generators would be connected via medium-voltage switchgear to the appropriate transformers, substations, and data centers providing backup power where needed. Other configurations utilizing fewer but larger generator sets are also possible up to the total capacity noted above.

The generator sets would be used to generate electricity when needed to provide up to 25 MW for standby power to NAS Lemoore. Advanced controls may allow for Peak Load Management and Autonomous Frequency Control as a part of the California Independent System Operator (CAISO) footprint. The generator sets would be expected to have a useful life of at least 40 years with proper maintenance and upkeep.

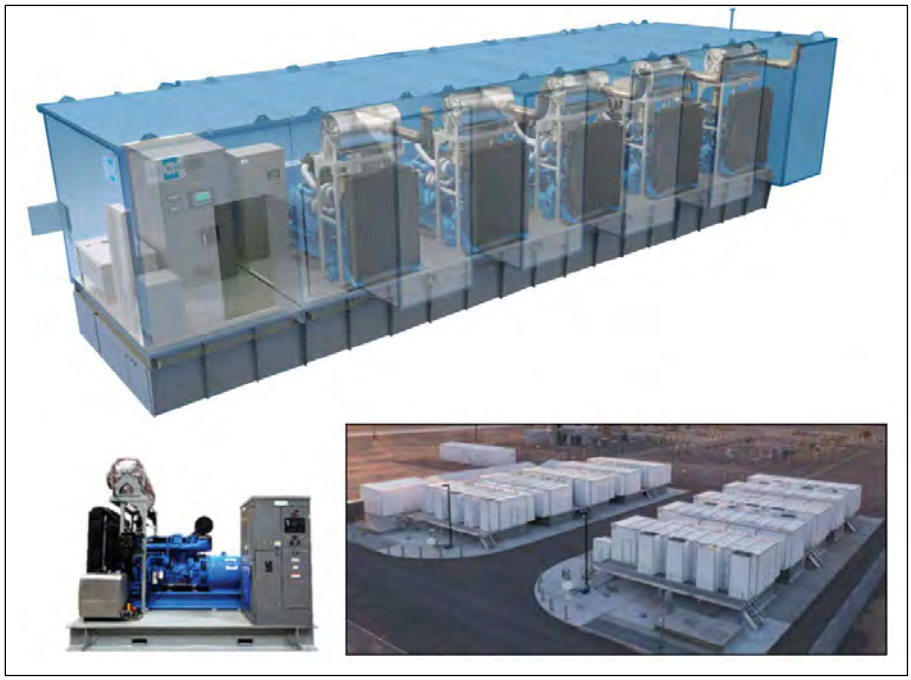


Figure 2.4-8 Backup Generator Sets (Conceptual Illustration)

Generators

Each generator set would consists of up to four diesel engines equipped with T4F (or best available control technology), each paired with an alternator into one physical enclosure. Other configurations or fuel sources are possible to achieve the same capacity. Seismic spring isolators provide balanced support of the generator set on its skid. This spring mounted vibration control, the engines' internally smooth operation, and insulated exhaust piping/muffler all contribute to minimizing noise levels.

Fuel Tanks

Each generator set contains an Underwriters Laboratories (UL)-listed sub-base fuel tank. Tanks supply 24 hours of fuel storage capacity, interstitial rupture basin switches, level indication, venting, and engine fittings. Fuel transfer, polishing, specific-code requirements and day-tank systems would be supplied as the specifications require. In aggregate, the fuel tanks would store up to a maximum of 284,000 gallons of liquid fuel in total. Managed refueling of the tanks would be contracted by the lessee to a 3rd party fuel supplier to ensure continuous availability of the generators.

Component: Selective Catalytic Reduction

To comply with the increasing emission standards worldwide of not only reducing emissions of particulate matter but also emissions of nitrogen oxides, each engine has a selective catalytic reduction converter. This system is an exhaust gas aftertreatment that converts the nitrogen oxides contained in the exhaust gas into water vapor and nitrogen. For this purpose, a reducing agent is continually injected into the exhaust gas flow using a metering module. In the exhaust gas flow, the fluid reacts within a fraction of a second to produce ammonia (NH3). This chemical compound then converts the nitrogen oxides in the selective catalytic reduction converter.

Component: Enclosure/Controls

Generator set enclosures come with a welded aluminum frame, aluminum skin, and stainless steel exterior hardware. The construction has been analyzed to withstand 150 MPH wind loading. Controls include switchgear made up of the engine interface; all paralleling controls are for both the engine and the generator.

2.4.2.6 Substations

The Proposed Action proposes two substations: one substation dedicated to the collection and distribution of energy from the solar PV system, battery energy storage system, and T4F to serve NAS Lemoore and the data center and a second substation dedicated to interconnection with the local utility. Each substation is expected to occupy less than 10 acres each. Key components of the substations would include transformers, circuit breakers, switches, relays, capacitors, and control systems (Figure 2.4-9).



Figure 2.4-9 Substation (Conceptual Illustration)

2.4.2.7 Transmission Line Routes and Fiber Routes

The Proposed Action also includes the use of electrical transmission routes and fiber optic cable routes. Some of these are on lands administered by NAS Lemoore. Some extend beyond lands administered by NAS Lemoore. The majority of the routes run parallel to existing utility corridors or roads. The Proposed Action includes infrastructure upgrades to support Proposed Action facilities. Infrastructure upgrades would include poles up to 90 feet in height. All proposed fiber optic infrastructure would be installed underground when possible. Three transmission line routes and three fiber optic routes are described below and are identified on (Figure 2.4-2).

- Transmission Route 1 was addressed in the 2015 EA and the 2016 Addendum. Transmission Route 1 is bordered to the south by NAS Lemoore developed areas and to the north by agricultural fields. There are currently no constructed transmission lines along Transmission Route 1, which runs from the southern portion of the eastern boundary of the proposed solar PV array, east, toward the existing 230 kV transmission line. A switchyard would be located at the eastern end of the route and would connect with the 230 kV transmission line. The line would be approximately 2 miles long and would entail an approximately 125–175-foot-wide easement for constructing new transmission structures (e.g., poles) that are up to 90 feet in height.
- Transmission Route 2 was addressed in the 2015 EA and the 2016 Addendum. There are currently no constructed transmission lines along Transmission Route 2 on the Navy-owned portion of this route. This route runs from the southwestern boundary of the proposed solar PV array, first running southwest, then south toward the existing 230 kV transmission line. A switchyard would be located at the southern end of the route and would connect with the 230 kV transmission line. Transmission Route 2 is bordered by agricultural fields along its entire route and currently contains an existing transmission line along the non-Navy-owned portion south of State Route 198. The line would be approximately 3 miles long and would entail an approximately 125–175-foot-wide easement for constructing new transmission structures (e.g., poles) that are up to 90 feet in height.
- Transmission Route 3 was not addressed in the 2015 EA. Proposed Transmission Route 3, which runs from the lease areas south to the Henreitta Substation, would be hung on an existing transmission

line (i.e., no new construction). Transmission Route 3 is an existing 69 kV transmission line corridor. The Proposed Action would utilize the existing structure to hang a second 69 kV line which would connect the Proposed Action facilities to the Henrietta Substation, located to the south of the NAS Lemoore installation boundary. The route is approximately three miles long.

In addition to the transmission lines, there are three possible fiber optic cable routes. The proposed fiber routes would be approximately 1 to 3 miles long. Construction would occur within a 20-foot-wide easement, and the new fiber line would be placed in a trench about 3 feet deep.

- Fiber Route A would be located on land administered by NAS Lemoore. Fiber Route A runs parallel to Transmission Route 1 described above to join an existing fiber line at the eastern boundary of NAS Lemoore.
- Fiber Route B would originate near the southwestern boundary of the proposed solar array, run southeast along Reeves Bypass on-station, and then continue off-station toward the Henrietta Substation to join an existing fiber line.
- Fiber Route C would be located on land administered by NAS Lemoore. Fiber Route C is located within the 930-acre lease area. Fiber Route C would run north from the utility substation and data center to connect to an existing fiber line.

2.4.2.8 Fencing and Access Roads

The energy generation system comprising of PV, battery energy storage system, and T4F would be equipped with a perimeter fence, access gates, and access roads. The perimeter fence would consist of a 6-foot chain-link fence with three strands of barbed wire. The perimeter fence and gates would be intended to keep non-essential personnel from gaining access to the site. The access gates would be designed to accommodate large vehicles for convenient entry. The access roads within and surrounding the energy generation system are proposed to be 95 percent compacted earth material.

2.5 Best Management Practices Included in Proposed Action

This section presents an overview of the best management practices (BMPs) that are incorporated into the Proposed Action in this document. BMPs are existing policies, practices, and measures that the Navy and/or lessee would adopt to reduce the environmental impacts of designated activities, functions, or processes. Although BMPs mitigate potential impacts by avoiding, minimizing or reducing/eliminating impacts, BMPs are distinguished from potential mitigation measures because BMPs are (1) existing requirements for the Proposed Action, (2) ongoing, regularly occurring practices, and/or (3) not unique to this Proposed Action. In other words, the BMPs identified in this document are inherently part of the Proposed Action and are not potential mitigation measures proposed as a function of the NEPA environmental review process for the Proposed Action. Table 2-1 includes a list of BMPs. Mitigation measures are discussed separately in Chapter 3.

Table 2-1 Best Management Practices

BMP	Description	Impacts Reduced/Avoided
Erosion/sediment control	Implement erosion control BMPs consistent with a Storm Water Pollution Protection Plan to mitigate soil erosion during construction. Examples include mats, mulch, straw, silt fences, stone filters, drainage swales, or other similar practices.	Reduction in potential impacts to water resources from soil loss and sedimentation.
Offsite sediment tracking control	Implement offsite sediment tracking controls for reducing the transport of sediment on tires off, and within, construction site. Examples include stabilized construction entrance, construction road stabilization, rattle grates, entrance/exit tire wash, entrance/exit inspection and cleaning facility or other similar practices.	Reduction in potential impacts to water resources from soil loss and sedimentation.
Site and materials management	Implement site and materials management BMPs for materials and waste management. Examples include, material delivery and storage management, concrete waste management, solid waste management, sanitary waste management, hazardous waste management, and a SPCC Plan.	Reduction in potential impacts related to hazardous materials and waste.
Minimize impervious surfaces	Implement BMPs to reduce impervious surfaces through efficient site design. Examples include, preserve existing vegetation where possible, construction of permeable roads with minimum widths or other similar practices.	Reduction in potential impacts to water resources related to stormwater infrastructure.
Minimize bird aircraft interactions	Implement BMPs in compliance with NAS Lemoore BASH management plan and its recommendations.	Reduction in potential take of federally protected species, especially those protected by MBTA.
Reduce visual contrast	Implement design elements such as the use of non-specular or dulled materials where practicable.	Reduction in potential glint and glare impacts.

BMP	Description	Impacts Reduced/Avoided
Dust control	Implement a construction dust control plan consistent with the requirements of the San Joaquin Valley Air Pollution Control District to limit fugitive dust. Example practices include soil stabilization typically through application of water or dust suppressants on unpaved access and haul roads; use of water or coverings for stored materials and installing wind barriers to limit visible dust emissions; limit track out by installing gravel pads, grizzlies, wheel washers, paved interior roads, or a combination thereof at each exit point from the site; limit speed of construction vehicles to 15 mph or less with visible postings.	Reduction in potential air quality impacts due to particulate matter.
Avian protection	All project activities would be in compliance with the MBTA and its general requirements related to nest impact avoidance guidelines. To avoid impacts to ground-nesting birds, a survey for active nests or nesting activity would be conducted by a qualified biologist within 14 days before construction and decommissioning should such activities occur during the nesting season (typically March 15 to August 31). If the survey finds active nests, then construction personnel would either avoid the nests until fledglings have left, or permitted personnel would relocate eggs and chicks following all federal and state regulations and permitting requirements.	Reduction in potential take of federally protected bird species.

Legend: BASH = Bird/Wildlife Aircraft Strike Hazard; BMP = best management practices; MBTA = Migratory Bird Treaty Act; NAS = Naval Air Station; SPCC = Spill Prevention Control and Countermeasure Plan

2.6 Approximate Construction Timeline

Construction of the overall project would be expected to begin in 2024 with data center operations most likely commencing in 2025. The project can be constructed in a single or multiple phases that are determined by the data center customer. Data center development typically can include up to five phases of approximately 20-25 MW increments that may extend construction time through 2027.

2.7 Description of Project Planning, Approval, Construction, and Operation Process

2.7.1 Permitting/Approval/Requirements of Lessee

The lessee, at its sole cost and expense, would be responsible for complying with all applicable local, state, and federal laws, ordinances, regulations, and standards that are applicable, or may become applicable, to lessee's activities within the leased parcel.

The lessee would also be responsible for all site planning, design, obtaining all applicable permits and approvals, construction, maintenance, cybersecurity, operation, and eventually decommissioning of the facilities at the conclusion of lease (expires October 31, 2053).

Additionally, the internal combustion generators would require air permits from the San Joaquin Valley Air Pollution Control District which would be separate from the air permits currently held by NAS Lemoore.

The lessee will follow all applicable laws, ordinances, and regulations of the state, county, or other local jurisdictions for improvements both on and off NAS Lemoore.

Improvements necessary off federal land potentially include:

- An electric distribution or transmission line for electrical service connected to existing PG&E facilities.
- A fiber optic telecommunications line for data transmission connected to existing telecommunications facilities.

These improvements may require one of more local city or county permits related to trenching, road crossings, traffic control, etc. It is anticipated that these permits may be obtained by the lessee or by PG&E or telecommunications provider as appropriate.

2.8 Construction Process

The construction process, including the data center and all the energy systems, would involve the following steps:

- **Final Site Plan/Design:** The lessee will provide 90 percent design drawings for civil, electrical, water, telecommunication, etc. to the Navy for review prior to construction.
- **Site Preparation:** The selected site is prepared for construction, which may involve clearing vegetation, grading the land, and preparing access roads and staging areas.
- **Foundation and Mounting System Installation:** Foundations for the solar panels and mounting systems are constructed. These foundations may involve methods like driven piles, drilled shafts, or ground screws. Additionally, concrete would be poured to create the necessary foundations for the battery energy storage system, T4F generation, and the data center itself.
- **Solar Panel Installation:** The solar panels are installed on the mounting structures according to the project design. This process includes connecting the panels to each other and ensuring proper alignment and orientation for optimal sun exposure.
- **Battery Energy Storage System Installation:** The battery energy storage system, consisting of batteries, inverters, and control systems is installed. This involves positioning the batteries in a suitable location on concreate pads and interconnecting them to the substation.
- **T4F Generation Installation:** Would occur concurrently with the solar and battery installations.
- **Data Center Construction:** Data center construction would incorporate the following: land /geotechnical; walls, roof and structural; internal electrical; security; internal mechanical; and roads and access including dust mitigation.

- **Testing and Commissioning:** Once the solar panels, battery energy storage system, T4F generation, and electrical systems are installed, they undergo rigorous testing and commissioning to ensure proper functioning, performance, and compliance with safety regulations. This includes checking the synchronization of various components and verifying their performance under different operating conditions.
- **Grid Connection:** The project is connected to the electrical grid through the interconnection equipment installed earlier. This step involves coordination with the utility company to establish a reliable and safe connection.
- **Labor:** A total of up to 400 workers would be expected to be onsite during construction. This number is the maximum number if all processes were to be performed at the same time. The guiding practice is for the Engineering Procurement and Construction vendor or construction contractor to engage labor directly for any applicable category of labor at its discretion as part of its bid to provide services for the Proposed Action. This practice provides for the most efficient, cost-effective contracting to occur and allows for flexibility in the face of then-current labor market conditions.
- **Operations**: After construction, the PV project enters its operational phase. Regular operations and maintenance activities, including cleaning, inspection, and performance monitoring, are conducted to ensure optimal energy generation and system efficiency. During operation, the Proposed Action would have approximately 20 employees, with staffing 7 days per week, 24 hours per day.
- **Decommissioning**: Upon the completion of the project's operational lifespan, all project-related components would be dismantled and the area would undergo restoration to its original conditions which is vacant/undeveloped if agriculture is no longer feasible. The decommissioning process would consider surrounding factors to mitigate potential impacts like erosion. All materials would be thoroughly removed, while the equipment would be addressed through methods such as reuse, recycling, or proper disposal.

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3 Affected Environment and Environmental Consequences

This chapter describes the existing environmental conditions and potential environmental consequences for the following resource areas analyzed in detail: Public Health and Safety, Socioeconomic and Environmental Justice, Air Quality, and Utilities. See Section 1.6.2 for discussion on resource areas not analyzed in detail in this SEA.

3.1 Public Health and Safety

Public health and safety refers to the level of risk for workers and the public during the construction, operation, and maintenance of the Proposed Action, including the use of hazardous materials (HAZMAT) or in the generation of hazardous waste (HAZWASTE). Safety can also involve the safeguarding of project facilities, support systems, and HAZMAT/HAZWASTE storage areas.

3.1.1 Regulatory Setting

Safety and security on Naval Air Station (NAS) Lemoore are subject to Department of the Navy (Navy) Instructions and the station's applicable standard operating procedures (SOPs). The primary instruction regulating health and safety is NAS Lemoore Instruction 5100.1, *Occupational Health and Safety Management System*. Since the Proposed Action would be located on an active military installation, Homeland Security is an additional component of station safety and security. Homeland Security includes incidents requiring a combined security and safety response, such as acts of terrorism, natural disasters, and disease outbreaks. NAS Lemoore has guidance documents including Navy SOPs and multiple management plans that govern activities conducted on the station.

In general, health and safety concerns with the construction, operation, maintenance, and decommissioning of the resilient energy systems would focus on the potential for natural hazards, fire or explosion, air quality/dust, noise, chemical release, electric shock, and equipment and vehicle safety.

3.1.2 Affected Environment

The affected environment of this project includes sites previously identified in the 2015 EA as Sites A and B and described in Section 1.2, *Location*, and shown in Figure 1.2-2, *Proposed Action Area* of this Supplemental Environmental Assessment (SEA). The discussion of flight safety (Section 3.3.2.1 of the 2015 Environmental Assessment [EA]), bird/wildlife aircraft strike hazards (BASH) (Section 3.3.2.2 of the 2015 EA), agriculture practices and previous use (Section 3.3.2.3 of the 2015 EA), and surface danger zones (SDZs) (Section 3.3.2.4 of the 2015 EA) are still relevant.

3.1.2.1 Fire Hazard

Battery energy storage systems (BESS) may use lithium-ion batteries and present the potential for thermal runaway condition. Thermal runaway is a when there is a fault (i.e., manufacturing defect in the cell, overcharging, overheating, seismic event, or impact) in a lithium-ion cell causing it to enter into an uncontrollable, self-heating state, which can result in ejection of gas, shrapnel, and/or particulates; extremely high temperatures; smoke; or fire (Underwriters Laboratories, 2021). In order to ensure that energy storage systems maintain safe and reliable operations, Underwriters Laboratories (UL) developed UL 9540, a comprehensive and rigorous set of safety standards to guide system design and construction and the testing and operation of a system. UL 9540 covers a "comprehensive review of energy storage systems, covering charging and discharging, protection, control, communication between devices, fluids

movement and other aspects“ (UL Solutions, 2024a). UL 9540A, the Test Method for Evaluating Thermal Runaway Fire Propagation in BESS Standard, provides additional requirements for battery management systems and verifies the effectiveness of the BESS protection levels against thermal runaway and fire hazards. Key issues identified by building codes and the fire services, which the results from the UL 9540A Test Method address include BESS installation instructions, installation ventilation requirements, effectiveness of fire protection (integral or external), and fire service strategy and tactics (UL Solutions, 2024b).

Other key components for BESS safety are requirements mandated by the National Fire Protection Association (NFPA). In 2016, the NFPA set out to bridge gaps in its existing regulations for stored energy solutions and continues to update best practices as new information is available. NFPA 855 provides mandatory requirements for the safety strategies and features of energy storage systems.

3.1.3 Environmental Consequences

3.1.3.1 No Action Alternative

Under the No Action Alternative, the 2024 Proposed Action would not occur, additional resilient energy systems and data center development would not occur within the Project Site, and the Navy would not modify the existing lease. Development conditions authorized in the existing lease are consistent with but less than the total power generation and land originally evaluated in the 2015 Proposed Action. Under the No Action Alternative, the existing lease would remain in effect, and the existing private partner would continue to either manage the undeveloped property or elect to implement elements of the previous 2015 Proposed Action in accordance with the existing lease. The original EA determined that there would be no significant impact to public health and safety with implementation of avoidance/minimization measures detailed in Section 3.3.3, *Public Health and Safety, Environmental Consequences* (pages 3-40 to 3-47) of the 2015 EA and summarized below:

- Construction activities that have a potential to generate substantial amounts of dust (e.g., initial site grading) would be first coordinated and scheduled with NAS Lemoore Operations to avoid potential impacts to aviation training.
- If the currently inactive skeet ranges are activated, work within the SDZ overlap of Site B would only occur when the skeet ranges are closed.
- The construction contractor would develop a health and safety plan consistent with Occupational Safety and Health Administration (OSHA) standards and regulations, including EM 385-1-1 and OSHA’s electric power generation, transmission, and distribution standard, 29 Code of Federal Regulations (CFR) 1910.269 (safe work practices and worker training requirements).
- Phase I of the siting of the solar photovoltaic (PV) system would be beyond 10,000 feet from Air Operations of the station to reduce uncertainty in BASH risk.
- A single-axis tracking solar PV system would be used to reduce glare, BASH risk, and potential “lake effect.”
- No cement would be used in installation of pilings to reduce ground squirrel habitat.
- A rodent control, pest management, and weed abatement plan would be developed to control plant, insect, and vertebrate pest (e.g., ground squirrels and other rodents) populations in and

around the solar PV systems. Ground sterilant used for vegetation control and tackifier to stabilize soils for dust control would be applied regularly under panels.

- Consistent with the NAS Lemoore BASH Program, all work would be coordinated with NAS Lemoore, reducing the potential for bird and other animal aircraft strike hazards. BASH management strategies would be evaluated quarterly to ensure effectiveness and would require adaptive management if less than desired.
- The solar PV system design would minimize glare to the greatest extent practicable.
- If a buried oil pipeline (deactivated more than 60 years ago) is encountered during construction activities, measures would be taken to avoid release of and otherwise manage any asbestos-containing material from the pipeline in accordance with applicable laws and regulations.

There would be no change to the existing lease or the 2015 Proposed Action, as described; therefore, no additional impacts would occur with implementation of the above avoidance/minimization measures.

3.1.3.2 2024 Proposed Action (Preferred Alternative)

Construction

Construction activities with the proposed Project Site under the 2024 Proposed Action would be conducted in compliance with all applicable rules and regulations (e.g., OSHA health and safety standards). The construction contractor would be required to prepare a health and safety plan in compliance with applicable regulations and include standard safety measures to be implemented during construction. As previously mentioned in Section 1.3, *Background*, and Section 2.7, *Description of Project Planning, Approval, Construction, and Operation Process*, of this SEA, the lessee would be responsible for planning, designing, obtaining necessary permits and approvals (e.g., National Pollutant Discharge Elimination System Construction General Permit to minimize runoff and associated exposure), constructing, maintaining, operating, and eventual decommissioning of the energy system. This would include developing, maintaining, and implementing a Storm Water Pollution Prevention Plan (SWPPP) or equivalent best management practices (BMPs) (listed in Table 2-1, *Best Management Practices*, of this SEA) and maintaining spill kits onsite, which would minimize the potential for HAZMAT/HAZWASTE exposure during construction activities. Construction personnel would be required to follow all Navy SOPs during construction.

Operation and Maintenance

All facility operation and support activities, including health and safety training, would be managed in accordance with applicable federal, state, local, Navy, and NAS Lemoore regulations.

The lessee would be responsible for minimizing the potential health and safety risks associated with this alternative through the development, maintenance, and implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan, and the implementation of the NAS Lemoore Hazardous Waste Management Plan, the use of hazard mitigation analysis, smoke and fire detection, fire control and suppression systems, gas detection, thermal runaway protection, water supply, emergency and spill response plans, proper employee training and personal protection equipment, and other methods. An avoidance/minimization measure during operations and maintenance of BESS would be to choose a UL 9540-listed BESS and ensure compliance with the UL 9540A Test Method. Maintenance on the BESS,

backup diesel generators and associated infrastructure would be completed following applicable manufacturing recommendations.

The lessee would also be responsible for compliance with Emergency Planning and Community Right-to-Know Act Tier II reporting requirements for BESS and fuel tanks. The lessee would be required to complete a Safety Data Sheet and report lithium-ion batteries for Tier II due to the potential of lithium-ion batteries to leak flammable chemicals. Local emergency responders and/or a local emergency planning committee would be notified of the presence of these chemicals so they could respond appropriately should an incident occur.

BESS thermal runaway can produce fire and may result in an explosion depending on system design. Accordingly, an emergency response plan is critical to the successful deployment of BESS infrastructure. Accidents in the past have occurred due to inadequate planning and training, causing injury to emergency responders. Lessons learned from these accidents demonstrate the importance of a BESS Emergency Response Plan and training for the NAS Lemoore first responders in the construction and operations phases in compliance with Senate Bill 38 dated October 10, 2023.

Access roads would be maintained as needed, and ground cover and other vegetation within and near the facilities would be trimmed periodically. Vegetation and pests would also be controlled with herbicides or pesticides to ensure that they do not unduly infringe/compromise the safety of the developed area.

Decommissioning

Potential impacts to public health and safety during decommissioning activities described in Section 3.3.3.1, *Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B* (page 3-46), of the 2015 EA would remain valid. Protective measures used during the decommissioning of the facility would be similar to those used during the construction phase. Implementation of a project-specific deconstruction plan and the use of BMPs (listed in Table 2-1, *Best Management Practices*, of this SEA) would minimize the potential for deconstruction site dust, dirt, solid waste, and HAZMAT and HAZWASTE exposure throughout the duration of the decommissioning activities.

3.1.4 Summary for Public Health and Safety

Under the 2024 Proposed Action (Preferred Alternative), measures would be required during construction, operation and maintenance, and decommissioning of up to an additional 300 MW of solar PV systems, a data center, EV charging stations, BESS, backup generation/microgrid (including diesel fueled emergency generators), and related infrastructure at NAS Lemoore. The procedures, activities, and materials would be handled safely, appropriately, and in accordance with all applicable regulations, station plans, and Navy regulations. The project would comply with the Construction General Permit, and a project-specific plan would be prepared and implemented along with the use of standard BMPs. The BMPs would be implemented to minimize unwanted runoff from construction activities and prevent potential exposure to HAZMAT/HAZWASTE. There would be no significant public health and safety impacts under this alternative with implementation of avoidance/minimization measures detailed in Section 3.3.3, *Public Health and Safety, Environmental Consequences* (pages 3-40 to 3-47), of the 2015 EA and summarized in Section 3.1.3.1, *No Action Alternative*, and 3.1.3.2, 2024 *Proposed Action (Preferred Alternative)*.

3.2 Socioeconomics and Environmental Justice

Socioeconomics is defined as the basic attributes and resources associated with the human environment (i.e., population, employment, income, and housing). The Proposed Action has the potential to result in socioeconomic impacts through changes in employment and construction expenditures.

The United States (U.S.) Environmental Protection Agency (USEPA) defines environmental justice as "the just treatment and meaningful involvement of all people regardless of income, race, color, national origin, Tribal affiliation, or disability" with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA, 2024).

3.2.1 Regulatory Setting

Socioeconomic data shown in this section are presented at the county and state level to characterize baseline socioeconomic conditions and trends. Data have been collected from previously published documents issued by federal, state, and local agencies and from state and national databases (e.g., Bureau of Economic Analysis's Regional Economic Information System).

Consistent with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, the Navy's policy is to identify and address any disproportionately adverse human health or environmental effects of its actions on minority and low-income populations.

EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, supplements EO 12898 to address environmental justice. EO 14096 establishes a policy to pursue a whole-of-government approach to environmental justice. With respect to environmental reviews under the NEPA, EO 14096 directs federal agencies to (1) analyze direct, indirect, and cumulative effects of federal actions on communities with environmental justice concerns; (2) consider best available science and information on any disparate health effects (including risks) arising from exposure to pollution and other environmental hazards, such as information related to the race, national origin, socioeconomic status, age, disability, and sex of the individuals exposed; and (3) provide opportunities for early and meaningful involvement in the environmental review process by communities with environmental justice concerns potentially affected by a Proposed Action.

The Navy followed the steps outlined in USEPA's 2016 report, *Promising Practices for EJ Methodologies in NEPA Reviews* (USEPA, 2016), to determine disproportionately adverse impacts to minority and low-income populations. This methodology represents the current industry standard for analysis. These steps are summarized as follows:

- **Define the affected environment.** The environment of the area(s) to be affected or created by the alternatives under consideration was described.
- **Identify the presence or absence of minority and low-income populations.** The presence of minority and low-income populations under baseline conditions was determined based on whether the percentage residing within the selected geographic units of analysis (block groups) was equal to or greater than the percentage of individuals residing within the reference community (Fresno and Kings Counties). The low-income analysis used the U.S. Census Bureau (USCB) data showing the poverty status of individuals in the past 12 months. The USCB uses income thresholds that vary by family size and composition to determine who is in poverty.

- **Perform impact analysis.** The potential direct, indirect, and cumulative impacts on minority populations and low-income populations were compared to the non-minority populations and non-low-income populations in the affected environment. This included both human health and environmental impacts from the agency's programs, policies, or activities.
- **Determine if there would be disproportionately adverse effects on minority and low-income populations.** Impacts to resource areas from the Proposed Action were analyzed to determine whether there would be any disproportionately high and adverse effects to minority and low-income populations when compared to non-minority and non-low-income populations in the affected environment.
- **Evaluate mitigation and monitoring.** If a potential adverse impact was identified, the agency may wish to evaluate practicable mitigating measures.

3.2.2 Affected Environment

The affected environment for socioeconomics is defined as the area where principal effects arising from the potential resilient energy system construction activities and operations, specifically Fresno and Kings Counties, would occur.

The population in Fresno County is 1,015,190 people, and the population in Kings County is 152,981 people, for a total two-county region of influence (ROI) population of 1,168,171 people (U.S. Census Bureau, 2023). Past, recent, and projected population estimates for Fresno County, Kings County, and the State of California are shown in Table 3.2-1. The population at NAS Lemoore includes 6,123 active-duty military personnel and 1,074 civilian personnel (WRP, 2016).

Table 3.2-1 Population in Fresno County, Kings County, and California

Area	2010 Census[1]	2020 Census[1]	2022 Estimate[2]	Percent Change (2020–2022)	2027 Estimate[3]	Percent Change (2022–2027)
Fresno County	930,450	1,008,654	1,015,190	0.6%	1,031,968	1.7%
Kings County	152,982	152,486	152,981	0.3%	155,589	1.7%
California	37,253,956	39,538,223	39,040,616	-1.3%	39,131,779	0.2%

Sources: U.S. Census Bureau, 2023; State of California, 2024
Notes: [1] Estimates from Census, April 1, 2010, and April 1, 2020
[2] Estimates from July 1, 2022
[3] Total Population for California and Counties (2019 baseline) from the State of California Department of Finance
Legend: - = minus; % = percent

3.2.2.1 Housing

There are over 392,000 housing units throughout the two-county ROI (U.S. Census Bureau, 2023). The majority of the housing units in Fresno County and Kings County are owner-occupied. Both the median value of housing units and median gross rent in Fresno and Kings Counties are less than that of the state (Table 3.2-2).

Table 3.2-2 Housing Characteristics in Fresno County, Kings County, and California

Area	Housing Units	Owner-Occupied	Median Value of Owner-Occupied Unit	Median Gross Rent
Fresno County	345,493	54.2%	$338,200	$1,207
Kings County	47,255	54.9%	$281,400	$1,201
California	14,627,460	55.6%	$659,300	$1,856

Source: U.S. Census Bureau, 2023

Public private venture housing and unaccompanied housing are available at NAS Lemoore. There are 1,630 public private venture houses for rent throughout the six communities on-station at NAS Lemoore (LMH, 2024). Unaccompanied housing at NAS Lemoore includes 2,400 beds throughout 20 buildings (CNIC, 2024).

3.2.2.2 Economic Activity (Employment and Income)

There are a total of 551,760 full-time and part-time jobs in Fresno County and 69,086 full-time and part-time jobs in Kings County. Major industries, in terms of the number of jobs, in Fresno and Kings Counties include the healthcare and social assistance industry, government and government enterprises industry, and the retail trade industry (BEA, 2023). Total construction employment in Fresno County equates to 28,074 jobs and accounts for 5.1 percent of total county employment, representing an increase from 4.3 percent (20,255 jobs) of total employment in 2015. In Kings County, construction employment accounts for 2.3 percent of total employment (1,620 jobs), which is similar to total employment in 2015 (1,362 jobs) (BEA, 2023).

The unemployment rate in both Fresno and Kings Counties is shown in Table 3.2-3. Both Fresno and Kings Counties have a higher unemployment rate than the State of California (4.2 percent) and the Nation (3.6 percent) (BLS, 2023). Both counties have lower per capita incomes than the state ($45,591) (U.S. Census Bureau, 2023).

Table 3.2-3 Employment and Income in Fresno County and Kings County, 2022

Area	Labor Force	Employed	Unemployment Rate	Per Capita Income[1]
Fresno County	453,183	424,279	6.4%	$30,130
Kings County	56,448	52,499	7.0%	$26,193

Sources: BLS, 2023; U.S. Census Bureau, 2023

[1] Per capita income in the past 12 months (in 2022 dollars) as reported in the most recent American Community Survey, 5-year estimates (2018-2022)

NAS Lemoore is an important economic contributor to the local region, with a total annual economic impact of $982 million. The station is also the largest leaseholder of agricultural land in Fresno and Kings Counties (WRP, 2016).

3.2.2.3 Environmental Justice

This section identifies minority and low-income populations (environmental justice communities) that have the potential to be disproportionately impacted by the Proposed Action due to their proximity to NAS Lemoore. These communities would potentially be affected by construction and operations at NAS Lemoore. Impacts may include changes in traffic and air emissions. Therefore, the affected environment

ROI selected for analysis comprises the census block groups that are within the local transportation network. Census block groups are the smallest geographical units for which the USCB publishes data.

The reference community selected to determine the presence of minority or low-income populations (environmental justice populations) within the larger community is Fresno and Kings Counties. Fresno County and Kings County were chosen because they represent the smallest geographic unit that incorporates the affected population while encompassing a much larger population that is representative of the entire area's socioeconomic and demographic status.

Census block groups that have a minority population or have individuals with low income (in this case, individuals with incomes below the poverty level) at a higher percentage than the reference community (Fresno County and Kings County; Kings County data were used to achieve a more conservative analysis) are shown in Table 3.2-4. These census block groups are environmental justice communities, as defined by the Council of Environmental Quality (CEQ, 1997). These environmental justice communities were compared to non-environmental justice community census block groups within the ROI for impact analysis purposes.

Table 3.2-4 Environmental Justice Communities

Area	Within the Entire County/Census Block Group					
	Total Population	Minority Population		Low-Income Population		
				Population for Whom Poverty is Calculated[1]	Number	Percentage of Individuals Whose Income in the Past 12 Months is Below the Poverty Level
		Number	Percent			
Fresno County, California	1,008,280	732,515	72.6%	990,821	193,675	19.5%
Kings County, California[2]	152,515	106,629	69.9%	139,603	22,634	16.2%
Block Group, Census Tract Within the Affected Environment						
Block Group 1, Census Tract 78.02	673	633	94.1%	673	150	22.3%
Block Group 2, Census Tract 78.02	777	649	83.5%	777	528	68.0%
Block Group 1, Census Tract 9800[3]	6,403	3,453	53.9%	4,633	473	10.2%
Block Group 1, Census Tract 2	1,293	479	37.0%	1,293	251	19.4%
Block Group 2, Census Tract 2	771	495	64.2%	758	58	7.7%
Block Group 1, Census Tract 4.02	1,568	1,065	67.9%	1,556	95	6.1%
Block Group 2, Census Tract 4.02	2,747	1,439	52.4%	2,747	321	11.7%
Block Group 3, Census Tract 4.02	1,805	882	48.9%	1,805	69	3.8%

Area	Within the Entire County/Census Block Group					
	Total Population	Minority Population		Low-Income Population		
				Population for Whom Poverty is Calculated[1]	Number	Percentage of Individuals Whose Income in the Past 12 Months is Below the Poverty Level
		Number	Percent			
Block Group 1, Census Tract 4.03	1,981	1,310	66.1%	1,981	129	6.5%
Block Group 2, Census Tract 4.03	2,085	1,288	61.8%	2,085	319	15.3%
Block Group 3, Census Tract 4.03	1,257	791	62.9%	1,257	277	22.0%
Block Group 1, Census Tract 4.05	2,466	1,811	73.4%	2,466	214	8.7%
Block Group 2, Census Tract 4.05	799	562	70.3%	798	298	37.3%
Block Group 3, Census Tract 4.05	1,598	1,317	82.4%	1,598	349	21.8%
Block Group 4, Census Tract 4.05	1,625	687	42.3%	1,625	262	16.1%
Block Group 1, Census Tract 4.06	2,606	2,132	81.8%	2,605	48	1.8%
Block Group 2, Census Tract 4.06	1,046	665	63.6%	1,046	124	11.9%
Block Group 1, Census Tract 4.07	3,424	1,676	48.9%	3,424	212	6.2%
Block Group 2, Census Tract 4.07	2,457	1,376	56.0%	2,457	715	29.1%
Block Group 3, Census Tract 4.07	1,658	851	51.3%	1,621	718	44.3%
Block Group 1, Census Tract 16.01	1,763	1,675	95.0%	1,763	288	16.3%

Sources: USCB, 2022a; USCB 2022b

Notes: Red text = environmental justice community (i.e., refers to census block groups that have a higher percentage of minority population or low-income population compared to Kings County); % = percent; NAS = Naval Air Station; U.S. = United States

[1] "Population for Whom Poverty is Calculated" is from the U.S. Census Bureau American Community Survey 5-year estimate and does not take into consideration institutionalized persons, persons in military group quarters and in college dormitories, and unrelated individuals under 15 years old and, therefore, may differ from the total population.

[2] Kings County is used as reference community.

[3] Referenced census Block Group contains NAS Lemoore.

Seven census block groups out of the 21 block groups in the affected area have greater percent minority compared to Kings County. Nine census block groups indicate the presence of a low-income population

that is by percentage higher than the Kings County (Table 3.2-4). Note that Block Group 1, Census Tract 9800, encompasses NAS Lemoore.

In summary, of the 21 census block groups within the existing affected area, there are 17 environmental justice community census block groups (total population: 32,655) and 4 non-environmental justice community census block groups (total population: 8,147).

The USEPA's *EJScreen* tool was used to determine whether there would be the potential for intensifying environmental justice burdens. The tool identifies the extent to which selected areas are currently impacted by various environmental pollutants and contaminants or the extent to which selected areas are at risk of environmental impacts or have demographic populations that could be at greater risk of impacts relative to other areas statewide or nationally. *EJScreen* uses 13 environmental indicators to provide a screening-level view of environmental factors that census block groups may be exposed to and compares them to the state population as a whole. Areas where exposure is greater than 80 percent compared to the rest of the State of California (USEPA identifies the 80th percentile as a starting point for analysis) indicate a potential for a cumulative burden. Two notable indicators that exceed the 80th percentile in the environmental justice communities are particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$) and ozone. As detailed in Section 3.3, *Air Quality,* Fresno County and Kings County are not in attainment of National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ and ozone. *EJScreen* also indicates that 35 percent of the environmental justice block groups in the ROI have a higher rate of asthma compared to the rest of the state at 25 percent. Studies have documented that $PM_{2.5}$ exposure aggravates asthma and can also result in premature deaths of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms (EPA, 2024a). Studies have also shown that ozone exposure can exacerbate the symptoms of asthma (EPA, 2024b). This suggests that the environmental justice census block groups could experience an amplification of environmental or health effects when compared to non-environmental justice census block groups in the ROI.

3.2.3 Environmental Consequences

3.2.3.1 No Action Alternative

Socioeconomics

Under the No Action Alternative, the potential effects of the 2015 Proposed Action as identified in Section 3.4.3.1 of the 2015 EA would still be applicable. There would be no significant impacts to socioeconomic resources under this alternative.

Environmental Justice

Under the No Action Alternative, there would be no disproportionate effects to environmental justice communities if the existing lease remains in effect and the existing lessee would continue to manage the undeveloped property. If the lessee implements the 2015 Proposed Action, there would be effects on environmental justice communities. As detailed in Table 3.2-4**,** environmental justice communities are present in the ROI, which could potentially result in disproportionate effects. A review of the environmental impacts in the 2015 EA Proposed Action indicates that air quality impacts would potentially affect environmental justice communities. The 2015 Proposed Action would result in a minor and temporary increase in emissions generated as a result of construction, operational maintenance,

and decommissioning. Under the 2015 EA Proposed Action, all emissions would be below *de minimis* general conformity thresholds and would not cause an exceedance of any NAAQS; however, pollutants linked to asthma would be generated by the Proposed Action, potentially disproportionately exacerbating asthma in nearby environmental justice communities. Determinations of disproportionate effects consider enhancement measures that are a part of the Proposed Action. The 2015 EA Proposed Action would result in long-term beneficial impacts to air quality due to the benefits of contributing to the energy/power grid through alternative energy development and reducing thermal power plant combustion emissions (which include $PM_{2.5}$ and ozone) and greenhouse gases (GHGs), offsetting the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. Therefore, the 2015 Proposed Action (No Action Alternative) would not result in disproportionate effects to environmental justice communities.

3.2.3.2 2024 Proposed Action (Preferred Alternative)

Socioeconomics

Construction

Under this alternative, construction would include a new data center, EV charging stations, battery energy storage system, backup generation/microgrid, and transmission and fiber optic cable lines and substations (see Table 1-1 for details). There would be up to 400 construction workers; however, it is likely that construction activities would occur in phases over a period of 2 to 3 years. Based on the number of construction jobs and unemployment rate in the two-county ROI (see Table 3.2-3), construction jobs would likely be filled by the local labor force and would not require an in-migration of workers to Fresno and Kings Counties. There would be a minor and temporary benefit to the local economy from the use of local labor and supplies and indirect spending during construction.

Operation

Potential impacts to socioeconomic resources during operation of the proposed solar PV system would be similar to those described in Section 3.4.3.1 of the 2015 EA. However, under the Preferred Alternative, there would be an additional 20 full-time employees associated with the operation of the 600,000 square foot data center building. It would be anticipated that the new employees would be from the local labor force and would not migrate to the ROI. However, if all 20 employees were to migrate to the area, the additional employees would represent a negligible change (less than 0.1 percent) to population, housing, or employment throughout the two-county ROI.

Decommissioning

Potential impacts to socioeconomic resources during decommissioning activities described in Section 3.4.3.1 of the 2015 EA would remain valid.

Environmental Justice

Table 3.2-5 summarizes findings from each resource area and makes a determination if the Proposed Action would have disproportionate human health or environmental effects, including amplification of the effects because of exposure to other environmental burdens, on environmental justice communities. The table describes construction and operations-related impacts. Because impacts to the following resources would be confined to the station or otherwise do not have the potential to

adversely affect identified environmental justice communities, these resource areas were not analyzed: land use, biological resources, visual resources, cultural resources, and utilities.

Table 3.2-5. Proposed Action Impacts on Environmental Justice Communities

Resource	Impact
Construction Impacts	
Public Health and Safety	There would be no significant public health and safety impacts under Proposed Action because the Navy and the private contractor would implement SOPs, BMPs, SWPPP, and SPCC Plans that would minimize adverse impacts to public health and safety. Therefore, there would not be disproportionate human health or environmental effects to environmental justice communities associated with construction.
Socioeconomic	Socioeconomic impacts would be largely beneficial to the local economy and local communities from increased employment opportunities and local construction spending. Overall, socioeconomic impacts to environmental justice communities would be slightly beneficial. Therefore, there would not be disproportionate human health or environmental effects to environmental justice communities from construction.
Air Quality	Air quality impacts associated with the proposed construction would occur from emissions generated by fossil-fuel-powered equipment, trucks, and worker commuter vehicles and fugitive dust emissions from the operation of equipment on exposed soil. Increases in emissions from construction and construction traffic would occur in and adjacent to environmental justice communities. These temporary increases in emissions would not affect the area's attainment status and would only occur intermittently during the construction period. However, pollutants linked to amplifying the effects of asthma ($PM_{2.5}$ and ozone) would be temporarily generated by construction and may disproportionately exacerbate asthma symptoms in nearby environmental justice communities.
Operations Impacts	
Public Health and Safety	There would be no significant public health and safety impacts under Proposed Action because the Navy and the private contractor would implement SOPs, BMPs, and SWPPP and SPCC Plans that would minimize adverse impacts to public health and safety. Therefore, there would not be disproportionate human health or environmental effects to environmental justice communities from operations.
Socioeconomic	Overall, socioeconomic impacts to environmental justice communities would be slightly beneficial due to the addition of the 20 permanent data center employees. Therefore, there would not be disproportionate human health or environmental effects to environmental justice communities from operations.
Air Quality	Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing thermal fossil-fuel power plant pollutant emissions (which include $PM_{2.5}$ and ozone) and greenhouse gases. Emissions from the backup generation/microgrid would only be generated during power outages. To comply with emission standards, each engine would have a selective catalytic reduction and catalytic converter to reduce emissions of particulate matter and nitrogen oxides. The potential long-term beneficial impacts of the solar PV system would be expected to offset the minor emissions generated as a result of operating the Proposed Action projects. Therefore, there would not be disproportionate human health or environmental effects to environmental justice communities from operations.

Legend: BMPs = best management practices; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PV = photovoltaic; SOP = standard operating procedures; SPCC = spill prevention, control, and countermeasure; SWPPP = Stormwater Pollution Prevention Plan

Based on the analysis presented in Table 3.2-5, pollutants linked to asthma would be generated during construction under Proposed Action, which could result in disproportionate adverse effects in nearby environmental justice communities. However, determinations of disproportionate effects consider SOPs to reduce construction impacts. Long-term beneficial impacts to air quality would result due to the addition of alternative energy development in the energy/power grid and reduced thermal power plant combustion emissions (which include $PM_{2.5}$ and ozone) and GHGs, offsetting the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system, data center, EV charging stations, battery energy storage system, backup generation/microgrid, transmission and fiber optic cable lines, and substations. Therefore, the Proposed Action would not result in disproportionate effects to environmental justice communities.

3.3 Air Quality

This discussion of air quality includes criteria pollutants, hazardous air pollutants (HAPs), standards, sources, permitting, and GHGs. Air quality in a given location is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

Most air pollutants originate from human-made sources, including mobile sources (e.g., cars, trucks, buses) and stationary sources (e.g., factories, refineries, power plants), as well as indoor sources (e.g., some building materials and cleaning solvents). Air pollutants are also released from natural sources such as volcanic eruptions and wildfires.

3.3.1 Regulatory Setting

3.3.1.1 Criteria Pollutants and National Ambient Air Quality Standards

The Clean Air Act (CAA) is the primary federal statute governing the control of air quality. The CAA designates six pollutants as "criteria pollutants" for which the U.S. Environmental Protection Agency (USEPA) has established NAAQS to protect public health and welfare. The criteria pollutants are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone, suspended particulate matter less than or equal to 10 microns in diameter (PM_{10}), $PM_{2.5}$, and lead. CO, SO_2, NO_2, lead, and some particulates are emitted directly into the atmosphere from emissions sources. Ozone and some NO_2 and particulates are formed through atmospheric chemical reactions from other pollutant emissions (called precursors) that are influenced by weather, ultraviolet light, and other atmospheric processes. For example, ozone is formed in the atmosphere by photochemical reactions of previously emitted nitrogen oxides (NO_x) and photochemically reactive volatile organic compounds (VOCs).

Areas that are in compliance with the NAAQS are designated as attainment areas. Areas that do not meet the NAAQS are designated nonattainment areas for that pollutant. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The CAA requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan for each nonattainment or maintenance pollutant (including the pollutant's precursors) to achieve (nonattainment) or maintain (maintenance) compliance with the appropriate NAAQS for that pollutant. These plans, known as State Implementation Plans (SIPs), are developed by state and local air quality management agencies and

submitted to the USEPA for approval. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations and establishes state standards, called the California Ambient Air Quality Standards (CAAQS).

3.3.1.2 Hazardous Air Pollutants

In addition to the NAAQS for criteria pollutants, there are national standards for HAPs, which are regulated under Section 112(b) of the CAA. HAPs (such as benzene and formaldehyde) are compounds known or suspected to cause cancer or other serious health and environmental effects. Unlike criteria pollutants, there are no NAAQS for HAPs. The *National Emission Standards for Hazardous Air Pollutants* regulate HAP emissions from stationary sources (40 CFR part 61). USEPA also promulgated a Mobile Source Air Toxics Rule to regulate HAPs from mobile sources. CARB regulates HAPs and refers to them as toxic air contaminants. The USEPA and CARB control HAPs by regulating constituents of concern in fuels, promulgating cleaner engine emission standards, and limiting excessive engine operations.

3.3.1.3 General Conformity

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment or maintenance pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and also depend on the severity of the nonattainment status for the air quality region in question.

A conformity applicability analysis is the first step of a conformity evaluation and assesses if a federal action must be supported by a conformity determination. This is typically done by quantifying applicable emissions associated with implementation of the federal action. The General Conformity Rule allows exemptions of certain sources from analysis that are clearly *de minimis* or covered sufficiently by another program. If the results of the applicability analysis indicate that the total emissions would not exceed the *de minimis* emissions thresholds, then the conformity evaluation process is completed. The conformity d*e minimis* emission thresholds are presented in Table 3.3-1.

3.3.1.4 Air Permitting

The CAA established the New Source Review (NSR) and Title V permitting programs for stationary air pollution sources. A permit is required when a stationary source has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specified thresholds. NSR is a preconstruction permitting program and includes major and minor source permitting. Major NSR includes the Prevention of Significant Deterioration permitting program for construction of major stationary sources located in NAAQS attainment areas. Minor NSR (generally for sources less than 100 tpy of a pollutant) applies to sources that do not necessitate major source permitting. The NSR process ensures that proposed emissions would conform to a SIP. Additional permitting requirements may apply to increases in stationary source GHG emissions for sources that already trigger NSR for criteria pollutant emissions. The Title V program is an operating permit program applicable to all major air pollution sources and a limited number of minor sources. The Title V permitting program ensures that all air quality requirements applicable to an air pollution source are included under a single operating permit.

Table 3.3-1 General Conformity *de* minimis Levels

Pollutant	Area Type	tpy
Ozone (VOC or NO_x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO_x)	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon monoxide, SO_2 and NO_2	All nonattainment and maintenance	100
PM_{10}	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
$PM_{2.5}$ Direct emissions, SO_2, NO_x (unless determined not to be a significant precursor), VOC or ammonia (if determined to be significant precursors)	All nonattainment and maintenance	100
Lead (Pb)	All nonattainment and maintenance	25

Source: USEPA, 2023a

Legend: CO = carbon monoxide; NO_2 = nitrogen dioxide; NO_x = nitrogen oxides; PM_{10} and $PM_{2.5}$ = particulate matter with a diameter of less than or equal to 10 microns and 2.5 microns, respectively; SO_2 = sulfur dioxide; VOC = volatile organic compound; tpy = tons per year

3.3.1.5 Greenhouse Gases

GHGs are air pollutants that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The natural balance of GHGs in the atmosphere regulates the earth's temperature. Scientific evidence indicates a correlation between the worldwide proliferation of GHG emissions from human activities and increasing global temperatures over the past century. Climate change associated with this global warming is predicted to produce negative environmental, economic, and social consequences across the globe (Marvel et al., 2023) (IPCC, 2021; State of California, 2020).

Examples of GHGs from human activities include carbon dioxide (CO_2), methane, nitrous oxide, and fluorinated gases. Each GHG has a global warming potential, which is its ability to trap heat in the atmosphere. To account for global warming potentials, GHG emissions are reported as a carbon dioxide equivalent (CO_2e).

Observed changes due to global warming include rising temperatures, shrinking glaciers and sea ice, thawing permafrost, sea level rise, a lengthened growing season, increases in droughts and severe weather, and shifts in plant and animal ranges. The most recent assessment of climate change impacts in California conducted by the State of California (2020) (California's Fourth Climate Change Assessment) predicts that temperatures will increase 5.6 or 8.8 degrees Fahrenheit (°F) by 2100 compared to a baseline of 1976–2005, based on scenarios of moderate GHG emission reductions from current levels or a continuation of current GHG emission levels (Bedsworth et al., 2018). Predictions of long-term

negative environmental impacts in California include exacerbation of air quality problems, a substantial reduction in potential municipal water supply from the Sierra snowpack, sea level rise that would displace coastal development, an increase in wildfires, damage to ecosystems and infrastructure, reductions in agricultural production, and an increase in the incidences of human health problems.

Federal agencies address emissions of GHGs by reporting and meeting reductions mandated in federal laws, EOs, and agency policies. The Navy takes proactive measures to reduce GHG emissions by decreasing the use of fossil fuels and increasing the use of alternative energy sources in accordance with the goals set by EOs, the Energy Policy Acts of 2005 and 2020, and Navy and Department of Defense (DoD) policies. The Navy Climate Action 2030 (DON, 2022) details the Navy's goals to meet the requirements of EO 14008, *Tackling the Climate Crisis at Home and Abroad* and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*. These goals include 65 percent reductions in scope 1 (from owned sources, such as fuel combustion and vehicles) and scope 2 (purchased power from offsite sources) GHG emissions by 2030, acquiring 100 percent zero-emission, light-duty vehicles by 2027, achieving a 50 percent reduction in GHG emissions from buildings by 2032, diverting at least 50 percent of non-hazardous solid waste from landfills by 2025, instituting nature-based resilience to reduce GHG emissions, and establishing energy resilience to ensure mission accomplishment.

In addition, the DoD conducts research on potential impacts from climate change and develops measures for installations to adapt to these threats (DoD Strategic Environmental Research and Development Program, 2023). The State of California also has developed strategies for adapting to future climatic effects (California Natural Resources Agency, 2023).

On January 9, 2023, the CEQ released interim guidance that describes how federal agencies should consider the effects of GHGs and climate change in their NEPA reviews (CEQ, 2023). The interim guidance explains that agencies should (1) consider the potential effects of project alternatives on climate change, as indicated by estimated GHG emissions, (2) determine the social cost of project GHGs, (3) determine project consistency with GHG plans and goals, (4) consider mitigations that will reduce project GHGs, (5) consider impacts to environmental justice communities, and (6) consider adaptation measures that would make the actions and affected communities more resilient to the effects of climate change. This SEA air quality analysis considers aspects of the CEQ 2023 interim guidance.

3.3.2 Affected Environment

NAS Lemoore is located in the southwest portion of the San Joaquin Valley Air Basin (SJVAB). Regarding the NAAQS, the USEPA classifies the SJVAB as extreme nonattainment for the ozone standard, serious nonattainment for the $PM_{2.5}$ standard, and attainment for all other criteria pollutants (USEPA, 2024). The SJVAB achieved attainment of the PM_{10} standard and therefore is a PM_{10} maintenance area. Due to these nonattainment and maintenance conditions, the Proposed Action would require an analysis to determine the applicability of the General Conformity Rule.

CARB also designates areas of the state that are in attainment or nonattainment of the CAAQS. CARB currently designates the SJVAB as nonattainment areas for ozone, PM_{10}, $PM_{2.5}$, and attainment areas for all other CAAQS. CARB considers the SJVAB to be an extreme ozone nonattainment area.

CARB has delegated the responsibility for enforcing air pollution regulations in the SJVAB to the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD monitors air pollution, prepares

and implements its portion of the SIP, and promulgates rules and regulations (SJVAPCD, 2024a). The SIP for the SJVAPCD includes strategies and tactics used to attain and maintain acceptable air quality in its jurisdiction, including establishing annual air emissions budgets for the area. Regarding ozone, this list of strategies is contained in the *2022 Plan for the 2015 8-Hour Ozone Standard* (SJVAPCD, 2022). The SJVAPCD rules and regulations include procedures and requirements to control air pollutant emissions and to prevent significant air quality impacts. These regulations require permits for equipment that emit or control air contaminants prior to their construction, installation, or operation (e.g., Authority to Construct or Permit to Operate). The following are some of the SJVAPCD rules and regulations that are applicable to project construction and operation of the proposed diesel-powered emergency generators:

- Rule 2010 (Permits Required) requires operators of stationary sources of emissions to obtain an Authority to Construct and Permit to Operate (PTO) from the District.
- Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology.
- Rule 4601 (Architectural Coatings) includes limitations for the content of VOCs in architectural coatings and measures to reduce VOC emissions due to the use of such coatings.
- Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities requires earthmoving activities to comply with the appropriate requirements in sections 5.1 through 5.5 of the rule to minimize fugitive dust emissions. In addition to the requirements of this rule, such activities shall comply with all other applicable requirements of Regulation VIII (Fugitive PM10 Prohibitions).
- Rule 9510 - Indirect Source Review (ISR) - The purpose of Rule 9510 is to reduce both NOx and particulate matter emissions from mobile and area sources associated with development and transportation projects, specifically, emissions associated with construction and operation of development projects. The ISR Rule requires developers to mitigate their NOx and particulate matter emissions by incorporating clean air design elements into their projects. The Proposed Action would comply with the requirements of the ISR Rule to the extent that it would not conflict with the Navy mission, security, or other policies.

3.3.3 Environmental Consequences

This section presents estimates of air quality impacts that would occur from implementation of the Proposed Action. The ROI for assessing air quality impacts includes the SJVAB. The analysis considered NEPA impacts related to criteria pollutant emissions, HAP emissions, and GHG emissions. This section also includes a conformity applicability analysis. Appendix D presents details of the inputs and calculation methods used in the air quality analyses.

3.3.3.1 Criteria Pollutants

This analysis evaluated potential air quality impacts with respect to relevant environmental information, including laws, regulations, guidelines, and scientific documentation. Laws and regulations provide, among other things, thresholds of increased and decreased regulatory concern such as major source and conformity *de minimis* thresholds. The analysis uses these thresholds as context and indicators of

concern to determine whether project emissions have the potential to exceed an ambient air quality or health risk standard.

Conformity Applicability Analysis

In the case of criteria pollutants for which the project region does not attain a NAAQS, the analysis compared the net increase in annual emissions from the Proposed Action to the applicable pollutant conformity *de minimis* threshold. For the SJVAB, the applicable conformity *de minimis* thresholds are 10 tpy of VOCs and NO_x, 100 tpy of SO_2 (as a precursor to $PM_{2.5}$), and 100 tpy of PM_{10} and $PM_{2.5}$, as shown in Table 3.3-1. If the net increase in emissions from the Proposed Action do not exceed a *de minimis* threshold, then the action would be exempt from any further requirements under the General Conformity Rule. If the net change in emissions from the Proposed Action equals or exceeds a *de minimis* threshold, then a positive general conformity determination would be required prior to initiation of the action.

NEPA Air Quality Analysis

In the case of criteria pollutants for which the ROI is in attainment of a NAAQS, the NEPA air quality analysis used the Title V major source emissions threshold of 100 tpy of a criteria pollutant as an indicator of projected air quality impacts. This criterion was used because it applies to the Title V permitting process for areas that attain a NAAQS. This threshold represents a level of concern, as this amount of emissions often triggers the need to conduct dispersion modeling to demonstrate that an action would not contribute to an exceedance of a NAAQS. In the case of criteria pollutants for which the project region is in nonattainment or maintenance of a NAAQS, the analysis compared the net increase in annual emissions to the applicable pollutant conformity *de minimis* threshold. Therefore, for the project ROI within the SJVAB, the applicable NEPA thresholds of concern for criteria pollutants are:

- 10 tpy of VOC or NO_x (based on the extreme ozone nonattainment status)
- 100 tpy of CO, SO_2, PM_{10}, or $PM_{2.5}$.

If the intensity of a net emissions increase is below a level of concern, the indication is that the air quality impact for that pollutant would be less than significant. However, consideration also was given to the potential for project emissions to result in localized impacts that could contribute to an exceedance of an ambient air quality standard. If proposed emissions would exceed one of the above thresholds of concern, further analysis was conducted to determine whether impacts would be significant. In such cases, if proposed emissions would not contribute to an exceedance of an ambient air quality standard, then impacts would be less than significant.

3.3.3.2 Hazardous Air Pollutants

Regarding HAP emissions, the analysis used the CAA Section 112 major source threshold definition of 10 tpy for a single HAP or 25 tpy for any combination of HAPs as an indicator of concern for projected human health impacts. These criteria were used because they are regulatory trigger levels that require the maximum degree of reduction in emissions of HAPs from major sources. If proposed construction or operations generate HAPs emissions that remain below these thresholds, the indication is that project health impacts to the public would be less than significant. Consistent with the evaluation of criteria pollutants, the analysis also considered whether project HAP emissions would exceed an ambient health risk standard at public receptors. If proposed HAP emissions would exceed one of the above thresholds

of concern, further analysis was conducted to determine whether impacts would be significant. In such cases, if proposed emissions would not exceed a public health risk standard, then impacts would be less than significant.

3.3.3.3 Greenhouse Gases

The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as worldwide sources of GHGs contribute to climate change. These global impacts would be manifested as impacts on resources and ecosystems in California, as discussed above in Section 3.1.1.5. This SEA presents estimates of GHGs that would occur from the Proposed Action and uses these estimates as indicators of their potential effects on climate change, as presented in cumulative Section 4.3.1.

3.3.4 No Action Alternative

Under the No Action Alternative, the 2024 Proposed Action would not occur, additional resilient energy system development would not occur within the Project Site, and the Navy would not modify the existing lease. The existing lease allows for a fraction of the power generation and land evaluated in the original 2015 EA. The existing lease would remain in effect, and the existing private partner would continue to either manage the undeveloped property or elect to implement currently authorized solar development activities in accordance with the existing lease.

Under the No Action Alternative, the potential effects of the 2015 Proposed Action as identified in Section 3.7.3.3 of the 2015 EA would still be applicable. Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing GHG. These potential long-term beneficial impacts would be expected to offset the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. There would be no significant impacts to air quality under this alternative.

3.3.5 Proposed Action

Implementation of the Proposed Action would result in air quality impacts from construction and operational activities. Air quality impacts from the proposed construction activities would occur from (1) combustive emissions due to the use of fossil fuel-powered equipment and (2) fugitive dust (PM_{10}/$PM_{2.5}$) due to the operation of equipment on exposed soil. Air quality impacts from proposed operations would occur from combustive emissions due to the use of equipment to maintain the project infrastructure, material delivery trucks, commuter vehicles, and diesel-powered emergency generators.

The analysis of proposed construction impacts relied on the analysis of construction activities evaluated in the 2015 EA. This approach was taken, as it is expected that the daily and annual amounts of project construction activities and resulting emissions would be equal to or less than those evaluated in the 2015 EA. The analysis assumed that construction would occur from late-2024 through 2027 and operation would begin in phases starting in 2025.

The project would install up to 296 diesel-powered emergency generators to operate during periods when the electrical grid fails to provide power to the proposed data center and NAS Lemoore. These units would comply with all SJVAPCD permitting rules and regulations. The analysis assumes that each generator would operate 200 hours per year in combined emergency and non-emergency modes.

Factors used to estimate emissions were based on CARB certification emission levels for like-kind diesel-powered engines (CARB 2020).

3.3.5.1 Construction

The results of the air quality analysis in the 2015 EA determined that annual construction emissions would not exceed any conformity de minimis threshold or NEPA threshold of concern. The current project would grade up to 930 acres of land as part of proposed construction, which is substantially less than the 2,730 acres proposed in the 2015 EA. Site preparation and grading would generate the highest amounts of emissions for any construction activity. Therefore, project construction activities would not produce emissions that would exceed the levels estimated in the 2015 EA. As a result, project construction would result in less than significant impacts to air quality. Any increases in emissions would be temporary and would not affect the area's attainment status and would only occur intermittently during the construction period.

Proposed construction activities would implement conservation measures to minimize fugitive dust emissions. The overwhelming majority of fugitive dust would occur during site grading in the first year of construction. Dust suppression methods, such as using water trucks to wet actively disturbed areas, would minimize fugitive dust emissions. After the completion of construction activities, a soil stabilizer would be applied to unvegetated soil and gravel would be placed on access roads between the rows of solar PV panels and around the site perimeter (outside of the fence line). To be consistent with the analysis performed in the 2015 EA, project construction equipment with combustive engines also would be required to meet USEPA Final Tier 4 emission standards.

Construction activities would emit HAPs in the form of (1) VOCs due to the use of architectural coatings, (2) particulate matter from welding, and (3) diesel particulate matter from the operation of diesel-powered equipment. Annual HAPs emissions would be substantially lower than the thresholds of concern of 10 tpy for an individual HAP or 25 tpy of combined HAPs. In addition, the intermittent nature of project emissions of HAPs would ensure that construction activities would result in less than significant public health impacts.

3.3.5.2 Operations

Conformity Applicability Analysis

Table 3.3-2 presents estimates of annual conformity-related emissions that would occur from operation of the Proposed Action. The applicant would obtain the necessary permits from the SJVAPCD to operate the proposed diesel-powered emergency generators. Therefore, emissions from these engines were excluded from the conformity analysis, as allowed by the General Conformity Rule. The remaining project vehicular sources would produce minor amounts of emissions. As a result, project conformity-related emissions from the Proposed Action would be below the applicable conformity *de minimis* thresholds for the SJVAB and would conform to the SIP.

Table 3.3-2 Annual Conformity-Related Emissions – NAS Lemoore Solar PV System Project (tons/year)

Year (Activity)	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2e (mt)
Backup Generators							
Delivery Trucks	0.000	0.000	0.008	0.000	0.000	0.000	7
Worker Commuter Vehicles	0.002	0.165	0.010	0.001	0.000	0.000	56
Annual Emissions	**0.002**	**0.17**	**0.02**	**0.001**	**0.000**	**0.000**	**63**
Conformity Threshold	**10**	**100**	**10**	**100**	**100**	**100**	**NA**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**NA**

Legend: CO = carbon monoxide; CO_2e (mt) = carbon dioxide equivalent metric tons; NO_x = nitrogen oxides; PM_{10} and $PM_{2.5}$ = particulate matter with a diameter of less than or equal to 10 microns and 2.5 microns, respectively; SO_2 = sulfur dioxide; VOC = volatile organic compound.

NEPA Air Quality Analysis

Table 3.3-3 presents estimates of annual air emissions associated with the Proposed Action. These data show that project annual emissions would be well below the thresholds of concern for all pollutants except NO_x. The overwhelming majority of NO_x emissions would occur from the proposed diesel-powered emergency generators. SJVAPCD regulations require that prior to obtaining a permit to operate, the applicant would have to demonstrate by dispersion modeling that emissions from these sources would not contribute to an exceedance of an ambient air quality or public health risk standard. Assuming compliance with all SJVAPCD regulations, operation of the Proposed Action therefore would result in less than significant impacts to criteria pollutant or HAPs levels. Any increases would also be temporary in nature and would not affect the area's attainment status. The air quality analysis in this SEA concludes that proposed emissions under 1) the 2024 Proposed Action (Preferred Alternative) would not exceed *de minimis* levels (except for NO_x), 2) would not create a major regional source of air pollutants or affect the current attainment status at NAS Lemoore, and 3) would comply with all applicable state and regional air agency rules and regulations. A Record of Non-Applicability (RONA) has been prepared (Appendix D). Therefore, implementation of the Proposed Action would result in less than significant impacts to air quality.

Table 3.3-3 Annual NEPA Emissions – NAS Lemoore Solar PV System Project (tons/year)

Year (Activity)	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2e (mt)
Backup Generators	0.14	4.54	14.98	0.30	0.91	0.84	29,092
Delivery Trucks	0.000	0.000	0.008	0.000	0.000	0.000	7
Worker Commuter Vehicles	0.002	0.165	0.010	0.001	0.000	0.000	56
Annual Emissions	**0.14**	**4.70**	**15.00**	**0.30**	**0.91**	**0.84**	**29,156**
Threshold of Concern	**10**	**100**	**10**	**100**	**100**	**100**	**NA**
Exceed Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**	**NA**

Legend: CO = carbon monoxide; CO_2e (mt) = carbon dioxide equivalent metric tons; NO_x = nitrogen oxides; PM_{10} and $PM_{2.5}$ = particulate matter with a diameter of less than or equal to 10 microns and 2.5 microns, respectively; SO_2 = sulfur dioxide; VOC = volatile organic compound.

3.4 Utilities

This section focuses on affected utilities within the vicinity of the proposed Project Site including electric, water, and wastewater (including stormwater). The Proposed Action would not increase demand or affect natural gas or telecommunications. As the Proposed Action involves the addition of an

up to 425 MW solar PV system (a 35 MW increase from the 2015 Preferred Alternative), a 600,000-square-foot data center, up to 20 EV charging stations, a 1.5 GWh battery energy storage system, a 185 MW backup generation/microgrid (with fuel storage), and related infrastructure improvements and utility connections, this section primarily focuses on the electricity and infrastructure related to energy generation and transmission but also considers potable water and wastewater (i.e., sanitary sewer).

3.4.1 Regulatory Setting

EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, was signed by President Biden on December 8, 2021. This EO reestablishes the federal government as a leader in sustainability. This EO affirms that it is the policy of the United States that the federal government leads by example to achieve a carbon pollution-free electricity sector by 2035 and net-zero emissions economy-wide by no later than 2050. Through a whole-of-government approach, the United States will demonstrate how innovation and environmental stewardship can protect our planet; safeguard federal investments against the effects of climate change; respond to the needs of all of America's communities; and expand American technologies, industries, and jobs.

Chief of Naval Operation Instruction 4100.5E outlines the Secretary of the Navy's vision for shore energy management. The focus of this instruction is establishing the energy goals and implementing strategies to achieve energy efficiency.

3.4.2 Affected Environment

3.4.2.1 Utilities

Energy

The Western Area Power Administration provides electricity to NAS Lemoore. NAS Lemoore owns and maintains all transmission lines and related infrastructure within the installation boundaries. Average monthly electricity consumption at NAS Lemoore in 2021 was 6,779 MW hours (high of 9,688 in July and a low of 5,339 in November). Total annual consumption in 2021 was 88,131 MW hours (NAVFAC Southwest 2022).

Potable Water

NAS Lemoore's municipal and industrial activities rely primarily on purchased surface water deliveries from the Westlands Water District (WWD) and to a lesser extent a groundwater well on NAS Lemoore (NAS Admin Well No. 7). The WWD receives water from the United States (U.S.) Bureau of Reclamation's Central Valley Project, which stores water from Northern California reservoirs via the Sacramento-San Joaquin Delta and the California Aqueduct and the Delta-Mendota Canal. Ultimately, NAS Lemoore's Central Valley Project water is received via the nearby San Luis Canal (NAS Lemoore 2014). Total potable water consumption by NAS Lemoore in 2021 was 686,889 kilogallons (an average of 57,241 kilogallons per month) (NAVFAC Southwest 2022).

Non-Potable Water

The amount of agricultural water available varies from year to year based on a percentage allocation set annually by the U.S. Bureau of Reclamation against the land's basic water entitlement. In a 100 percent allocation year, each irrigable acre of land is entitled to 847,200 gallons (2.6 acre-feet) of water for irrigation purposes, which totals approximately 9.71 billion gallons (29,810 acre-feet) for all 11,466 acres

of irrigable land on NAS Lemoore that lie within the WWD. Since 2003, the percentage allocation set by the Bureau has ranged from a low of 0 percent (2014, 2015, 2021, and 2022) to a high of 100 percent (2006 and 2017), with an average allocation of 43 percent (Westlands Water District 2024).

Passive drainage systems, consisting of drainage sumps and canals, are used throughout most of the agricultural outlease areas to retrieve and reuse excess irrigation water. Ninety percent of parcels have return water pipes to prevent runoff and return water to the fields. Currently, agricultural runoff from any lease is prohibited and NAS Lemoore encourages lessees to conserve water where they can, including encouraging installation of more efficient irrigations system (such as drip irrigation) where feasible. In addition to encouraging water conservation in a region that is semiarid, this technique helps prevent runoff contributions to soil erosion and the perched aquifer (NAS Lemoore 2014).

Wastewater

NAS Lemoore's wastewater treatment consists of industrial pretreatment for the operations area that is then combined with the domestic sewage. The wastewater then leaves the station and is treated using facultative and evaporation ponds. Industrial wastewater (with pretreatment), stormwater, and domestic wastewater are all commingled. This treatment system was designed for 2 million gallons per day but typically receives less than 1 million gallons per day (NAVFAC Engineering & Expeditionary Warfare Center 2018). Total wastewater generation by NAS Lemoore in 2021 was 268,285 kilogallons (an average of 22,357 kilogallons per month) (NAVFAC Southwest 2022).

3.4.3 Environmental Consequences

This section analyzes the magnitude of anticipated increases or decreases in public works infrastructure demands considering historic levels, existing management practices, and storage capacity and evaluates potential impacts to public works infrastructure associated with implementation of the alternatives. Impacts are evaluated by whether they would result in the use of a substantial proportion of the remaining system capacity, reach or exceed the current capacity of the system, or require development of facilities and sources beyond those existing or currently planned.

Infrastructure Potential Impacts:

- Beneficial impacts to energy resiliency.
- Negligible impacts to potable water use and wastewater generation.
- Beneficial impacts to agricultural irrigation water use.

3.4.3.1 No Action Alternative

Under the No Action Alternative, the 2024 Proposed Action would not occur, additional resilient energy system development would not occur within the Project Site, and the Navy would not modify the existing lease. The existing lease allows for a fraction of the power generation and land evaluated in the original EA. The existing lease would remain in effect, and the existing private partner would continue to either manage the undeveloped property or elect to implement currently authorized solar development activities in accordance with the existing lease.

With the No Action Alternative, the property is currently managed as undeveloped land and would not support the Navy's renewable energy goals and strategies. The existing electrical substations and transmission/distribution systems would continue to have adequate capacity to serve NAS Lemoore's demand. There would be no impact to NAS Lemoore water supply, use, or wastewater.

If elements of the 2015 Proposed Action are implemented in accordance with the existing lease, then the No Action Alternative would result in potential temporary and localized power disruption when the solar PV system comes online. The 2015 Proposed Action would support Navy renewable energy goals and strategies. In the 2015 EA, several models were discussed. Under the Model 2 and combination of Models 2 and 3, there would be an increase in regional power supply. Under Model 3, a local renewable energy source would be created for NAS Lemoore. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system. Water used in construction/decommissioning, dust suppression, and periodic solar PV panel cleaning would be sourced from offsite suppliers. There would be no effect on NAS water supply or use. There would be no effect to potable water or wastewater because there would be no increase in user population. Therefore, the No Action Alternative would not result in significant impacts to utilities.

3.4.3.2 2024 Proposed Action (Preferred Alternative)

Under the 2024 Proposed Action, the existing lease would be modified to allow the private partner to construct and operate additional resilient energy systems within the leased 930-acre Project Site, as well as a data center. The 2024 Proposed Action would include the construction and operation of a 425 MW solar PV system and an option to construct a data center, EV charging stations, a battery energy storage system, a backup generation/microgrid, and related infrastructure improvements and utility connections. The 2015 original EA evaluated a 390 MW solar PV system; thus, the 2024 Proposed Action represents a 9 percent increase in total power generation. Once the systems are operational, the private partner would sell the generated power to regional customers, including an on-site data center. In return the private partner would provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work toward meeting both Navy and DoD energy resiliency objectives.

Construction

Under Alternative 1, power used by construction equipment and vehicles would primarily be generated from the consumption of diesel and gasoline from mobile or portable sources (i.e., generators). Temporary and localized power disruption could potentially occur when the solar PV system, battery energy storage system, and backup generation/microgrid is brought online.

Proposed construction activities would require water, primarily for dust suppression during initial grading and site preparation activities. Applying the same calculation used for the 2015 Proposed Action, as much as approximately 0.15 acre-feet of water per acre would be used for development of up to a 425 MW solar PV system; this equates to approximately 128 acre-feet of water for construction use. Because of the 1,800-acre reduction in land proposed for solar development, this represents a 66 percent reduction in water for dust control compared to the 2015 Proposed Action. The water would be brought to the project area by the private partner; NAS Lemoore would not supply water for construction activities. If available and feasible, reclaimed water (tertiary treated) would be used during construction and water use would be minimized to the extent practicable.

Operation

Implementation of the Proposed Action would support meeting Navy and DoD energy resiliency objectives and contribute toward meeting California's renewable portfolio standard. The integration of solar PV power with a battery energy storage system and backup generation/microgrid within the region

and/or NAS Lemoore would improve power supply, reliability, and availability. Improvements to the electrical distribution system (e.g., transmission lines, substations, transformers, circuit breakers, switches, relays, capacitors, and control systems) would be incorporated into the Proposed Action to support the solar PV system, battery energy storge system, and backup generation/microgrid.

Periodic cleaning of the solar PV panels would occur as part of operations. The cleaning would require deionized water. Using a factor of 0.05 acre-feet of water per MW, to periodically clean up to 425 MW of solar PV panels, an annual volume of approximately 21.25 acre-feet of deionized water would be required. This is a 6.25 percent increase over the 2015 Proposed Action. The private partner would use deionized water provided by an offsite source. The water would be trucked in and then applied to the solar PV panels for cleaning. The periodic cleaning process would produce little to no overspray or accumulation of water below the solar PV panels. In addition, other cleaning techniques that use little water may be implemented to reduce the amount of water needed for cleaning.

Using the average allocation of 43 percent of the basic water entitlement to which each irrigable acre of land is entitled, the 930 acres that the Proposed Action would take out of agricultural use would result in irrigation water savings of 338,795,280 gallons per year (1,040 acre-feet).

Critical cooling of the data center would be accomplished by a closed-loop waterless cooling system. Staffing at the data center would consume negligible amounts of potable water. Employee water usage is typically around 10 to 25 gallons per person per shift (USEPA 2023). Using 25 gallons per person per shift would result in 500 gallons per day. This would result in a 0.0003 percent increase in average monthly water use at NAS Lemoore. Sanitary wastewater from the data center would be treated by an on-site septic system and would, therefore, not affect the capacity of the NAS Lemoore wastewater treatment plant.

Fuel for the generators comprising the backup generation/microgrid would be supplied by a third-party fuel supplier contracted by the private partner to ensure continuous availability of the generators; therefore, fuel supply at NAS Lemoore would not be affected.

Decommissioning

At the conclusion of the lease agreement, the private partner would be required to decommission the solar PV system, along with the battery energy storage system, backup generation/microgrid, and all associated features, and return the project area to its pre-project condition in accordance with the lease agreement. The pre-project condition of agriculture may not be possible if water rights are not available at that time, but it is anticipated that the land would be returned to a vacant/undeveloped condition. The lease language states that the Lessee is required to remove improvements and restore the Leased Premises to substantially the same condition; however, the government has the right to provide written approval for exceptions to this requirement. Exceptions could be related to utility improvements or the data center, for example. Temporary and localized power disruptions may occur when the system is decommissioned. Power used for construction equipment and vehicles would primarily be generated from the consumption of diesel and gasoline from mobile and portable sources. Up to approximately 12 acre-feet of water would be used during decommissioning activities, primarily for dust suppression, which is a reduction of 66 percent compared to the 2015 Proposed Action and again attributable to the proposed smaller acreage footprint. The water would be brought to the project area by the private

partner; NAS Lemoore would not supply water for decommissioning activities. If available and feasible, reclaimed water (tertiary treated) would be used during decommissioning activities.

3.4.3.3 Summary for Utilities

Under the Proposed Action, there would be the potential for temporary and localized power disruption when the solar PV system with battery energy storage system and backup generation/microgrid comes online. The Proposed Action would support achievement of the Navy's renewable energy goals and strategies. With the exception of potable water for the 20 data center staff, the private partner would use offsite sources to meet all project water needs. There would be an overall water use reduction by removing the 930 acres proposed for development from agricultural use. There would be negligible impacts to NAS Lemoore potable water supply or use. Therefore, implementation of the Proposed Action would not have a significant impact on utilities.

4 Cumulative Impacts

4.1 Definition of Cumulative Impacts

Council on Environmental Quality (CEQ) regulations implementing National Environmental Policy Act (NEPA) require that the cumulative impacts of a Proposed Action be assessed (40 CFR sections 1500-1508). A cumulative impact is defined as the following:

> *"…effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR section 1508.1(g)(3))*

Cumulative effects are most likely to arise when a relationship exists between the Proposed Action and other actions expected to occur in a similar location or during a similar time. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated.

CEQ's guidance for considering cumulative effects states that NEPA documents "should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant" (CEQ 1997). The first step in assessing cumulative effects, therefore, involves identifying and defining the scope of other actions and their interrelationship with the Proposed Action or alternatives. The scope of the cumulative effects analysis involves both the geographic extent of the effects and the timeframe in which the effects could be expected to occur. The scope must consider other projects that coincide with the location and timing of the Proposed Action and other actions, and the duration of potential effects on the environment. Section 4.2 identifies the projects considered in the cumulative analysis. Section 4.3 provides an analysis of potential cumulative impacts for each of the environmental resources discussed in this Supplemental Environmental Assessment (SEA).

4.2 Past, Present, and Reasonably Foreseeable Actions

This section identifies past, present, and reasonably foreseeable future actions not related to the Proposed Action that have the potential to cumulatively impact the resources in the affected environment for Naval Air Station (NAS) Lemoore and the associated regionally affected area. The geographic distribution, intensity, duration, and historical effects of similar activities were considered when determining whether a particular activity may contribute cumulatively to the impacts of the Proposed Action on the resources identified in this SEA. The following discussion lists the past, present, and reasonably foreseeable future projects assessed in this section, along with any NEPA or environmental analysis that has been prepared or is anticipated to occur. Figure 4-1 depicts the locations of these projects.

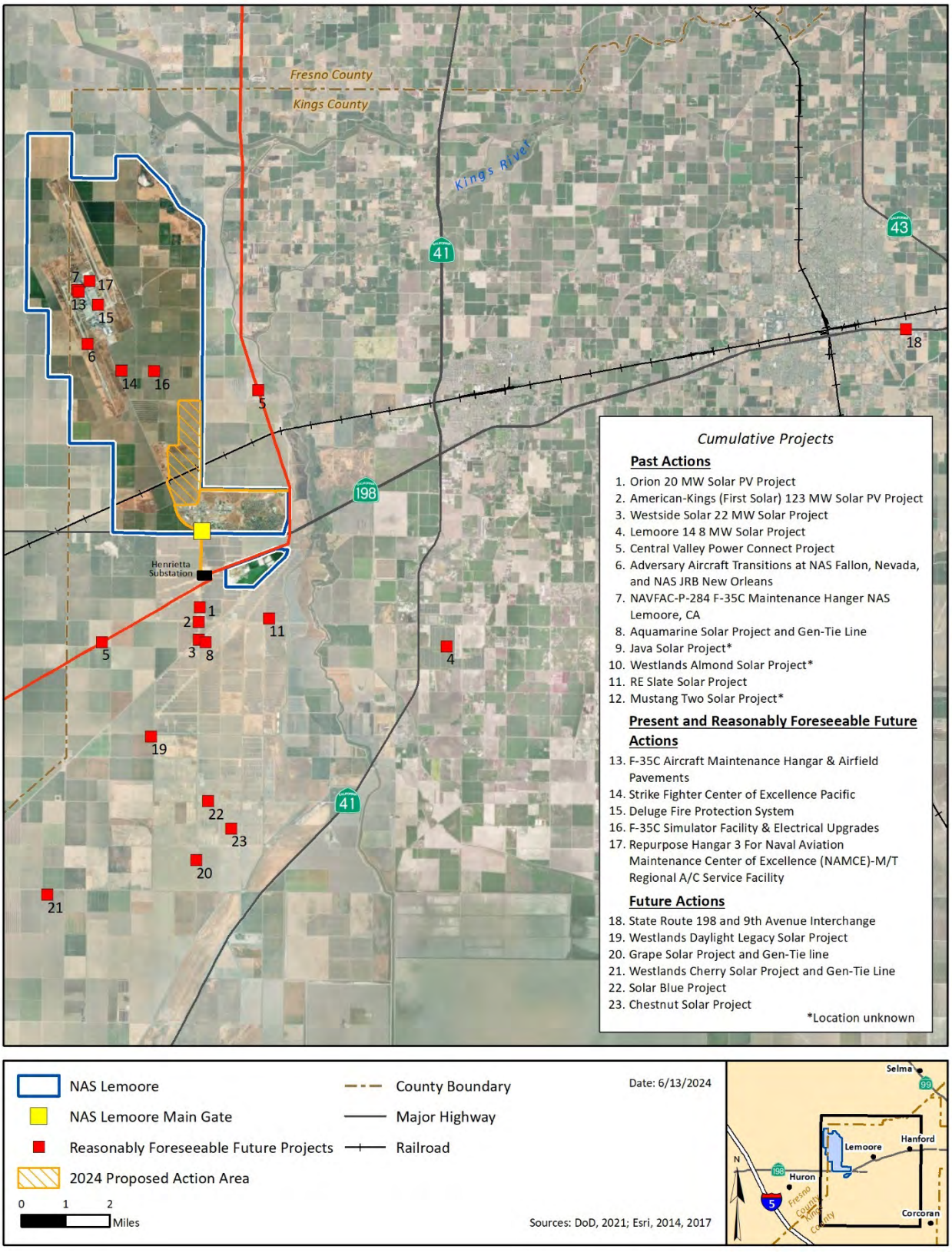


Figure 4-1 Past, Present, and Reasonably Foreseeable Actions

4.2.1 Past Actions

Past actions relevant to the analysis of cumulative impacts at NAS Lemoore have been identified and are described below.

- **Orion 20 MW Solar Photovoltaic (PV) Project**. Located south of NAS Lemoore (16480 25th Avenue, Lemoore, CA). This solar PV project has similar impacts to other past and present PV projects, including less than significant impacts to public health and safety, socioeconomics and environmental justice, air quality, and utilities as documented in the Addendum to the mitigated negative declaration issued by the Kings County Community Development Agency (CDA) in 2013 (Kings County Community Development Agency 2019).
- **American-Kings (First Solar) 123 MW Solar PV Project**. Located south of NAS Lemoore adjacent to the Pacific Gas & Electric (PG&E) Henrietta Substation (15866 25th Avenue, Lemoore, CA). This solar PV project has similar impacts to other past and present PV projects, including less than significant impacts to public health and safety, socioeconomics and environmental justice, air quality, and utilities as documented in the initial study and mitigated negative declaration issued by the Kings County CDA in 2013 (Kings County CDA 2018).
- **Westside Solar 22 MW Solar Project**. Located south of NAS Lemoore (southwest corner of 25th Ave and Avenal Cutoff). This solar PV project has similar impacts to other past and present PV projects, including less than significant impacts to public health and safety, socioeconomics and environmental justice, air quality, and utilities as documented in the initial study and mitigated negative declaration issued by the Kings County CDA in 2015 (Kings County CDA 2019).
- **Lemoore 14 8 MW Solar Project**. Located east of NAS Lemoore (14805 19th Avenue). This solar PV project has similar impacts to other past and present PV projects, including less than significant impacts to public health and safety, socioeconomics and environmental justice, air quality, and utilities as documented in the initial study and mitigated negative declaration issued by the Kings County CDA in 2014 (Kings County CDA 2014).
- **Central Valley Power Connect Project**. PG&E's Central Valley Power Connect is new 230-kV electric transmission line connecting Gates Substation east of Coalinga and Gregg Substation northwest of Fresno. The transmission line would span about 70 miles (113 kilometers) within a study area that includes portions of Fresno, Kings, and Madera counties. In addition to other needs, the project is needed to help grid operators integrate clean power in and out of the Central Valley. PG&E has studied several route alternatives; one of the routes would be located adjacent to the southeast boundary of NAS Lemoore and parallel with an existing 230-kV transmission line.
- **Adversary Aircraft Transitions at NAS Fallon, Nevada, and NAS JRB New Orleans, Louisiana**. This includes a small maintenance detachment (approximately 10 personnel) that has been established at NAS Lemoore to support NAS Fallon based F-16 adversary aircraft on short-term missions.
- **NAVFAC-P-284 F-35C Maintenance Hanger NAS Lemoore, CA.** The project consisted of a 110,794 square foot Type 1 maintenance hangar, 900,800 square feet of airfield pavement, including new taxiways tying into an existing apron, an existing taxiway tying into a runway, and a 3,670 square foot munitions and storage facility; 28 new F-35 parking shade structures with electrical conduit and backerboards for each parking facility; 1,960 tie-down mooring points in the new apron to

accommodate additional aircraft if needed; pavement markings; and a new subterranean stormwater retention system.

- **Aquamarine Solar Project and Gen-Tie Line.** Aquamarine Solar Project - A 250 MW solar generating station on 1,825 acres, including a 230-kV substation, to be constructed over an 18-month period commencing in 2019. Gen-Tie Line - A 230-kV transmission line to convey the power generated by the Aquamarine Solar Project to the point of interconnection with the PG&E system at the Gates Substation. The gen-tie line will follow the 25th Avenue alignment south for 2.5 miles to Nevada Avenue where it will turn west and extend an additional 6.2 miles to the Fresno County line.
- **Java Solar Project.** Java Solar, LLC, the project sponsor and landowner, proposes to develop, own, and operate an approximately 15 MW alternating current photovoltaic solar generating farm, access driveways, electrical interconnection, and project substation on approximately 96 acres of agricultural lands in unincorporated Kings County, California (CA). The Java project requires county approval of a conditional use permit (CUP) to allow for the construction, operation, and maintenance of such facilities for long-term generation of clean renewable energy from solar power; electricity would ultimately be sold to a public utility, commercial, or industrial company and distributed for public consumption. The Java project facilities would be 1.34 miles southwest of the City of Lemoore and 2.05 miles northeast of the town of Stratford. The area is immediately east of SR 41 near the Java Ave intersection.
- **Westlands Almond Solar Project.** The applicant proposes to develop the Westlands Solar Project, a 22 Megawatt (MW) photovoltaic (PV) solar energy generating facility to be constructed in two phases on approximately 186 acres, which will provide clean, renewable energy to the Lemoore/Kings County area.
- **RE Slate Solar Project.** RE Slate, LLC seeks a CUP from Kings County to construct, operate, maintain, and eventually decommission a photovoltaic electricity generating and energy storage facility and associated infrastructure. The project would generate 300 megawatts of alternating current electricity on approximately 2,490 acres of privately-owned land in unincorporated western Kings County. The project would provide solar power to utility customers by interconnecting to the nearby regional electricity grid at PG&E existing Mustang Switching Station located west of the Project Site (on the site for the operational RE Mustang Solar Generation Facility), utilizing a future shared generation intertie electric transmission line that will be built as part of the approved RE Mustang Two Solar Generation Facility directly south and west of the Project Site.
- **Mustang Two Solar Project.** RE Mustang Two, LLC seeks a CUP from Kings County to construct, operate, maintain, and eventually decommission PV electricity generating and energy storage facility and associated infrastructure. The project would generate 150 MW of alternating current electricity on approximately 1,800 acres of land in unincorporated Kings County. The project would provide solar power to utility customers by interconnecting to the nearby regional electricity grid at PG&E existing Mustang Switching Station located approximately one mile northwest of the Project Site. The project includes installation of a new generation intertie line to the station which would follow one of four route options.

4.3 Present and Reasonably Foreseeable Actions

- **F-35C Aircraft Maintenance Hangar and Airfield Pavements, FY 2023, DD 1391 – P351.** Constructs a two-module aircraft maintenance hangar addition to existing Hangar 8 in support of F-35C Joint Strike Fighter Fleet operational squadrons. The hangar will be constructed with reinforced concrete masonry unit, structural steel frames, metal deck, combination of steep slope standing seam metal roof and low slope built-up roof, and pile foundation. The facility will include high bay space; shops and maintenance space; and operations, training, and administrative space. Constructs aircraft parking apron and marshaling area, access apron and shoulders, taxiway connections and associated apron lighting.
- **F-35C Simulator Facility & Electrical Upgrades, FY 2021, DD 1391 – P3271.** Constructs a steel-framed, reinforced concrete masonry unit operational training facility with pile foundations to house F-35C Full Mission Simulators. Project also constructs a utility substation and switchgear at the Operations Side ("Ops Side") substation to supply the Ops Side electrical demands. A new transmission line will run from the Ops gate to the Grangeville gate connecting to PG&E infrastructure.

Future Actions

- **State Route 198 and 9th Avenue Interchange.** Kings County Association of Governments has developed a Regional Corridor Needs Study, and the section on SR 198 from SR 41 to SR 43 has been identified in the study as a priority corridor for safety. The SR 198 and 9th Avenue intersection provides local access to the region's commercial and job centers north and south of the intersection. The corridor itself is a vital commuter route for the Kings-Tulare region to the major cities and NAS Lemoore and for access to the Kings/Tulare High-Speed Rail station.
- **Westlands Daylight Legacy Solar Project.** The applicant is proposing to construct, operate, and decommission a 300-megawatt (MW) commercial photovoltaic solar and battery storage facility to be located at 18352 Avenal Cutoff Road, Stratford, Assessor's Parcel Numbers 026-010-028, 026-300-004, -031, -032, -033, -043, -044, 026-320-002, and -003. The project proposal includes an electrical substation, battery storage, an operations and maintenance facility, telecommunication facilities, and a meteorological data collection system.
- **Grape Solar Project and Gen-Tie Line.** The Grape Solar Project is located on an approximate 1,759-acre site in central Kings County and is planned to generate a total of 250 MW of electrical output from solar photovoltaic (PV) modules. The solar project is planned to be constructed over a 14-month period. The project will include a substation which will step up the project power from 34.5-kV to 230-kV for transmission. The project includes a 7.3-mile gen-tie line extending from the on-site project substation to the Fresno County line.
- **Westlands Cherry Solar Project and Gen-Tie Line.** The Cherry Solar Project proposes to establish a 250 MW solar photovoltaic facility which includes an electrical substation, a battery storage facility, and an operations and maintenance facility. The solar generation from the project will be transferred to a new 230-kilovolt (kV) Nevada-Jayne gen-tie line which will transmit the power south along the 25th Avenue alignment and then west along Nevada-Jayne Avenues to the PG&E Gates Substation approximately 12 miles to the west. The on-site battery storage will include 250 battery

containers with a 4 MW hours storage capacity each, providing a total energy storage capacity of up to 1,000 MW hours.

- **Solar Blue Project.** A 250 MW solar generating facility on 1,895 acres, including a 230-kV substation, to be constructed over an 18-month period.
- **Chestnut Solar Project.** A 150 MW solar generating station on 1,040 acres, including a 230-kV substation, to be constructed over a 12-month period.

4.3.1 Public Health and Safety

The public health and safety cumulative analysis addresses the health and well-being of military personnel and civilians living on or in the vicinity of NAS Lemoore. The construction projects would not meaningfully interact with the Proposed Action to result in cumulative effects to public health and safety. All construction projects are independent of one another and would be conducted in compliance with all applicable safety rules and regulations (e.g., OSHA). Additionally, all Proposed Action construction would occur outside of aircraft safety zones.

4.3.2 Socioeconomics and Environmental Justice

The study area for socioeconomics and environmental justice includes Kings and Fresno Counties in the State of California. Past, present, and reasonably foreseeable future actions include all of the identified projects in Section 4.2, Section 4.3, and Figure 4-1. Cumulative socioeconomic impacts from past, present, and future actions within the study area would be less than significant because there would be negligible impact on housing, economic activity, or schools because population change an estimated 20 personnel for the data center) associated with the Proposed Action and identified cumulative projects would be negligible. There would be beneficial impacts to the local community during construction of all the projects from the use of local labor and supply.

Some environmental justice communities may experience disproportionate impacts (temporary air emissions from construction) from the Proposed Action and identified cumulative projects; however, long-term beneficial impacts, primarily to air quality, would result due to the addition of the alternative energy developments to the energy/power grid and subsequent reduced thermal power plant combustion emissions (which include PM 2.5 and ozone) and GHGs. As a result, cumulative effects from the Proposed Action combined with the past, present, and reasonably foreseeable actions, would not result in significant cumulative effects to socioeconomics and environmental justice.

4.3.3 Air Quality

4.3.3.1 Criteria Pollutants

The ROI for assessing cumulative air quality impacts includes the SJVAB. The SJVAB currently is in nonattainment of the national and/or state ambient standards for ozone, PM_{10}, and $PM_{2.5}$ and attainment for all other criteria pollutants. The immediate area surrounding the Project Site at NAS Lemoore is the focus of localized cumulative impacts, as this area would experience the highest ambient impacts from project emissions. The main sources of cumulative emissions that could combine with project emissions at this location and to produce cumulative impacts include aircraft that operate at the station.

Construction

As described in Section 3.3, construction activities associated with the Proposed Action would produce annual emissions that would remain well below all thresholds of concern. Implementation of conservation measures to control fugitive dust and equipment combustive emissions would minimize emissions from proposed construction activities. The transport of these relatively minor amounts of emissions from the Project Site would quickly disperse to low levels offsite NAS Lemoore. Contributions from cumulative sources identified above and in Section 4.3 to localized offsite project impacts would be limited by the geographical separation of the cumulative projects. As a result, construction emissions from the Proposed Action, in combination with emissions from cumulative projects, would not contribute to an exceedance of an ambient air quality standard. Therefore, air pollutant impacts from project construction would result in less than significant cumulative impacts.

Operation

As shown in Table 3.3-3, diesel-powered emergency generators would produce the overwhelming majority of operational emissions from the Proposed Action. SJVAPCD regulations require that prior to obtaining a permit to operate, the applicant would have to demonstrate by dispersion modeling that emissions from these sources would not contribute to an exceedance of an ambient air quality standard. In other words, this analysis would have to conclude that proposed emissions, in combination with emissions from cumulative projects, would not contribute to an exceedance of an ambient air quality standard. Assuming compliance with all SJVAPCD regulations, operation of the Proposed Action therefore would result in less than significant cumulative air quality impacts. On a larger cumulative scale, the electrical power generated by the project PV system would also eliminate criteria pollutant emissions that otherwise would occur from the generation of electricity by fossil-fueled-powered sources.

4.3.3.2 Greenhouse Gases

The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as worldwide sources of GHGs contribute to climate change. Table 3-2 presents estimates of GHG emissions that would occur from operation of the Proposed Action. These data show that operation of the full project buildout would emit 29,156 metric tons of CO_2e per year. These emissions would incrementally contribute to future climate change, some effects of which are identified in Section 3.3.1.5. In addition, the electrical power generated by the project PV system would also eliminate GHG emissions that otherwise would occur from the generation of electricity by fossil-fueled-powered sources.

Climate change could impact implementation of the Proposed Action at NAS Lemoore and the adaptation strategies needed to respond to future conditions. For the region surrounding the station, the main effect of climate change is increased temperature and its associated effects, such as an increase in wildfires, as documented by climate analyses presented in Section 3.3.1.5. Current operations at NAS Lemoore have adapted to excessive heat and wildfires. However, exacerbation of these conditions in the future could impede site activities during extreme events. Due to Federal and Navy mandates, NAS Lemoore would develop adaptation measures to compensate for future climatic events.

4.3.4 Utilities

The study area for cumulative effects on utilities includes NAS Lemoore and Kings and Fresno Counties. Because the maximum permanent population increase to the area resulting from past, present, and reasonably foreseeable actions listed in Section 4.2, Section 4.3, and Figure 4-1 is negligible, there would be no significant cumulative impacts on existing utility capacities. Minor beneficial cumulative impacts to the electrical distribution system would be expected to result from the multiple solar and electrical grid improvement projects. As a result, cumulative effects from the Proposed Action combined with the past, present, and reasonably foreseeable actions, would not result in significant cumulative effects on utilities.

5 Other Considerations Required by NEPA

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

An assessment of the Proposed Action indicates that the 2024 Proposed Action (Preferred Alternative) would not conflict with the objectives of other regulations. A summary of regulatory compliance status is presented in **Table 5-1**.

Table 5-1 Summary of Applicable Environmental Regulations and Regulatory Compliance

Plans, Policies, and Controls	Regulatory Authority	Compliance Status	SEA Section
NEPA	Navy	This SEA has been prepared in accordance with NEPA, CEQ regulations implementing NEPA, and Navy NEPA procedures.	Entire SEA
CAA, CAAQS, SJVAPCD Rules and Regulations for Title V and non-Title V sources	USEPA and CARB	The air quality analysis in this SEA concludes that proposed emissions under 1) the 2024 Proposed Action (Preferred Alternative) would not exceed *de minimis* levels (except NO_x), 2) would not create a major regional source of air pollutants or affect the current attainment status at NAS Lemoore, and 3) would comply with all applicable state and regional air agency rules and regulations. A RONA has been prepared (Appendix D).	3.3, 4.3.3
EO 12898, Environmental Justice	Navy	The 2024 Proposed Action (Preferred Alternative) would not result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.	3.2, 4.3.2
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	Navy	The 2024 Proposed Action (Preferred Alternative) would not result in environmental health risks and safety risks that may disproportionately affect children.	3.2, 4.3.2
NHPA	SHPO	None of the archaeological sites within the project area are eligible for listing under the NRHP. The Navy has initiated consultation with the SHPO (Appendix B). The Navy has initiated consultation with 9 consulting parties including tribes with a cultural affiliation with the APE.	1.6.2, 1.9
Clean Water Act	USEPA, U.S. Army Corps of Engineers, and California State Water Resources Control Board	The 2024 Proposed Action (Preferred Alternative) would be implemented in compliance with California's General Construction Permit. Proposed construction and decommissioning activities would require preparation of a Stormwater Pollution Prevention Plan and use of BMPs to limit potential erosion and runoff.	1.6.2

Plans, Policies, and Controls	Regulatory Authority	Compliance Status	SEA Section
ESA	USFWS	The 2024 Proposed Action (Preferred Alternative) would not affect ESA-listed species or suitable habitat for ESA-listed species at NAS Lemoore. Critical habitat has not been designated on NAS Lemoore.	1.6.2
Migratory Bird Treaty Act	USFWS	The 2024 Proposed Action (Preferred Alternative) would not increase impacts to migratory birds.	1.6.2
Farmland of Statewide Importance	National Resources Conservation Service	The 2024 Proposed Action (Preferred Alternative) would temporarily impact farmland of statewide importance. No long-term conversion would occur.	1.6.2

Legend: APE = Area of Potential Effects; BMPs = best management practices; CAA = Clean Air Act; CAAQS = California Ambient Air Quality Standards; CARB = California Air Resources Board; CEQ = Council on Environmental Quality; ESA = Endangered Species Act; EO = Executive Order; NAS = Naval Air Station; NEPA = National Environmental Policy Act; NHPA = National Historic Preservation Act; RONA = Record of Non-Applicability; SEA = Supplemental Environmental Assessment; SHPO = State Historic Preservation Officer; SJVAPCD = San Joaquin Valley Air Pollution Control District; USEPA = U.S. Environmental Protection Agency; USFWS = U.S. Fish and Wildlife Service

5.2 Irreversible or Irretrievable Commitments of Resources

NEPA requires that environmental analysis include identification of "...any irreversible or irretrievable commitments of resources that would be involved if the Proposed Action is implemented." The term "resources" (both renewable and non-renewable) means that natural and cultural resources committed to, lost by the action, as well as labor, funds, and materials committed to the action.

The permanent use and subsequent loss of non-renewable resources, such as oil, natural gas, and iron ore are considered irreversible because non-renewable resources cannot be replenished by natural means. An action that causes a loss in the value of an affected resource, which cannot be restored (e.g., disturbance of a cultural site), is considered an irretrievable commitment of resources. Similarly, the consumption of a renewable resource that would be lost for a period of time is also considered an irretrievable commitment of resources. Renewable natural resources include water, lumber, and soil, all of which can be replenished by natural means within a reasonable timeframe. The 2024 Proposed Action (Preferred Alternative) would require the irretrievable commitments of both non-renewable and renewable resources in the use of fuel, construction materials, and labor. The operation and maintenance of the PV system would require fuel and certain types of materials.

The Proposed Action would comply with EO 13693, Planning for Federal Sustainability in the Next Decade. The goal of EO 13693 is to maintain federal leadership in sustainability and greenhouse gas emission reductions. The total amount of construction materials (e.g., concrete, insulation, wiring) required for the Proposed Action is relatively small when compared to the resources available in the region. The construction materials and energy required for facility development and operations are not in short supply. Moreover, the use of construction materials and energy would not have an adverse impact on the continued availability of these resources. The commitment of energy resources to implement the Proposed Action would not be excessive in terms of region-wide usage. Furthermore, compliance with EO 13693 requirements would minimize irreversible or irretrievable effects to multiple non-renewable and renewable resources, while implementation of the action alternatives would further

the goals and intentions of EO 13693 by increasing the amount of energy generated and/or used at NAS Lemoore that is derived from renewable sources.

5.3 Unavoidable Adverse Impacts

Table ES-1 presents the identified resource area avoidance/minimization measures for the alternatives which are the same for the 2024 Proposed Action Alternative as for the 2015 EA No Action Alternative. While minor adverse environmental effects would occur, as documented here, no resource area would be subject to significant adverse impacts that would require formal mitigation.

5.4 Relationship between Short-Term Use of the Environment and Long-Term Productivity

Short-term uses of the environment associated with the Proposed Action would include the elimination of vegetative ground cover at the project sites. Project-related construction activities would temporarily increase air pollution emissions in the immediate vicinity of the affected areas. Construction, operation, and decommissioning of the solar PV system is unlikely to result in the types of impacts that would reduce environmental productivity, have long-term impacts on sustainability, affect biodiversity, or narrow the range of long-term beneficial uses of the environment. At the end of the lease, the solar PV system would be decommissioned and the site returned to its pre-project condition. In the interim, however, agricultural and biotic productivity within the affected agriculture parcels would be eliminated, while renewable energy benefits would be realized.

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6 References

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Appendix A
Prior NEPA Documentation for Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California

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Final

Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California

September 2015

Prepared for:
United States Department of the Navy

FINAL
ENVIRONMENTAL ASSESSMENT FOR
THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION LEMOORE, CALIFORNIA

ABSTRACT

Lead Agency for the Environmental Assessment: Naval Air Station Lemoore

Title of Proposed Action: Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California

Affected Region: Kings and Fresno Counties, California

Designation: Environmental Assessment

The United States Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 and other applicable laws. This EA analyzes the potential environmental impacts resulting from the construction, operation, and decommissioning of a solar photovoltaic (PV) system at Naval Air Station Lemoore, California.

Under the Proposed Action, the Navy and a private partner would enter into an agreement to allow the private partner to use Navy land to construct, operate, and own the proposed solar PV system. The partner would sell the generated power to regional customers and/or the Navy. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system. The EA analyzes two action alternatives (Alternatives 1 and 2) and the No Action Alternative. This EA includes a detailed analysis of the Proposed Action's potential environmental effects on the following resources: land use, biological resources, public health and safety, socioeconomics, visual resources, cultural resources, air quality, utilities, and transportation.

Prepared By: United States Department of the Navy

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September 2015

LIST OF ACRONYMS AND ABBREVIATIONS

AC	alternating current
APE	area of potential effects
APZ	Accident Potential Zone
BASH	Bird/Wildlife Aircraft Strike Hazard
BMP	best management practice
B.P.	Before Present
CA	California
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent System Operator
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CVP	Central Valley Project
CZ	Clear Zones
DC	direct current
DoD	Department of Defense
EA	Environmental Assessment
EDD	Employment Development Department
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
ESQD	Explosive Safety Quantity Distance
FAA	Federal Aviation Administration
FY	fiscal year
GHG	greenhouse gas
GW	gigawatt
HAP	hazardous air pollutants
INRMP	Integrated Natural Resources Management Plan
kV	kilovolt
LOS	Level of Service
MVA	megavolt ampere
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NAVFAC SW	Naval Facilities Engineering Command Southwest
Navy	U.S. Department of the Navy
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
NRMA	Natural Resources Management Areas
NSR	New Source Review
O_3	ozone
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas & Electric
$PM_{2.5}$	fine particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	suspended particulate matter less than or equal to 10 microns in diameter
ppm	parts per million
PV	photovoltaic
ROI	region of influence
RONA	Record of Non-Applicability
SDZ	Surface Danger Zone
SECNAV	Secretary of the Navy
SGHAT	Solar Glare Hazard Analysis Tool
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SR	State Route
U.S.	United States
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
$\mu g/m^3$	micrograms per cubic meter
WWD	Westlands Water District

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EXECUTIVE SUMMARY

The United States Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 and other applicable laws. This EA presents an analysis of the potential environmental consequences of a Proposed Action pertaining to the construction, operation, and decommissioning of a solar photovoltaic (PV) system at Naval Air Station (NAS) Lemoore, California.

This EA will assist Navy officials in making a decision about whether or not to implement the Proposed Action through selection of one of the action alternatives. This document will also help determine whether significant impacts would occur as a result of implementation of the alternatives, and therefore, whether an Environmental Impact Statement is needed. The Navy has developed two action alternatives: Alternative 1: Construction, Operation, and Decommissioning of an up to 390 megawatt (MW) solar PV system at Sites A and B; and, Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E.

The purpose of the Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of a solar PV system at NAS Lemoore. The Proposed Action is required to meet the renewable energy standards put forth by the 1 Gigawatt (GW) Initiative and Secretary of the Navy (SECNAV) Energy Goals.

The screening factors used to develop the reasonable range of alternatives include the following: (1) must not interfere with installation mission activities and operations or create unsafe conditions; (2) should contribute to the SECNAV's goal of obtaining 1 GW of renewable energy by the end of 2020 by providing a sufficiently sized parcel (or parcels) of land for solar PV system placement; and, (3) should provide a location and/or design capable of providing electricity at or below the current cost of traditional power.

Under the Proposed Action, the Navy and a private partner would enter into an agreement to allow the private partner to use Navy land to construct, operate, and own the proposed solar PV system. The partner would sell the generated power to regional customers and/or the Navy. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system.

Under Alternative 1, an up to 390 MW solar PV system would be constructed and operated at Sites A and B at NAS Lemoore. At the end of the agreement, the solar PV system would be decommissioned and the site returned to its pre-project condition. An Alternative 1 Option has also been identified and analyzed: construction and operation of a 20 MW solar PV system at Site A. Under the Alternative 1 Option, no construction would occur at Site B. Under Alternative 2, an up to 390 MW Solar PV system would be constructed and operated at Sites A, B, D, and/or E. At the end of the agreement, the solar PV system would be decommissioned and the site returned to its pre-project condition.

The following resources areas were evaluated for potential environmental consequences: land use, biological resources, public health and safety, socioeconomics, visual resources, cultural resources, air quality, utilities, and transportation. Table ES-1 summarizes the potential environmental impacts and avoidance/minimization measures associated with implementation of Alternative 1, Alternative 2, and the No Action Alternative. As shown in Table ES-1, no significant impacts to any resource area would occur with implementation of the alternatives; and some less than significant impacts would be further minimized or avoided with implementation of the identified avoidance/minimization measures.

Table ES-1. Summary and Potential Impacts and Avoidance/Minimization Measures

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Land Use				
Impact Summary	No Significant Impact. Temporary change in land use from agricultural to renewable energy. Consistent with the NAS Lemoore Master Plan. No impact to airfield height restrictions. Partial ESQD overlap of Site B. Temporary impact to farmlands of statewide importance; no long-term conversion would occur.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B; however, no ESQD overlap of Site A would occur.	No Significant Impact. Temporary change in land use from agricultural to renewable energy. Consistent with the NAS Lemoore Master Plan. No impact to airfield height restrictions with Avoidance/Minimization Measure. Partial ESQD overlap of Site B. Temporary impact to farmlands of statewide importance; no long-term conversion would occur.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. The private partner would prepare and submit construction site plans for review and approval by the DoD Explosive Safety Board for any portion of the project that would occur within an ESQD arc. 2. The private partner would prepare and submit a land evaluation and site assessment (to establish a farmland conversion impact rating score) to the Natural Resources Conservation Service. 3. The private partner would prepare a soil reclamation plan as part of decommissioning activities. The soil reclamation plan would outline the reclamation, restoration, and soil stabilization of the soils designated as farmland of statewide importance upon termination of the project.	Avoidance/Minimization Measures would be the same as measures 2 and 3 presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measure would be implemented under Alternative 2: 4. Transmission lines from Sites D and E would be constructed underground to avoid resulting in an incompatibility with APZ-1 and APZ-2.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Biological				
Impact Summary	No Significant Impact. No impacts to federally listed species due to absence of listed species and suitable habitat. Should federally listed species become established or found to occur in the project area, Avoidance/Minimization Measures would be implemented to lessen impacts to levels of no significance. No population-level adverse effects to birds or bats as a result of mortalities related to the potential "lake effect" of solar PV panels. Sites A and B are located within the potential renewable energy area identified in the INRMP.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B though at a smaller scale.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B; however, Site E is immediately adjacent to NRMAs 4 and 5. There is a potential for wildlife, including special status species, to be impacted by construction and associated auditory and visual disturbances. The San Joaquin kangaroo rat was documented in NRMA 5 as recently as 2011, and habitat for the species currently occurs in the NRMA. As Site E is immediately adjacent to NRMA 5, the potential exists for San Joaquin kangaroo rat to use Site E for overland dispersal or movement. However, as there is no suitable habitat, a lack of burrows within Site E, and the species is primarily nocturnal, the species is not expected to be present during daytime construction activities. Sites D and E are not located within the potential renewable energy area identified in the INRMP.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. All project activities would be in compliance with the MBTA and its general requirements related to nest impact avoidance guidelines. 2. To avoid impacts to ground-nesting birds, a survey for active nests or nesting activity would be conducted before construction and decommissioning should such activities occur during the nesting season (typically March 15 to August 31). If the survey finds active nests, then construction personnel would either avoid the nests until fledglings have left, or permitted personnel would relocate eggs and	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measures would be implemented under Alternative 2, if Site E is selected: 18. Informal consultation with the USFWS would occur before implementation to ensure that mitigations for federally listed species are properly implemented.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	chicks following all federal and state regulations and permitting requirements. 3. To the extent feasible, construction activities in or near suitable or occupied bird nesting habitat during the breeding season would be avoided (March 15 to August 31). 4. If construction activities occur during the nesting season for migratory birds, a qualified biologist would conduct preconstruction nesting bird surveys within 14 days before construction activities within a given work area. Tree-nesting raptors and ground-nesting birds would be surveyed for in the project area and adjacent windbreaks. The initial survey would be conducted at least 14 days before construction to allow sufficient time to develop an avoidance strategy if nests are identified. A final survey would be conducted within 24 hours of ground-disturbing activities. 5. If an active nest is identified near a given work area and work cannot be conducted outside the nesting season (March 15 to August 31), a no-activity zone would be established around the nest by a qualified biologist in coordination with the USFWS. Fencing and/or flagging would be used to delineate the no-activity zone. The no-activity zone would be large enough to avoid nest abandonment and would be between 50 and 1,000 feet from the nest, or as otherwise required by the USFWS. 6. NAS Lemoore and the private partner would implement the guidelines in the *Construction And On-Going Operational Requirements* section of the USFWS' *Standardized Recommendations for Protection of San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011 or current version).		19. If federally listed species are found during pre-construction surveys, they would be relocated using USFWS approved protocols and techniques, if necessary.	

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	7. A qualified biologist would conduct pre-construction surveys no less than 14 days and no more than 30 days before the commencement of construction/decommissioning activities to identify potential occupancy by special status species, including burrows or dens greater than 4 inches in diameter that could be used by San Joaquin kit fox. If during construction any burrows greater than 4 inches in diameter are found, they would be investigated to ensure the absence of San Joaquin kit fox. If any San Joaquin kit fox are found, construction would be stopped, and the Navy and wildlife agencies would be immediately notified. 8. NAS Lemoore and the private partner would notify USFWS in writing of the results of the pre-construction/decommissioning survey(s) within 30 days after these activities are completed. 9. If potential San Joaquin kit fox dens are located within the work area and cannot be avoided during construction/decommissioning activities, a USFWS-approved biologist would determine if the dens are occupied. 10. If occupied San Joaquin kit fox dens are present within the work area, their disturbance and destruction would be avoided. Pre-construction exclusion zones would be implemented following the most current USFWS procedures (currently USFWS 2011). 11. Focused surveys for San Joaquin kangaroo rat would be conducted by a qualified biologist within 30 days before construction/ decommissioning activities. The biologist would conduct burrow searches by systematically walking transects, which would be adjusted based on vegetation height and topography. If burrows suitable for use by San Joaquin kangaroo rat are found within 100 feet			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	of the project area, focused live trapping surveys would be conducted by a qualified and permitted biologist following a methodology approved in advance by the USFWS. 12. If potentially suitable San Joaquin kangaroo rat habitat is discovered in the project area, a 50-foot no disturbance buffer would be implemented around small mammal burrows when live trapping is not conducted or when, in consultation with the USFWS, live trapping results are inconclusive in determining presence/absence for the species. 13. The private partner would construct all transmission towers, poles, and lines in accordance with the guidelines in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee 2006), or the most current version of the guidelines available at the time of construction, and in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (Avian Power Line Interaction Committee 2012). 14. To avoid impacts to burrowing owls, surveys would be conducted before construction and decommissioning activities to assess use of the site(s) by the species. Should burrowing owls be present, they would be actively relocated by a qualified biologist. Relocation would include artificial burrow and perch construction preferably at a suitable location nearby but away from construction, either on-site or at a suitable off-site location. This would be done before breeding season or after fledging stage when the nest/burrows can be covered by weed free hay bales. 15. During construction and decommissioning, a qualified biologist would be on-site daily to monitor and record activities as they pertain to biological resources. Results would be			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	reported on a monthly basis, unless a species of concern is found or suspected to be found, and then the species would be reported immediately. The results of the monitoring would be reported to the NAS Lemoore biologist. 16. During the operations phase, regular monitoring surveys and reporting would be conducted at all solar PV arrays by a qualified biologist (day and night surveys) to assess use of the areas by wildlife, vegetation changes, and potential bird/bat mortalities and/or injuries. Results of the surveys would be provided to USFWS and CDFW for comments and recommendations to minimize impacts from continuing operations. In addition, monitoring data would be shared and coordinated with wildlife hazard management operations already occurring at NAS Lemoore, including BASH surveys, wildlife determent, and wildlife relocation/removal from areas in and around the NAS Lemoore airfield (Lang 2012). 17. If federally listed species are observed in the project area following construction activities and/or during operation of the solar PV system, NAS Lemoore would be immediately notified. The Navy would assess whether ongoing operations might affect any such species and engage in consultation with the USFWS to discuss current and future management strategies, as appropriate.			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	**Option 1, Site A Only: 20 MW**		
Public Health and Safety				
Impact Summary	No Significant Impact. Operation of the solar PV panels would not result in an increased flight safety risk, except glare from the northernmost panels at Site B could affect Runway 14L operations in the afternoon. Due to the lack of airspace penetration, reflectivity, and non-interference with communications from Sites A and B, there would be no significant impacts on flight safety during construction or operation of the solar PV system. No significant increase in BASH potential. Construction and decommissioning activities would be conducted in compliance with health and safety regulations and would not pose a risk to construction personnel. No impact to workers from SDZs.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. In addition, with the elimination of Site B, the potential effect to afternoon operations at Runway 14L would not occur.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B; however, with solar PV panels facing south for optimum sun exposure, there is potential for glare from fixed solar PV arrays in almost half of Site D and all of Site E to affect the control tower.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Construction activities that have a potential to generate substantial amounts of dust (e.g., initial site grading) would be first coordinated and scheduled with NAS Lemoore Operations to avoid potential impacts to aviation training. 2. If the currently inactive skeet ranges are activated, work within the SDZ overlap of Site B would only occur when the skeet ranges are closed. 3. The construction contractor would develop a health and safety plan consistent with OSHA standards and regulations, including EM 385-1 and OSHA's Electric Power Generation, Transmission and Distribution Standard, 29 CFR 1910.269 (Solar System Safe Work Practices and Worker Training Requirements). 4. Phase I of the siting of solar PV system would be beyond 10,000 feet from Air Operations Area of base to reduce uncertainty in BASH risk. 5. Single-axis tracking solar PV system would	Avoidance/Minimization Measures would be the same as measure 1 presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measures would be implemented under Alternative 2: 11. Rifle range activities would be deconflicted with worker access within the SDZ overlap of Site E.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	be used to reduce glare, BASH risk, and potential "lake effect". 6. No cement would be used in installation of pilings to reduce ground squirrel habitat. 7. A rodent control, pest management, and weed abatement plan would be developed to control plant, insect, and vertebrate pest (e.g. ground squirrels and other rodents) populations in and around the solar PV systems. Ground sterilant and tactifier would be applied regularly to eliminate vegetation under panels. 8. Consistent with the NAS Lemoore BASH Program (NAS Lemoore 2014a), all phases of the Proposed Action/Alternative 1 would be conducted in accordance with NAS Lemoore BASH adaptive management strategies to promote safe aircraft operations at NAS Lemoore by reducing the potential for bird and other animal aircraft strike hazards. BASH management strategies would be evaluated on a quarterly basis to ensure effectiveness and would require adaptive management if effectiveness is less than desired. 9. The solar PV system design would minimize glare to the greatest extent practicable. 10. In the event that a buried oil pipeline (deactivated 60 years ago) is encountered during construction activities, measures would be taken to avoid release of and otherwise manage any asbestos-containing material from the pipeline in accordance with applicable laws and regulations.			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Socioeconomics				
Impact Summary	No Significant Impact. Loss in agricultural lease income of approximately $318,500 annually; loss of revenue could potentially be completely offset by the lease fee to be paid by the private partner to the Navy. Loss of an estimated $5,947,000 in annual crop value from the local economies of Kings and Fresno counties; or, a loss of 0.13 percent of the annual market value for crops in Kings and Fresno counties. Elimination of approximately 24 agricultural jobs. Construction would create approximately 300 temporary construction jobs. Temporary decrease in demand for irrigation water.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. Specifically, a reduction in annual lease revenues by approximately $37,200. Estimated annual loss in annual crop value totals $695,400, or approximately 0.01 percent of the total combined annual crop value of Kings and Fresno counties. Loss of approximately three agriculture jobs; however, creation of approximately 100 temporary construction jobs.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Visual				
Impact Summary	No Significant Impact. Construction impacts would be temporary and limited to viewers from adjacent roadways and agriculture parcels. The solar PV system would be compatible with NAS Lemoore's visual character. The approximately fifty-five, 80-foot (24-meter) tall steel poles for the new 230-kV transmission line would be visible to persons in the Administrative/Housing Area but would be consistent with the existing visual environment.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. In addition, under Model 2 and the combination of Models 2 and 3, the 69-kV transmission line poles would be shorter (approximately 58 feet tall). Under Model 3, no transmission line/poles would be constructed.	No Significant Impact. Potential impacts would be similar as those described for Sites A and B; however, if Sites D and/or E are selected, segments of the transmission lines from these sites would be underground, thus having no visual impact when underground. Other segments of the 230-kV transmission line would be above ground and visible.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Cultural				
Impact Summary	No Significant Impact. The three archaeological sites within the APE are either ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. The two archaeological sites within the APE would be avoided during construction, operation, and decommissioning activities. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. The three archaeological sites within the APE are either ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. No recorded cultural resources are present within Sites D and E. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. In the event of a discovery during any excavation, the contractor would be required to immediately stop work in the area of the discovery and immediately notify the Navy of the discovery. The Navy would have the discovery site evaluated by a professional archeologist, and in consultation with the SHPO. If the discovery is determined to qualify for listing on the NRHP, the Navy would develop and implement an appropriate treatment plan before authorizing the excavation or construction responsible for the discovery to proceed.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Air Quality				
Impact Summary	No Significant Impact. Minor and temporary increase in emissions generated as a result of construction, operational maintenance, and decommissioning. Operationally, fewer GHG and particulate matter emissions due to the switch to renewable energy. Reduction in dust generation associated with the ending of agriculture operations. Emissions would not exceed *de minimis* thresholds. Hazardous air pollutant emissions would be negligible.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale.	No Significant Impact. Potential impacts would be similar as those described for Sites A and B; however, if Sites D and/or E are selected, segments of the transmission lines from these sites would be underground, thus resulting in more construction and ground disturbance and greater project emissions.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within design standards. 2. Dust suppression methods (such as using water trucks to wet the construction/ decommissioning area during construction, and the application of a soil stabilizer during operation) would minimize fugitive dust emissions. 3. Construction equipment with combustive engines would meet USEPA Tier 4 emission standards, as practicable to do so.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.
Utilities				
Impact Summary	No Significant Impact. Potential for temporary and localized power disruption when the solar PV system comes on-line. Would support achievement of Navy's renewable energy goals and strategies. Under the Model 2 and combination of Models 2 and 3, there would be an increase in regional power supply. Under Model 3, a local renewable energy source would be created for NAS Lemoore. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Transportation				
Impact Summary	No Significant Impact. Temporary increase in traffic associated with construction (740 daily vehicle trips), operations and maintenance, and decommissioning activities (150 daily vehicle trips). Some of the trips associated with these activities (i.e., delivery of construction materials and equipment; the removal of construction debris; and operations and maintenance) would be periodic, and would not regularly add traffic to the roadway network. Moreover, because the construction areas are outside of fenced areas on the installation, traffic would not contribute toward any delays or queues at the Reeves Gate, the Avenal Gate, or the Operations Area Main Gate.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B, though at a smaller scale (less daily vehicle trips).	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Worker and equipment/materials delivery vehicles would avoid use of any of the gates providing access to the fenced areas of the installation (i.e., the Operations Area and the Administrative Area/Family Housing Area) and the NAS Lemoore Main Gate, especially during peak commuting periods (typically between 7:00 and 9:00 a.m. and 4:30 to 6:30 p.m.).	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.

Notes: APE = area of potential effects; APZ = Accident Potential Zone; BASH = Bird/Wildlife Aircraft Strike Hazard; CDFW = California Department of Fish and Wildlife; CFR = Code of Federal Regulations; DoD = Department of Defense; ESQD = Explosive Safety Quantity Distance; GHG = Greenhouse Gas; INRMP = Integrated Natural Resources Management Plan; kV = kilovolt; MBTA = Migratory Bird Treaty Act; NRHP = National Register of Historic Places; NRMA = Natural Resources Management Areas; OSHA = Occupational Safety and Health; Administration; SDZ = Surface Danger Zones; SHPO = State Historic Preservation Officer; USEPA = U.S. Environmental Protection Agency; USFWS = U.S. Fish and Wildlife Service.

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FINAL

ENVIRONMENTAL ASSESSMENT FOR
THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION LEMOORE, CALIFORNIA

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CHAPTER 1
PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION/BACKGROUND

The United States (U.S.) Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 and other applicable laws. This EA analyzes the potential environmental impacts resulting from the construction, operation, and decommissioning of a proposed solar photovoltaic (PV) system at Naval Air Station (NAS) Lemoore, California (CA). This proposed project is one of several renewable energy projects that the Navy is currently evaluating within the Renewable Energy Program Office Southwest area of responsibility. NAS Lemoore is the action proponent for this proposed project.

1.1.1 SECRETARY OF THE NAVY RENEWABLE ENERGY GOALS AND STRATEGIES

1.1.1.1 Goals

In October 2009, the Secretary of the Navy (SECNAV) established renewable energy goals for the Navy's shore-based installations to meet by 2020. These goals include:

1. The Navy will produce or procure at least 50 percent of the total quantity of electric energy consumed by shore-based facilities and activities each fiscal year (FY) from alternative energy sources.
2. Fifty percent of Navy installations will be net zero (i.e., over the course of a FY, an installation matches or exceeds the electrical energy it consumes ashore with electrical energy generated from alternative energy sources) (Navy 2012).

1.1.1.2 Strategies

The Navy's energy strategy is centered on energy security, energy efficiency, and sustainability while remaining the pre-eminent maritime power:

> Energy efficiency increases mission effectiveness. Efficiency improvements minimize operational risks while saving time and money.
>
> Energy security is critical to mission success. Energy security safeguards energy infrastructure and shields the Navy from a volatile energy supply.
>
> Sustainable energy efforts protect mission capabilities. Investment in environmentally responsible technologies afloat and ashore reduces greenhouse gas (GHG) emissions and lessens dependence on fossil fuels (Navy 2014a).

The SECNAV has established a goal for the Navy to develop one gigawatt (GW) of renewable energy generation capacity by the year 2020 (Navy 2012). The Navy has developed acquisition strategies based on the following three separate models (Figure 1-1) to procure or generate renewable energy to meet SECNAV goals:

Model 1: Off-base generation for on-base consumption:

- Navy purchases new renewable energy generation for on-base load
- Renewable energy generation provides price stability and diversifies energy portfolio
- Acquisition: Inter-agency Agreement

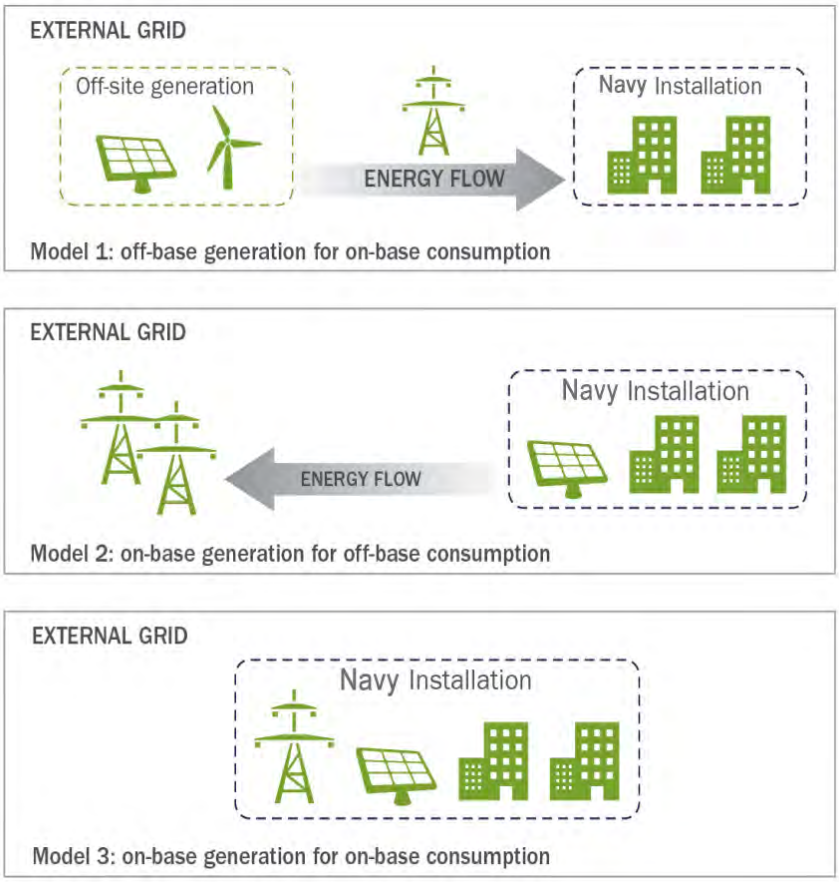


Figure 1-1. Renewable Energy Models

Model 2: On-base generation for off-base consumption:

- Third party produces on Navy property and exports energy to grid (allows for much higher capacity of production vs Model 3)
- Navy to receive energy security via lease terms
- Acquisition: Real estate outgrant

Model 3: On-base generation for on-base consumption:

- Navy consumes all energy generated
- Price stability and diversifies energy portfolio
- Acquisition: Power Purchase Agreement

The Navy proposes to implement Model 2, Model 3, or a combination of Models 2 and 3 at NAS Lemoore to support achievement of the SECNAV's goals. Under Model 2, the Navy and a private partner would enter into a 37-year agreement to allow the private partner to use Navy land to construct, operate, and own the solar PV system. Once the systems are operational, the private partner would sell the power to regional customers. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system. Under Model 3, the Navy and a private partner would enter into a 27-year agreement to allow the private partner to use Navy land to generate power for the Navy's use at NAS Lemoore. Under a combination of Models 2 and 3, the private partner would sell the power to regional customers and NAS Lemoore.

1.1.2 SOLAR PV SYSTEMS

A solar PV system consists of all components needed to generate and transmit solar-generated power. This includes solar PV arrays, transmission lines, and supporting infrastructure such as switching stations.

Solar PV technology uses solar cells to convert energy from direct and diffuse solar radiation into electricity. The basic unit in a solar PV system is a solar cell made up of semiconductor material that absorbs solar radiation and converts solar radiation to an electrical current. Solar cells are contained within solar modules that are assembled into solar panels. A series of panels comprises a solar field, or as termed in this EA, an array. Solar PV arrays generate direct current (DC) electricity, which is converted to alternating current (AC) for transmission on the electrical grid and ultimate end-use in AC form. The conversion from DC to AC occurs at a power conditioning station that contains inverters. Transmission lines and substations then transfer the power to the nearest utility grid point of connection.

Solar PV arrays are comprised of hundreds and sometimes thousands of individual solar PV panels. The vast majority of the solar PV market uses Flat Plate PV technology. In this design, the manufacturer arranges the cells on a flat panel, sandwiches the cells between a transparent encapsulant and a thin backing sheet of polymer, and then tops the cells with a layer of tempered glass that allows light to reach the PV cells. An anti-reflective coating covers this top layer so more light can be absorbed by each cell (U.S. Department of Energy 2011). Each panel can be stationary (fixed axis), or track the sun with either single-axis or multi-axis tracking equipment.



Photo 1. Fixed-Axis Solar PV Array

Photo 1 provides an image of an example solar PV array at Marine Corps Air Ground Combat Center, CA. This example solar PV array, covering approximately 6.5 acres (2.6 hectares), consists of fixed axis panels that generate approximately 1.1 megawatt (MW) of power. Photo 2 presents an example solar PV array where the panels have a single-axis.



Photo 2. Typical Single-Axis Solar PV Array

Solar PV energy projects generally require 10 acres (4 hectares) to produce 1 MW of power; however, due to relatively high solar radiation values and favorable climate at NAS Lemoore, this EA assumes that this proposed project would require approximately 7 acres (2.8 hectares) to generate 1 MW[1] of power.

[1] The unit of MW is not a quantity, but a rate. The electricity is produced at a rate measured in MWs, but the quantity of power produced is measured as a rate multiplied by a time period, usually in hour increments. For example, a 25 MW system could generate power at a rate of 25

1.2 PROJECT LOCATION

1.2.1 HISTORY AND MISSION OF NAS LEMOORE

NAS Lemoore is located in the central portion of the San Joaquin Valley, in Kings County and Fresno County, CA (Figure 1-2). Situated between the Sierra Nevada Mountains on the east and the California Coast Range on the west, NAS Lemoore is at an elevation of 240 feet (73 meters) above mean sea level.

Established in 1961, NAS Lemoore (Figure 1-3) remains the Navy's newest, largest, and only west coast Master Jet Base. NAS Lemoore's principal mission is to support Strike Fighter Wing, U.S. Pacific Fleet and its mission to man, train, and equip west coast Strike Fighter squadrons (NAS Lemoore 2014a). While the electrical load (demand) at NAS Lemoore fluctuates due to seasonal and operational changes, the peak historical annual demand was just under 20 MW.

1.2.2 POTENTIAL SOLAR PV SITES

The Navy has determined that up to approximately 5,700 acres (2,306 hectares) at NAS Lemoore can potentially serve as areas for solar PV systems. The proposed project area consists of the four potential solar PV sites (Sites A, B, D, and E) and supporting transmission infrastructure consisting of existing and proposed elements (Table 1-1 and Figure 1-4). As depicted on Figure 1-4, there are two transmission sites currently located within Site B; these areas (covering approximately 73 acres [30 hectares]) are used to support aircraft communications and are thus excluded from the proposed project area.

Based on the potential power generated by acre as presented in Section 1.1.2, *Solar PV Systems*, Table 1-1 presents the approximate maximum MW power production capability for each site. The four potential sites (A, B, D, and E) being considered for the project are currently leased by the Navy for agriculture.

Table 1-1. Potential Solar PV Development Sites and Generating Potential

Site	Potential Solar PV Site (acres [hectares])	Potential Generating Potential[1] (MW)
A	366 (148)	52
B	2,764 (1,118)	395
D	1,808 (732)	258
E	790 (320)	113

Note: [1] Assumes 7 acres (2.8 hectares) are needed to generate one MW of power.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of a solar PV system at NAS Lemoore. The Proposed Action is required to meet the renewable energy standards put forth by the 1 GW Initiative and the SECNAV Energy Goals.

The policy requirements for energy security and increased production of energy from alternative sources by 2020 are addressed in part by including, in any potential agreement (or real estate outgrant) entered into by the Navy and a private partner, a requirement that project infrastructure be 'micro-grid-ready,' meaning that the Navy would have the option to use any energy produced "on-base" in the event of an area power outage or other circumstances.

MW for 8 hours and thus produce 200 MW hours of power. In our homes, we use/buy power in kilowatt hours (noted as kwh on our power bills) and power companies produce and transmit electricity in terms of MW hours.

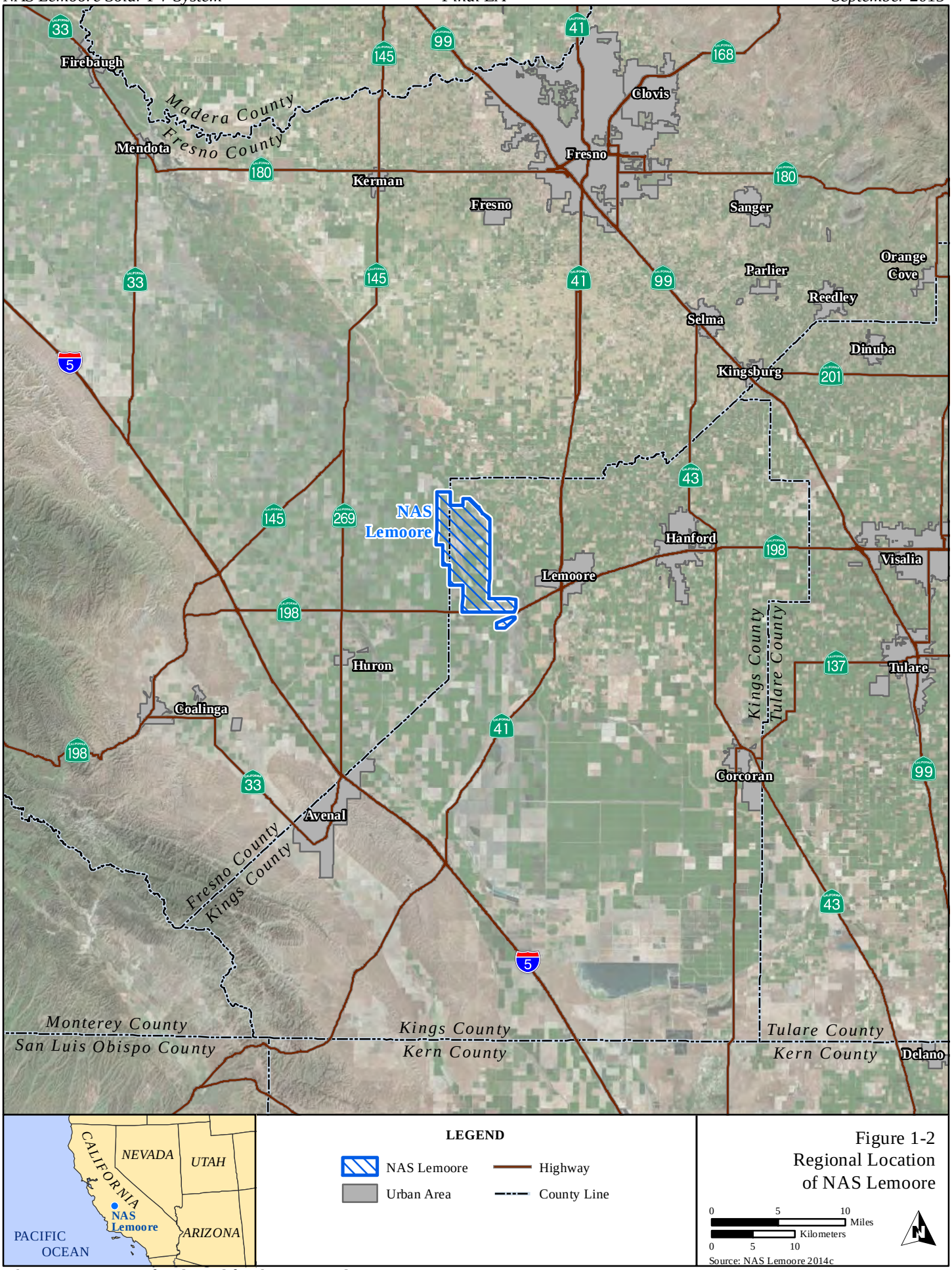

Firebaugh
Madera County
Fresno County
Mendota
Kerman
Fresno
Clovis
Sanger
Parlier
Orange Cove
Reedley
Selma
Dinuba
Kingsburg
NAS Lemoore
Hanford
Visalia
Lemoore
Huron
Coalinga
Kings County
Tulare County
Tulare
Corcoran
Avenal
Fresno County
Kings County
Monterey County
San Luis Obispo County
Kings County
Kern County
Tulare County
Kern County
Delano
NEVADA
UTAH
CALIFORNIA
NAS Lemoore
ARIZONA
PACIFIC OCEAN
LEGEND
NAS Lemoore
Urban Area
Highway
County Line
Figure 1-2
Regional Location
of NAS Lemoore
0 5 10
Miles
Kilometers
0 5 10
Source: NAS Lemoore 2014c



Figure 1-3
NAS Lemoore

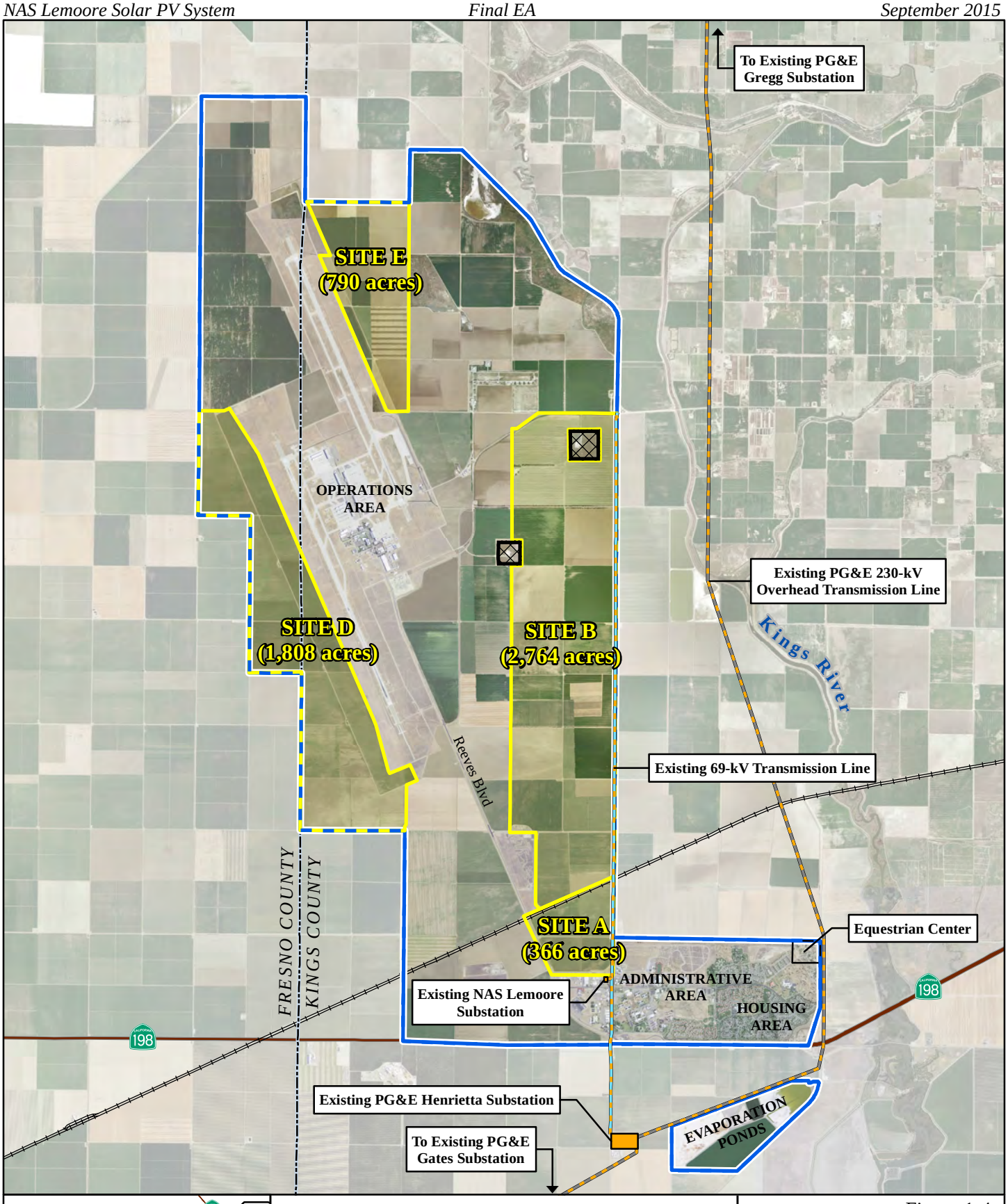


Figure 1-4
Existing Conditions and Potential Solar PV System Sites at NAS Lemoore

1.4 DECISION TO BE MADE

The decision to be made as a result of the analysis in this EA is to determine if an Environmental Impact Statement (EIS) needs to be prepared. An EIS will need to be prepared if it is determined that the alternative ultimately selected for implementation would have significant impacts to the human or natural environment. Should an EIS be deemed unnecessary based on the analysis of environmental impacts for the alternative selected for implementation, this selection would be documented in a Finding of No Significant Impact.

1.5 SCOPE OF ANALYSIS

1.5.1 PREVIOUS STUDY

A Feasibility Study was prepared (Naval Facilities Engineering Command Southwest [NAVFAC SW] 2015a) to examine and validate the results of a 2010 study (Western Area Power Administration 2010). The 2010 study considered the construction and operation of a 100-250 MW solar PV system at NAS Lemoore.

In addition to validating the 2010 study, the 2015 Feasibility Study included an evaluation of the existing utility transmission system and its current capacity to determine probable points of interconnection locations, size, and condition in association with the evaluated technologies. This EA has integrated the results of the 2015 Feasibility Study, notably in the development and characterization of alternatives.

1.5.2 RESOURCE AREAS

1.5.2.1 Resources Analyzed in Detail

As described and evaluated in Chapter 3, this EA analyzes the following resource areas in detail:

- Land Use
- Biological Resources
- Public Health and Safety
- Socioeconomics
- Visual Resources
- Cultural Resources
- Air Quality
- Utilities
- Transportation

1.5.2.2 Resources Not Analyzed in Detail

Several other resource areas typically assessed in environmental documents were considered but not carried forward for detailed analysis in this EA. This is because any potential impacts to these resource areas from the action alternatives would be either non-existent or considered negligible at most. The reasons for not analyzing the following resources in detail are presented below.

Geological Resources. The geological characteristics of the potential solar PV system sites consist of regularly disturbed agriculture soils with very little relief. No unique topographic features exist in this highly disturbed environment. Implementation of the action alternatives would temporarily disturb soils within the project area, resulting in an increased potential for dust generation and erosion. However, these potential effects would be temporary, minor, and would be controlled through the implementation of the

avoidance/minimization measures presented in Table 3.0-1, *Summary of Potential Impacts and Avoidance/Minimization Measures*. A spray-on erosion control fiber matrix (soil stabilizer) would be applied to the soil following construction, which would reduce the potential for soil erosion and dust. Unlike the No Action Alternative, the soil would not be subject to frequent tilling, disturbance, or the application of fertilizers and pesticides. Section 3.1, *Land Use*, considers potential impacts to prime farmland. As the alternatives do not include the construction of regularly occupied structures, there would be no potential seismic-related safety concerns. Therefore, impacts to geological resources from implementation of the alternatives would be negligible.

Water Resources. Surface water features within the project area consist of agricultural irrigation ditches between Sites A and B; two ditches that bisect Site B; several ditches that are adjacent to Site D; and an agricultural ditch that bisects Site E. No wetlands are located within the project area. Implementation of the alternatives would not alter existing surface water features but would require compliance with the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) because construction would include grading of more than 1 acre (0.4 hectare). An Erosion Control Plan would be prepared to include standard erosion control measures (e.g., silt fencing) to reduce potential impacts (e.g., soil loss and sedimentation) to water resources during construction. Section 3.4, *Socioeconomics*, considers potential impacts to water rights/irrigation. Section 3.8, *Utilities*, considers potential impacts to water supply and use. No use or impact to groundwater would occur from the construction or operation of the solar PV system. Implementation of the alternatives would have a minimal positive effect on water quality due to a reduction in agricultural-related runoff. Therefore, impacts to water resources from implementation of the alternatives would be negligible.

Hazardous Materials and Wastes. The Proposed Action would avoid any existing Installation Restoration sites located within or adjacent to the project area. Small leaks or spills may potentially occur from vehicles and equipment used during the proposed construction, operation, and decommissioning of the solar PV system. To manage any accidental releases, all solar PV-related activities would be conducted in accordance with the NAS Lemoore Spill Prevention Control and Countermeasures Plan (NAS Lemoore 2000). Hazardous materials and wastes used and/or generated as part of the Proposed Action would be handled and disposed of in accordance with the NAS Lemoore Hazardous Waste Management Plan (NAS Lemoore 2007) and all applicable federal, military, state, and local laws and regulations. Therefore, impacts to hazardous materials and wastes from implementation of the alternatives would be negligible.

Noise. The potential solar PV system sites are all located within a currently noisy area due to the proximity of aircraft operations. Specifically, all potential solar PV system sites and transmission line corridors are located within the 70-decibel Community Noise Equivalent Level contour (Navy 2014b). Construction and decommissioning noise associated with the solar PV system arrays at Site A would occur over half a mile from the closest NAS Lemoore residential housing. The east-west segment of the proposed transmission line located to the north of NAS Lemoore residential housing would be located approximately 300 feet (91 meters) away (at the closest extent) from the housing area. Construction activities in this area would consist of tower pad grading, excavation, assembling and lifting towers into place, and stringing the lines. This combined activity would generate average instantaneous peak noise levels of approximately 89 decibels (A-weighted) at a distance of 50 feet (15 meters). Construction noise would decrease exponentially with increasing distance; thus, at a distance of 300 feet (91 meters), average construction noise would be less than 75 decibels (A-weighted), similar to a "noisy urban area during the day" (80 decibels [A-weighted]) (California Department of Transportation [Caltrans] 2013a). Construction noise would be temporary, transitory, and limited to regular working hours. Under certain atmospheric conditions (i.e., during periods of high humidity), the operation of the transmission lines may

generate sizzles, crackles, or hissing noises (caused by the ionization of electricity in the moist air near the wires). Though this noise would be audible very close to the transmission lines, the noise would quickly dissipate with increasing distance and would be masked by background noises. The proposed switching station in the equestrian center would be located over 1,600 feet (488 meters) from existing housing; thus, construction noise would be consistent with background noise levels at the housing areas. Therefore, impacts to the noise environment from implementation of the alternatives would be negligible.

Environmental Justice. Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to consider human health and environmental conditions in minority and low-income communities. NAS Lemoore is located in a primarily agricultural region populated by census-defined minority and low-income populations. The nearest population center is Lemoore, CA. Based on best-available census data, the minority population of Lemoore is less than 50 percent, and the population is considered impoverished (U.S. Census Bureau 2010). As presented in Section 3.4, *Socioeconomics*, the Proposed Action would result in a reduction of approximately 24 agriculture jobs; jobs that are traditionally held by minority and/or low-income populations. The reduction in agriculture jobs would be negligible when compared to the regional agriculture employment sector. Therefore, there would be no disproportionally high environmental or health impacts on low-income or minority populations from implementation of the alternatives.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, helps ensure that federal agencies' policies, programs, activities, and standards address environmental health and safety risks to children. The proposed solar PV system would be constructed on government property, where access is controlled. If a 230-kilovolt (kV) transmission line and switching station are constructed, the construction of these features would be adjacent to the perimeter of the NAS Lemoore Housing Area. Standard job site safety measures would be implemented, which include securing equipment, materials, and vehicles, as well as neutralizing potential safety hazards during construction. In addition, the solar PV arrays and supporting sub/switching stations would be fenced to minimize the potential for unauthorized access. Therefore, there would be no disproportionate impact to the health and safety of children from implementation of the alternatives.

1.6 INTERGOVERNMENTAL COORDINATION

1.6.1 AGENCY CONSULTATIONS

Table 1-2 presents the anticipated agency permits and consultation potentially needed for the Proposed Action. As shown in the table, approval from the California Public Utilities Commission[2] (CPUC) and the California Independent System Operator[3] (CAISO) would be required only if Model 2 were to be implemented. Of note, while approval from the CPUC and CAISO is not a requirement for this EA, ultimately (i.e., after completion of the NEPA process), the private partner would obtain the approvals from these entities for implementation of Model 2. Appendix A contains relevant agency correspondence.

[2] The CPUC regulates investor-owned utilities in California, oversees the procurement of renewable energy in the state under the Renewable Portfolio Standard implementation program, and permits electrical transmission.

[3] The CAISO is an independent, non-profit organization that oversees the operation of California's electric power system, transmission lines, and electricity market. Proposed connections from private power producers to investor-owned utilities are subject to the review and approval of the CAISO.

Table 1-2. Anticipated Permits and Consultation for the Proposed Action

Agency	Permit or Approval	Current Status
USFWS	Section 7 of the ESA	It is anticipated that the Navy will consult with the USFWS
California SHPO	Section 106 of the NHPA	The Navy has initiated consultation with the SHPO and Tribal Governments
CPUC[1]	Public Utilities Code Section 399.11	The private partner will obtain a power purchase agreement from the CPUC
CAISO[1]	Public Utilities Code Sections 2811-2816	The private partner will obtain an Interconnection Agreement from the CAISO

Notes: [1] Approval would be required from CPUC and CAISO only if Model 2 were to be implemented.
CAISO = California Independent System Operator; CPUC = California Public Utilities Commission; ESA = Endangered Species Act; SHPO = State Historic Preservation Officer; NHPA = National Historic Preservation Act; USFWS = U.S. Fish and Wildlife Service.

1.6.2 SUMMARY OF RELEVANT RENEWABLE ENERGY POLICIES

The following provides a summary of federal requirements relevant to the Proposed Action.

1.6.2.1 EO 13693, *Planning for Federal Sustainability in the Next Decade*

EO 13693 (dated March 19, 2015) superseded EO 13423 (*Strengthening Federal Environment, Energy, and Transportation Management*) and EO 13514 (*Energy Efficient Standby Power Devices*). The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emission reductions. EO 13693 establishes policies to maintain federal leadership in sustainability and GHG emission reductions. As relevant to this EA, EO 13693 identifies requirements relating to energy conservation, efficiency, and management; minimum percentages of total building energy obtained from clean energy sources; and, improvements in water use efficiency and management, including stormwater management.

1.6.2.2 Secretary of the Navy Energy Goals

On October 14, 2009, the SECNAV established five aggressive renewable energy goals for the Navy's shore-based installations to meet by 2020. The goals pertain to improved fuel use in aircrafts as well as energy reduction and production. The goal that pertains the most to this document is: The Navy will produce at least 50 percent of shore-based energy requirements from alternative sources.

1.6.2.3 1 Gigawatt Initiative

In support of the SECNAV Energy goals, October 1, 2012, Secretary Mabus chartered the 1 GW Task Force to enable the Navy to procure one GW of renewable energy generation capacity by 2020. 1 GW of renewable energy generation directly addresses several of the mandates and goals for which the Navy is accountable: EO 13693 (this EO superseded EOs 13423 and 13514), the 10 U.S. Code (USC) § 2911 "25 by 25" mandate (25 percent by 2025), Energy Policy Act 2005 graduated renewable energy targets, and the SECNAV's departmental goals.

To reach the 50 percent renewable energy generation goal (which the 1 GW goal directly supports) in a cost-effective fashion, the Navy must purchase or facilitate the production of significant quantities of renewable energy while reducing power consumed through energy efficiencies. The overall Navy energy strategy, therefore, includes both lines of effort: deploy renewable energy in support of the 1 GW goal and simultaneously bring the 50 percent renewable energy generation goal closer by reducing overall energy consumption.

1.7 PUBLIC/AGENCY PARTICIPATION

The Navy initiated the public participation process with the publication of a Notice of Availability of the Public Draft EA in two local newspapers: the Fresno Bee from May 22 through May 24, 2015, and the Hanford Sentinel on May 22, 23, and 26, 2015 (see Appendix A for the notices). The Public Draft EA was made available for public review at the Lemoore Branch Library, the Kings County Library, and the Riverdale Branch Library. In addition, the Public Draft EA was made available for public review via the Navy Region Southwest website. The 30-day public review period was from May 22 to June 22, 2015. The Navy received one comment during the public review period. The comment was in regards to an abandoned underground pipeline in the project area. The letter is provided in Appendix A and the comments have been addressed in Section 3.1. The Navy coordinated with the California State Historic Preservation Officer (SHPO) as summarized in Chapter 6 and documented in Appendix A.

CHAPTER 2
PROPOSED ACTION AND ALTERNATIVES

Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the NEPA establish a number of policies for federal agencies, including "using the NEPA process to identify and assess the reasonable alternatives to the Proposed Action that will avoid or minimize adverse effects of these actions on the quality of the human environment" (40 Code of Federal Regulations [CFR] 1500.2 [e]). This EA only carries forward for detailed analysis those alternatives that could meet the purpose of and need for the project as defined in Section 1.3, *Purpose of and Need for the Proposed Action* and the below-listed reasonable alternative screening factors.

2.1 REASONABLE ALTERNATIVE SCREENING FACTORS

The screening factors used to develop the reasonable range of alternatives are as follows:

1. Must not interfere with installation mission activities and operations or create unsafe conditions.
2. Should contribute to the SECNAV's goal of obtaining 1 GW of renewable energy by the end of 2020 by providing a sufficiently sized parcel (or parcels) of land for solar PV system placement.
3. Should provide a location and/or design capable of providing electricity at or below the current cost of traditional power (e.g., orientation/location/slope relative to the sun for generating higher amounts of power, or a lower system cost relative to output).

2.2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.2.1 PROPOSED ACTION

Under the Proposed Action, the Navy and a private partner would enter into an agreement to allow the private partner to use Navy land to construct, operate, and own the proposed solar PV system. The partner would sell the generated power to regional customers and/or the Navy. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system. The construction and use of energy storage batteries at NAS Lemoore is not part of the Proposed Action.

The Navy has identified two action alternatives (Alternatives 1 and 2) as meeting the reasonable screening factors. The following sections provide descriptions of these two alternatives. In addition, Section 2.2.4 compares each of the action alternatives and Section 2.2.5 describes the No Action Alternative.

2.2.2 ALTERNATIVE 1: CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF AN UP TO 390 MW SOLAR PV SYSTEM AT SITES A AND B

Sites A and B cover approximately 3,130 acres (1,266 hectares). Under Alternative 1, up to approximately 2,730 acres (1,104 hectares) within Sites A and B would be developed to support the construction and operation of an up to 390 MW solar PV system at NAS Lemoore (Figure 2-1). At the conclusion of the agreement (either 37 years [Model 2] or 27 years [Model 3]), the solar PV system would be decommissioned and the site returned to its pre-project condition. An Alternative 1 Option (Section 2.2.2.2) has also been identified: construction, operation, and eventual decommissioning of a 20 MW solar PV system at Site A only. Under the Alternative 1 Option, no construction would occur at Site B.

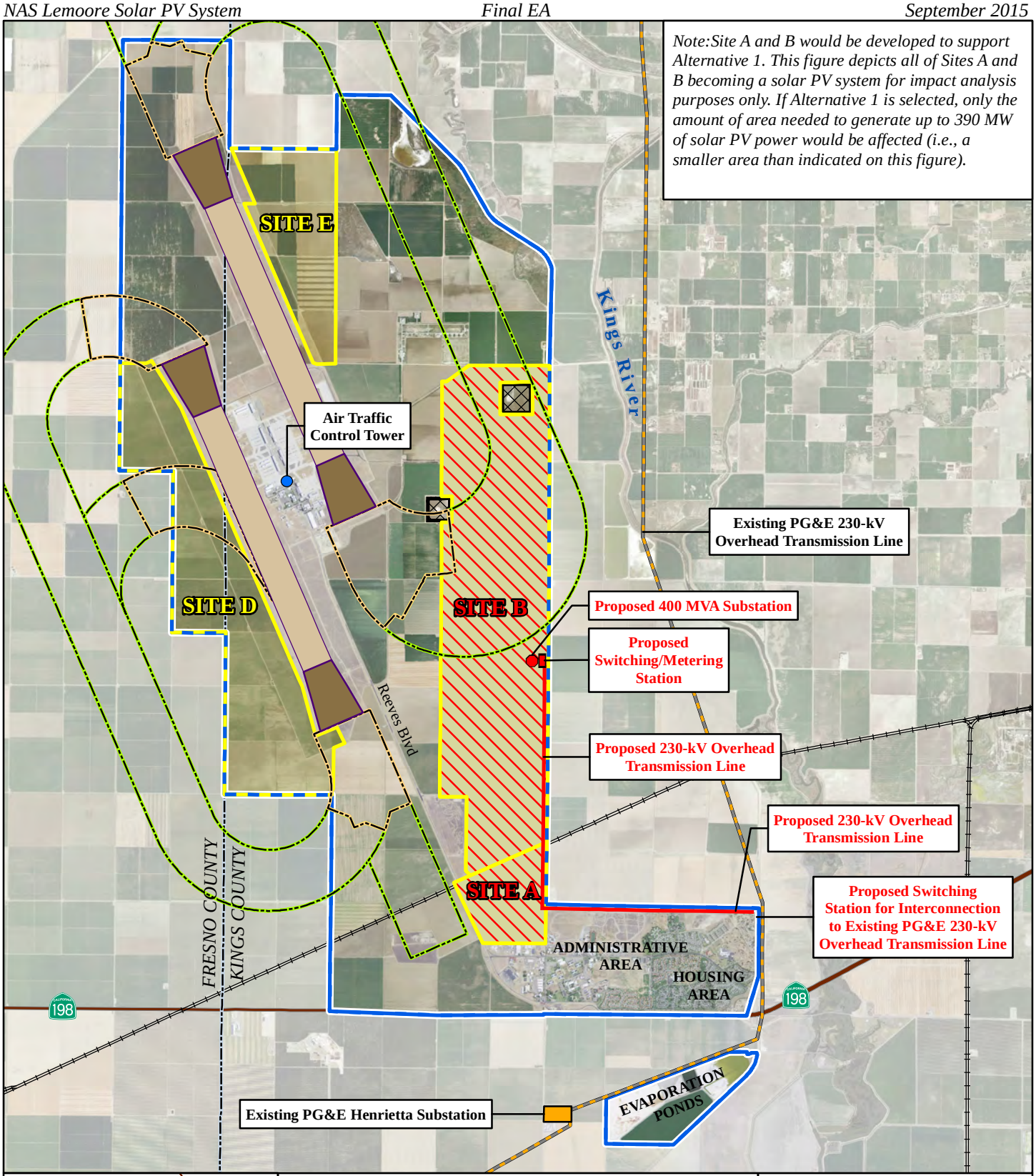


Figure 2-1
Alternative 1:
Up to 390 Megawatts at
Sites A and B

2.2.2.1 Acquisition Strategies and Future Considerations

Under Alternative 1, a solar PV system would be developed to generate renewable energy at NAS Lemoore under either a Model 2, Model 3, or combination of Models 2 and 3 (see Section 1.1.2). Under a Model 2 acquisition strategy, the Navy and private partner would enter into a lease agreement (or real estate outgrant) to allow the partner to use Navy land to construct, operate, and own the solar PV system. While Navy land would be used, no existing Navy infrastructure (transmission lines, substation, etc.) would be used by the partner under the Model 2 acquisition strategy. The Navy would receive compensation for the lease, but would not directly receive the power generated by the solar PV system. The partner would sell the generated power to regional customers outside the Navy. The partner would be responsible for all maintenance and service of the system; no federal tax dollars would be used for maintenance/service. The approximate contract duration would be 37 years. The 37-year agreement would consist of 2 years for construction[4], followed by an initial 25-year operating term and two, 5-year operating extensions (10 years). This acquisition strategy maximizes the total capacity (size) of the system based on available land, and not NAS Lemoore's electrical demand.

Under a Model 3 acquisition strategy, the Navy would enter into a lease agreement (or real estate outgrant) plus a Power Purchase Agreement, for a private partner to construct, operate, and own a solar PV system on NAS Lemoore. Once the solar PV system is operational, the Navy would purchase and use all of the electricity generated from the solar PV system. The partner would be responsible for all maintenance and service of the system; no federal tax dollars would be used for maintenance/service. The approximate contract duration would be 27 years. The 27-year agreement would consist of 2 years for construction[5], followed by an initial 20-year operating term and one, 5-year operating extension. This acquisition strategy limits the total capacity (size) of the system based on NAS Lemoore's electrical demand, and not the total amount of land available.

Under both the Model 2 and Model 3 strategies, the land impact, function of the facility, and conservation and construction measures would be nearly identical. The only notable difference would be the extent of construction and routing of electrical distribution lines (i.e., point of connection from solar system to internal base grid) to either serve the public grid, or NAS Lemoore grid. Under the combination of Models 2 and 3, some power generated would be used by the Navy and some by outside regional customers. The partner would be responsible for all maintenance and service of the system; no federal tax dollars would be used for maintenance/service. At the conclusion of the agreement, the partner would decommission the solar PV system and return the site to pre-project conditions.

In support of the SECNAV's energy goals, the Navy would utilize a real estate action (lease) to ensure fair compensation for the use of Navy lands where renewable energy generation would occur at NAS Lemoore. The real estate action facilitates on-base generation of renewable energy for on and off-base consumption via a third-party developer. In accordance with 10 USC § 2667, the leases would provide for consideration (rent) to be paid in an amount not less than the fair market value of the leasehold interest, either in cash or in kind.

In keeping with authority of 10 USC § 2667, outgrants (leases) under Model 2 shall provide for consideration (rent) to be paid, either in cash or in-kind, in an amount not less than the fair market value

[4] Depending on the ultimate size of the solar PV system chosen, construction may occur in up to two phases, with each phase lasting two years, for a total maximum construction duration of four years.

[5] Depending on the ultimate size of the solar PV system chosen, construction may occur in up to two phases, with each phase lasting two years, for a total maximum construction duration of four years.

of the lease. Potential projects provided by lessee to apply towards rents as in-kind consideration would meet necessary environmental regulations and requirements under separate reporting.

Although the Proposed Action addresses the known impacts of the federal lease action, details regarding the specific method of consideration to be employed, to include the design, construction, management and maintenance of any potential in-kind consideration projects or efforts, have not been developed at this time. Therefore, the Proposed Action may be subject to further site-specific planning, environmental planning, and engineering analysis as necessary.

2.2.2.2 Sites A and B

Construction

Following execution of the agreement with the private partner and termination of the existing agriculture lease(s), an up to 390 MW ground-mounted solar PV system would be constructed on NAS Lemoore at Sites A and B (see Figure 2-1). Collectively, Sites A and B cover approximately 3,130 acres (1,266 hectares) and are relatively flat and outside of the growing season, generally devoid of vegetation. The construction area would be graded and any remaining vegetation would be cleared.

To support an up to 390 MW solar PV system, construction of the solar PV array would occur over approximately 2,730 acres (1,104 hectares) (assuming 7 acres [2.8 hectares] needed per one MW) within Sites A and B. Site preparation activities would include trenching (up to 3 feet [1 meter] deep per Unified Facilities Criteria codes) for underground electrical lines and circuitry. This analysis assumed that construction of an up to 390 MW system would occur in two phases and each phase would last approximately 2 years. Thus, the total construction period for a 390 MW solar system would be approximately 4 years. Construction of a smaller solar PV system at Sites A and B would take less time.

The 390 MW solar PV system would consist of solar PV panels, steel tracking structure, inverters, combiner boxes, electrical switchgear, a substation, a switching/metering station, transmission lines, and associated electrical wiring, connections, and other items required for the solar PV system. All electrical equipment, including inverters and transformers would be placed on concrete pads and all solar PV panel wiring would be routed underground. Gravel roads would be graded between the rows of solar PV panels and around the site perimeter (outside of the fence line) for maintenance access. No access improvements would be required as part of Alternative 1 because the existing road network adjacent to the project area is sufficient. A chain link fence with barbed-wire outriggers in accordance with force protection standards, including safety signage, would enclose the solar PV array to minimize the potential for unauthorized individuals to enter the area. As shown on Figure 2-1, the areas associated with the two existing transmitter areas (which provide communications support to aircraft operations) would be avoided; no construction in these areas would occur.

The solar PV panels would either be fixed or one-axis type panels. The panels would be constructed in east to west oriented rows to maximize solar radiation absorption. In contrast, the one-axis panels would include a drive shaft and motor that rotates the panels to follow the maximum solar irradiance throughout the day (i.e., the panels would track the movement of the sun). An electric drive motor mounted on the concrete foundation would rotate the panels.

The solar PV panels would be affixed atop constructed mounting structures, mounted on posts bored into the ground, or be placed on concrete block above ground (see Photos 1 and 2). Foundations for the mounting structures would be built on engineered fill or native soil at a minimum of 24 inches (61 centimeters) below adjacent grade or finished grade. Each pole footing would consist of a 4-inch (10-centimeter) cross-sectional area and would require a depth of 4 to 6.5 feet (1.2 to 2 meters) below ground

surface. Upon completion, the highest point of the solar PV array would be no higher than approximately 15 feet (5 meters) above the ground surface. The solar PV panels would have an anti-reflective coating that would improve light absorption and reduce or eliminate the potential for glint and glare[6] impacts.

The solar PV panels would be constructed elsewhere (in a factory). Solar PV panel assembly could occur either on- or off-site, or a combination thereof. A construction staging area would be delineated within the overall project area and all work would be done on-site. Materials would be transported to the project area by truck where they would be staged, assembled, and moved into place. Equipment used to construct the solar PV system would likely include bulldozers, loaders, scrapers, backhoes, pile drivers, water trucks, trenchers, forklifts, and truck-mounted mobile cranes. A spray-on erosion control fiber matrix (soil stabilizer) would be applied to the soil following construction, thus reducing the potential for soil erosion.

Within Site A or B, an up to 400 megavolt ampere (MVA) substation would also be constructed (see Figure 2-1). The substation would cover approximately 1.8 acres (0.7 hectare) and would serve as the interface connection of the solar PV array to the existing Pacific Gas & Electric (PG&E) 230-kV transmission line. A 230-kV switching/metering station would also be constructed. The switching/metering station would cover approximately 8,100 square feet (750 square meters) and would meter the solar PV power generated from Sites A and B. Finally, a switching station covering approximately 0.5 acre (0.2 hectare) would be constructed adjacent to the existing equestrian center to transfer electrical power generated from Sites A and B to the existing PG&E 230-kV transmission line (see Figure 2-1). A graveled buffer area would be developed around the switching station and a fence would be constructed to restrict access to the site.

Construction would create a minimal amount of construction debris that would be removed and disposed of in compliance with the Navy's Sustainability and Environmental Management Policy Statement (dated September 16, 2009) and sustainability goals (e.g., recycling approximately 50 percent of municipal trash and 40 percent of construction and demolition waste). All construction would be done in compliance with all Navy regulations applicable to conducting work activities on NAS Lemoore, and adherence with the environmental protection measures described in Table 3.0-1.

Operation and Maintenance

The existing 69-kV transmission line would not have capacity for the electricity generated at Sites A and B; therefore, a new 230-kV transmission line would be constructed from Sites A and B to the existing PG&E 230-kV transmission line (see Figure 2-1). To support the new 230-kV transmission line, approximately fifty-five, 80-foot (24-meter) tall steel poles would be constructed along the proposed route. Power would be delivered via the existing PG&E 230-kV transmission lines to the PG&E Henrietta substation. Under Model 2, the power would be delivered via existing infrastructure to regional customers. Under Model 3, the power would be used at NAS Lemoore. Under the combination of Models 2 and 3, the power would be used by regional customers and NAS Lemoore.

Post-construction site operations would include, but would not be limited to, use of existing access roads; electrical and mechanical systems; and maintenance and repair. Quarterly inspections of the solar PV system would be performed to ensure that the infrastructure is in good operating condition. The partner or their designated contractor would do any repairs or regular service. Typical maintenance of the solar PV panels would consist of washing down the panels approximately twice a year to remove dust and dirt build-up. One or two persons using a single water truck would perform this cleaning.

[6] Glint is the momentary flash of bright light. Glare is a continuous source of bright light.

Ground cover and other vegetation beneath and near the panels would be trimmed periodically and could be controlled with herbicides to ensure that vegetation does not obscure or shadow the panels. Any herbicide use would be in accordance with applicable federal, state, and local regulations, as well as manufacturer's guidelines. The access roads would be maintained as needed. All operations and maintenance would be done in compliance with all Navy regulations applicable to conducting work activities on NAS Lemoore, and with adherence to the environmental protection measures presented in Table 3.0-1.

Decommissioning

At the conclusion of the agreement, the partner would be required to decommission the solar PV system and all associated features and return the project area to its pre-project condition. A decommissioning plan would be prepared in accordance with Navy requirements. The plan would ensure that the project facilities would be decommissioned and removed and that Sites A and B would be restored to pre-construction conditions. Soils and impacted areas would be reclaimed to a level that would, at a minimum, support uses for the land consistent with pre-construction activities. The decommissioning and restoration process would likely involve the removal of aboveground structures, restoration of topsoil, revegetation, and seeding. Temporary erosion and sedimentation control best management practices (BMPs) would be used during the decommissioning phase of the project.

Decommissioning activities would use a mix of equipment and vehicles, likely to include bulldozers, scrapers, backhoes, water trucks, and truck-mounted mobile cranes. The decommissioning activities would likely occur over a period of approximately 2 months. Debris would be removed and disposed of in compliance with the Navy's Sustainability and Environmental Management Policy Statement (dated September 16, 2009) and sustainability goals (e.g., recycling approximately 50 percent of municipal trash and 40 percent of construction and demolition waste), or any new documentation that might replace the Navy's 2009 statement in the future.

All hazardous materials would be disposed of in accordance with applicable regulations at an appropriately accredited facility for the hazardous material(s). A decommissioning staging area would be delineated within the overall project area and all work would be done on-site. Following decommissioning activities, the Navy would certify that the land condition was returned to its pre-project condition. All decommissioning activities would be done in compliance with all Navy regulations applicable to conducting work activities on NAS Lemoore, and with adherence to the environmental protection measures presented in Table 3.0-1.

2.2.2.3 Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Overview

Under the Alternative 1 Option, up to approximately 145 acres (59 hectares) at Site A would be developed to support the construction and operation of a 20 MW solar PV array and associated infrastructure (Figure 2-2a). Under the Alternative 1 Option, construction, operation, and decommissioning of the 20 MW solar PV system at Site A would be as generally described in Section 2.2.2.1; however, construction would be at a smaller scale and the transmission system would be different. The construction duration would also be approximately 2 years.

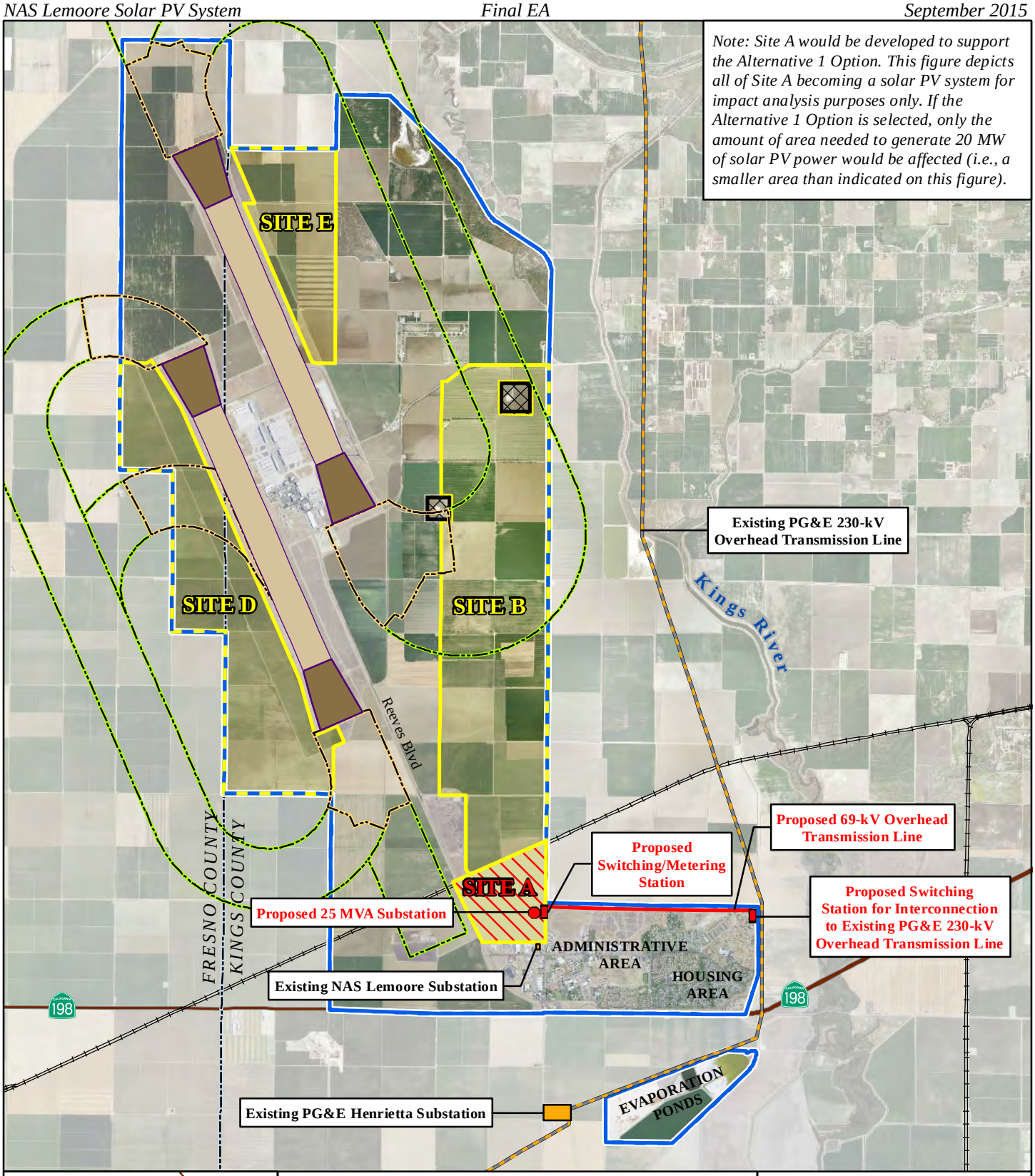


Figure 2-2a
Alternative 1 Option:
20 Megawatts at Site A with
New Transmission Line

Within Site A, a 25 MVA substation would be constructed (see Figure 2-2a). The substation would cover approximately 450 square feet (42 square meters) and would serve as the interface connection of the solar PV array to the existing 69-kV transmission line. A 69-kV switching/metering station would also be constructed within Site A (see Figure 2-2a). The switching/metering station would cover approximately 10,000 square feet (930 square meters) and would meter the power generated from Site A.

Transmission Line Routes

Under the Alternative 1 Option, for the Model 2 and combination of Models 2 and 3, the existing NAS Lemoore 69-kV transmission line would not be used (see Figure 2-2a). Instead, a new 69-kV transmission line would be constructed by the private partner in the same location and manner as described for Alternative 1 (i.e., from the new Site A 25 MVA substation to the existing PG&E 230-kV transmission line, via a new switching station located in the equestrian center area). Under the Model 2 or combination of Models 2 and 3, the power, then, would be used by regional customers alone, or in combination with NAS Lemoore.

Conversely, under the Alternative 1 Option for Model 3 renewable energy scenario, the transmission line leaving the solar PV array at Site A would connect to the existing NAS Lemoore 69-kV transmission line/power distribution system via the existing 69-kV transmission line located adjacent to the eastern boundary of Site A (Figure 2-2b). Power would be delivered via the existing 69-kV transmission line to the NAS Lemoore substation or the existing PG&E Henrietta substation for NAS Lemoore's exclusive use (Figure 2-2b).

2.2.3 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Collectively Sites A, B, D, and E cover approximately 5,728 acres (2,318 hectares). Under Alternative 2, up to approximately 2,730 acres (1,104 hectares) within Sites A, B, D, and/or E would be developed to support the construction and operation of an up to 390 MW solar PV system at NAS Lemoore (Figure 2-3). Alternative 2 offers a greater amount of potential area to build up to a 390 MW solar PV system, as compared to Alternative 1. Under Alternative 2, the construction, operation, and decommissioning of the up to 390 MW solar PV system at Sites A, B, D, and/or E would be as described in Section 2.2.2.1; however, there would be a difference in transmission line type from Sites D and E.

As Alternative 2 would develop up to 390 MW of solar PV power (the same as Alternative 1), the approximate extent of surface impact (approximately 2,730 acres [1,104 hectares]) would be the same as Alternative 1; however, the location of the impact would be different (potentially up to four sites for Alternative 2 as opposed to two sites for Alternative 1).

As shown on Figure 2-3, if Sites D and/or E are developed, the west-east segment of the 230-kV transmission line would be underground to avoid encroachment on the existing flight easement. The flight easement does not allow vertical structures above 25-feet (8-meters) tall. Upon clearing the easement, the transmission line would run above ground along the eastern boundary of Sites A and B, then east to tie into the existing PG&E 230-kV transmission line. To support the new 230-kV transmission line, approximately one hundred, 80-foot (24-meter) tall steel poles would be constructed along the proposed route.

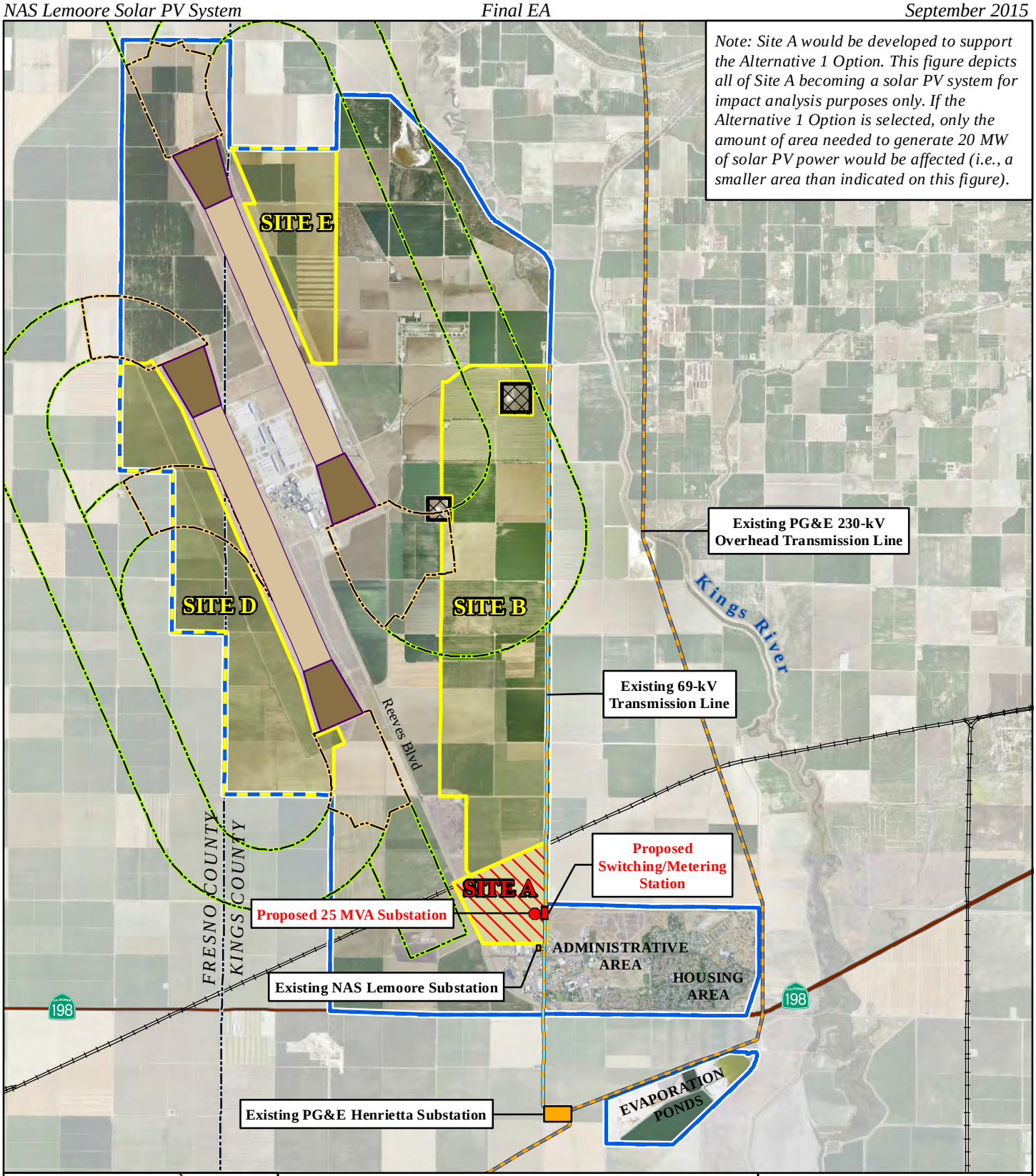


Figure 2-2b
Alternative 1 Option: 20 Megawatts at Site A using Existing 69-kV Transmission Line

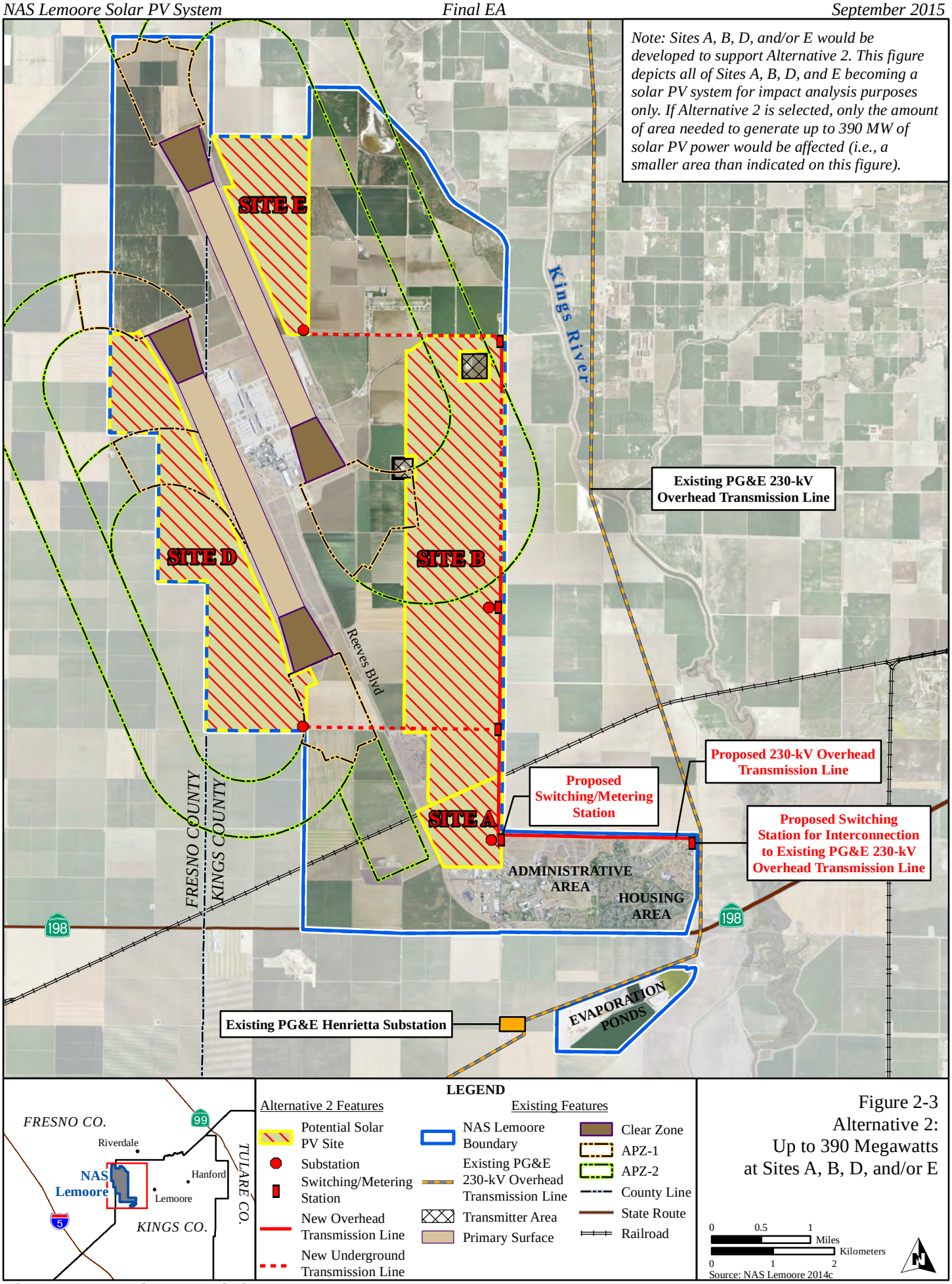


Figure 2-3
Alternative 2:
Up to 390 Megawatts
at Sites A, B, D, and/or E

2.2.4 COMPARISON OF ACTION ALTERNATIVES

Table 2-1 summarizes and compares the features associated with the action alternatives.

Table 2-1. Summary and Comparison of Action Alternatives

Alternative	System Size	Site(s)	Maximum Available Area	Transmission Line Type	Power User
Alternative 1 *(see Figure 2-1)*					
Model 2	Up to a 390 MW solar PV system[1]	A and B	3,130 acres	New 230-kV	Regional
Models 2 and 3					Regional and NAS Lemoore
Model 3					NAS Lemoore
Alternative 1 Option (*see Figures 2-2a and 2-2b)*					
Model 2	20 MW solar PV system	A	145 acres	New 69-kV (*Figure 2-2a*)	Regional
Models 2 and 3				New 69-kV (*Figure 2-2a*)	Regional and NAS Lemoore
Model 3				Existing 69-kV (*Figure 2-2b*)	NAS Lemoore
Alternative 2 *(see Figure 2-3)*					
Model 2	Up to 390 MW solar PV system[1]	A, B, D, and/or E	5,728 acres	New 230-kV	Regional
Models 2 and 3					Regional and NAS Lemoore
Model 3					NAS Lemoore
No Action Alternative	None	None		None	None

Note: [1] While the total resulting maximum MWs generated would be the same under both Alternatives 1 and 2, the solar PV system could be distributed over a greater area/combination of sites under Alternative 2 as compared to Alternative 1.

2.2.5 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Navy would not enter into an agreement with a private partner to construct and operate a solar PV system at NAS Lemoore. The No Action Alternative represents the status quo. The No Action Alternative does not meet the purpose and need with regard to meeting Navy renewable energy goals; however, the Navy has analyzed the No Action Alternative in this EA in accordance with statutory requirements and to provide a baseline against which to measure environmental consequences of the action alternatives. The affected environment section of Chapter 3 describes the No Action Alternative (existing conditions) for each resource area. The analysis of the No Action Alternative in Chapter 3 assumes that the Navy would maintain operations at the status quo (no new construction, operations/maintenance, or decommissioning would occur) and continue to use the project area for agricultural purposes.

2.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

2.3.1 OTHER RENEWABLE ENERGY SOURCES

Given NAS Lemoore's location and associated available resources, the Navy has determined that solar PV represents the best renewable energy option for NAS Lemoore when compared with other renewable energy options (e.g., wind, biomass, tidal, geothermal). Therefore, the Navy has eliminated Other Renewable Energy Sources from detailed analysis in this EA.

2.3.2 OTHER SITES

The Navy considered two other potential sites at NAS Lemoore (C and F) for solar PV power generation.

2.3.2.1 Site C

Potential Site C is located within a designated NAS Lemoore Natural Resource Area (Figure 2-4). The Natural Resource Areas encompass remnant native habitats that NAS Lemoore manages for the benefit of wildlife and native plant communities (NAS Lemoore 2014a). Therefore, the Navy has eliminated Site C from detailed analysis in this EA.

2.3.2.2 Site F

Potential Site F is located within the designated NAS Lemoore Evaporation Ponds (Figure 2-4). These wastewater treatment facility evaporation ponds receive treated sanitary and industrial wastewater, as well as stormwater from NAS Lemoore. The ponds may provide valuable aquatic habitat, as the ponds were found to have many water birds and may offer habitat to amphibians and reptiles as well (NAS Lemoore 2014b). Therefore, the Navy has eliminated Site F from detailed analysis in this EA.

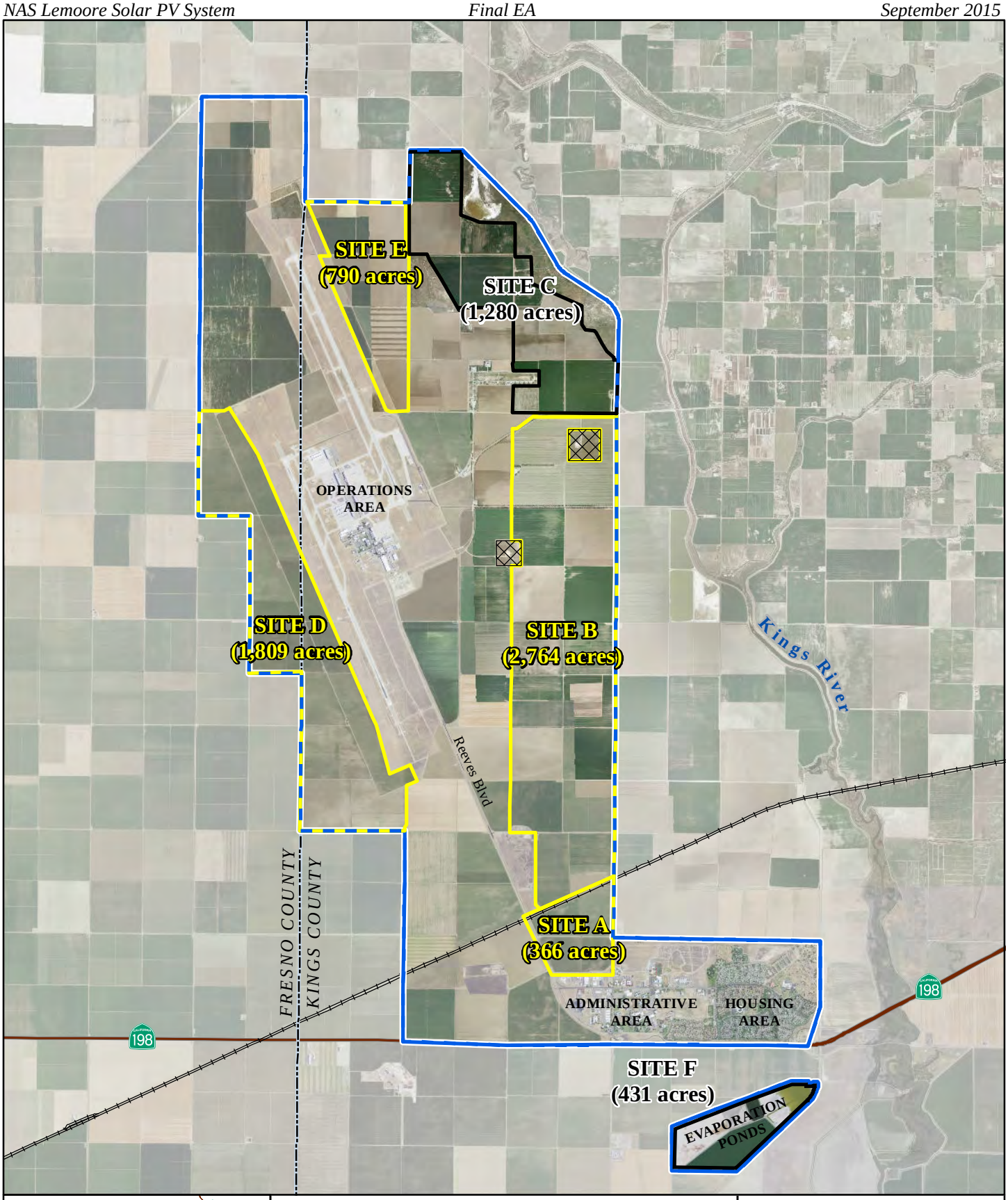


Figure 2-4
Location of Alternatives Considered but Not Carried Forward for Detailed Analysis at NAS Lemoore

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CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing environmental conditions and potential environmental consequences for the following resource areas analyzed in detail: land use, biological resources, public health and safety, socioeconomics, visual resources, cultural resources, air quality, utilities, and transportation. Table 3.0-1 provides a summary of environmental consequences and avoidance/minimization measures for each resource area from implementation of the alternatives.

Table 3.0-1. Summary and Potential Impacts and Avoidance/Minimization Measures

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Land Use				
Impact Summary	No Significant Impact. Temporary change in land use from agricultural to renewable energy. Consistent with the NAS Lemoore Master Plan. No impact to airfield height restrictions. Partial ESQD overlap of Site B. Temporary impact to farmlands of statewide importance; no long-term conversion would occur.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B; however, no ESQD overlap of Site A would occur.	No Significant Impact. Temporary change in land use from agricultural to renewable energy. Consistent with the NAS Lemoore Master Plan. No impact to airfield height restrictions with Avoidance/Minimization Measure. Partial ESQD overlap of Site B. Temporary impact to farmlands of statewide importance; no long-term conversion would occur.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. The private partner would prepare and submit construction site plans for review and approval by the DoD Explosive Safety Board for any portion of the project that would occur within an ESQD arc. 2. The private partner would prepare and submit a land evaluation and site assessment (to establish a farmland conversion impact rating score) to the Natural Resources Conservation Service. 3. The private partner would prepare a soil reclamation plan as part of decommissioning activities. The soil reclamation plan would outline the reclamation, restoration, and soil stabilization of the soils designated as farmland of statewide importance upon termination of the project.	Avoidance/Minimization Measures would be the same as measures 2 and 3 presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measure would be implemented under Alternative 2: 4. Transmission lines from Sites D and E would be constructed underground to avoid resulting in an incompatibility with APZ-1 and APZ-2.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Biological				
Impact Summary	No Significant Impact. No impacts to federally listed species due to absence of listed species and suitable habitat. Should federally listed species become established or found to occur in the project area, Avoidance/Minimization Measures would be implemented to lessen impacts to levels of no significance. No population-level adverse effects to birds or bats as a result of mortalities related to the potential "lake effect" of solar PV panels. Sites A and B are located within the potential renewable energy area identified in the INRMP.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B though at a smaller scale.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B; however, Site E is immediately adjacent to NRMAs 4 and 5. There is a potential for wildlife, including special status species, to be impacted by construction and associated auditory and visual disturbances. The San Joaquin kangaroo rat was documented in NRMA 5 as recently as 2011, and habitat for the species currently occurs in the NRMA. As Site E is immediately adjacent to NRMA 5, the potential exists for San Joaquin kangaroo rat to use Site E for overland dispersal or movement. However, as there is no suitable habitat, a lack of burrows within Site E, and the species is primarily nocturnal, the species is not expected to be present during daytime construction activities. Sites D and E are not located within the potential renewable energy area identified in the INRMP.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. All project activities would be in compliance with the MBTA and its general requirements related to nest impact avoidance guidelines. 2. To avoid impacts to ground-nesting birds, a survey for active nests or nesting activity would be conducted before construction and decommissioning should such activities occur during the nesting season (typically March 15 to August 31). If the survey finds active nests, then construction personnel would either avoid the nests until fledglings have left, or permitted personnel would	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measures would be implemented under Alternative 2, if Site E is selected: 18. Informal consultation with the USFWS would occur before implementation to ensure that mitigations for federally listed species are properly implemented.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	relocate eggs and chicks following all federal and state regulations and permitting requirements. 3. To the extent feasible, construction activities in or near suitable or occupied bird nesting habitat during the breeding season would be avoided (March 15 to August 31). 4. If construction activities occur during the nesting season for migratory birds, a qualified biologist would conduct preconstruction nesting bird surveys within 14 days before construction activities within a given work area. Tree-nesting raptors and ground-nesting birds would be surveyed for in the project area and adjacent windbreaks. The initial survey would be conducted at least 14 days before construction to allow sufficient time to develop an avoidance strategy if nests are identified. A final survey would be conducted within 24 hours of ground-disturbing activities. 5. If an active nest is identified near a given work area and work cannot be conducted outside the nesting season (March 15 to August 31), a no-activity zone would be established around the nest by a qualified biologist in coordination with the USFWS. Fencing and/or flagging would be used to delineate the no-activity zone. The no-activity zone would be large enough to avoid nest abandonment and would be between 50 and 1,000 feet from the nest, or as otherwise required by the USFWS. 6. NAS Lemoore and the private partner would implement the guidelines in the *Construction And On-Going Operational Requirements* section of the USFWS' *Standardized Recommendations for Protection of San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011 or current		19. If federally listed species are found during pre-construction surveys, they would be relocated using USFWS approved protocols and techniques, if necessary.	

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	version). 7. A qualified biologist would conduct pre-construction surveys no less than 14 days and no more than 30 days before the commencement of construction/decommissioning activities to identify potential occupancy by special status species, including burrows or dens greater than 4 inches in diameter that could be used by San Joaquin kit fox. If during construction any burrows greater than 4 inches in diameter are found, they would be investigated to ensure the absence of San Joaquin kit fox. If any San Joaquin kit fox are found, construction would be stopped, and the Navy and wildlife agencies would be immediately notified. 8. NAS Lemoore and the private partner would notify USFWS in writing of the results of the pre-construction/decommissioning survey(s) within 30 days after these activities are completed. 9. If potential San Joaquin kit fox dens are located within the work area and cannot be avoided during construction/ decommissioning activities, a USFWS-approved biologist would determine if the dens are occupied. 10. If occupied San Joaquin kit fox dens are present within the work area, their disturbance and destruction would be avoided. Pre-construction exclusion zones would be implemented following the most current USFWS procedures (currently USFWS 2011). 11. Focused surveys for San Joaquin kangaroo rat would be conducted by a qualified biologist within 30 days before construction/decommissioning activities. The			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	biologist would conduct burrow searches by systematically walking transects, which would be adjusted based on vegetation height and topography. If burrows suitable for use by San Joaquin kangaroo rat are found within 100 feet of the project area, focused live trapping surveys would be conducted by a qualified and permitted biologist following a methodology approved in advance by the USFWS. 12. If potentially suitable San Joaquin kangaroo rat habitat is discovered in the project area, a 50-foot no disturbance buffer would be implemented around small mammal burrows when live trapping is not conducted or when, in consultation with the USFWS, live trapping results are inconclusive in determining presence/absence for the species. 13. The private partner would construct all transmission towers, poles, and lines in accordance with the guidelines in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee 2006), or the most current version of the guidelines available at the time of construction, and in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (Avian Power Line Interaction Committee 2012). 14. To avoid impacts to burrowing owls, surveys would be conducted before construction and decommissioning activities to assess use of the site(s) by the species. Should burrowing owls be present, they would be actively relocated by a qualified biologist. Relocation would include artificial burrow and perch construction preferably at a suitable location nearby but away from construction, either on-site or at a suitable off-site location. This would be done before breeding season or			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	after fledging stage when the nest/burrows can be covered by weed free hay bales. 15. During construction and decommissioning, a qualified biologist would be on-site daily to monitor and record activities as they pertain to biological resources. Results would be reported on a monthly basis, unless a species of concern is found or suspected to be found, and then the species would be reported immediately. The results of the monitoring would be reported to the NAS Lemoore biologist. 16. During the operations phase, regular monitoring surveys and reporting would be conducted at all solar PV arrays by a qualified biologist (day and night surveys) to assess use of the areas by wildlife, vegetation changes, and potential bird/bat mortalities and/or injuries. Results of the surveys would be provided to USFWS and CDFW for comments and recommendations to minimize impacts from continuing operations. In addition, monitoring data would be shared and coordinated with wildlife hazard management operations already occurring at NAS Lemoore, including BASH surveys, wildlife determent, and wildlife relocation/removal from areas in and around the NAS Lemoore airfield (Lang 2012). 17. If federally listed species are observed in the project area following construction activities and/or during operation of the solar PV system, NAS Lemoore would be immediately notified. The Navy would assess whether ongoing operations might affect any such species and engage in consultation with the USFWS to discuss current and future management strategies, as appropriate.			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Public Health and Safety				
Impact Summary	No Significant Impact. Operation of the solar PV panels would not result in an increased flight safety risk, except glare from the northernmost panels at Site B could affect Runway 14L operations in the afternoon. Due to the lack of airspace penetration, reflectivity, and non-interference with communications from Sites A and B, there would be no significant impacts on flight safety during construction or operation of the solar PV system. No significant increase in BASH potential. Construction and decommissioning activities would be conducted in compliance with health and safety regulations and would not pose a risk to construction personnel. No impact to workers from SDZs.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. In addition, with the elimination of Site B, the potential effect to afternoon operations at Runway 14L would not occur.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B; however, with solar PV panels facing south for optimum sun exposure, there is potential for glare from fixed solar PV arrays in almost half of Site D and all of Site E to affect the control tower.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Construction activities that have a potential to generate substantial amounts of dust (e.g., initial site grading) would be first coordinated and scheduled with NAS Lemoore Operations to avoid potential impacts to aviation training. 2. If the currently inactive skeet ranges are activated, work within the SDZ overlap of Site B would only occur when the skeet ranges are closed. 3. The construction contractor would develop a health and safety plan consistent with OSHA standards and regulations, including EM 385-1 and OSHA's Electric Power Generation, Transmission and Distribution Standard, 29 CFR 1910.269 (*Solar System Safe Work Practices and Worker Training Requirements*). 4. Phase I of the siting of solar PV system would be beyond 10,000 feet from Air Operations Area of base to reduce uncertainty in BASH risk.	Avoidance/Minimization Measures would be the same as measure 1 presented for Alternative 1, Sites A and B.	In addition to the Avoidance/ Minimization Measures presented for Alternative 1, Sites A and B, the following measures would be implemented under Alternative 2: 11. Rifle range activities would be deconflicted with worker access within the SDZ overlap of Site E.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
	5. Single-axis tracking solar PV system would be used to reduce glare, BASH risk, and potential "lake effect". 6. No cement would be used in installation of pilings to reduce ground squirrel habitat. 7. A rodent control, pest management, and weed abatement plan would be developed to control plant, insect, and vertebrate pest (e.g. ground squirrels and other rodents) populations in and around the solar PV systems. Ground sterilant and tactifier would be applied regularly to eliminate vegetation under panels. 8. Consistent with the NAS Lemoore BASH Program (NAS Lemoore 2014a), all phases of the Proposed Action/Alternative 1 would be conducted in accordance with NAS Lemoore BASH adaptive management strategies to promote safe aircraft operations at NAS Lemoore by reducing the potential for bird and other animal aircraft strike hazards. BASH management strategies would be evaluated on a quarterly basis to ensure effectiveness and would require adaptive management if effectiveness is less than desired. 9. The solar PV system design would minimize glare to the greatest extent practicable. 10. In the event that a buried oil pipeline (deactivated 60 years ago) is encountered during construction activities, measures would be taken to avoid release of and otherwise manage any asbestos-containing material from the pipeline in accordance with applicable laws and regulations.			

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Socioeconomics				
Impact Summary	No Significant Impact. Loss in agricultural lease income of approximately $318,500 annually; loss of revenue could potentially be completely offset by the lease fee to be paid by the private partner to the Navy. Loss of an estimated $5,947,000 in annual crop value from the local economies of Kings and Fresno counties; or, a loss of 0.13 percent of the annual market value for crops in Kings and Fresno counties. Elimination of approximately 24 agricultural jobs. Construction would create approximately 300 temporary construction jobs. Temporary decrease in demand for irrigation water.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. Specifically, a reduction in annual lease revenues by approximately $37,200. Estimated annual loss in annual crop value totals $695,400, or approximately 0.01 percent of the total combined annual crop value of Kings and Fresno counties. Loss of approximately 3 agriculture jobs; however, creation of approximately 100 temporary construction jobs.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Visual				
Impact Summary	No Significant Impact. Construction impacts would be temporary and limited to viewers from adjacent roadways and agriculture parcels. The solar PV system would be compatible with NAS Lemoore's visual character. The approximately fifty-five, 80-foot (24-meter) tall steel poles for the new 230-kV transmission line would be visible to persons in the Administrative/Housing Area but would be consistent with the existing visual environment.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale. In addition, under Model 2 and the combination of Models 2 and 3, the 69-kV transmission line poles would be shorter (approximately 58 feet tall). Under Model 3, no transmission line/poles would be constructed.	No Significant Impact. Potential impacts would be similar as those described for Sites A and B; however, if Sites D and/or E are selected, segments of the transmission lines from these sites would be underground, thus having no visual impact when underground. Other segments of the 230-kV transmission line would be above ground and visible.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Cultural				
Impact Summary	No Significant Impact. The three archaeological sites within the APE are either ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. The two archaeological sites within the APE would be avoided during construction, operation, and decommissioning activities. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. The three archaeological sites within the APE are either ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. No recorded cultural resources are present within Sites D and E. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. In the event of a discovery during any excavation, the contractor would be required to immediately stop work in the area of the discovery and immediately notify the Navy of the discovery. The Navy would have the discovery site evaluated by a professional archeologist, and in consultation with the SHPO. If the discovery is determined to qualify for listing on the NRHP, the Navy would develop and implement an appropriate treatment plan before authorizing the excavation or construction responsible for the discovery to proceed.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Air Quality				
Impact Summary	No Significant Impact. Minor and temporary increase in emissions generated as a result of construction, operational maintenance, and decommissioning. Operationally, fewer GHG and particulate matter emissions due to the switch to renewable energy. Reduction in dust generation associated with the ending of agriculture operations. Emissions would not exceed *de minimis* thresholds. Hazardous air pollutant emissions would be negligible.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale.	No Significant Impact. Potential impacts would be similar as those described for Sites A and B; however, if Sites D and/or E are selected, segments of the transmission lines from these sites would be underground, thus resulting in more construction and ground disturbance and greater project emissions.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within design standards. 2. Dust suppression methods (such as using water trucks to wet the construction/ decommissioning area during construction, and the application of a soil stabilizer during operation) would minimize fugitive dust emissions. 3. Construction equipment with combustive engines would meet USEPA Tier 4 emission standards, as practicable to do so.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.
Utilities				
Impact Summary	No Significant Impact. Potential for temporary and localized power disruption when the solar PV system comes on-line. Would support achievement of Navy's renewable energy goals and strategies. Under the Model 2 and combination of Models 2 and 3, there would be an increase in regional power supply. Under Model 3, a local renewable energy source would be created for NAS Lemoore. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system.	No Significant Impact. Potential impacts would be similar to those described for Sites A and B, though at a smaller scale.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.

Resource Area	Alternative 1: 390 MW		Alternative 2: 390 MW (Sites A, B, D, and/or E)	No Action Alternative
	Sites A and B: 390 MW	Option 1, Site A Only: 20 MW		
Avoidance/ Minimization Measures	No measures identified.	No measures identified.	No measures identified.	No measures identified.
Transportation				
Impact Summary	No Significant Impact. Temporary increase in traffic associated with construction (740 daily vehicle trips), operations and maintenance, and decommissioning activities (150 daily vehicle trips). Some of the trips associated with these activities (i.e., delivery of construction materials and equipment; the removal of construction debris; and operations and maintenance) would be periodic, and would not regularly add traffic to the roadway network. Moreover, because the construction areas are outside of fenced areas on the installation, traffic would not contribute toward any delays or queues at the Reeves Gate, the Avenal Gate, or the Operations Area Main Gate.	No Significant Impact. Potential impacts would be the same as those described for Sites A and B, though at a smaller scale (less daily vehicle trips).	No Significant Impact. Potential impacts would be the same as those described for Sites A and B.	No Significant Impact. There would be no change in existing conditions; therefore, no impacts would occur.
Avoidance/ Minimization Measures	1. Worker and equipment/materials delivery vehicles would avoid use of any of the gates providing access to the fenced areas of the installation (i.e., the Operations Area and the Administrative Area/Family Housing Area) and the NAS Lemoore Main Gate, especially during peak commuting periods (typically between 7:00 and 9:00 a.m. and 4:30 to 6:30 p.m.).	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	Avoidance/Minimization Measures would be the same as presented for Alternative 1, Sites A and B.	No measures identified.

Notes: APE = area of potential effects; APZ = Accident Potential Zone; BASH = Bird/Wildlife Aircraft Strike Hazard; CDFW = California Department of Fish and Wildlife; CFR = Code of Federal Regulations; DoD = Department of Defense; ESQD = Explosive Safety Quantity Distance; GHG = Greenhouse Gas; INRMP = Integrated Natural Resources Management Plan; kV = kilovolt; MBTA = Migratory Bird Treaty Act; NRHP = National Register of Historic Places; NRMA = Natural Resources Management Areas; OSHA = Occupational Safety and Health; Administration; SDZ = Surface Danger Zones; SHPO = State Historic Preservation Officer; USEPA = U.S. Environmental Protection Agency; USFWS = U.S. Fish and Wildlife Service.

3.1 LAND USE

3.1.1 DEFINITION OF RESOURCE

Land use refers to the various ways in which land might be used or developed (i.e., military training, parks and preserves, agriculture, commercial); the kinds of activities allowed (i.e., factories, mines rights-of-way); and the type and size of structures permitted (i.e., towers, single-family homes, multistory office buildings). Land use is regulated by management plans, policies, ordinances, and regulations that determine the types of uses that are allowable and protect specially designated areas and environmentally sensitive resources. The NAS Lemoore Master Plan 2030 (NAS Lemoore 2014b) guides land use and development on NAS Lemoore.

This resource section includes a discussion of prime farmland. The Farmland Protection and Policy Act, 7 USC § 4201, was enacted to minimize the loss of prime farmland and unique farmlands because of federal actions, through conversion of these lands to nonagricultural uses. This includes converting areas that have high quality soil for crop production.

3.1.2 AFFECTED ENVIRONMENT

3.1.2.1 Site A, B, D, and E

Sites A, B, D, and E are agricultural outleases surrounding the NAS Lemoore Operations Area (Figure 3.1-1). NAS Lemoore operates approximately 53 agricultural outleases on 12,776 acres (5,170 hectares) with 16 lessees. Sites A, B, D, and E are located within the "Managed Lands District," a 12,709-acre (5,143-hectare) area used to provide a buffer around NAS Lemoore operations. Land uses within this area include agriculture, managed grazing lands, and natural resource management areas.

The NAS Lemoore Master Plan identifies development plans within the Managed Lands District. Permitted uses within the Managed Lands District include agriculture, grazing lands, Natural Resources Management Areas (NRMA), and solar PV development. Development plans within the Managed Lands District should be reevaluated regularly as opportunities, solar PV, agriculture market, and other conditions change. The District can support up to 3,000 acres (1,214 hectares) of solar PV development (NAS Lemoore 2014a).

Nearby land uses include the San Joaquin Valley Railroad, which crosses NAS Lemoore along the northern portion of Site A (NAS Lemoore 2014b). Two transmitter buildings associated with flight communications are located within Site B.

Accident Potential Zones and Imaginary Surface Restrictions

Accident Potential Zones (APZs) identify areas that would most likely be affected by an aircraft accident. The purpose of defining APZs is to identify areas where surrounding land uses should be restricted to protect the public, pilots, and property on the ground. Portions of Sites B and D are overlapped by APZ 1 and 2 (see Figure 2-1). Conversely, Sites A and E are not encumbered by the APZs (NAS Lemoore 2014b).

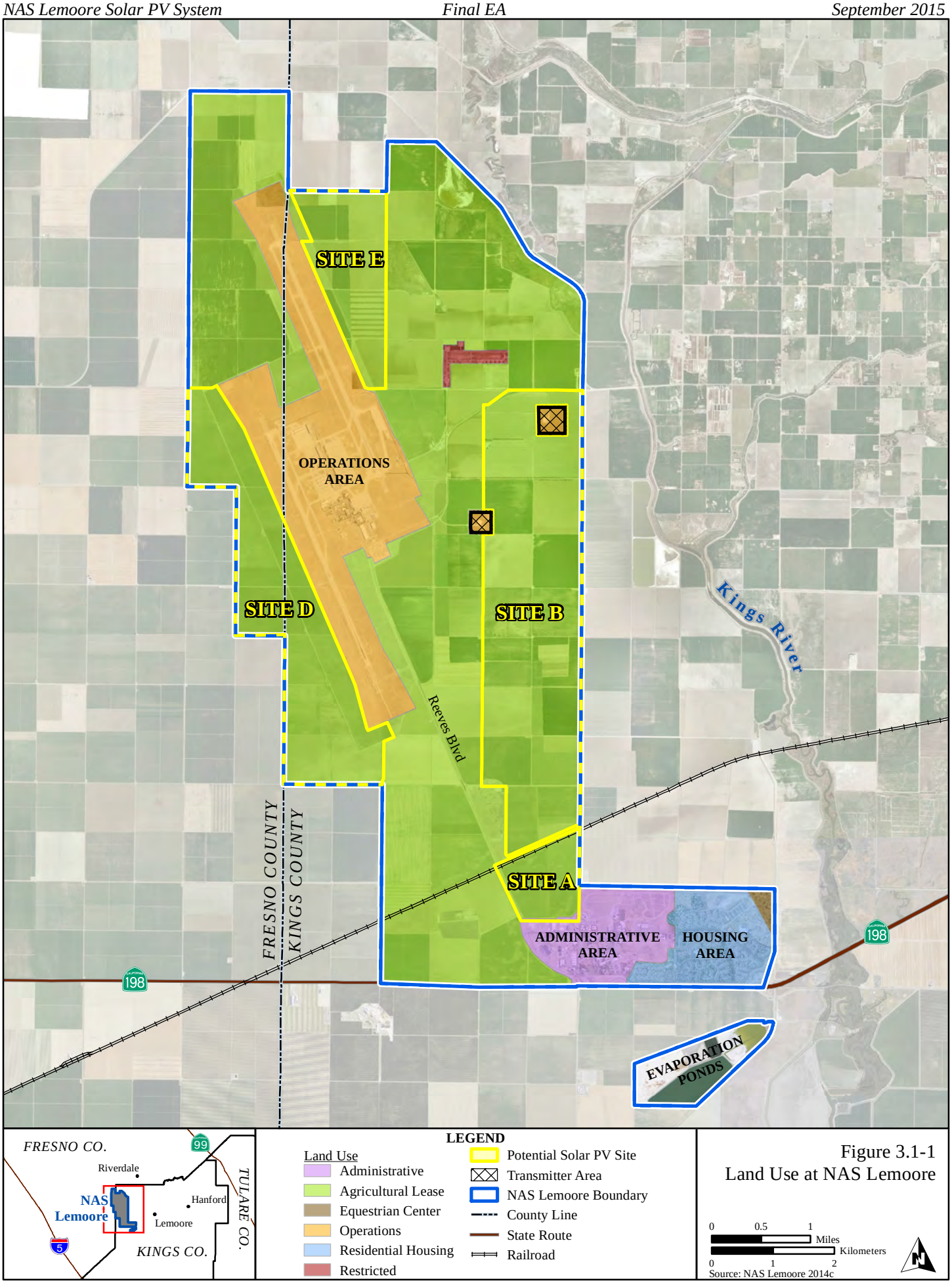


Figure 3.1-1
Land Use at NAS Lemoore

Another land use issue associated with air operations is the proximity of structures to imaginary surfaces. An imaginary surface is the slope or angle at which an aircraft departs or arrives at an airfield. Imaginary surfaces are another way to describe clearances for air navigation. Federal aviation regulations specify a series of imaginary height restrictions surfaces surrounding an airport to prevent conflicts with aircraft approach and departure paths. The Federal Aviation Administration (FAA) considers any terrain or engineered objects that extend above the imaginary surface as an obstruction. The imaginary surface should not be penetrated and all new development should not extend into the imaginary surfaces.

Imaginary surfaces at NAS Lemoore restrict or limit the height of structures for safety purposes (NAS Lemoore 2014a). All of the proposed sites have assigned imaginary surfaces (Figure 3.1-2).

Department of Defense (DoD) Instruction 4165.57, *Air Installation Compatible Use Zones*, establishes policies and procedures for issues related to land use, noise, and safety within and around air installations. The DoD instruction prohibits power lines (including high-voltage transmission and distribution lines) within APZs.

Explosive Safety Quantity Distance Arcs

Explosive Safety Quantity Distance (ESQD) arcs define the prescribed minimum distance between sites storing or handling hazard Class I explosive materials and specific exposures (i.e., inhabited buildings public highways, railways) to afford an acceptable degree of protection and safety to the specified exposure. The size of the ESQD arc is proportional to the net explosive weight present. An ESQD arc overlaps a portion of northwestern area of Site B and the southern portion of Site E (Figure 3.1-3). The Chief of Naval Operations Ammunition and Hazardous Material Handling Review Board has authorized Exemption NAS Lemoore E-1-81. This exemption permits the agricultural outlease of land that falls within an ESQD arc. The agricultural outlease exemption allows for the cultivation of non-labor-intensive/machine harvested crops (Navy 2014b).

Overarching ESQD guidance for all services is found in DoD Standard 6055.09-M, *DoD Ammunition and Explosives Safety Standards*. All service regulations must comply with and reinforce the guidance in this regulation. The Navy has provided supplemental guidance for shore-based units and the Marine Corps in Navy Sea Systems Command Operations Publication – 5, Volume 1, *Ammunition and Explosive Safety Ashore.* Although the services have some authority to build near a potential explosive site if certain conditions are met, all new construction site plans within established explosive arcs must be reviewed and approved by the DoD Explosive Safety Board. Not all construction requires a waiver to established standards, but construction does require review and approval of the DoD Explosive Safety Board as well as a solar energy developer willing to shoulder the risks – to life, property, and capital – of developing within an ESQD arc. The Navy is considering changes Navy Sea Systems Command Operations Publication – 5, Volume 1 to address the increase in requests to accept renewable energy projects within an explosive arc of a potential explosive site (ICF International 2012).

Soils Designated as Farmland of Statewide Importance

All of Sites A, B, D, and E contain soils designated as farmland of statewide importance. Farmland of statewide importance is land that is of statewide importance for the production of food, feed, fiber, forage, and oil seed crops. Generally, farmlands of statewide importance include those that are nearly prime farmland and that produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable (U.S. Department of Agriculture [USDA] 2014a).

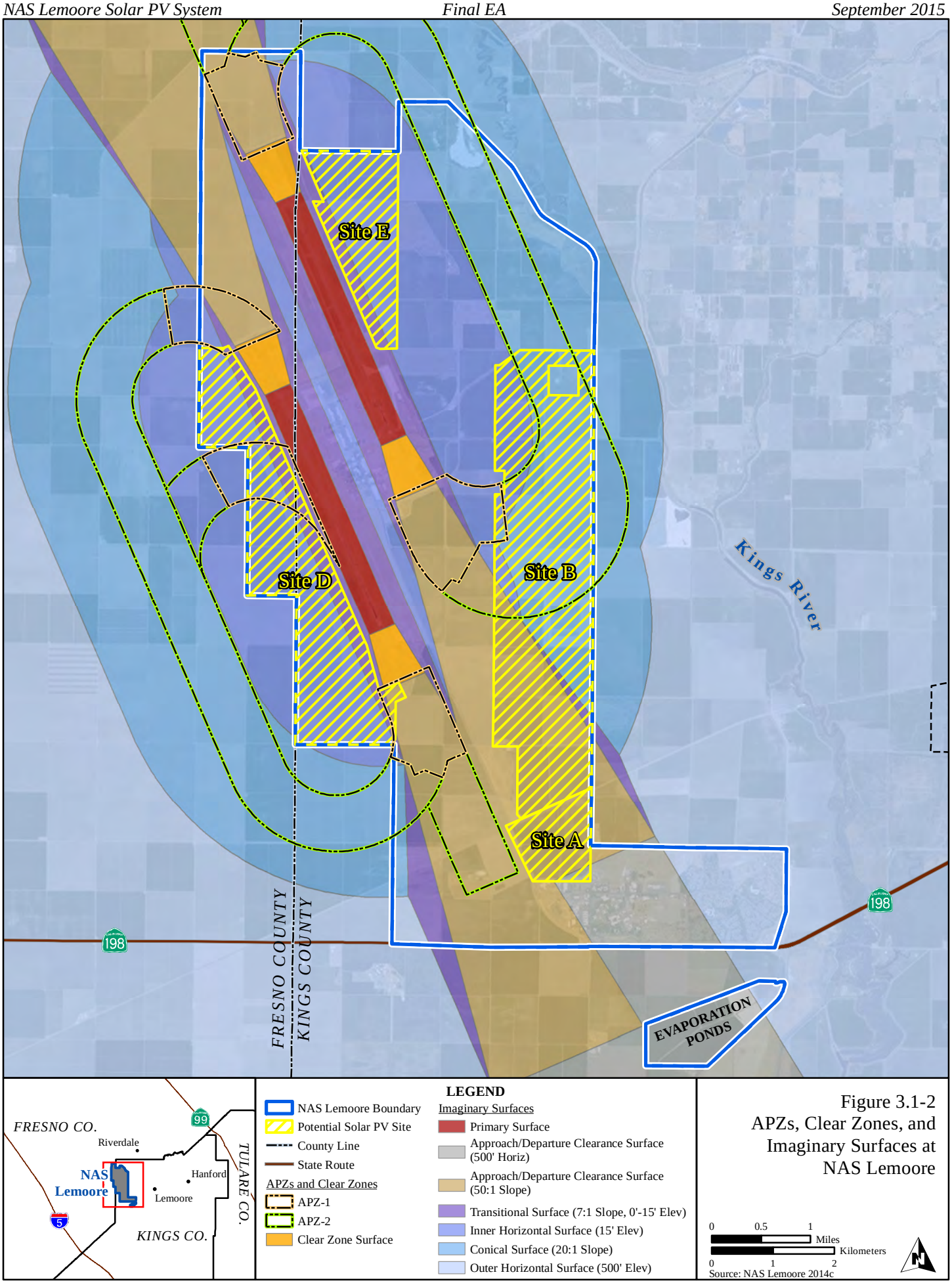


Figure 3.1-2
APZs, Clear Zones, and Imaginary Surfaces at NAS Lemoore

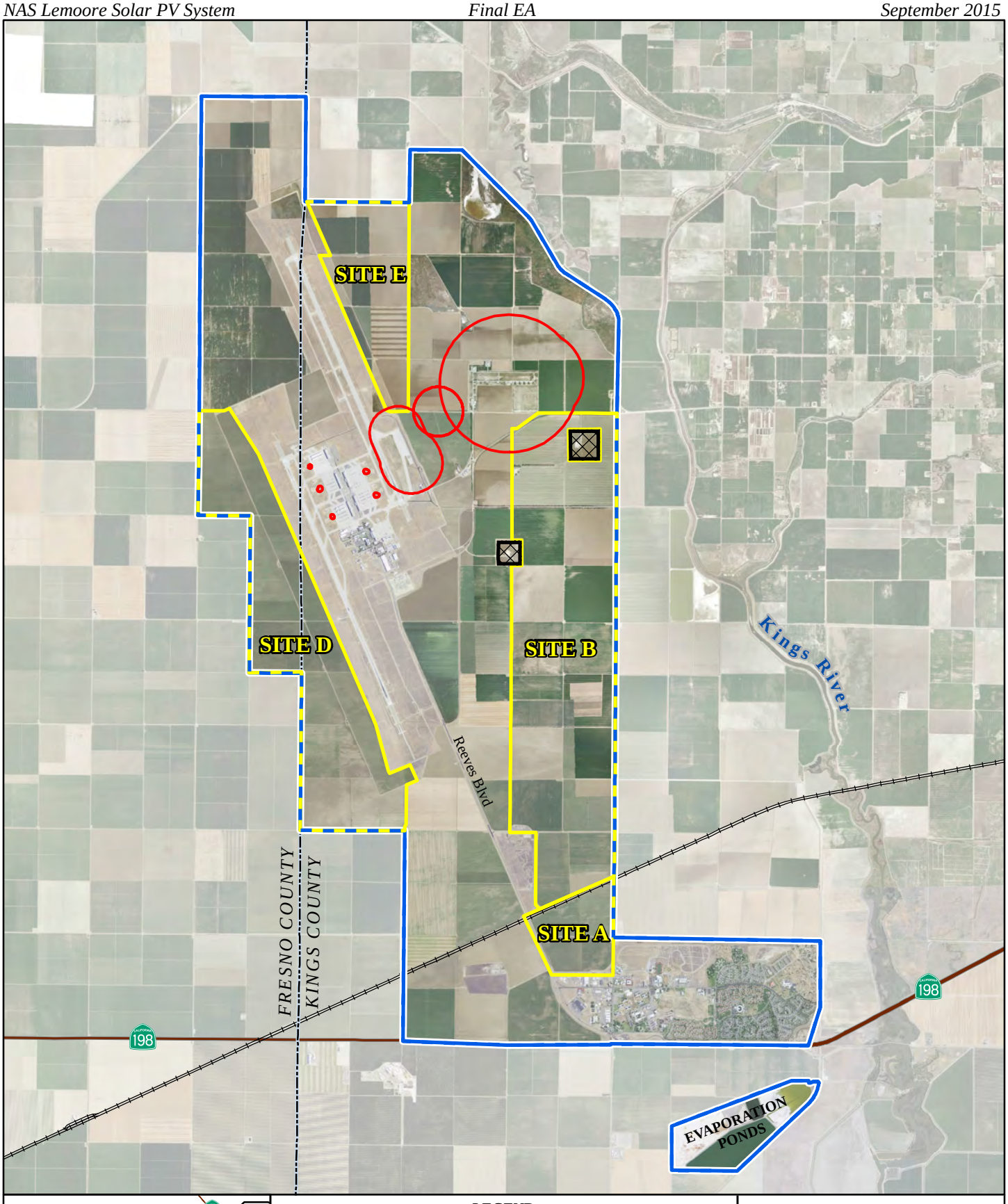


Figure 3.1-3
ESQD Arcs at NAS Lemoore

If a project has the potential to convert soils designated as farmland of statewide importance to a non-farm use, a land evaluation and site assessment is needed to establish a farmland conversion impact rating score. Use of farmland by a federal agency for national defense purposes during a national emergency is exempted from the Farmland Protection Policy Act.

3.1.2.2 Potential Solar PV System Support Areas

Equestrian Center

The NAS Lemoore equestrian center is located in the northeast portion of the housing area (see Figure 3.1-1). The equestrian center provides stables for up to 30 horses over approximately 10 acres (4 hectares) (NAS Lemoore 2014b). The area provides no farmland of statewide importance.

3.1.2.3 Transmission Lines and Substations

An existing 69-kV electrical transmission line, that is owned and maintained by NAS Lemoore, borders Sites A and B to the east, and runs along 25th Street. An existing PG&E 230-kV electrical transmission line borders the equestrian center to the east of NAS Lemoore property. All of the action alternatives (with the exception of Alternative 1 Option) involve the construction of a potential east-west transmission line along the northern boundary of the Administrative/Housing Area. The land use in this area functions to promote sailor/family readiness and is part of the Administration and Housing Areas. All other potential corridors would occur within utility rights-of-way on agricultural lease areas (NAS Lemoore 2014b).

3.1.3 ENVIRONMENTAL CONSEQUENCES

3.1.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Under Alternative 1, the construction of a solar PV system would result in a temporarily change in land use for Sites A and B from agricultural to renewable energy. This change would be consistent with the NAS Lemoore Master Plan as solar PV development is a permitted use within the Managed Lands District.

Under Alternative 1, northern portions of Site B would be located within APZ-2. Upon completion, the highest point of the solar PV array would be no higher than approximately 15 feet (5 meters). The solar PV system would be below the 150-foot (45-meter) high airfield height restriction (i.e., imaginary surface restriction). Construction of the solar PV system transmission lines associated with Sites A and B would occur within associated utility rights-of-way and would not represent a land use change. The aboveground 230-kV transmission line along the eastern boundary of Site B would be outside of APZ-2. The proposed switching station for interconnection to the existing PG&E 230-kV overhead transmission line would occur adjacent to the NAS Lemoore equestrian center in an open area.

Under Alternative 1, the northwestern portion of Site B would be overlapped by an ESQD arc. All new construction site plans within an ESQD must be reviewed and approved by the DoD Explosive Safety Board. If the DoD Explosive Safety Board does not grant a waiver or exemption for the area of encumbrance, and/or a renewable-energy related revision to NAVSEA OP-5, Volume 1 does not occur,

the site border would be adjusted inward such that the solar PV system would not be overlapped by the ESQD arc.

Soils below the solar PV system would remain largely unchanged; however, the surface would be temporarily converted from farmland to a non-farm use for the duration of the project. Model 2 and the combination of Models 2 and 3 would need to comply with the Farmland Protection and Policy Act provisions including the completion of a farmland conversion impact rating form. If Model 3 is implemented, the action may be exempted from the Farmland Protection and Policy Act because the power would solely be utilized at NAS Lemoore.

Operation

Operation of the solar PV system at Sites A and B would be consistent with the NAS Lemoore Master Plan, as solar PV systems have been identified as a possible land use for the agricultural lands surrounding NAS Lemoore. The solar PV system operation would be passive and not impact adjacent land uses.

Decommissioning

The decommissioning of the solar PV system would return the project area to its pre-project condition. At the conclusion of the solar PV agreement, agricultural activities could resume, as to be determined by NAS Lemoore.

Summary

The construction, operation, and decommissioning of the solar PV system at Sites A and B would be consistent with the NAS Lemoore Master Plan. Alternative 1 would comply with requirements applicable to the operation of a solar PV system within an ESQD arc. Soils designated as farmland of statewide importance would be temporarily converted to non-farm uses (for the duration of the project), but would remain largely unchanged and would be available for future agricultural use. Therefore, implementation of Alternative 1 would not have a significant impact to land use. Decommissioned oil pipelines in the project area would not affect construction or operation of the solar PV system.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, impacts to land use would be the same as those described under Alternative 1; however, the impacts would be limited to Site A. No ESQD overlap would occur. Therefore, implementation of the Alternative 1 Option would not have a significant impact to land use.

As described for Alternative 1, if decommissioned oil pipelines were found in the project area, they would not affect construction or operation of the solar PV system under the Alternative 1 Option.

3.1.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

As Alternative 2 would develop up to 390 MW of solar PV power (the same as Alternative 1), the approximate extent of surface impact (2,730 acres [1,104 hectares]) would be the same as Alternative 1; however, the location of the impact would be different (potentially up to four sites for Alternative 2 as opposed to two sites for Alternative 1).

Sites A, B, D, and/or E

Construction

The construction of a solar PV system at Sites A, B, D, and/or E would be as presented for Alternative 1, with the following differences.

If Sites D and/or E are developed, the segments of the 230-kV transmission line that would be within the APZs would be underground to avoid encroachment on the existing flight easement (see Figure 2-3). The flight easement does not allow vertical structures above 25 feet (8 meters) tall. In addition, DoD Instruction 4165.57, Air Installation Compatible Use Zones, specifies that no above ground power transmission or distribution lines should occur within APZs.

Construction of the solar PV system transmission lines associated with Sites A and B would occur within associated utility rights-of-way and would not represent a land use change. The flight easement does not allow vertical structures above 25 feet (8 meters) tall. The proposed switching station for interconnection to the existing PG&E 230-kV overhead transmission line would occur adjacent to the equestrian center (stables). The equestrian center would continue to provide family support and outdoor recreational opportunities for NAS Lemoore residents and employees.

Under Alternative 2, in addition to the northwestern portion of Site B, the southern portion of Site E would be overlapped by an ESQD arc. The same impacts and measures as described for Site B under Alternative 1 would apply.

As described for Alternative 1, if decommissioned oil pipelines were found in the project area, they would not affect construction solar PV system under the Alternative 2.

Operation

Operation of the solar PV system at Sites A, B, D, and/or E would be consistent with the NAS Lemoore Master Plan, as solar PV systems have been identified as a possible land use for the agricultural lands surrounding NAS Lemoore. The solar PV system operation would be passive and not impact adjacent land uses. As described for Alternative 1, if decommissioned oil pipelines were found in the project area, they would not affect operation of the solar PV system under the Alternative 2.

Decommissioning

The decommissioning of the solar PV system would return the project area to its pre-project condition. At the conclusion of the solar PV agreement, agricultural activities could resume, as to be determined by NAS Lemoore.

Summary

The operation of the solar PV system at Sites A, B, D and/or E would be consistent with the NAS Lemoore Master Plan, as solar PV systems have been identified as a possible land use for the agricultural lands surrounding NAS Lemoore. Alternative 2 would comply with requirements applicable to the operation of a solar PV system within an ESQD arc. Soils designated as farmland of statewide importance would be temporarily converted to non-farm uses (for the duration of the project), but would remain largely unchanged and would be available for future agricultural use. Therefore, implementation of Alternative 2 would not have a significant impact to land use.

3.1.3.3 No Action Alternative

Under the No Action Alternative, existing land use would not change. Agricultural lands would continue to be a compatible with NAS Lemoore's military mission and the Managed Lands District. Established APZs and imaginary surface restrictions would remain as is. No overlap of ESQD arcs by incompatible land uses would occur. Farmland of statewide importance would continue to be used for agricultural purposes. Therefore, the No Action Alternative would not have a significant impact to land use.

3.2 BIOLOGICAL RESOURCES

3.2.1 DEFINITION OF RESOURCE

Biological resources include plant and animal species and the habitats within which they occur. This analysis focuses on species that are important to the function of ecosystems, are of special societal importance, or are protected under federal or state law. These resources are commonly divided into the following categories: *Plant Communities*, *Wildlife*, and *Special Status Species*.

Biological resources are grouped and analyzed in this EA as follows:

- *Plant Communities* include plant associations and dominant constituent species that occur in the project area. Special status plant species are discussed in more detail below.
- *Wildlife* includes the characteristic animal species that occur in the project area. Special consideration is given to bird species protected under the Migratory Bird Treaty Act and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. Special status wildlife species are discussed in more detail below.
- *Special Status Species* are those plant and animal species that are listed, have been proposed for listing, or are candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA), the California ESA, and other species of concern as recognized by state or federal agencies.

3.2.2 AFFECTED ENVIRONMENT

3.2.2.1 Plant Communities

All of the potential solar PV system sites are currently leased by the Navy for agriculture use and are regularly disturbed, mechanically and chemically (herbicides/pesticides), for crop production (Figures 3.2-1 to 3.2-4). There is very little natural vegetation in the agricultural areas, as the fields are plowed or disked to the edge of roads and irrigation ditches (NAS Lemoore 2014a). Non-native, herbaceous plant species are sparsely distributed along the borders of unpaved access roads and irrigation ditches near the agricultural fields.

Windbreaks and irrigation ditches occur along the agricultural parcel boundaries within the potential solar PV sites. Most of the windbreaks at NAS Lemoore are planted with non-native gum trees (*Eucalyptus* spp.) or oleander (*Nerium oleander*).

The irrigation ditches on NAS Lemoore would not be directly impacted by project activities; therefore, the jurisdictional status of these man-made waterways is not analyzed in this EA. However, these artificial waterways likely attract a higher variety of wildlife and provide benefits to wildlife beyond those provided by the fallow agricultural fields. Wildlife within the project area is discussed in Section 3.2.2.2.

The proposed switching station site (located adjacent to equestrian center in the northeast portion of the NAS Lemoore housing area) is highly disturbed and is dominated by non-native, ruderal species and bare

ground. All of the potential and/or existing transmission line corridors and potential substation locations are within heavily disturbed habitats, including agricultural fields, existing dirt roads, and otherwise developed/disturbed lands that do not contain native habitats (Figures 3.2-1 to 3.2-4).

The NAS Lemoore Integrated Natural Resources Management Plan (INRMP) identifies potential renewable energy areas at NAS Lemoore. While the areas associated with Sites A and B are located within the identified potential renewable energy area, Sites D and E are not (NAS Lemoore 2014b).

3.2.2.2 Wildlife

Wildlife at NAS Lemoore consists of both resident and migrant native and non-native species common to the San Joaquin Valley (NAS Lemoore 2014a). The majority of non-developed land at NAS Lemoore is currently active or fallow agricultural land that does not provide suitable habitat for the majority of wildlife species that occur in the San Joaquin Valley. All other Navy property outside of NAS Lemoore's Administration and Operations Areas consists of multiple NRMAs, portions of which contain remnant native habitats that have been and continue to be managed for the benefit of wildlife and native plant communities (NAS Lemoore 2014a).

Although no NRMAs occur within the proposed solar PV system sites, NRMAs 4 and 5 directly abut Site E (see Figure 3.2-4). NRMA 4 is approximately 50 acres (20 hectares) of annual grassland habitat located in the northern part of NAS Lemoore. NRMA 5 is approximately 116 acres (47 hectares) of annual grassland and brushland habitat managed for the federally listed San Joaquin kangaroo rat (*Dipodomys nitratoides*) (see Section 3.2.2.3) in the northeastern part of NAS Lemoore.

Five species of amphibian and seven species of reptile are known to occur at NAS Lemoore (NAS Lemoore 2014a). Common amphibian and reptile species known to occur at NAS Lemoore include the non-native American bullfrog (*Lithobates catesbeianus*), Sierran treefrog (*Pseudacris sierra*), California toad (*Anaxyrus boreas halophilus*), San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), and western side-blotched lizard (*Uta stansburiana elegans*). The potential solar PV system sites lack suitable burrowing and reproductive habitat for amphibians and reptiles; however, these animals could use the project area for overland movement and/or dispersal.

Annually, NAS Lemoore provides nesting, roosting, and foraging habitat for approximately 170 species of birds, 54 of which are likely resident species (NAS Lemoore 2014a). Resident bird species that are known to breed at NAS Lemoore include Swainson's hawk (*Buteo swainsoni*), great-horned owl (*Bubo virginianus*), house sparrow (*Passer domesticus*), and burrowing owl (*Athene cunicularia*) (NAS Lemoore 2014a). Migratory bird species use NAS Lemoore habitat as a stop-over during their annual migrations. Suitable areas for resting and foraging on the Station include NRMA 2 (Sunset Lake) and the wastewater treatment facility evaporation ponds to the south of NAS Lemoore. NAS Lemoore receives a number of migrating species such as American white pelican (*Pelecanus erythrorhynchos*), white-crowned sparrow (*Zonotrichia leucophrys*), yellow-rumped warbler (*Dendroica coronata*), white-faced ibis (*Plegadis chihi*), and short-eared owl (*Asio flammeus*).



Figure 3.2-1
Biological Resources at Site A

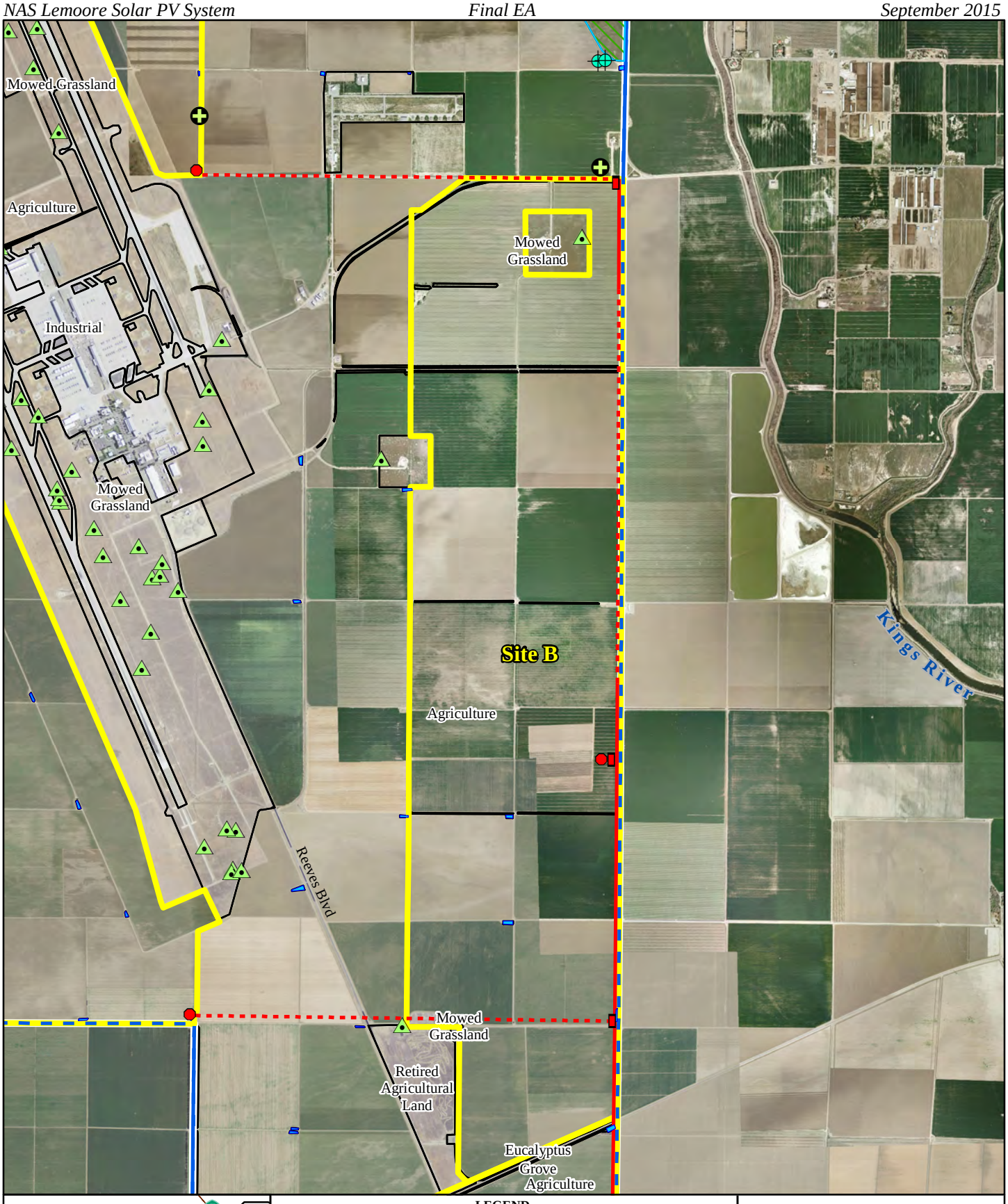


Figure 3.2-2
Biological Resources at Site B

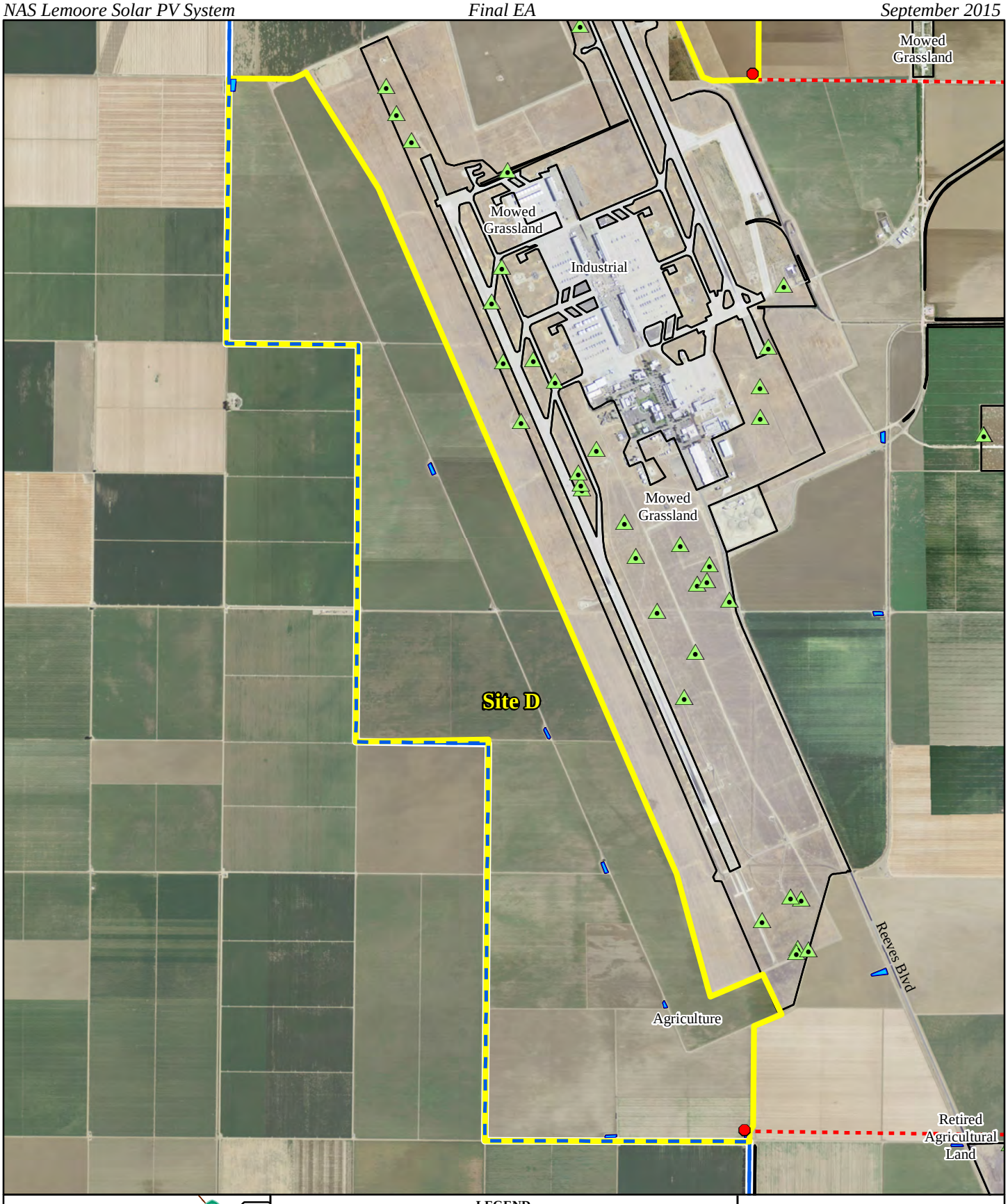


Figure 3.2-3
Biological Resources at Site D

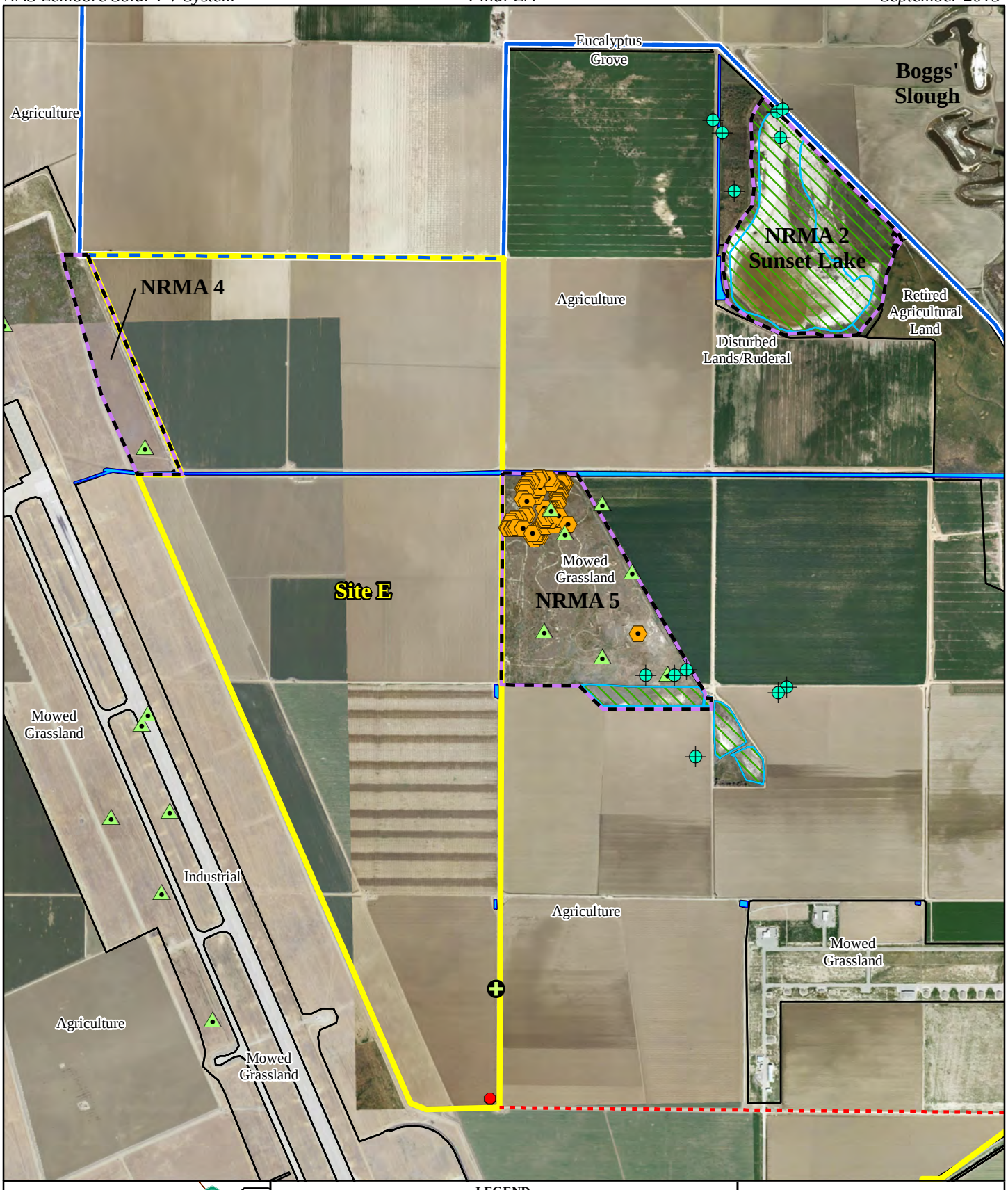


Figure 3.2-4
Biological Resources at Site E

Twenty-eight mammal species have been observed at NAS Lemoore, including seven species of bats (NAS Lemoore 2014a). Mammals common to NAS Lemoore include black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), desert cottontail (*Sylvilagus audubonii*), deer mouse (*Peromyscus maniculatus*), California ground squirrel (*Spermophilus beecheyi*), raccoon (*Didelphis virginiana*), and coyote (*Canis latrans*).

Agricultural parcels on NAS Lemoore do not provide suitable habitat for most of the species that occur in the region. However, game birds, such as mourning dove (*Zenaida macroura*) and ring-necked pheasant (*Phasianus colchicus*), and a variety of other birds, including red-winged blackbird (*Agelaius phoeniceus*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), great egret (*Ardea alba*), burrowing owl, peregrine falcon (*Falco peregrinus*), white-faced ibis, and long-billed curlew (*Numenius americanus*) are known to utilize the agricultural parcels (Lang 2012; Tierra Data, Inc. 2012). Raptors, including hawks and owls, have also been observed foraging in the agricultural areas at NAS Lemoore. Some limited populations of reptiles and amphibians occur in agricultural lands, including the western whiptail (*Cnemidophorus tigris*), San Joaquin fence lizard, western side-blotched lizard, and Pacific gopher snake (*Pituophis catenifer catenifer*). Mammal species include house mouse (*Mus musculus*) and coyote (*Canis latrans*). Reptiles, amphibians, and mammals found here include those associated with the disturbed grassland but at much lower population levels. They are also likely inhabited by various invertebrate species regardless of the crop, which may provide a food source for wildlife (NAS Lemoore 2014a).

3.2.2.3 Special Status Species

Federally Listed Species

Federally listed wildlife species that potentially occur at NAS Lemoore are shown in Table 3.2-1. No federally listed plant species are known to occur on NAS Lemoore.

Table 3.2-1. Federally Listed Species with the Potential to Occur at NAS Lemoore

Common Name	Scientific Name	Federal/State Status	Occurrence at NAS Lemoore	Occurrence in Potential Solar PV System Sites
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T/-	Potential to Occur.	Not likely, as no elderberry occurs within the project area.
California tiger salamander	*Ambystoma californiense*	T/T	Potential to Occur.	Not likely. If present near project area, occurrence would be limited to overland travel by dispersing individuals.
Blunt-nosed leopard lizard	*Gambelia sila*	E/E	Potential to Occur.	Not likely
California least tern	*Sternula antillarum browni*	E/E	Non-breeding transient. Observed at the wastewater treatment facility evaporation ponds in the southeastern portion of the Station.	Not likely. Could potentially fly over solar PV system sites.
San Joaquin kangaroo rat	*Dipodomys nitratoides*	E/E	Only known to occur in NRMA 5.	Not likely. If present near project area, occurrence would be limited to overland travel by dispersing individuals.
Buena Vista Lake shrew	*Sorex ornatus relictus*	E/-	Potential to Occur.	Not likely. If present near project area, occurrence would be limited to overland travel by dispersing individuals.

Table 3.2-1. Federally Listed Species with the Potential to Occur at NAS Lemoore

Common Name	Scientific Name	Federal/State Status	Occurrence at NAS Lemoore	Occurrence in Potential Solar PV System Sites
San Joaquin kit fox	*Vulpes macrotis mutica*	E/T	Potential to Occur.	No suitable denning or foraging habitat, but would likely use solar PV system sites for overland movement. No observations on NAS Lemoore since 1975.

Sources: California Natural Diversity Database 2015; NAS Lemoore 2014a; NAVFAC SW 2015b; USFWS 2015.
Notes: E = Endangered; T = Threatened; - = no status.

A habitat assessment was completed in the potential solar PV system sites in December 2014 to analyze the habitat potential and potential for occurrence for the following federally listed species: California tiger salamander, blunt-nosed leopard lizard, San Joaquin kangaroo rat, Buena Vista Lake shrew, and San Joaquin kit fox. The assessment found that due to the lack of suitable habitat, the proposed solar PV system sites do not provide suitable occupation or breeding habitats for the target sensitive species beyond overland dispersal or movement (NAVFAC SW 2015b).

All the proposed solar PV system sites are composed of recently fallow, tilled agricultural land, devoid of vegetation and burrows. The proposed switchyard is composed of an area of densely vegetated exotic grasses and forbs, with a heavily disturbed portion that is devoid of vegetation. No burrows of any kind were observed within the proposed switchyard. For complete descriptions of federally listed species with the potential to occur at NAS Lemoore, refer to the Habitat Assessment Report conducted for the Proposed Action (NAVFAC SW 2015b). While no federally listed species are considered likely to occur in the project area, those federally listed species with the highest potential to occur in the vicinity of the project area are described below.

San Joaquin Kit Fox

The current distribution of San Joaquin kit fox is limited to suitable habitat in the San Joaquin Valley floor and in the surrounding foothills of the coastal ranges, Sierra Nevada, and Tehachapi Mountains. The species usually occupies areas with loose-textured soils (Morrell 1972), where the San Joaquin kit fox uses dens for shelter and protection. San Joaquin kit foxes inhabit annual grasslands, sparsely vegetated shrubby habitats, and some agricultural and urban areas (Morrell 1972). Kit foxes are primarily nocturnal and active year-round. Dens are typically located in flat terrain but can also be found within washes, drainages, and roadside berms. Although San Joaquin kit foxes construct their own dens, they also enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers (*Taxidea taxus*), and coyotes (California State University Stanislaus 2006). Most dens have at least two entrances and one fox may use several dens, particularly during summer months and pupping season. Mating occurs around January, with pups born during late February and early March.

The California Natural Diversity Database (2015) reports six records of San Joaquin kit fox observations on NAS Lemoore, all within the agricultural areas. All six of the observations date from 1975. Within the proposed solar PV system sites and switching station, there is no habitat suitable for kit fox denning or foraging, because the entirety of the area proposed for project use falls within actively managed agricultural land devoid of vegetation or burrows (NAVFAC SW 2015b). However, San Joaquin kit fox could potentially use the proposed solar PV system sites for overland movement. No sign or evidence of San Joaquin kit fox was observed during the habitat assessment surveys (NAVFAC SW 2015b).

San Joaquin Kangaroo Rat

There is uncertainty regarding the subspecies status of the San Joaquin kangaroo rat population at NAS Lemoore, which is located just south of the Kings River, the historic southern boundary for the Fresno kangaroo rat (*Dipodomys nitratoides exilis*). The NAS Lemoore population could be Tipton kangaroo rat (*D. nitratoides nitratoides*), Fresno kangaroo rat, or an intergrade between the two subspecies (U.S. Fish and Wildlife Service [USFWS] 2010a, 2010b). Both subspecies shelter in ground burrows, dug by themselves or by other kangaroo rats.

There are no known surviving populations of Fresno kangaroo rat, with the last capture occurring at the Alkali Sink Ecological Reserve in 1992 (USFWS 2010a). Historically, the Fresno kangaroo rat occurred within alkali-sink scrub and arid grasslands of the San Joaquin Valley Floor between Madera in Merced County to the north, and the Kings River to the south. While not currently confirmed as extinct, some populations may be yet undiscovered.

The Tipton kangaroo rat occurs within valley saltbush scrub and valley sink scrub communities. They occupy level terrains to nearly level terrains within alluvial fan and floodplain soils ranging from fine sands to clay-sized particles with high salinity. Tipton kangaroo rats are known to occur in grasslands with little to no woody shrubs. However, sparse-to-moderate shrub cover is associated with high-density populations (USFWS 2010b). Current distribution of Tipton kangaroo rat is limited to 10 major sites including NAS Lemoore (USFWS 2010b).

Within the project area, there is no habitat suitable for San Joaquin kangaroo rat occupancy, because the entirety of the area proposed for project use falls within actively managed agricultural land devoid of vegetation or burrows. Two areas that have the potential to support San Joaquin kangaroo rat were identified in the vicinity of the proposed solar PV system sites (NAVFAC SW 2015b).

- NRMA 4 is sparsely vegetated with Russian thistle (*Salsola tragus*) and narrow-leaved milkweed (*Asclepias fascicularis*), with annual grasses in the herbaceous layer. Abundant small mammal burrows consistent with use by California ground squirrels were noted within the area. In 1982, an unidentified kangaroo rat was observed in NRMA 4. Studies completed in 1993, 1998–1999, 2001, 2003, and 2004 resulted in no kangaroo rat detections in NRMA 4 (NAS Lemoore 2014a). The species may no longer exist at NRMA 4 (NAS Lemoore 2014a). NRMA 4 is located adjacent to Site E, approximately 2 miles (3.2 kilometers) from Sites B and D, and approximately 6 miles (9.6 kilometers) from Site A.
- NRMA 5 provides suitable San Joaquin kangaroo rat habitat. NRMA 5 contains all the elements considered essential to the species, namely, sufficient vegetation cover to escape from predators as well as provide a food source; land surface with hummocks to serve as burrowing sites; and soil of appropriate compactness to allow burrow construction (NAVFAC SW 2015b). San Joaquin kangaroo rats were documented within NRMA 5 as recently as 2011 (NAS Lemoore 2014a). A population of the species likely currently occupies NRMA 5. NRMA 5 is located adjacent to Site E, approximately 1 mile (1.6 kilometers) from Site B, approximately 2 miles (3.2 kilometers) from Site D, and approximately 6 miles (9.6 kilometers) from Site A.

Other Special Status Species

Other special status species potentially affected by the Proposed Action are listed in Table 3.2-2. For full species descriptions and potential occurrences at NAS Lemoore, refer to NAS Lemoore (2014a).

Table 3.2-2. Other Special Status Species with the Potential to Occur in the Project Area

Common Name	Scientific Name	USFWS/CDFW Status	Occurrence at NAS Lemoore
Western spadefoot toad	*Spea hammondii*	-/SSC	NRMA 3. Occasional sightings near areas of open or ponded water.
Tricolored blackbird	*Agelaius tricolor*	BCC/SSC	Administration and Housing Area, Operations Area and adjacent agricultural fields.
Burrowing owl	*Athene cunicularia*	BCC/SSC	Natural and mowed grasslands in the Operations Area and NRMAs. Fallow agricultural fields.
Swainson's hawk	*Buteo swainsoni*	BCC/T	Forages over agricultural fields, preying on small mammals. Nests in trees.
Mountain plover	*Charadrius montanus*	BCC/SSC	Operations Area and adjacent agricultural fields.
Snowy plover	*Charadrius nivosus*	BCC/SSC	Evaporation ponds.
Olive-sided flycatcher	*Contopus cooperi*	BCC/SSC	NRMAs.
Willow flycatcher	*Empidonax traillii*	BCC/E	Documented during surveys for the 2001 INRMP. Not observed since.
Peregrine falcon	*Falco peregrinus*	BCC/FP	Foraging in agricultural fields.
Greater sandhill crane	*Grus canadensis tabida*	-/T	Observed flying over the Operations Area.
Loggerhead shrike	*Lanius ludovicianus*	BCC/SSC	Throughout the Station: motocross track, Operations Area, NRMAs, Landfill, Karen Mechem Park, evaporation ponds.
Long-billed curlew	*Numenius americanus*	BCC/WL	NRMAs and agricultural fields.
Western mastiff bat	*Eumops perotis*	-/SSC	Primarily NRMAs.
Western red bat	*Lasiurus blossevillii*	-/SSC	Recorded near agricultural area by a ditch and along a tree-lined canal.
Tulare grasshopper mouse	*Onychomys torridus tularensis*	-/SSC	Documented as present in the 2001 INRMP. Not observed since.
American badger	*Taxidea taxus*	-/SSC	Burrows and tracks in NRMA 1; NRMA 5.

Sources: California Natural Diversity Database 2015; NAS Lemoore 2014a.

Notes: BCC = Bird of Conservation Concern; CDFW = California Department of Fish and Wildlife; E = Endangered; FP = Fully Protected; SSC = Species of Special Concern; T = Threatened; WL = Watch List; - = no status.

3.2.3 ENVIRONMENTAL CONSEQUENCES

3.2.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Under Alternative 1, construction activities at Sites A and B would have no impact on native and/or natural plant communities, as all of the potential solar PV system sites are located in active agricultural land. No tree removal would be required for construction of the solar PV system sites; trees associated with windbreaks would not be removed. Therefore, there would be no impacts to native or natural plant communities.

Construction activities at Sites A and B would likely have minimal impacts on wildlife populations. Intensively used agricultural lands on the proposed solar PV system sites are not suitable for most wildlife and the majority of the surrounding lands would continue to be used for agricultural purposes. Wildlife in

the vicinity of construction activities would be exposed to auditory and visual disturbance from human presence and construction equipment. However, the potential solar PV system sites are all in heavily used agricultural areas that regularly experience such disturbance from agricultural practices, including the use of pesticides and heavy machinery, and provide relatively little wildlife resources. Use of construction equipment and vehicles could potentially crush and/or injure wildlife, but because of the lack of suitable wildlife habitat in the potential solar PV system sites, the likelihood of such impact is relatively low. Mobile species, such as birds and mammals, would leave the sites during construction and migrate to other more suitable locations.

To avoid impacts to ground-nesting birds, such as burrowing owls and killdeer (*Charadrius vociferus*), a survey for active nests or nesting activity would be conducted before construction should clearing and grubbing occur during the nesting season (typically March 15 to August 31). If the survey finds active nests, construction personnel would either avoid the nests until fledglings have left, or permitted personnel would relocate the eggs and chicks following all federal and state regulations and permitting requirements.

Special status wildlife species would be subject to the same impacts described in the above paragraph. It is highly unlikely that any special status species would be present in the potential solar PV system sites during construction activities. To avoid impacts to burrowing owls that may potentially occur and/or nest in the project area, a pre-construction survey would be conducted as described above.

Operation

Following construction and during operation, ground cover and other vegetation beneath and near the panels would be trimmed periodically and likely controlled with herbicides to ensure that vegetation does not obscure or shadow the panels. Because of the historical agricultural use of the potential solar PV system sites, the vegetation requiring mechanical and/or chemical control would primarily be non-native herbaceous species. Therefore, there would be no impacts to native or natural plant communities.

Operation of the solar PV system would not result in a loss of foraging, nesting, or roosting habitat for wildlife, including special status species, as all of the potential solar PV system sites have been intensively used for agricultural purposes and do not currently provide such habitats. Animal burrows, including those used by burrowing owls, do not currently exist in the agricultural parcels because of the regular ground disturbance that occurs. Therefore, there would be no impact to such features.

Chain link fencing around the potential solar PV system sites would present barriers to wildlife overland movement, especially to larger species. It is expected that smaller species, such as small rodents, would be able to fit through the chain link fencing. However, larger animals would likely be able to move around the fences without expending energy to the point of affecting major life functions. In addition, the agricultural fields already present barriers to movement because of their lack of habitat and dense crops. Still, the solar panels themselves and the fencing surrounding the solar PV arrays and stations would alter the local environment to the point that hiding spots, preying strategies, and food availability would likely be changed.

Under Alternative 1, the addition of approximately 2 miles (3.2 kilometers) of new 230-kV overhead transmission line from Site A to the proposed switching station for interconnection to the existing PG&E 230-kV overhead line has the potential to adversely affect bird species, including special status birds. The new line would be used for perching, but would also represent a collision hazard for birds, especially during periods of low visibility. However, overhead transmission lines are already abundant in the vicinity of the project area and are part of the local environment. In addition, all transmission towers,

poles, and lines would be designed and constructed in accordance with the guidelines in Avian Power Line Interaction Committee (2006 and 2012), or the most current version of the guidelines available at the time of construction, to minimize collision and electrocution hazards of migratory birds from transmission lines.

Bird and bat mortalities have been documented at utility-scale solar projects in southern California (Kagan et al. 2014; Bureau of Land Management 2014). Three main causes of bird mortality have been documented at solar energy facilities in southern California: impact trauma, solar flux, and predation (Kagan et al. 2014). Solar flux has been identified as a major threat to bird species at solar power towers that use mirrors to focus solar energy to a tower. However, in Kagan et al. (2014), of 61 bird deaths analyzed at a solar PV system, solar flux was not documented as a cause of death in a single case, as solar PV systems do not create temperatures high enough to scorch birds that fly over.

Impact trauma was the leading cause of bird death documented at a single PV site in southern California in 2014 (Kagan et al. 2014). A large proportion of birds killed at utility-scale solar projects die from striking project components because panels are oriented vertically, or, from apparently mistaking the solar PV arrays for water (Kagan et al. 2014). "Lake effect" is commonly used to describe the phenomenon whereby birds and their insect prey can mistake a reflective solar facility for a water body because they share several characteristics, namely large, smooth, dark surfaces that reflect horizontally polarized sunlight and skylight (Upton 2014).

Many insects rely on polarized light as a cue to indicate the presence of lakes and rivers (Horvath et al. 2010). Aggregations of flying insects at solar PV panels likely attract insect-eating birds and/or bats, thereby increasing the likelihood of bird/bat collisions with solar PV panels (Kagan et al. 2014). Although solar PV panels are inherently absorptive (i.e., non-reflective), they do reflect horizontally polarized light similar to the way a lake's smooth, dark surface horizontally polarizes reflected sunlight and skylight. This feature may confuse birds that use polarized light for orientation or behavioral cues (Desert Renewable Energy Conservation Plan Independent Science Advisors 2010). Lake effect seems to be most influential when panels or heliostats are oriented horizontally, collectively forming a smooth, continuous surface (Kagan et al. 2014). Visual cues such as contrasting or ultraviolet-reflective dividing strips placed no farther than 11 inches (28 centimeter) from each other on solar PV panels may break up the reflection and reduce attraction of aquatic invertebrates and insects.

Estimating the number of birds that may be injured or killed due to lake effect from implementation of Alternative 1 is impossible at this time because of the lack of studies on this phenomenon as it relates to solar projects. Under Section 1502.22 of CEQ Regulations for Implementing NEPA, "when an agency is evaluating reasonably foreseeable … adverse effects on the human environment … and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (40 CFR § 1502.22). While the collective evidence suggests that lake effect does contribute to avian mortalities on solar PV projects, no scientifically rigorous studies have been conducted to test the validity of this conclusion. However, based on the available data, utility-scale solar power projects have the potential to cause some mortality to birds and bats. Efforts to minimize potential lake effect impacts to birds and bats from the implementation of Alternative 1 can still be achieved by using the best available science and appropriate design specifications during construction.

While acknowledging the incompleteness of the current data on the topic, this analysis concludes that any potential lake effect-related bird strikes at the proposed solar PV array location(s) would not rise to the level of a significant impact for purposes of NEPA analysis. Therefore, under Alternative 1, no

population-level adverse effects to birds or bats as a result of mortalities related to potential "lake effect" of solar PV panels would occur.

As discussed in Table 3.0-1, regular monitoring of the solar PV system sites would be conducted to assess any potential impacts the solar PV array might be having on wildlife and special status species, including visual reconnaissance of dead and/or injured species. The results of the monitoring surveys would be reported to the USFWS and the California Department of Fish and Wildlife (CDFW) for comments and recommendations to minimize impacts from continuing operations.

It is likely that use of the agricultural parcels for solar PV system operation would impart beneficial effects on some wildlife, including certain special status species. In their current state, the agricultural fields are regularly planted with dense crops, the soils are highly disturbed, and little wildlife habitat or potential for wildlife use is available. It is expected that ground- and/or burrow-nesting birds, mammals, and other species would potentially use the solar PV arrays as nesting and/or foraging habitat.

Under Alternative 1, the likelihood of impacts to federally listed species would be extremely low because no species or suitable habitat were observed during biological field surveys, nor are they known to occur at the proposed project site (NAVFAC SW 2015b). Regular monitoring of the solar PV arrays would be conducted to assess the potential use of the project area by wildlife, including federally listed species. Results of the surveys would be provided to USFWS and CDFW for comments and recommendations to minimize impacts from continuing operations.

Decommissioning

Decommissioning of the solar PV systems would have similar impacts to construction activities. Work crews, vehicles, and equipment would require access to the sites for removal of all solar PV system materials. No native or natural plant communities would be impacted by decommissioning activities, as bare ground and/or non-native herbaceous plants would be the dominant groundcover.

During operation of the solar PV system, certain species may become established in the habitats in and/or adjacent to the project area, including certain special status species, therefore, a biological monitor would survey the solar PV system sites for denning mammals and/or nesting birds before decommissioning activities. If special status nesting or denning animals, including migratory birds, are found to occur in the solar PV system sites, they would be allowed to leave the sites on their own accord or would be passively relocated during the avian non-breeding season (September – February) before the start of decommissioning activities. If federally listed species are found to occur in the solar PV system sites before the start of decommissioning activities, then the USFWS would be notified and no actions would be taken until necessary measures are agreed upon by the Navy, the private partner, and the USFWS.

Summary

The current agricultural parcels provide little benefit to biological resources. Construction and operation of the solar PV system would not benefit native habitats. Sites A and B are located within the potential renewable energy area identified in the INRMP. The environmental protection measures listed in Table 3.0-1 would be implemented to lessen potential impacts to biological resources. Therefore, implementation of Alternative 1 would not have a significant impact to biological resources.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, impacts to biological resources would be the same as generally described for those associated with Alternative 1, except at a smaller scale. Under the Alternative 1 Option, up to

approximately 145 acres (59 hectares) of agricultural land in Site A would be converted to solar PV arrays. All environmental protection measures listed in Table 3.0-1 would be applicable and required under the Alternative 1 Option.

Summary

The current agricultural parcels provide little benefit to biological resources. Construction and operation of the solar PV system would not benefit native habitats. The environmental protection measures listed in Table 3.0-1 would be implemented to lessen potential impacts to biological resources. Therefore, implementation of the Alternative 1 Option would not have a significant impact to biological resources.

3.2.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Under Alternative 2, impacts to biological resources associated with construction, operation, and decommissioning would be as generally described for those associated with Alternative 1. Potential differences in impacts to biological resources under Alternative 2, as compared to Alternative 1, are described below.

Sites A, B, D, and/or E

Construction

Construction impacts at Sites A and B under Alternative 2 would be identical to those described for Alternative 1.

Construction impacts at Site D, being entirely composed of agricultural parcels and not adjacent to any NRMAs, would be as generally described for Sites A and B under Alternative 1.

Construction impacts at Site E would be similar to those described for Sites A and B under Alternative 1, as Site E is entirely composed of agricultural parcels. However, Site E is immediately adjacent to NRMAs 4 and 5 (see Figure 3.2-4). Although no native habitats would be impacted in NRMAs 4 and 5, there is a higher likelihood of wildlife, including special status species, being impacted by construction and associated auditory and visual disturbances than at the other sites. The San Joaquin kangaroo rat was documented in NRMA 5 as recently as 2011 (NAS Lemoore 2014a), and habitat for the species currently occurs in the NRMA (NAVFAC SW 2015b). Therefore, a population of San Joaquin kangaroo rat likely currently occupies NRMA 5. As Site E is immediately adjacent to NRMA 5, the potential exists for San Joaquin kangaroo rat to use Site E for overland dispersal or movement. However, as there is no suitable habitat, a lack of burrows within Site E, and the species is primarily nocturnal, the species would not be expected to be present during daytime construction activities. To avoid potential impacts to San Joaquin kangaroo rat and other federally listed species, pre-construction focused surveys would occur at Site E, as described in Table 3.0-1.

Operation

Operation impacts at Sites A and B under Alternative 2 would be identical to those described for Alternative 1.

Operation impacts at Site D, being entirely composed of agricultural parcels and removed from any NRMAs, would be as generally described for Sites A and B under Alternative 1.

Operation impacts at Site E would be as generally described for Sites A and B under Alternative 1. However, because Site E is immediately adjacent to NRMAs 4 and 5 (see Figure 3.2-4), there is a higher

likelihood of wildlife, including special status species, potentially occurring in the site during the operation phase of the Proposed Action. As described in Table 3.0-1, regular monitoring of the solar PV sites would be conducted to analyze the occurrence and/or use by wildlife of the sites. If federally listed species were found to occur in the solar PV system sites during any phase of the project, NAS Lemoore and the private partner would consult with the USFWS to address future management of the solar PV system.

Decommissioning

Decommissioning impacts at Sites A and B under Alternative 2 would be identical to those described for Alternative 1. In addition, decommissioning impacts at Site D would be as generally described for Sites A and B under Alternative 1, as the site is entirely composed of agricultural parcels and not adjacent to any NRMAs.

Decommissioning impacts at Site E would be as generally described for Sites A and B under Alternative 1. However, because Site E is immediately adjacent to NRMAs 4 and 5 (see Figure 3.2-4), there is a higher likelihood of wildlife, including special status species, potentially occurring in the site during the decommissioning phase of the Proposed Action. As described in Table 3.0-1, the solar PV system sites would be surveyed for wildlife, including special status species, before decommissioning activities. If federally listed species were found to occur in the solar PV system sites, NAS Lemoore and the private partner would consult with the USFWS before decommissioning activities.

Summary

The current agricultural parcels provide little benefit to biological resources. Construction and operation of the solar PV system would not benefit native habitats. Sites D and E are not located within the potential renewable energy area identified in the INRMP. The environmental protection measures listed in Table 3.0-1 would be implemented to lessen potential impacts to biological resources. Therefore, implementation of Alternative 2 would not have a significant impact to biological resources.

3.2.3.3 No Action Alternative

Under the No Action Alternative, the Navy would not enter into an agreement with a private partner to construct and operate a solar PV system at NAS Lemoore. The Navy would maintain operations at the status quo and continue to use the project area for agricultural purposes. Therefore, the No Action Alternative would not have a significant impact to biological resources.

3.3 Public Health and Safety

3.3.1 Definition of Resource

This section includes a description of issues that could potentially affect the safety of residents and employees at the proposed project site. Specifically, public health and safety issues associated with on-going agriculture practices and flight safety.

3.3.2 Affected Environment

3.3.2.1 Flight Safety: Airspace Penetration, Reflectivity, and Interference

Clear Zones (CZs), areas immediately beyond the ends of runways that have the greatest potential for the occurrence of aircraft accidents, should remain undeveloped. The DoD Unified Facilities Criteria 3-260-01 2008 generally defines the CZ as a graded area extending directly off the end of the runway and the remainder of the CZ as land use control areas. The graded area extends directly off the end of the runway

for a distance of 1,000 feet (304.8 meters) and must be clear of all above ground obstructions that an aircraft could encounter in the event of a mishap on departure or arrival. The CZ extends an additional 2,000 feet (609.6 meters) and is trapezoidal in shape for Navy Class B Runways. DoD Instruction 4165.57, *Air Installations Compatible Use Zones* and the Chief of Naval Operation's Air Installations Compatible Use Zones 11010.36C provide detailed land use compatibility guidance within the CZs and strongly recommends restricting land use within the CZ be limited to open lands or agriculture without livestock. A land use such as an energy facility, therefore, must not require extensive and long-duration human habitation in the area, and any facility must not extend upward into the glide slope. In addition, the FAA has established safety requirements for renewable energy projects near public use airports. As detailed in the FAA *Technical Guidance for Evaluating Selected Solar Technologies on Airports* (2010), proposed projects may be subject to formal FAA review for potential airspace penetration, reflectivity, and communication systems interference. Further, solar projects at airports must submit a Notice of Proposed Construction Form 7460 under Federal Airspace Regulation Part 77 to the FAA to ensure the project does not penetrate the imaginary surfaces around the airport or cause radar interference or glare (FAA 2010). Figure 2-1 depicts the CZs and APZs for NAS Lemoore.

NAS Lemoore maintains detailed emergency and mishap response plans to react to an aircraft or ground accident, should one occur. These plans assign agency responsibilities and prescribe functional activities necessary to react to major mishaps, whether on or off base. Response would normally occur in two phases. The initial response focuses on rescue, evacuation, fire suppression, safety, elimination of explosive devices, ensuring security of the area, and other actions immediately necessary to prevent loss of life or further property damage. The initial response element usually consists of the Fire Chief, who would normally be the first On-scene Commander, fire-fighting and crash-rescue personnel, medical personnel, security police, and crash-recovery personnel. The second phase is the mishap investigation, which is comprised of an array of organizations whose participation would be governed by the circumstances associated with the mishap and actions required to be performed (DoD 2011a).

A substantial amount of research has recently been conducted on energy technologies and their safety impacts on airports and aviation. All of the proposed NAS Lemoore solar PV system sites present safety and mission compatibility concerns regarding use of solar technologies. As previously mentioned, the placement of solar projects near an airfield must assess three factors: airspace penetration, reflectivity, and interference with communications systems. For airspace penetration, objects or facilities cannot extend into the "imaginary surfaces" that define the navigable airspace. Such surfaces are closest to the ground nearest the runway and become higher with distance. Because solar PV projects, generally, extend only a few feet above the ground, the FAA has concluded that solar PV arrays can be located relatively close to a runway without penetration issues. Denver International, Fresno Yosemite, Bakersfield Meadows Field, and Oakland International all have ground solar panels in proximity to active runways, while numerous other large airports (e.g., San Francisco International, Houston George Bush, and Boston Logan) have roof-mounted systems (FAA 2010).

In the 2011 Airport Cooperative Research Program's *Investigating Safety Impacts of Energy Technologies on Airports and Aviation* (Barrett 2011), FAA tower personnel and airport managers from several airports were interviewed for anecdotal information about reflectivity from operating solar PV systems at airports. Two notable sites are Meadows Field in Bakersfield, California, which hosts an 800 kilowatt solar facility, located approximately 250 feet (61 meters) from the runway taxiway, and Fresno Yosemite International Airport in Fresno, California, where there is a 2 MW facility in the Runway Protection Zone (the civilian equivalent of the military APZ) near the end of one of the runways. The Meadows Field solar project has been in operation since January 2009, whereas Fresno's project has been operational since

June 2008. In both cases, the air traffic controllers stated that glare has not affected their operations and they had not received complaints from pilots about glare being a problem (Barrett 2011).

Reflectivity problems preclude the use of several other solar energy technologies at the NAS Lemoore sites. These technologies use mirrors to focus sunlight onto a specified surface and produce substantial reflectivity (up to 90 percent of the sunlight received), thereby, posing a glare hazard that may blind or distract pilots on approach to the runway (FAA 2010). The FAA recommends, therefore, against placing reflective technology (i.e., Concentrated PV Arrays [Fields], Concentrated Solar Power, Parabolic Trough, Linear Fresnel Reflectors and Dish Engine) within airport boundaries. In contrast, the FAA study (2010) notes that solar PV employs glass panels designed for efficiency to maximize absorption and minimize reflection. Solar PV panels consist of dark materials that absorb light, and the protective glass cover is coated with an anti-reflective film (FAA 2010).

Such panels reflect as little as two percent of the incoming sunlight depending on the angle of the sun and as such pose no hazard to aviation. Flat-plate solar PV panels are manufactured to absorb rather than reflect sunlight, and can be placed low to the ground so as not to encroach on airfield operations (Figure 3.3-1). As a result of the FAA evaluation, flat-plate PV comprises the only viable and reasonable technology option for a solar PV system at NAS Lemoore.

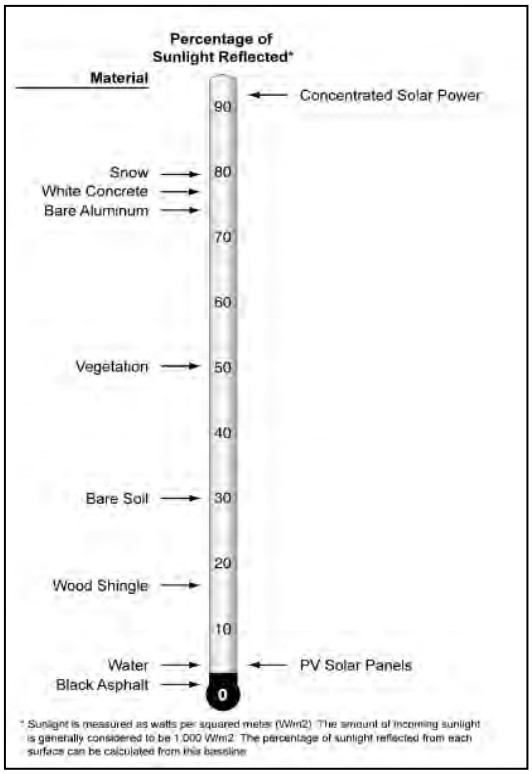


Figure 3.3-1. Reflectivity Scale

With growing numbers of solar energy installations throughout the U.S., glare from solar PV arrays and concentrating solar systems has received increased attention as a real hazard for pilots, air-traffic control personnel, motorists, and others. Together with the FAA, Sandia National Laboratories developed a web-based interactive tool, Solar Glare Hazard Analysis Tool, that provides a quantified assessment of (1) when and where glare would occur throughout the year for a prescribed solar installation, and (2) potential effects on the human eye at locations where glare occurs.

Communications interference can result from solar energy technologies. Potential impacts increase with larger structure size (and cross section) and shorter distance to radar facilities. Transmission lines can also cause interference resulting from electromagnetic signals issuing from the lines. Typically, concern about electromagnetic release is confined to 345 kV or greater lines, with NAS Lemoore proposing less than 345 kV lines.

Communication systems interference includes negative impacts on radar, navigational aids, and infrared instruments. While Global Positioning Systems that communicate with satellites and limit the need for traditional surveillance radar are being employed more widely and are expected to be the fundamental component of future navigational systems, the integrity of traditional radar facilities remains central to the current operational environment (Barrett 2011).

Radar interference can occur when objects are located too close to a radar antenna and reflect or block the transmission of signals between the radar antenna and the receiver. Navigational aids can also be impacted, but they include passive systems with no transmitting signals. Impacts on infrared communications can result because the solar collectors and receivers can retain and emit heat, and the

heat they release can be picked up by infrared communications in aircraft causing an unexpected signal (Barrett 2011).

3.3.2.2 Bird Aircraft Strike Hazard

NAS Lemoore's historical annual reported average of six bird or wildlife strikes is low; however, the volume of air traffic and abundance of birds surrounding the airfield suggest a potential for increased bird strikes (NAS Lemoore 2012a). Recent data from 2014 reveals a total of 37 bird strikes at NAS Lemoore from January to October 2014 (USDA 2014b).

Several bird species represent Bird/Wildlife Aircraft Strike Hazard (BASH) potential at NAS Lemoore and include European Starlings, blackbirds, Horned Larks, Red-tailed Hawks, Burrowing Owls, Barn Owls, Long-billed Curlews, Mourning Doves, and to a lesser extent, hawks, herons, egrets, sparrows and finches. Coyotes and feral dogs also present a significant risk to flight operations (NAS Lemoore 2012a).

To identify areas of concern and assist in prevention or reduction of aviation hazards from birds and other wildlife, NAS Lemoore has established a Bird Working Group and published a local BASH plan. These BASH procedures involve numerous NAS Lemoore aviation, safety, and environmental personnel and include restrictions when adverse conditions to air operations occur.

3.3.2.3 Agriculture Practices and Previous Use

Sites A, B, D, and E are located on land that has historically been utilized for agriculture. As such, pesticides have been used to control noxious weeds, rodents, insects, and other pests on the sites. The soil quality and pesticide/herbicide application for the agricultural outlease areas have been managed through a Soil and Water Conservation Plan for each individual lease, in accordance with the Soil and Water Resources Conservation Act of 1977. In addition, the NAS Lemoore Integrated Pest Management Plan contains pest management requirements and guidelines for complying with the Federal Insecticide, Fungicide and Rodenticide Act; state and local laws; and DoD and Navy regulations. Current agricultural leases require soil testing every other year, beginning the first year of the lease. Compliance with NAS Lemoore's Soil and Water Conservation Plan and Integrated Pest Management Plan helps maintain soil, water, and air quality by managing pesticide use both in terms of quantity and type of pesticide administered (NAS Lemoore 2014a).

Agricultural practices may also increase exposure risk to coccidioidomycosis, commonly called "Valley Fever." Valley Fever is a non-communicable fungal infection that commonly results from the inhalation of soil-dwelling spores. The fungus is commonly found in semi-arid areas of California, Arizona, New Mexico, Nevada, and Texas. The San Joaquin Valley and southern Arizona have the highest levels of fungal spores in the United States. Valley Fever can be a severe illness and result in disability due to pulmonary involvement and disseminated disease; however, most (60 percent) infections are asymptomatic. Symptomatic cases present with flu-like symptoms, and an individual is generally immune to subsequent infections after recovery (Das et al. 2012).

Valley fever diagnosis in the San Joaquin Valley and at NAS Lemoore appears to vary seasonally, with the highest incidence being in December and January, and the lowest in August and September. The seasonality reflects the spores favoring rainfall after drought, followed by dry, windy weather conditions (Lee and Crum-Cianflone 2008). While there is association between infection and drought and rainfall patterns, soil-disrupting activity, such as digging in areas populated by spores, is the most important determinant of Valley Fever incidence in California. This is reflected when looking at the activities most susceptible to infections, notably mining, agriculture, and construction (Das et al. 2012).

Between 2002 and 2006, the number of patients diagnosed with Valley Fever at the NAS Lemoore Hospital rose from 4 in 2002 to 27 in 2006; the total number of cases for the period was 82. Twenty percent of those infected required hospitalization. The Kings County Public Health Department reports similar increasing trends in the local civilian population (Lee and Crum-Cianflone 2008).

Exposure risk reduction requires a multi-faceted approach. Personal protective equipment, including respirators, is recommended. However, Das et al. recognize that this is not only among the least effective measures for preventing exposure, it is also often unreasonable to use in general construction. Instead, dust abatement measures, including soil wetting, combined with policy changes such as not performing construction activities on dry, windy days is recommended. Cleaning of equipment and vehicles before leaving the construction site is recommended to minimize exposure through resuspended dust (Das et al. 2012).

Based on information received during the public scoping period (Appendix A), there may be a decommissioned underground pipeline located within and adjacent to the project area (Chevron Environmental Management Company 2015).

3.3.2.4 Surface Danger Zones

All outdoor firing ranges must maintain buffers called Surface Danger Zones (SDZs) around their perimeters to minimize the threat from projectile and fragment ricochets to surrounding land uses. Land uses within the SDZ are restricted to protect Navy personnel as well as the public. SDZs associated with two currently inactive recreational skeet ranges are located in the southwest portion of Site B; an SDZ associated with a rifle range occurs in the southern portion of Site E; and two SDZs associated with two shotgun ranges are located to the south of Site E (Figure 3.3-2) (NAS Lemoore 2014a).

3.3.3 ENVIRONMENTAL CONSEQUENCES

3.3.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

The construction contractor would develop a health and safety plan consistent with Occupational Safety and Health Administration (OSHA) standards and regulations, including EM 385-1 and OSHA's Electric Power Generation, Transmission and Distribution Standard, 29 CFR 1910.269 (*Solar System Safe Work Practices and Worker Training Requirements*). The plans and procedures would specifically outline health and safety measures related to: solar PV systems; overhead utility lines; aircraft operations; fall protection (competent person training); electrical - lockout/tagout (shock and electrocution); crane and hoist safety; ladder safety; heat stress; personal protective equipment; use of hazardous chemicals; risk of fire (remove fuels and burnable materials from work site); ensure clear marking of solar system components with appropriate warnings; dust control - air monitoring and respiratory hazards; coordinate with the Morale, Welfare, and Recreation Department to secure recreational skeet range activities during construction; and provide installation safety personnel with copies of all relevant American Heart Association training/medical exams. In addition, the health and safety plan would evaluate potential exposures by operators and construction workers to the chemicals of potential concern (i.e., organochlorine pesticides), as well as to minimize Valley Fever exposure risk.

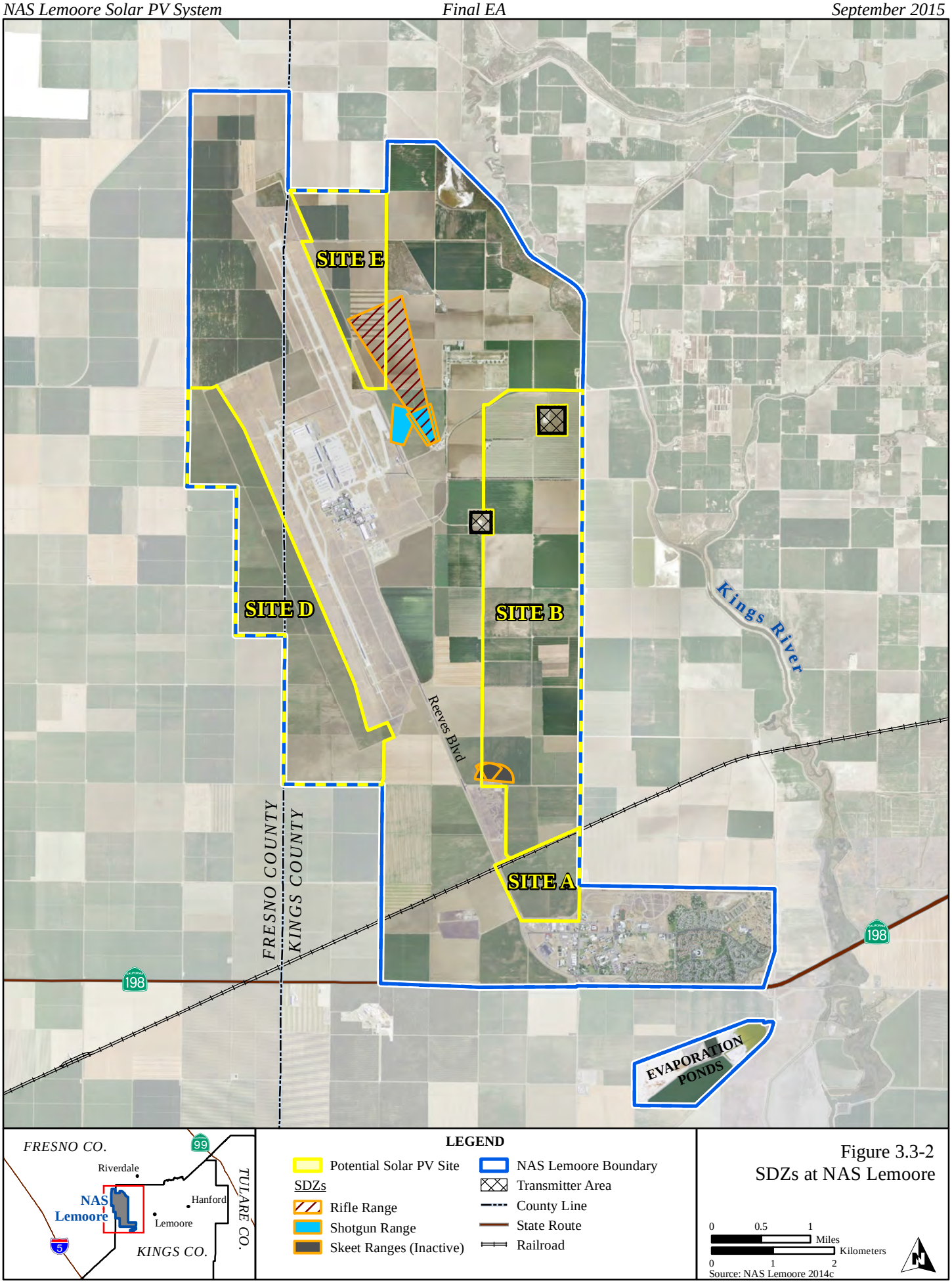


Figure 3.3-2
SDZs at NAS Lemoore

As discussed in Section 3.7.2, the project area is in non-attainment for particulate matter, and therefore dust abatement is required for all activities within the air basin. These measures would also serve to reduce Valley Fever exposure risk.

The solar PV system would be compatible with NAS Lemoore's mission and be below the 150-foot (45-meter) airfield height restriction (i.e., imaginary surface restriction).

Construction activities that have a potential to generate substantial amounts of dust (e.g., initial site grading) would be first coordinated and scheduled with NAS Lemoore Operations to avoid potential impacts to aviation training.

SDZs associated with the currently inactive skeet ranges overlap a portion of Site B; if the skeet ranges are activated, the skeet ranges would be temporarily shut down during construction activities in Site B to avoid potential impacts to worker safety.

There is a possibility that, during solar PV system construction activities, construction personnel could encounter a buried oil pipeline (deactivated 60 years ago) which was coated with coal tar and asbestos-containing material. Based on the information provided (Chevron Environmental Management Company 2015) it appears there is little to no concern related to potential soil contamination, however, there is a potential concern that disruption of the pipeline could potentially dislodge asbestos fibers from its protective coating. Accordingly, in the event the pipeline is encountered, measures would be taken to avoid release of and otherwise manage any asbestos-containing material in accordance with applicable laws and regulations.

Operation

Airspace Penetration and Interference

Alternative 1 would result in the placement of solar PV panels at Sites A and B, which are located east and southeast of both active NAS Lemoore runways (see Figure 2-1). As previously mentioned, the FAA requires assessment of three factors for solar projects near airports: airspace penetration, reflectivity, and interference with communications systems (FAA 2010). Considering these factors and the proximity of the NAS Lemoore runways, the flat-plate solar PV array technology is compatible for use at Alternative 1.

The FAA has concluded that solar PV panels can lie relatively close to a runway without penetration issues due to solar PV configuration options that extend only a few feet above the ground. Upon completion, the highest point of the solar PV array at Sites A and B would be no higher than approximately 15 feet (5 meters) above the ground surface. Panels nearest the runway may be pitched close to flat to help prevent impingement of airspace. Placement of new transmission lines on tall steel or wooden poles from Sites A and B to the existing PG&E 230-kV transmission lines would lie outside the CZ and APZs of both runways and would not penetrate the airfield airspace or increase the minimum obstacle clearance altitude.

In their study, the FAA also concluded that due to their low profiles, solar PV systems present minimal risk of interfering with radar transmissions (FAA 2010). Electromagnetic wave emissions from solar panels do not extend over distances sufficient to interfere with radar signal transmissions. Similarly, in the Airport Cooperative Research Program's investigation of communications systems inference, electrical interference has not been a concern found by the FAA during airspace reviews (Barrett 2011).

Solar PV projects at Palmdale and Blythe submitted information to the California Energy Commission on electromagnetic frequencies that would be emitted by electrical equipment associated with their

projects—both very close to aviation facilities. The base frequency from Blythe is 60 hertz, while the Air Force in Palmdale employs 108-135 megahertz for very high frequency and 225-400 megahertz for ultra-high frequency (Barrett 2011). Potential interference could also be precluded with building setbacks of 250 or 500 feet (76.2 or 152.4 meters) acting as a protective buffer from primary radar systems.

Glint and Glare Hazard

Glint and glare from solar PV facilities are potential concerns for on-base aviation operations due to the potential for ocular impacts on pilots and air traffic controllers, which could affect air traffic safety. Glint and glare would not be a concern for motorists because visual barriers would be used to screen the solar PV facilities from sensitive receptors where applicable.

The amount of light reflected off a solar panel surface depends on two primary factors: the amount of sunlight hitting the surface and the reflectivity of the surface (FAA 2010). The solar panels used for the proposed action would be dark blue or black in color, with minimal light reflection. As discussed in the FAA's *Technical Guidance for Evaluating Selected Solar Technologies on Airports* (2010), today's solar PV panels are constructed of dark, light-absorbing materials and typically covered with an anti-reflective coating. As a result, they reflect as little as two percent of the incoming sunlight, depending on the angle of the sun (FAA 2010). In addition to the potential for glint and glare from the panel surfaces, other metal components that are part of solar PV facilities, such as the support poles and inverterboxes that house the electrical equipment, may reflect sunlight in the form of glint and glare.

From a study the FAA conducted of pilots and air traffic controllers at six airports where solar facilities have been operational for one to three years, the FAA concluded that significant glare is not occurring during operation of the airports, or, if it is occurring, it is not creating a negative effect (FAA 2010). Another recent study, completed by Nellis Air Force Base and Nevada Energy, found that, under the worst-case scenario, a slight potential would exist for glint resulting from reflected direct sunlight off of flat-plate solar PV modules and that this glint is similar to what would result off of water and less than that produced by weathered, white concrete or snow. The study concluded that pilots would be able to mitigate this worst-case scenario glint by using glare shields and sunglasses, which would reduce light reflection by approximately 80 percent and render any reflected sunlight from solar panels insignificant (U.S. Air Force 2011).

A recent National Renewable Energy Laboratory (NREL) study of the impacts of siting solar PV systems at airports and airfields (NREL 2014) cites current policy and guidance, including the potential for ocular impacts to pilots from glint and glare from the solar facilities. In addition to the FAA 2010 guidance discussed above, which is under review, two other recent documents address glint and glare with respect to solar facilities sited at airports. In *Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports* (78 FR 63276) (Federal Register 2013), the FAA and Department of Energy established a standard for measuring the ocular impact of glint and glare from reflective surfaces, as well as thresholds for when glint and glare would impact aviation safety. The solar glare hazard analysis plot and associated Solar Glare Hazard Analysis Tool (SGHAT) are the methods recommended in the interim policy. The policy also encourages the use of the guidance and tools for non-federally obligated airports or solar energy systems adjacent to airports.

The DOD memorandum "Glint and Glare Issues on or Near Department of Defense Aviation Operations" (Conger 2014) similarly acknowledges the FAA's conclusion that glint and glare from some solar energy systems could result in ocular impact to pilots and addresses DOD requirements for assessing it (relative to military aviation operations and mission compatibility) using the SGHAT and other methods. The

DOD memorandum addresses solar PV projects that are within two nautical miles (2.3 statute miles) of military aviation operations, whether those projects are within or outside of installation boundaries.

The SGHAT is used to calculate the potential for after-image and eye damage, which is divided into three categories: (1) potential for permanent eye damage (retinal burn), (2) potential for temporary after-image, and (3) low potential for temporary after-image. The FAA interim policy (78 FR 63276) (Federal Register 2013) states that a solar energy system constructed at a federally obligated airport must meet the following standards:

1. No potential for glint or glare in the existing or planned Airport Traffic Control Tower cab, and
2. No potential for glare or low potential for after-image along the final approach path for any existing landing threshold or future landing thresholds as shown on the current FAA-approved airport layout plan. The final approach path is defined as 2 miles from 50 feet above the landing threshold using a standard three degree glidepath.

However, based on Office of the Secretary of Defense (OSD) guidance, the determination of glint/glare risk and its acceptability is at the discretion of the Navy. In particular, the base and it tenant commands with concurrence coming from the installation commanding officer.

NREL completed an assessment of potential glare impacts of the proposed action on aviation operations at NAS Lemoore (Reeves Field) using the SGHAT. The assessment analyzed single-axis tracking arrays (oriented north-south with zero axis tilt and 45-degree rotation east-to-west) on four land parcels (A, B, D, and E). Analysis was completed with respect to the Air Traffic Control Tower and various final landing approaches used at NAS Lemoore. All this was done in close consultation with the Air Operations Staff at NAS Lemoore.

Results for any of the proposed sites (A, B, D, and E) indicated no glare would occur to the Air Traffic Control Tower and that glare with a low-potential for after image may affect small sections of the landing pattern, specifically flight occurs immediately adjacent to or over the PV systems modeled at each site. All results were within acceptable levels per FAA policy (FAA 2010) and OSD guidance (Conger 2014). The results were presented to the installation commanding officer and the air operations staff, with emphasis on parcels A and B (as sites D and E are not currently considered part of the preferred development pathway).

A phased construction approach is recommended where all of parcel A and sections of the southern third of parcel B would be developed as part of Phase I. A single-axis tracking PV system built in this area would result in no glare to any of the final landing approaches (or the Air Traffic Control Tower) at NAS Lemoore.

As part of the project siting and approval process for the solar PV facilities at NAS Lemoore, the Navy and the developer might be required to "request FAA review and approval to depict certain proposed solar installations before construction begins" and "notify the FAA of its intent to construct any solar installation by filing FAA Form 7460-1," if applicable according to the FAA interim policy (Federal Register 2013). The Navy and the developer would coordinate with the FAA regarding the solar PV designs selected for the sites and any requirements for further evaluating glint and glare for air traffic.

The installed panels are planned to consist of dark-colored and light-absorptive materials, which would lessen any impacts. Certain measures could be used to further minimize impacts from glint and glare, such as optimizing panel placement (both in the direction the panels face and the tilt of the panels) to reduce glint and glare, the use of anti-reflective coatings on the solar panels, and the use of matte finishes

and dark paints on metal surfaces where feasible. Therefore, there would be no significant health and safety impacts from implementation of Alternative 1.

Bird Aircraft Strike Hazard

With the recent increase of solar PV arrays, particularly near airfields, little data exist on BASH potential with regard to solar PV arrays. However, a recent landmark research paper compared bird use of solar PV arrays to that of nearby airfield grasslands to determine whether solar PV arrays receive greater use by birds and thereby, adversely affecting aviation safety (DeVault et al. 2014). The year-long study considered 5 U.S. locations where solar PV arrays were close to airfields: 1 in western Ohio, 2 in the high plains of Colorado, and 2 in the Arizona mountains. Each location consisted of an airfield–solar PV array pair, for a total of 10 study sites.

The results from 1,402 bird surveys suggest that converting airport grasslands to solar PV arrays would not increase hazards associated with bird-aircraft collisions. Fewer bird species were observed in solar PV arrays than in airfields, and overall the level of bird use observed at solar PV arrays was low (DeVault et al. 2014). Some small birds used solar PV arrays in the summer, and to a lesser degree in spring, for shade and perches. Because perches and shade can influence local bird abundance, biologists and other NAS Lemoore Bird Working Group individuals charged with wildlife management at the airfield should monitor bird activity at solar PV arrays at times when shade and perches are most important to birds. Bird use of solar PV arrays has been documented; however, the overall level of bird use of solar PV arrays is lower than in native habitats (DeVault et al. 2014). In addition, DeVault et al. (2014) found that small bird species (i.e., songbirds) were more likely to occur in solar PV arrays, either perched or under panels, than were larger species, such as waterfowl or raptors. Although all bird species pose a potential BASH risk, smaller species that do not form large flocks are less hazardous to aircraft than larger species (DeVault et al. 2014). Likewise, bird species that tend to form large flocks in agricultural habitats and that also pose a substantial BASH risk, such as European starling (*Sturnus vulgaris*) and blackbirds (Barras et al. 2009), would likely not utilize the solar PV arrays as frequently as the current agricultural fields, thereby reducing BASH risk.

DeVault et al. (2014) found little evidence that birds responded to polarized light reflected by the solar PV panels or by increased abundance or availability of insects attracted to the panels. No bird causalities were observed to be caused by stranding or collision with panels, and birds were rarely observed foraging on or near solar PV arrays. While solar PV arrays were not devoid of birds, observations indicated that solar PV arrays would likely not increase the risk of a damaging bird strikes at most locations (DeVault et. al. 2014). Although birds might be present in solar PV arrays, they do not present risk to aircraft when they are perched- either on, or under the panels. The conversion of airfield habitat to solar PV arrays in some locations could decrease bird-strike risk relative to current grass or other natural land covers used on airports (DeVault et al. 2014).

Certain wildlife species would likely utilize the relatively open habitat below the solar PV panels. However, small mammal and other wildlife populations would be directly correlated to the amount of vegetative cover and food sources below the PV panels. With implementation of the rodent control, pest management, and weed abatement plan (see Table 3.0-1), fewer rodents and pests would be present in and around the solar PV systems. By keeping the amount of herbaceous plant cover low underneath the solar PV panels, small mammals would have less vegetative cover for protection and food. In addition, the solar PV panels would prevent many of the broad-winged raptor species from foraging over those areas. Most broad-winged raptors hunt from high above and need a clear line of sight and open space to dive for

prey. In turn, there would be less foraging potential in the solar PV system sites for animals that pose BASH risks (e.g., large raptors and coyotes) at NAS Lemoore.

As discussed in Table 3.0-1, regular monitoring of the solar PV sites would be conducted (both day and night surveys) to assess wildlife occurrence and use of the solar PV sites. These data would be shared and coordinated with wildlife hazard management operations already occurring at NAS Lemoore, including BASH surveys, wildlife determent, and wildlife relocation/removal from areas in and around the NAS Lemoore airfield (Lang 2012).

The NAS Lemoore INRMP (2014a) specifies BASH adaptive management strategies to promote safe aircraft operations at NAS Lemoore by reducing the potential for bird and other animal aircraft strike hazards. To minimize BASH potential, all phases of Alternative 1 would be implemented in accordance with NAS Lemoore BASH adaptive management strategies to promote safe aircraft operations at NAS Lemoore by reducing the potential for bird and other animal aircraft strike hazards. Therefore, there would be no significant impact to public health and safety from any potential increase in BASH.

Personnel Safety

The potential solar PV arrays would be fenced off to minimize the potential for unauthorized access. Ground cover and periodic water spraying of the sites would combine to minimize dust generation within the project area, and thus reduce the potential Valley Fever exposure risk to workers performing maintenance. Maintenance activities in Site B would be scheduled to avoid skeet range activities (if the ranges are activated) to avoid potential impacts to worker safety.

In the event that a buried oil pipeline (deactivated 60 years ago) is encountered during construction activities, measures would be taken to avoid release of and otherwise manage any asbestos-containing material from the pipeline in accordance with applicable laws and regulations.

Decommissioning

Similar to the construction phase, the decommissioning of the solar project at any of the NAS Lemoore alternative sites would adhere to all applicable OSHA and Navy Occupational Safety and Health rules and regulations, as well as avoid active runways and taxiways, to the extent possible. Removal of solar PV panels and transmission poles would not present any flight safety or public health and safety concern at NAS Lemoore. SDZs associated with the currently inactive skeet ranges overlap a portion of Site B; if the skeet ranges are activated, the skeet ranges would be temporarily shut down during decommissioning activities in Site B to avoid potential impacts to worker safety.

Summary

Due to the lack of airspace penetration, reflectivity, and non-interference with communications from Sites A and B, and no evidence that solar PV arrays would increase bird activity, no significant impacts on flight safety during construction or operation of the solar PV panels would be expected from implementation of Alternative 1. However, there would be the potential for glare from the northernmost panels at Site B to affect Runway 14L operations in the afternoon. Construction, maintenance, and decommissioning activities would be conducted in compliance with health and safety regulations and would not pose a risk to construction personnel or on-going training. Construction, operation, and decommissioning activities would be deconflicted with skeet range activities, should the skeet ranges be activated. Avoidance and minimization measures detailed in Table 3.0-1 would reduce the potential for BASH impacts by reducing the likelihood of occurrence of bird and other animal aircraft strike hazards.

Therefore, implementation of Alternative 1 would not have a significant impact to public health and safety.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, public health and safety impacts would be the same as those discussed under Alternative 1; however, with the elimination of Site B, the associated potential effect to afternoon operations at Runway 14L would not occur. Therefore, implementation of the Alternative 1 Option would not have a significant impact to public health and safety.

3.3.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Sites A, B, D, and/or E

Construction and Decommissioning

Construction and decommissioning impacts to public health and safety for Alternative 2 would be the same as those discussed for Alternative 1. In addition, a SDZ associated with the rifle range overlaps a portion of Site E; during construction and decommissioning of the solar PV system in Site E, the rifle range would be shutdown to avoid potential impacts to worker safety.

Operation

Impacts to public health and safety from solar PV system operations for Alternative 2 would be similar to those discussed for Alternative 1. However, the addition of Sites D and E requires further analysis on three points.

The proposed solar PV system at Site D abuts Runway 32L, the CZ, and a portion of APZ-1 (see Figure 2-4). Alternative 2 would construct a 250 MVA substation at the southeast corner of the site and connect, via an underground transmission line through APZ-1 to avoid existing flight easements and compliance issues with DoD Instruction 4165.57. Similarly, at Site E, the proposed 230-kV electrical transmission line would cross a portion of APZ-2. If Site E is developed, the portions of the transmission line that would encroach APZ-2 would be underground to avoid flight easements and compliance concerns with DoD Instruction 4165.57. The DoD Instruction specifies that no high-voltage aboveground power transmission or distribution lines should occur within APZs (DoD 2011b).

Maintenance activities within Site E would be scheduled to avoid rifle range training to avoid impacts to worker safety.

Summary

Construction and decommissioning activities would be conducted in compliance with health and safety regulations and would not pose a risk to construction personnel or on-going training. . Construction, operation, and decommissioning activities in Sites B and E would be deconflicted with firing range activities. Therefore, implementation of Alternative 2 would not have a significant impact to public health and safety.

3.3.3.3 No Action Alternative

Under the No Action Alternative, NAS Lemoore would not develop a solar PV energy project. There would be no construction of a solar PV system at any of the alternative locations. Therefore,

implementation of the No Action Alternative would not have a significant impact to public health and safety.

3.4 SOCIOECONOMICS

3.4.1 DEFINITION OF RESOURCE

Socioeconomics describes the basic attributes and resources associated with the human environment, particularly population, employment, income, and housing. The affected area for socioeconomics is defined as the area where principal effects arising from the potential solar PV system construction. In addition, water rights are discussed in this section. Economic impacts are defined to include direct effects, such as changes to lease fees, community agricultural output, and expenditures that affect the flow of dollars into the local economy and secondary effects, which result from the "ripple effect" of spending and re-spending in response to the direct effects.

3.4.2 AFFECTED ENVIRONMENT

The affected area for socioeconomics is defined as the area where principal effects arising from the potential solar PV system construction, specifically, Kings County and Fresno County. The Proposed Action has the potential to result in socioeconomic impacts through changes in employment, agricultural opportunity, irrigation, and construction expenditures.

3.4.2.1 Economics

The most current employment by industry data maintained by the California Employment Development Department (EDD) is from 2011. Based on those data, agriculture accounts for 15.9 percent of Kings County employment and 13.5 percent of Fresno County employment. Manufacturing accounts for 8.3 percent and 7.7 percent of employment in King and Fresno counties, respectively. Utilities employment is combined with trade and transportation jobs, and accounts for 12.6 percent and 16.7 percent of employment in King and Fresno counties, respectively (California EDD 2011). The total agricultural employment for the entire San Joaquin Valley (including [parts of] Alpine, Amador, Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare, Tuolumne counties) in 2014 ranged from a low of 168,200 in March to a high of 239,000 in August. The average for 2014 was 206,308 jobs (California EDD 2015).

The U.S. Environmental Protection Agency (USEPA) estimates that across the U.S. there is one worker per every 740 acres (299 hectares) of farmland (USEPA 2013). At a local level, Kings County has 6,300 workers employed by farms with a total of 822,143 acres (332,711 hectares) of farmland (Caltrans 2013b; California Department of Conservation 2012). This equates to approximately one worker for every 130 acres (53 hectares) of farmland. This ratio of one worker per 130 acres (53 hectares) has been used in this EA.

The Navy and Marine Corps operate an Outlease Program, which extends leases to the public using a sealed bid process. NAS Lemoore dominates the Navy and Marine Corps Outlease Program with 16 farming entities, on average, leasing approximately 54 agricultural outleases on 12,776 acres (5,170 hectares). Revenues generated through the program at NAS Lemoore (estimated to be $1.3 million per year) are used to fund natural resources management programs while the outleases provide farming entities additional land to perform agricultural activities that increase employment and generating revenue. In addition to the direct lease revenue, the NAS Lemoore Outlease Program results in services and land improvements valued at over $1 million dollars per year, which is an estimated combined value

of approximately $180 per acre (NAS Lemoore 2014a). Table 3.4-1 estimates the annual value of each site within the Project Area based on the $180 per acre approximation.

Table 3.4-1. Potential Estimated Annual Value of Sites within the Project Area

Site	Agricultural Lease Number	Site Size (acres [hectares])	Estimated Value
A	27, 28	366 (148)	$65,880
B	29, 30 (partial), 31, 33, 34, 36, 37, 40, 41, 44, 45, 47, 48, 51, 52	2,764 (1,118)	$497,520
D	10, 11, 12, 14, 15, 16, 61	1,808 (732)	$325,440
E	13, 54, 57, 62	790 (320)	$142,200

As of 2011, the length of leases varied between 5 and 9 years. As part of the lease agreements, lessees are required to comply with conservation and maintenance measures including irrigation water management, ditch and drainage system maintenance, pest management, road damage prevention and maintenance, erosion, dust, fire, and weed control, debris removal, and other conditions specific to each lease.

The majority of the parcels in NAS Lemoore's Agricultural Outlease Program currently do not have any cropping restrictions and the crops grown are determined by the lessee. With the exception of restricting long-term crops such as grapes and orchards, NAS Lemoore does not dictate which crops to be grown, but rather gives as much flexibility to the lessee as possible to foster economic viability of the leases. Historically, cotton has been the favored crop grown at NAS Lemoore. Other primary crops include wheat, tomatoes, and alfalfa, while sugar beets, corn, garlic, onions, lettuce, garbanzo beans, and safflower are also commonly cultivated. In more recent years, NAS Lemoore has seen significant conversion to vegetable crops, primarily tomatoes, garbanzo beans, onions, and garlic. Sensitive sections of the leases do include cropping restrictions as specified in the Soil and Water Conservation Plan designed to minimize BASH risk (NAS Lemoore 2014a).

According to the 2012 Census of Agriculture, Fresno and Kings counties have a combined total annual market value for crops of $4,551,721,000 and a total farm acreage of 2,394,836, for an average market value of crop production of approximately $1,900 per acre. Based on the $1,900 per acre average, Table 3.4-2 estimates the market value of the potential crop production at each potential solar PV system site. Depending on the actual crops planted, as well as the market price for a specific crop, the market value may be higher or lower than the estimates shown here.

Table 3.4-2. Potential Annual Market Value of Crops from Sites within the Project Area

Site	Agricultural Lease Number	Site Size (acres [hectares])	Estimated Value	Percentage of Total Kings and Fresno County Value
A	27, 28	366 (148)	$695,400	0.01
B	29, 30 (partial), 31, 33, 34, 36, 37, 40, 41, 44, 45, 47, 48, 51, 52	2,764 (1,118)	$5,251,600	0.12
D	10, 11, 12, 14, 15, 16, 61	1,808 (732)	$3,435,200	0.07
E	13, 54, 57, 62	790 (320)	$ 1,501,000	0.03

Source: USDA 2012.

3.4.2.2 Water Rights

Water for agricultural purposes is made available from the Westlands Water District (WWD) to the lessees of agricultural lands on NAS Lemoore for irrigation of crops. Agricultural water is delivered to NAS Lemoore by the WWD and is distributed directly to each agricultural parcel via a system of delivery pipelines that extend throughout the agricultural outlease lands. The lessees of the agricultural lands do

not own the water rights associated with the WWD allocation, but purchase the water from WWD (NAS Lemoore 2014a).

3.4.3 ENVIRONMENTAL CONSEQUENCES

Socioeconomic impacts, particularly impacts such as those being evaluated in this EA, are often mixed: beneficial impacts may relate to construction jobs, expenditures, tax revenues, etc., and adverse impacts may relate to current agricultural activity that would no longer be able to take place on NAS Lemoore outleases.

3.4.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Under Alternative 1, up to approximately 3,130 acres (1,267 hectares) of agricultural lease land would not be renewed for agricultural use. This is a greater acreage than the 2,730 associated with the actual ground disturbance because it is assumed the blocks of agriculture leases will not be subdivided; all leases at Sites A and B would be affected. This would reflect an estimated annual loss in agricultural lease income to NAS Lemoore of up to approximately $318,500. The loss would be greater when land improvement values are considered. This loss of revenue could potentially be completely offset by the lease fee to be paid by the partner to NAS Lemoore for use of the land for the solar PV system. It is also possible that competition for the remaining agricultural leases may increase agricultural outlease revenue on a per-acre basis, as leases are renewed/established. Because Alternative 1 would lead to a reduction in the amount of land available for farming, the implementation of Alternative 1 would eliminate an estimated $5,947,000 in crop value from the local economies of Kings and Fresno counties on an annual basis. This accounts for approximately 0.13 percent of the total combined annual crop value of Kings and Fresno counties.

Using a ratio of one worker per 130 acres (53 hectares), implementation of Alternative 1 would result in the loss of approximately 24 agriculture jobs. Construction would create approximately 300 temporary jobs over the construction period. These jobs would more than offset the loss of agricultural jobs that would result from the termination of the agricultural lease(s).

The change in use from agriculture to a solar PV system would also decrease or eliminate the demand of up to approximately 3,130 acres (1,267 hectares) for irrigation water. NAS Lemoore would either seek cost savings by renegotiating the water lease agreement with the WWD for a lower amount of water, or maintain the agreement as a buffer in dry years to supply the remaining outleases with irrigation water.

Operation

When the proposed solar PV system is operational, the loss of previously agricultural land would minimize many of the services provided by active agricultural use that benefit NAS Lemoore, including dust abatement via soil-stabilizing crops, pest control, drainage maintenance, fire prevention, and road maintenance. The Proposed Action includes the use of ground stabilization materials as well as mowing of vegetation. If the remaining maintenance functions are not part of the negotiated responsibilities of the partner, NAS Lemoore would have to pay to provide these services to protect the safety of the users of the Station.

Alternative 1 would increase the amount of power available to regional users and/or NAS Lemoore. The increase in power supply could serve to buffer users both at NAS Lemoore and those living locally from price fluctuations, providing a potential economic benefit to the region.

Decommissioning

Decommissioning of the solar PV system would result in a similar, temporary increase in employment for the removal and remediation of Sites A and B. The goal of decommissioning would be to return the sites to their "pre-project" condition, that is, suitable for agricultural use. At that time, the sites would return to the Agricultural Outlease Program, subject to the agricultural market and environmental conditions at that time.

Summary

While the implementation of Alternative 1 would result in an adverse impact to socioeconomics resulting from loss in crop production, the loss accounts for only 0.13 percent of the annual market value for crops in Kings and Fresno counties. In addition, benefits associated with construction employment opportunities, and more stable electricity values could potentially offset this impact, as well as the loss of approximately 24 agriculture jobs. Therefore, implementation of Alternative 1 would not have a significant impact to socioeconomic resources.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, impacts to socioeconomic resources would be less than those discussed under Alternative 1. Specifically, implementation of the Alternative 1 Option (whereby only Site A would be used as part of the Proposed Action) would reduce annual lease revenues by approximately $37,200. This loss could also be offset by lease payments made by the partner. Implementation of the Alternative 1 Option would result in an estimated annual loss in agricultural crop value of $695,400, or approximately 0.01 percent of the total combined annual crop value of Kings and Fresno counties. The Alternative 1 Option would result in the loss of approximately three agriculture jobs and the creation of approximately 100 temporary construction jobs. Therefore, implementation of the Alternative 1 Option would not have a significant impact to socioeconomic resources.

3.4.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Impacts associated with Alternative 2 would differ from those described for Alternative 1 only in terms of location of the solar PV system. The acreage of land that would be impacted for the solar PV system (2,730 acres [1,104 hectares]) would be the same as Alternative 1; however, the location of the impact would be different (potentially up to four sites for Alternative 2 as opposed to two sites for Alternative 1). Thus, the potential socioeconomic impacts from Alternative 2 would be the same as those described for Alternative 1. Therefore, implementation of Alternative 2 would not have a significant impact to socioeconomic resources.

3.4.3.3 No Action Alternative

Under the No Action Alternative, the NAS Lemoore Agricultural Outlease Program would remain unchanged. Sites A, B, D, and E would all continue to be available for agricultural production. Therefore, the No Action Alternative would not have a significant impact to socioeconomics.

3.5 VISUAL RESOURCES

3.5.1 DEFINITION OF RESOURCE

Visual resources are the natural and man-made features that comprise the visual qualities of a given area, or "viewshed." These features form the overall impression that an observer receives of an area or its landscape character. Topography, water, vegetation, man-made features, and the degree of panoramic views available are examples of visual characteristics of an area.

3.5.2 AFFECTED ENVIRONMENT

3.5.2.1 Sites A, B, D, and E

Sites A, B, D, and E all have similar visual character, generally consisting of agricultural fields (Photo 3.5-1 to Photo 3.5-4). The sites are flat with little topographic relief. The viewsheds from each site are similar, consisting of power lines, dirt access roads, agricultural fields, tree-lined windbreaks, distant mountains, and the NAS Lemoore Operations Area. The Administrative/Housing Areas are visible from Site A. Overall, the visual landscape of the area is rural with vast agricultural fields, roadways, and irrigation ditches dominating the visual setting.



Photo 3.5-1. Southeast corner of Site A, looking northwest. 25th Street and 69-kV electrical transmission lines in the foreground.



Photo 3.5-2. Northeast corner of Site B, looking southwest. NAS Lemoore Operations Area in the background.



Photo 3.5-3. Southeast corner of Site D, looking northwest.



Photo 3.5-4. Southwest corner of Site E, looking northeast. Power lines, windbreaks, and miscellaneous farm buildings are in the background.

3.5.2.2 Potential Solar PV System Support Areas

Equestrian Center

The visual setting of the equestrian center is mainly composed of horse stables, trees, horse pens, and fences.

Transmission Lines and Substations

All of the action alternatives (with the exception of Alternative 1 Option) involve the construction of a potential east-west transmission line along the northern boundary of the Administrative/Housing Area. The area is visible from the Administrative/Housing Area, and nearby roadways and farmlands.

An existing PG&E 230-kV electrical transmission line borders the equestrian center to the east of NAS Lemoore (Photo 3.5-5). The approximately 115-feet (35-meter) tall electrical transmission line is visible for several miles in every direction due to the flat topography and unobstructed viewshed of the area. A 69-kV electrical transmission line runs beside 25th Street, along the eastern edge of Site B (Photo 3.5-6) and through the NAS Administration Area. Similar to the previously described electrical transmission line, the transmission line is highly visible due to the unobstructed viewshed.



Photo 3.5-5. Existing PG&E 230-kV electrical transmission line.



Photo 3.5-6. Existing 69-kV electrical transmission line.

3.5.3 Environmental Consequences

3.5.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

During the estimated 24-month construction phase of the solar PV system, short-term visual impacts from construction would include, but would not be limited to, the staging of construction equipment, vehicles, materials, and workers, and the generation of dust during site grading. Because the area is topographically flat, visual effects from the construction of the solar PV system would be limited to adjacent roadways and parcels. Impacts to the visual environment from construction would be temporary and depend on the viewer's proximity and line-of-sight to Sites A and B.

Operation

The operation of a solar PV system would transform the visual landscape from agricultural land to a utility-scale solar PV system. An aerial perspective of a nearby solar PV system in Kings County within an agricultural landscape is shown in Photo 3.5-7. Upon completion, the highest point of the solar PV array would be no higher than approximately 15 feet (5 meters) above the ground surface. Because the topography of the area is relatively flat, the visual sensitivity of the solar PV system and substation would be minimal as the system would only be viewable from nearby roadways, buildings on NAS Lemoore, and adjacent parcels. The solar PV system would be compatible with NAS Lemoore's visual character (NAS Lemoore 2014b).



Photo 3.5-7. A representative image of a solar PV system within an agricultural landscape.
Source: Business Journal 2014.

The solar PV panels would have an anti-reflective coating that would improve light absorption and reduce or eliminate the potential for glint and glare impacts to nearby viewers. Impacts to public health and safety, including impacts to air operations, are located in Section 3.3, *Public Health and Safety*. A switching station covering approximately 0.5 acre (0.2 hectare) would be constructed adjacent to the equestrian center. The switching station would be visible from the center and Avenal Cutoff Road.

To support the proposed solar PV system, a new 230-kV transmission line would be constructed from Sites A and B to the existing PG&E 230-kV transmission line. The new 230-kV transmission line would include approximately fifty-five, 80-foot (24-meter) tall steel poles constructed along the proposed route, adjacent to the northern boundary of the Administrative/Housing Area. Visual sensitivity of the new 230-kV would be limited to those within the Administrative/Housing Area and the proposed 230-kV transmission line would not change the context of the visual environment, as the transmission line would be consistent and comparable to existing nearby electrical infrastructure. The 230-kV transmission line would not substantially obstruct distant views. Post-construction site operations would include, but would not be limited to, use of existing access roads; electrical and mechanical systems; and maintenance and repair – generally activities that would be consistent with on-going activities at NAS Lemoore. Thus, visual impacts from post-construction operational maintenance would be negligible.

Decommissioning

The decommissioning of the solar PV system would return the project area to its pre-project condition. Decommissioning would include limited temporary visual impacts comparable to construction activities. Decommissioning of the solar PV system and associated support areas would include the deconstruction of the 230-kV transmission lines. The visual landscape would return to agricultural land at the future discretion of NAS Lemoore.

Summary

Construction impacts to visual resources would be temporary and limited to viewers from adjacent roadways and agriculture parcels. The solar PV system would be compatible with NAS Lemoore's visual character. Visual sensitivity of the new 230-kV would be limited to those within the Administrative/ Housing Area and would not change the context of the visual environment. Therefore, implementation of Alternative 1 would not have a significant impact to visual resources.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, visual impacts would be less than those discussed under Alternative 1 due to the action occurring over a smaller area. The Alternative 1 Option (Model 2 and the combination of Models 2 and 3) would also construct a 69-kV transmission line, rather than a 230-kV transmission line adjacent to the housing area. The 69-kV electrical transmission line would be approximately 58-feet (18-meters) tall. Under the Alternative 1 Option with Model 3, the existing NAS Lemoore 69-kV electrical transmission line would be used. No visual impacts from a new transmission line would occur from this Alternative and Model combination. Therefore, implementation of the Alternative 1 Option would not have a significant impact to visual resources.

3.5.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Sites A, B, C, and/or E

Construction

Under Alternative 2, the construction of a solar PV system would temporarily alter a portion of the existing visual landscape on all or a combination of the proposed sites, which are currently used for agricultural production. Visual impacts from construction would be temporary and be the same as those described under Alternative 1.

Operation

The operation of a solar PV system would transform the visual landscape from agricultural land to a utility-scale solar PV system. The visual impacts would largely be the same as those described under Alternative 1, as the scale of the solar PV system would remain the same and the visual landscape is similar across Sites A, B, D, and E. Visual sensitivity would also be the same because the sites are only visible from nearby roadways, buildings on NAS Lemoore, and adjacent parcels.

If Sites D and/or E are developed, the portions of the 230-kV transmission line would be underground and thus would not affect the visual environment. Upon clearing the easement, the transmission line would run above ground along the eastern boundary of Sites A and B, then east to tie into the existing PG&E 230-kV transmission line. To support the new 230-kV transmission line, approximately one hundred, 80-foot (24-meter) tall steel poles would be constructed along the proposed route. The proposed route that

spans the eastern side of Sites A and B along 25th Street occurs on an existing electrical transmission line right-of-way with 65-foot tall 69-kV wooden poles. Although the 230-kV transmission line would be slightly taller (approximately 15 feet [6.5 meters]) and thus viewable from further distances, the line would still represent a relatively minimal alteration to the existing visual landscape, as the transmission line would be consistent and comparable to existing nearby electrical infrastructure. The same impacts as described under Alternative 1 from the east-west segment of the 230-kV transmission line would occur under Alternative 2.

Decommissioning

Visual impacts from the decommissioning of the solar PV system would be the same under Alternative 2 as described under Alternative 1.

Summary

The construction and operational visual impacts would largely be the same as those described under Alternative 1, as the scale of the solar PV system would remain the same and the visual landscape is similar across Sites A, B, D, and E. The proposed 230-kV transmission line would be consistent and comparable to the existing viewshed. Therefore, implementation of Alternative 2 would not have a significant impact to visual resources.

3.5.3.3 No Action Alternative

Under the No-Action Alternative, the existing visual environment would not change. Existing visual conditions at Sites A, B, D, and E (as described in Section 3.5.2) would remain. Therefore, the No Action Alternative would not have a significant impact to visual resources.

3.6 CULTURAL RESOURCES

3.6.1 DEFINITION OF RESOURCE

Cultural resources is an inclusive label used to encompass any historic properties or traditional cultural properties and sacred sites valued by traditional communities (often but not necessarily Native American groups). Cultural resources are finite, nonrenewable resources, whose salient characteristics are easily diminished by physical disturbance; certain types of cultural resources also may be negatively affected by visual, auditory, and atmospheric intrusions.

Historic properties are defined in the federal regulations outlining Section 106 of the National Historic Preservation Act (NHPA), as amended (54 USC §§ 300101-305306), as prehistoric and historic sites, buildings, structures, districts, or objects listed or eligible for listing on the National Register of Historic Places (NRHP), as well as artifacts, records, and remains related to such properties. Compliance with Section 106 of the NHPA, which directs federal agencies to take into account the effect of a federal undertaking on a historic property, is outlined in the Advisory Council on Historic Preservation's regulations, *Protection of Historic Properties* (36 CFR Part 800). A traditional cultural property can be defined generally as one that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community.

Cultural resources are generally divided into three categories: archaeological resources, architectural resources, and traditional cultural resources:

- **Archaeological resources** –places where people changed the ground surface or left artifacts or other physical remains (e.g., arrowheads or bottles).
- **Architectural resources –**standing buildings, dams, canals, bridges, and other structures.
- **Traditional cultural resources –** These include traditional cultural properties, which are associated with the cultural practices and beliefs of a living community that link that community to its past and help maintain its cultural identity. Traditional cultural resources may also include archaeological resources, locations of historic events, sacred areas, sources of raw materials for making tools, sacred objects, or traditional hunting and gathering areas.

The NHPA mandates guidelines for the protection of historic properties in Sections 106 and 110 of the law. Section 106 of the NHPA requires federal agencies to analyze the effect of an undertaking on cultural resources included in or eligible to the NRHP. Compliance with Section 106 of the NHPA, is outlined in the Advisory Council of Historic Preservation's regulation, *Protection of Historic Properties* (36 CFR § 800).

The NHPA and associated Section 106 compliance also includes guidance for American Indian consultation regarding cultural significance of potential religious and sacred artifacts (16 USC § 470a [a][6][A] and [B]). In addition, coordination with federally recognized American Indian tribes must occur in accordance with EO 13175, *Consultation and Coordination with Indian Tribal Governments*. Section 110 requires federal agencies to establish programs to locate, evaluate, and nominate all properties that qualify for inclusion in the NRHP. As part of this EA, the Navy is consulting with federally recognized American Indian Tribal Groups to identify potential cultural resources in the area of potential effects (APE) (see Appendix A). The Navy would complete consultation with the appropriate federally recognized Tribes before making a decision on the Proposed Action.

Through a combination of cultural resource studies carried out to comply with Sections 106 and 110 of the NHPA, Sites A, B, D, E and the potential solar PV system support areas have been inventoried for cultural resources (Young and Garner 2012; Garner and Waechter 2014; Dougherty and Jones 2015).

3.6.2 AFFECTED ENVIRONMENT

The affected environment for cultural resources is based on the establishment of the APE of an undertaking, through consultation with SHPO. An APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d). The APE for this project includes Sites A, B, D, E, and the potential solar PV system support areas.

3.6.2.1 Prehistoric and Historic Setting

The following summary of the cultural context for the southern San Joaquin Valley is condensed from the *Integrated Cultural Resources Management Plan for Naval Air Station Lemoore, California* (NAS Lemoore 2012b).

Regional Prehistory

The regional prehistory is divided into the Paleo-Indian, Early, Middle, and Late Periods. The Paleo-Indian period dates prior to 8,000 years Before Present (B.P.). Like many other early sites throughout the western United States, Paleo-Indian sites are characterized by fluted projectile points. Paleo-Indian sites

are scarce around NAS Lemoore. However, alluvial deposition may have buried sites in as much as 7 feet (2 meters) of sediment, obscuring them from detection (NAS Lemoore 2012b).

The Early Period ranges from 8,000 to 3,000 B.P. It is a period generally characterized as a time when a greater emphasis was placed on plant resources for subsistence. Settlement patterns appear as seasonal movements between elevations. The material culture during this period is marked by the appearance of handstones and milling stones (NAS Lemoore 2012b).

During the Middle period (3,000- 1,000 B.P.) subsistence practices diversified with a greater emphasis on seed processing. The decline in the presence of handstones and metates, and the increased presence of mortars and pestles, suggests a greater reliance on acorns rather than wild seeds and grain. Residences appear to be occupied for longer periods by greater population sizes (NAS Lemoore 2012b).

The Late Period (1,000 B.P. to Historic Contact) is characterized by further reduction in mobility and intensive resource exploitation. The rise of territorial boundaries and exchange networks are a notable part of this period. The bow and arrow makes its first appearance in the Late Period in the southern San Joaquin Valley (NAS Lemoore 2012b).

History of the NAS Lemoore Area

As early as 1542, the Spanish began to explore parts of California, and were the first Europeans to venture into the region surrounding NAS Lemoore. Spanish exploration for the next 200 years was intermittent in this area, until the 1769 expedition of Gaspar de Portola and Franciscan Father Junipero Serra established missions in Alta, CA. Pedro Fages in 1772 led the first expedition into the southern San Joaquin Valley (NAS Lemoore 2012b).

The early 19th century marked a time of distribution of land grants and encouraged settlement into the interior of California. In 1843, a portion of present-day NAS Lemoore was part of a 48,801-acre land grant owned by Joseph Yves Limatour. At the end of the Mexican-American War in 1848, California became a U.S. territory. Although the California Gold Rush began the same year, the effect of overland migration to California had little initial impact on the area around NAS Lemoore (NAS Lemoore 2012b).

Ranching, farming, and the railroad industry have characterized the land surrounding NAS Lemoore since the mid-19th century. One of the first permanent communities in the area was the town of Lemoore, which received an established post office in 1875. Populations have always been relatively small in the area (NAS Lemoore 2012b).

The Lemoore Army Airfield (located approximately 2 miles (3.2 kilometers) west of the NAS Lemoore Administration Area) was established during World War II. In 1954, the Navy began planning to establish a master jet air station. NAS Lemoore was chosen as the site of the new station because of its central location, good weather for flying, relatively inexpensive land, and nearby accommodations. Construction of NAS Lemoore began in 1958 and NAS Lemoore was commissioned in 1961 (NAS Lemoore 2012b).

3.6.2.2 Cultural Resources within the Affected Environment

Archaeological Resources

Three archaeological sites have been identified within the boundaries of the APE. Site LPV-01 is a historic trash scatter that dates from the early to the mid-20th century, located in the northeastern corner of Site B. This site contains limited information and does not have sufficient data content or potential to yield data to meet the criteria for inclusion in the NRHP. Site LPV-01 has been recommended not eligible for listing in the NRHP (Dougherty and Jones 2015). CA-KIN-0001116H is a historic utility line and CA-

KIN-00017H is a portion of the San Joaquin Valley Railroad. These sites run parallel to one another and bisect Sites A and B. They have not been evaluated for listing in the NRHP (Garner and Waechter 2014).

Isolated occurrences are cultural remains or features that do not meet the definition of an archaeological site. Isolated occurrences recorded in the APE include historic porcelain, glass and ceramic fragments, isolated prehistoric lithics, and a historic land marker. Due to the limited number of artifacts found at isolated occurrences and the low potential for providing information on prehistory or history, the isolated occurrences recorded in this APE are not recommended as eligible for inclusion in the NRHP (Dougherty and Jones 2015).

Architectural Resources

The APE does not contain any known architectural resources. The historic railroad and utility line mentioned above are recorded and managed as archaeological sites (NAS Lemoore 2012b).

Traditional Cultural Resources

The APE does not contain any known traditional cultural properties or other traditional cultural resources. As part of this EA, the Navy is consulting with federally recognized American Indian Tribal Groups to identify potential traditional cultural resources in the APE. The Navy will complete consultation with the appropriate federally recognized Tribes before making a decision on the Proposed Action.

3.6.3 Environmental Consequences

3.6.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Construction under Alternative 1 would consist of grading and clearing of vegetation. Construction would disturb surface soils to a depth of approximately 6.5 feet (2 meters). Foundations would be built on engineered fill or native soil at a minimum of 2 feet (0.6 meter) below adjacent grade or finished grade.

Three archaeological sites are located within the APE for Alternative 1: LPV-01, CA-KIN-0001116H, and CA-KIN-0001117H. LPV-01, a historic trash scatter, is located in the northeastern corner of Site B. Site LPV-01 would be disturbed by grading and construction of the solar PV panels. However, site LPV-01 is recommended not eligible for listing in the NRHP. Contingent on concurrence from the California SHPO, disturbance of this site would not result in an adverse effect to a historic property.

Sites CA-KIN-0001116H (a historic utility line) and CA-KIN-0001117H (a portion of the San Joaquin Valley Railroad) bisect Sites A and B. CA-KIN-0001116H is comprised of nine utility poles that were once used to power the railroad crossing lights and bells on Reeves Boulevard (Garner and Waechter 2014). Only one of the nine utility poles, the easternmost, lies within the APE. The pole is located within the railroad corridor, along an existing road. This pole would be avoided during construction of the solar PV panels and the perimeter fence. No construction would occur at or adjacent to the San Joaquin Valley Railroad (site CA-KIN-0001117H), which runs through the APE. Because both of these sites would be avoided, there would be no adverse effects.

Under Alternative 1, construction activities would include trenching up to 3 feet (1 meter) for underground electrical lines and circuitry. In addition, the solar PV panel mounting structures require foundations that reach at least 4 to 6.5 feet (1.2 to 2 meters) below ground surface. If buried cultural

resources are encountered during excavation, then construction would cease and the NAS Lemoore Natural and Cultural Resources Manager would be contacted before construction could continue.

Under Alternative 1, construction of a 25 MVA substation and a 230-kV switching/metering station would occur within Site A. In addition, a switching station adjacent to the equestrian center in the northeast portion of the NAS Lemoore Housing Area would be constructed. A 2-mile (3.2 kilometer) stretch of new 230-kV overhead line would connect the two switching stations. No cultural resources have been documented within the footprint of the MVA substation, the two switching stations, or along the course of the proposed new overhead line. No adverse effect to historic properties would occur.

Operation

Under Alternative 1, post-construction site operations would include use of existing access roads as well as maintenance and repair work. These activities would occur along existing roads and infrastructure, and no ground disturbance would occur. No adverse effect to historic properties or traditional resources would occur.

Decommissioning

The decommissioning of the solar PV panels would require similar activities to construction; work crews, vehicles, and equipment would be required to dismantle and remove the solar PV panels. Because these activities would occur in previously disturbed areas, no historic properties or traditional resources would be adversely affected. As with construction activities, if any unexpected cultural resources are encountered during decommissioning, work would cease and the NAS Lemoore Natural and Cultural Resources Manager would be contacted before work could continue.

Summary

Three archaeological sites are found within the APE of Alternative 1. However, these sites are either recommended ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. Based on the results of the records search and field investigation, the Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding (Appendix A). At this time, SHPO concurrence is anticipated. Therefore, implementation of Alternative 1 would not have a significant impact to cultural resources.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, impacts to cultural resources would be similar to those discussed under the Alternative 1. Therefore, implementation of the Alternative 1 Option would not have a significant impact to cultural resources.

3.6.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Sites A, B, D, and/or E

Construction

Construction impacts at Sites A and B under Alternative 2 would be similar to those described for Alternative 1. No recorded cultural resources are present at Sites D and E. Under all construction components of Alternative 2, there would be no adverse effects to historic properties or impacts to known traditional resources.

Under Alternative 2, the west-east segment of transmission line would be run underground to avoid encroachment on the existing flight easement. If unexpected cultural resources are encountered during excavation, construction would cease and the NAS Lemoore Natural and Cultural Resources Manager would be contacted before work could continue.

Operation

Operation impacts at Sites A, B, D, and/or E under Alternative 2 would be similar to those described for Alternative 1, but would also occur at Sites D and E. As discussed under Alternative 1, these would occur along existing roads and infrastructure, and no ground disturbance would take place. There would be no adverse effects to historic properties or impacts to known traditional resources.

Decommissioning

Decommissioning impacts at Sites A, B, D and E under Alternative 2 would be similar to those described for Alternative 1, but would also occur at Sites D and E. As discussed under Alternative 1, these would occur in previously disturbed areas. There would be no adverse effects to historic properties or impacts to known traditional resources.

Summary

Three archaeological sites are found within the APE of Alternative 1. However, these sites are either recommended ineligible for listing on the NRHP (therefore not a historic property) or would be avoided during construction, operation, and decommissioning activities. Based on the results of the records search and field investigation, the Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding (Appendix A). At this time, SHPO concurrence is anticipated. Therefore, implementation of Alternative 2 would not have a significant impact to cultural resources.

3.6.3.3 No Action Alternative

Under the No Action Alternative, there would be no change to current conditions. Therefore, the No Action Alternative would not have a significant impact to cultural resources.

3.7 AIR QUALITY

3.7.1 DEFINITION OF RESOURCE

3.7.1.1 Criteria Pollutants and Ambient Air Quality Standards

Air quality is defined by ambient air concentrations of specific pollutants that are of concern with respect to the health and welfare of the public by the USEPA. The USEPA has established National Ambient Air Quality Standards (NAAQS) for these pollutants. The seven major pollutants of concern, called "criteria pollutants," are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter less than or equal to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead. Primary NAAQS are established to protect public health. Secondary NAAQS may also be established to avoid other adverse impacts to the public welfare such as odors or visibility effects. Areas that violate a federal air quality standard are designated as nonattainment areas. Once a nonattainment area meets the standards and redesignation requirements outlined in the Clean Air Act (CAA), the area is designated as a maintenance area.

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and

chemistry. Emission considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter [$\mu g/m^3$] of air) or as a volume fraction (e.g., parts per million [ppm] by volume).

Pollutant emissions typically refer to the amount of pollutants or pollutant precursors introduced into the atmosphere by a source or group of sources. Pollutant emissions contribute to the ambient air concentrations of criteria pollutants, either by directly affecting the pollutant concentrations measured in the ambient air or by interacting in the atmosphere to form criteria pollutants. Primary pollutants, such as CO, SO_2, lead, and some particulates, are emitted directly into the atmosphere from emission sources. PM_{10} and $PM_{2.5}$ are generated as primary pollutants by various mechanical processes (for example, abrasion, erosion, mixing, or atomization) or combustion processes. However, fine particulate matter (PM_{10} and $PM_{2.5}$) can also be formed as secondary pollutants through chemical reactions or by gaseous pollutants condensing into fine aerosols. Secondary pollutants, such as O_3, NO_2, and some particulates, are formed through atmospheric chemical reactions that are influenced by meteorology, ultraviolet light, and other atmospheric processes. In general, emissions that are considered "precursors" to secondary pollutants in the atmosphere (such as volatile organic compounds [VOC] and oxides of nitrogen [NO_x], which are considered precursors for O_3), are the pollutants for which emissions are evaluated to control the level of O_3 in the ambient air.

The State of California has identified four additional pollutants for ambient air quality standards: visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The California Air Resources Board (CARB) has also established the more stringent California Ambient Air Quality Standards (CAAQS). Areas within California in which ambient air concentrations of a pollutant are higher than the state and/or federal standard are considered to be in nonattainment for that pollutant. Table 3.7-1 details both the federal and state ambient air quality standards.

3.7.1.2 Greenhouse Gases

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The most significant of the human activities emitting GHGs is the burning of fossil fuels. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Scientific evidence indicates a trend of increasing global temperature over the past century correlating with an increase in GHG emissions from human activities.

The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential, which is the ability of a gas or aerosol to trap heat in the atmosphere. The global warming potential scale is standardized to CO_2, which has a value of one. For example, CH_4 has a global warming potential of 21, which means that CH_4 has a global warming effect 21 times greater than CO_2 on an equal-mass basis. CO_2 is the dominant gas in terms of quantities of total GHG emissions, although other GHGs have a higher global warming potential than CO_2. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its global warming potential and adding the results together to produce a single, combined emission rate representing all GHGs.

Table 3.7-1. Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS[1]		CAAQS
		Primary	Secondary	Concentration
Ozone (O_3)	1-Hour	-	Same as Primary Standard	0.09 ppm (180 µg/m^3)
	8-Hour	0.075 (147 µg/m^3) ppm		0.070 ppm (137 µg/m^3)
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	None	9.0 ppm (10 mg/m^3)
	1-Hour	35 ppm (40 mg/m^3)		20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO_2)	Annual Average	0.053 ppm (100 µg/m^3)	Same as Primary Standard	0.030 ppm (56 µg/m^3)
	1-Hour	-		0.18 ppm (338 µg/m^3)
Sulfur Dioxide (SO_2)	Annual Average	0.03 ppm (80 µg/m^3)	-	-
	24-Hour	0.14 ppm (365 µg/m^3)	-	0.04 ppm (105 µg/m^3)
	3-Hour	-	0.5 ppm (1,300 µg/m^3)	-
	1-Hour	-	-	0.25 ppm (655 µg/m^3)
Suspended Particulate Matter (PM_{10})	24-Hour	150 µg/m^3	Same as Primary Standard	50 µg/m$_3$
	Annual Arithmetic Mean	-		20 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	35 µg/m$_3$	Same as Primary Standard	-
	Annual Arithmetic Mean	15 µg/m^3		12 µg/m^3
Lead	30-Day Average	-	-	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	Same as Primary Standard	-
3-Month Rolling Average	0.15 µg/m^3			
Hydrogen Sulfide (HS)	1-Hour	No Federal Standards		0.03 ppm (42 µg/m^3)
Sulfates (SO_4)	24-Hour			25 µg/m^3
Visibility Reducing Particles	8-Hour (10 am to 6 pm, Pacific Standard Time)			In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.
Vinyl chloride[2]	24 Hour			0.01 ppm (26 µg/m^3)

Source: CARB 2015a; USEPA 2015a.

Notes: [1] NAAQS (other than O_3, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[2] The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

mg/m^3= milligrams per cubic meter.

Federal agencies are addressing emissions of GHGs by mandating GHG reductions in federal laws and EOs, most recently in EO 13693 (*Planning for Federal Sustainability in the Next Decade*) (EO 13693 superseded EO 13423 [*Strengthening Federal Environment, Energy, and Transportation Management*] and EO 13514 [E*nergy Efficient Standby Power Devices*]). In 2009, the USEPA signed GHG Endangerment Findings under Section 202(a) of the CAA, stating that six "key" GHGs are a threat to public health and welfare (CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur

hexafluoride). Since then, the USEPA has been creating standards and regulations for controlling GHG emissions from passenger vehicles. In addition, since 2012 the USEPA has issued proposals and updated regulations to reduce carbon emissions from new and existing power plants, landfills, and oil and natural gas facilities. Despite these efforts, there are no promulgated federal regulations to date limiting GHG emissions. In December of 2014, the CEQ issued revised draft guidance for federal agencies, to guide them on when and how to consider the effects of GHG emissions and climate change in their projects (CEQ 2014).

Several states have passed GHG related laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 (Assembly Bill 32) directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020. EO S-20-06 further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team. Activities taken thus far to implement Assembly Bill 32 include mandatory GHG reporting and a cap-and-trade system for major GHG-emitting sources (CARB 2015b).

In an effort to reduce energy consumption, reduce dependence on petroleum, and increase the use of renewable energy resources in accordance with goals set by EO 13693 and the Energy Policy Act of 2005, the Navy has implemented a number of renewable energy projects. The types of projects currently in operation within military installations include thermal and solar PV energy systems, geothermal power plants, and wind energy generators.

The potential effects of GHG emissions are by nature global and cumulative, and thus it is impractical to attribute climate change to individual projects. Therefore, the impact of GHG emissions associated with this project is discussed in the context of cumulative impacts in Section 4.4.7 of this EA.

3.7.2 AFFECTED ENVIRONMENT

3.7.2.1 Regional Setting

NAS Lemoore is located in the central portion of California's San Joaquin Valley, in Kings and Fresno counties, within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is currently designated as a nonattainment area for the following NAAQS: 8-hour O_3 (in extreme nonattainment), 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ (USEPA 2015b). On December 14, 2012, the USEPA updated the national annual $PM_{2.5}$ primary standard from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. On March 10, 2015, the USEPA proposed requirements for implementing the $PM_{2.5}$ NAAQS in designated nonattainment areas (USEPA 2015c). Kings and Fresno counties are anticipated to meet the new standard by the year 2020 (USEPA 2012).

The SJVAPCD has achieved attainment for PM_{10}, and is therefore a PM_{10} maintenance area. The entire SJVAPCD is designated as unclassifiable, attainment, or better than national standards for the federal SO_2 and CO standards. There are two small regions within the SJVAPCD that are classified as maintenance areas for CO. These regions are specifically termed the "Fresno Urbanized Area" and the "Stockton Urbanized Area" in the California State Implementation Plan (SIP) for CO (CARB 2004). These maintenance areas are located 40 miles (64 kilometers) and 132 miles (212 kilometers), respectively, from NAS Lemoore. Therefore, NAS Lemoore is not located in a CO maintenance area but is within 40 miles (64 kilometers) of the closest one within the San Joaquin Valley.

The SJVAPCD operates a network of ambient air monitoring stations throughout Kings and Fresno counties. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the project site are located in Hanford (Kings County) and Huron (Fresno County).

The natural topography and weather constraints of the San Joaquin Valley combined with stationary and mobile sources of pollution make the region one of the most polluted in the state and the country, particularly for O_3.

3.7.2.2 Region of Influence

Specifically identifying the region of influence (ROI) for air quality requires knowledge of the type of pollutant, emission rates of the pollutant source, proximity to other emission sources, and local and regional meteorology. The ROI for NAS Lemoore is defined by the SJVAPCD. For inert pollutants (all pollutants other than O_3 and its precursors), the ROI is generally limited to a few miles downwind from the source. However, for a photochemical pollutant such as O_3, the ROI may extend much farther downwind. O_3 is a secondary pollutant that is formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors (VOC and NO_x). The maximum effect on O_3 levels from precursors tends to occur several hours after the time of emission during periods of high solar load and may occur many miles from the source. O_3 and O_3 precursors transported from other regions can also combine with local emissions to produce high local O_3 concentrations.

3.7.2.3 Regulatory Framework

Federal Requirements

Under NEPA, air quality impacts must be evaluated and assessed with regard to the significance of their impacts. In addition to NEPA, the CAA, General Conformity, and New Source Review (NSR) are applicable to analyses of impacts to air quality. These federal requirements are discussed in the following sections.

Clean Air Act

The USEPA is the agency responsible for enforcing the CAA of 1970 and the 1977 and 1990 CAA amendments. The purpose of the CAA is to establish NAAQS, which classify areas as to their attainment status relative to the NAAQS; develop schedules and strategies to meet the NAAQS; and to regulate emissions of criteria pollutants and air toxics to protect public health and welfare. Under the CAA, individual states are allowed to adopt ambient air quality standards and other regulations, provided they are at least as stringent as federal standards. The CAA Amendments established new deadlines for achievement of NAAQS, dependent upon the severity of nonattainment.

The USEPA requires each state to prepare a SIP, which describes how that state will achieve compliance with NAAQS. A SIP is a compilation of goals, strategies, schedules, and enforcement actions that will lead the state into compliance with all federal air quality standards. Each change to a compliance schedule or plan must be incorporated into the SIP. In California, the SIP consists of separate elements for each air basin, depending upon the attainment status of the particular air basin.

The CAA Amendments also require that states develop an operating permit program that would require permits for all major sources of pollutants. The program would be designed to reduce criteria pollutant emissions and control emissions of hazardous air pollutants by establishing control technology guidelines for various classes of emission sources. Under the CAA, state and/or local agencies may be delegated authority to administer the requirements of the CAA, including requirements to obtain permits to operate stationary sources on Navy installations (e.g., Title V operating permits). Section 3.7.2.3 discusses the local permitting requirements for equipment that is subject to these requirements.

General Conformity

Under 40 CFR Part 93 and the provisions of Part 51, Subchapter C, Chapter I, Title 40, Appendix W of the CFR, of the CAA as amended, federal agencies are required to demonstrate that federal actions conform with the applicable SIP. To ensure that federal activities do not hamper local efforts to control air pollution, Section 176(c) of the CAA, 42 USC § 7506(c) prohibits federal agencies, departments, or instrumentalities from engaging in, supporting, providing financial assistance for, licensing, permitting or approving any action which does not conform to an approved SIP or federal implementation plan.

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emission thresholds that trigger requirements of the General Conformity Rule are called *de minimis* levels. Table 3.7-2 identifies the federal nonattainment and maintenance pollutants and the relevant *de minimis* emission thresholds for the ROI.

Table 3.7-2. Applicable General Conformity Rule *de minimis* Levels (tons/year)

VOCs	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
10	10	NA	100	100	100

Source: USEPA 2015d.

Notes:
1. SJVAPCD is an extreme nonattainment area for the 8-hour federal O_3 standard; VOCs and NO_x are precursors to the formation of O_3.
2. SJVAPCD is considered a maintenance area for the federal PM_{10} standard.
3. SJVAPCD is in nonattainment of the federal $PM_{2.5}$ standard.
4. NA = not applicable because all but the Urbanized Fresno Area and Urbanized Stockton Area have never been classified nonattainment of the federal CO standard.
5. SO_2 is a precursor to the formation of $PM_{2.5}$.

To demonstrate conformity with the CAA, a project must clearly demonstrate that it does not cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard, any required interim emission reductions, or other milestones in any area. A conformity applicability analysis is required for each of the nonattainment pollutants and/or its precursor emissions.

Compliance with the General Conformity Rule can be demonstrated in several ways. Compliance is presumed if the net increase in direct and indirect emissions from a federal action would be less than the relevant *de minimis* level.

New Source Review

A NSR is required when a stationary source has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specified major source thresholds (100 or 250 tons per year), predicated on the attainment status of the air basin and the source's industrial category. A major modification to the source also triggers a NSR. Any new or modified stationary emission source requires construction and operating permits from the SJVAPCD. Through the SJVAPCD's permitting process, all stationary sources are reviewed and are subject to a NSR process. The NSR process ensures that factors such as the availability of emission offsets and their ability to reduce emissions are addressed and conform with the SIP.

Local Requirements

In Kings and Fresno counties, the SJVAPCD is the agency responsible for the administration of federal and state air quality laws, regulations, and policies. The SJVAPCD's tasks include air pollution

monitoring, preparation of the SIP for the San Joaquin Valley Air Basin (SJVAB), and the promulgation of rules and regulations. The SIP includes strategies and tactics to be used to attain the federal O_3 standard within the SJVAB. The SIP elements are taken from the Regional Air Quality Strategy and the SJVAPCD plan for attaining the state O_3 standard, which is more stringent than the federal standard. The SJVAPCD's rules and regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

These regulations require that facilities constructing, altering, or replacing stationary equipment that may emit air pollutants obtain an Authority to Construct permit. Further, SJVAPCD regulations require stationary sources of air pollutants to obtain and maintain Permits to Operate for all stationary sources subject to the requirements of Regulation II. The Navy must submit applications to the SJVAPCD for their review and approval. The SJVAPCD is responsible for the review of applications and for the approval and issuance of these permits. Once a permit is issued, the Navy is responsible for compliance with the conditions specified in the permit, and is responsible for quantification of emissions associated with the permitted unit.

The potential solar PV system sites are currently used for agricultural operations. Agricultural operations (crops only, not including farm animal operations) currently generate pollutant emissions from operational activities such as tiling the soil, leaving land fallow, driving equipment and vehicles on unpaved roads and surfaces, and burning/grinding/shredding organic matter. The SJVAPCD provides regulations and requires permits for agricultural operations above a certain size and for specific activities with the potential to escalate local air emissions (e.g., agricultural burning, driving on unpaved roads). Rule 8081 limits fugitive dust emissions from off-field agricultural sources. However, on-field agricultural sources and unpaved road segments with less than 75 vehicle trips per day are exempt from Rule 8011, in addition to other exempt agricultural activities.

3.7.2.4 Current Best Management Practices

The Navy currently has a comprehensive air quality management program to comply with all federal, state and local requirements. Mitigation measures that are part of the Navy's air quality management practices are implemented at NAS Lemoore. The Proposed Action would be in compliance with all active air permits in place for NAS Lemoore operations and activities. In addition, equipment used during the construction and operation of the proposed solar PV system would meet all applicable standards.

3.7.3 ENVIRONMENTAL CONSEQUENCES

This resource section focuses on groups of activities that have the potential to result in an impact to the ambient air quality. The analysis was separated by the three project phases as discussed in Chapter 2: construction, operation, and decommissioning. Types of activities that could affect air quality include operation of construction equipment, vehicle trips, and earth moving activities.

3.7.3.1 Approach to Analysis

The air quality analysis estimated the magnitude of emissions that would occur from proposed construction and decommissioning activities. Construction related activities would include clearing vegetation, grading to prepare the site, trenching for utilities, pole mounting and/or concrete footing for the solar PV system installation, and construction/installation of the substations, switching/metering stations, transmission poles, and solar PV panels. Although the manufacture of solar PV cells or panels occur off-installation, the manufacturing of solar PV cells requires potentially toxic heavy metals such as lead, mercury, and cadmium. The manufacturing process can also produce GHGs, such as CO_2, that contribute to global climate change. However, existing research suggest that the operation of solar PV

systems, compared with conventional fossil fuel-burning power plants, significantly reduces air pollution (Intergovernmental Panel on Climate Change 2012).

Operational emissions from maintenance and repair activities would be minor and infrequent, and are therefore evaluated qualitatively herein. Emissions would be generated from operational activities such as the use of vehicles and equipment with combustive engines, and generation of fugitive dust when driving vehicles on unpaved surfaces within and around the solar PV system.

3.7.3.2 Emissions Evaluation Methodology

Air quality impacts from construction activities proposed under each action alternative would primarily occur from combustive emissions due to the use of fossil fuel-powered equipment and fugitive dust emissions (PM_{10} and $PM_{2.5}$) from the operation of equipment on exposed soil. Construction emissions were estimated using the California Emissions Estimator Model, which is the current comprehensive tool for quantifying air quality impacts from land use projects throughout California. The model was developed in collaboration with the air districts of California and includes default data (e.g., emission factors, trip lengths, meteorology, and source inventory) that have been provided by the various California air districts to account for local requirements and conditions (California Air Pollution Control Officers Association 2015). For this analysis, default data were overridden in the model by project-specific data (as provided in Chapter 2), when available. Assumptions were made regarding the total number of days each piece of equipment would be used and the number of hours per day each type of equipment would be used. The construction activities were modeled as two phases of construction, each phase being 2 years. Assumptions and model inputs are located within the modeling calculations in Appendix B.

3.7.3.3 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction and Decommissioning

Table 3.7-3 presents a summary of the annual emissions associated with construction and decommissioning activities at NAS Lemoore under Alternative 1. Because the potential emissions from construction and decommissioning activities would be in different years, they are not additive. As shown in Table 3.7-3, construction and decommissioning emissions would be below *de minimis* thresholds and would not trigger a formal Conformity Determination under the CAA General Conformity Rule.

Table 3.7-3. Alternative 1 – Construction and Decommissioning Emissions at NAS Lemoore with Evaluation of Conformity

	Emissions (tons/year)					
Emission Source	**VOCs**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Alternative 1 - Construction						
Year - 2016	0.55	1.98	17.11	0.03	2.00	0.74
Year - 2017	0.63	2.69	20.87	0.04	0.67	0.23
Year - 2018	0.55	1.98	17.11	0.03	2.00	0.74
Year - 2019	0.63	2.69	20.87	0.04	0.67	0.23
Alternative 1 - Decommissioning						
Year – 2055	0.37	0.15	0.36	0.0009	0.04	0.009
Conformity *de minimis* Limits	10	10	NA	100	100	100
Exceeds Conformity *de minimis* Limits?	No	No	No	No	No	No

Note: NA = not applicable.

During the proposed construction and decommissioning activities, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Construction equipment with combustive engines would meet the USEPA's Tier 4 emission standards, as practicable to do so. Dust suppression methods (such as using water trucks to wet the construction/decommissioning area) would be implemented to minimize fugitive dust emissions. After construction activities have occurred, a soil stabilizer would be applied to unvegetated soil, and gravel would be placed on access roads between the rows of solar PV panels and around the site perimeter (outside of the fence line).

Operation

Operational air emissions refer to air emissions that may occur after the solar panels have been installed. Air emissions would primarily result from the use of employee vehicles traveling to the project site for maintenance and repair activities, and from travel on unpaved roads and surfaces. Routine maintenance and inspections would occur less than one time per month and would typically require one to two vehicles per event. In addition, there would be a negligible reduction in dust generation because current agriculture activities that generate dust would cease.

On a region-wide scale, the use of solar PV panels would have beneficial air quality impacts because fossil fuels would not be used for the necessary electricity generation, resulting in fewer air emissions (including GHG and criteria pollutant emissions). Providing solar energy to NAS Lemoore or the region would have long-term direct and indirect benefits to air quality in the SJVAB.

General Conformity Applicability Analysis

To address the requirements of the General Conformity Rule, the estimated emissions from proposed construction and decommissioning activities were compared to the *de minimis* levels. As shown in Table 3.7-3, the emissions increases for NO_x, VOCs, SO_2, PM_{10}, and $PM_{2.5}$ would be below the *de minimis* thresholds. A full Conformity Determination would not be required. The Navy has prepared a Record of Non-Applicability (RONA) for CAA conformity (Appendix B).

Hazardous Air Pollutants

The USEPA has listed 188 substances that are regulated under Section 112 of the CAA, and the state of California has identified additional substances that are regulated under state and local air toxics rule. Emission factors for most hazardous air pollutants (HAPs) from combustion sources are roughly three or more orders of magnitude lower than emission factors for criteria pollutants. Trace amounts of HAPs may be emitted from sources during the construction, operation, or decommissioning of the proposed solar PV system; however, the amounts that would be emitted would be small in comparison with the emissions of criteria pollutants. Emissions of HAPs would also be subject to dispersion due to wind mixing and other dissipation factors.

Summary

Alternative 1 would not exceed *de minimis* levels; a Conformity Determination would not be required. HAP emissions would be negligible. Therefore, implementation of Alternative 1 would not have a significant impact to air quality.

Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing GHG. These potential long-term beneficial impacts would be expected to offset the minor

emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Construction and Decommissioning

The proposed project site and scope would be greatly reduced under the Alternative 1 Option, so the proposed air emissions would be lessened accordingly. Construction would occur over 2 years. Table 3.7-4 presents a summary of the annual emissions associated with construction and decommissioning activities at NAS Lemoore under the Alternative 1 Option. Because the potential emissions from construction and decommissioning activities would be in different years, they are not additive. As shown in Table 3.7-4, construction and decommissioning emissions would be below *de minimis* thresholds and would not trigger a formal Conformity Determination under the CAA General Conformity Rule.

Table 3.7-4. Alternative 1 Option – Construction and Decommissioning Emissions at NAS Lemoore with Evaluation of Conformity

	Emissions (tons/year)					
Emission Source	**VOCs**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Alternative 1 Option - Construction						
Year - 2016	0.27	1.07	9.84	0.02	1.14	0.56
Year - 2017	0.29	1.31	10.64	0.02	0.20	0.08
Alternative 1 Option - Decommissioning						
Year – 2053	0.04	0.14	0.34	0.001	0.01	0.01
Conformity *de minimis* Limits	10	10	NA	100	100	100
Exceeds Conformity *de minimis* Limits?	No	No	No	No	No	No

Note: NA = not applicable.

BMPs proposed under Alternative 1 would also be implemented under the Alternative 1 Option (e.g., routine maintenance of construction equipment, use of water trucks to lessen fugitive dust). Air emissions from construction and decommissioning activities under the Alternative 1 Option would be temporary.

Operation

The operational air emissions from the Alternative 1 Option would be similar as Alternative 1, but would be lessened because of the reduced scope of the project under the Option. Emissions from existing agricultural operations at Site A would cease upon implementation of the Alternative 1 Option.

The project would still have a beneficial impact to the SJVAB as a whole due to the potential reduction in GHG as compared to burning fossil fuels for electricity generation, but the beneficial impact would be smaller compared to as Alternative 1.

General Conformity Applicability Analysis

As shown in Table 3.7-4, the emissions increases for NO_x, VOCs, SO_2, PM_{10}, and $PM_{2.5}$ would be below the *de minimis* thresholds for requiring a full conformity determination. The Navy has prepared a RONA for CAA conformity (Appendix B).

Summary

The Alternative 1 Option would not exceed *de minimis* levels; a Conformity Determination would not be required. Hazardous air pollutant emissions would be negligible. Trace amounts of HAPs may be emitted from sources during the installation, operation, or decommissioning of the proposed solar PV system;

however, the amounts that would be emitted would be small in comparison with the emissions of criteria pollutants. Therefore, implementation of the Alternative 1 Option would not have a significant impact to air quality.

3.7.3.4 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Sites A, B, D, and/or E

Construction and Decommissioning

Implementation of Alternative 2 would also result in the construction of up to 390 MW solar PV system at Sites A, B, D, and/or E and thus the air quality impacts would be similar. However, Alternative 2 would include the construction and installation of additional transmission lines, both under and above ground, from Sites D and/or E.

Table 3.7-5 presents a summary of the annual emissions associated with construction and decommissioning activities at NAS Lemoore under Alternative 2. Construction would occur in two, 2-year phases. Because the potential emissions from construction and decommissioning activities would be in different years, they are not additive. As shown in Table 3.7-5, construction and decommissioning emissions would be below *de minimis* thresholds and would not trigger a formal Conformity Determination under the CAA General Conformity Rule.

Table 3.7-5. Alternative 2 – Construction and Decommissioning Emissions at NAS Lemoore with Evaluation of Conformity

	Emissions (tons/year)					
Emission Source	**VOCs**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Alternative 2 - Construction						
Year - 2016	0.58	2.22	17.30	0.04	2.55	0.82
Year - 2017	0.72	3.36	20.85	0.04	0.71	0.28
Year - 2018	0.58	2.22	17.30	0.04	2.55	0.82
Year - 2019	0.72	3.36	20.85	0.04	0.71	0.28
Alternative 2 - Decommissioning						
Year – 2055	0.04	0.13	0.33	0.001	0.07	0.01
Conformity *de minimis* Limits	10	10	NA	100	100	100
Exceeds Conformity *de minimis* Limits?	No	No	No	No	No	No

Note: NA = not applicable.

BMPs proposed under Alternative 1 would also be implemented under Alternative 2 (e.g., routine maintenance of construction equipment, use of water trucks to lessen fugitive dust). Air emissions from construction and decommissioning activities under Alternative 2 would be temporary.

Operation

The operational air emissions from Alternative 2 would be as described for Alternative 1.

General Conformity Applicability Analysis

As shown in Table 3.7-5, the emissions increases for NO_x, VOCs, SO_2, PM_{10}, and $PM_{2.5}$ would be below the *de minimis* thresholds for requiring a full conformity determination. The Navy has prepared a RONA for CAA conformity (Appendix B).

Summary

Alternative 2 would not exceed *de minimis* levels; a Conformity Determination would not be required. Hazardous air pollutant emissions would be negligible. Trace amounts of HAPs may be emitted from sources during the installation, operation, or decommissioning of the proposed solar PV system; however, the amounts that would be emitted are small in comparison with the emissions of criteria pollutants. Therefore, implementation of Alternative 2 would not have a significant impact to air quality.

Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing GHG. These potential long-term beneficial impacts would be expected to offset the minor emissions generated as a result of construction, operational maintenance, and decommissioning of the solar PV system. From an air quality perspective the proposed solar PV system benefits would be expected to off-set and exceed any temporary constraints or risks to air quality within the region.

3.7.3.5 No Action Alternative

Under the No Action Alternative, the existing agricultural operations at Sites A, B, D, and E would continue to occur. Emissions for the No Action Alternative would be from the existing and ongoing agricultural activities. Under the No Action Alternative, the emissions levels would remain constant for those emission sources that are not affected by other federal, state, or local requirements to reduce air emissions. As a result, no net emission increases would result from implementation of the No Action Alternative. With no net emission increases expected, the No Action Alternative is exempt from the General Conformity Rule.

Under the No Action Alternative, the proposed project would not be implemented and there would be no change in activities at Sites A, B, D, and E. Therefore, the No Action Alternative would not have a significant impact to air quality.

3.8 UTILITIES

3.8.1 DEFINITION OF RESOURCE

The Proposed Action would not increase demand or affect natural gas, telecommunications, or wastewater services/infrastructure. As the Proposed Action involves the construction and operation of a solar PV system, this section primarily discusses electricity but also considers water supply and use.

3.8.2 AFFECTED ENVIRONMENT

The Western Area Power Administration provides electricity to NAS Lemoore. NAS Lemoore owns and maintains all transmission lines and related infrastructure within the installation boundaries. Average annual electricity consumption at NAS Lemoore from FY 2008 through FY 2010 was 89,688,410 kilowatt-hours (NAS Lemoore 2014b). The peak NAS Lemoore energy demand (which occurred a few years ago) was just less than 20 MW.

NAS Lemoore's municipal and industrial activities rely primarily on purchased surface water deliveries from the WWD. The WWD receives water from the U.S. Bureau of Reclamation's Central Valley Project (CVP), which stores water from Northern California reservoirs via the Sacramento-San Joaquin Delta and the California Aqueduct and the Delta-Mendota Canal. Ultimately, NAS Lemoore's CVP water is received via the nearby San Luis Canal (NAS Lemoore 2014a).

3.8.2.1 Electricity

A PG&E 69-kV electrical transmission line runs along the eastern boundary of Site A, just west of 25th Street. A 12-kV electrical distribution line runs along the western boundary of Site A, just east of Reeves Boulevard. The Lemoore Substation is located to the south of Site A in the Administrative/Housing Area.

The same 69-kV electrical transmission that runs along the eastern boundary of Site A continues to the north, extending along the eastern boundary of Site B. Several 12-kV electrical distribution lines traverse Site B.

Several 12-kV electrical distribution lines are located within Site D, including lines running parallel to West Stutz Avenue, West Packard Avenue, and South Dickerson Avenue.

A 12-kV electrical distribution line is located along the eastern boundary of Site E. Two separate 12-kV electrical distribution lines bisect Site E along the unpaved access roads.

Potential Solar PV System Support Areas

There are no existing electrical transmission lines within the NAS Lemoore equestrian center. A 12-kV electrical distribution line occurs to the southwest on Lexington Drive. A PG&E 230-kV electrical transmission line is located to the east of the equestrian center, east of Avenal Cutoff Road, off NAS Lemoore property.

Energy is delivered to NAS Lemoore through a PG&E 69-kV electrical transmission line to the Lemoore Substation, which is located north of Franklin Avenue and west of 25th Street in the Administrative/ Housing Area. An existing 69-kV electrical transmission line (from the Henrietta substation located to the south), and an existing 69-kV electrical transmission line (from the PG&E Kearney substation located to the north) serve the substation.

Power is transferred throughout the Station through overhead and underground lines, including 4.6 miles (7.4 kilometers) of 69-kV transmission and 19.8 miles (31.9 kilometers) of 12-kV distribution lines. The existing electrical substations and transmission/distribution systems have adequate capacity to serve NAS Lemoore (NAS Lemoore 2014b).

PG&E owns and operates the existing PG&E Henrietta substation, which is located approximately 0.75 mile (1.2 kilometers) south of the NAS Lemoore Main Gate. The Henrietta substation is served by an existing 230-kV overhead transmission line running north from the PG&E Gates substation located to the south, and an existing 230-kV overhead transmission line running south from the PG&E Gregg substation, which is located to the north.

3.8.2.2 Water Supply and Use

The amount of agricultural water available varies from year to year based on a percentage allocation set annually by the U.S. Bureau of Reclamation against the land's basic water entitlement. In a 100 percent allocation year, each irrigable acre of land is entitled to 847,200 gallons (2.6 acre-feet) of water for irrigation purposes, which totals approximately 9.71 billion gallons (29,810 acre-feet) for all 11,466 acres (4,640 hectares) of irrigable land on NAS Lemoore that lie within the WWD. Since 2003, the percentage allocation set by the Bureau has ranged from a low of 0 percent in 2014 to a high of 100 percent in 2006, with an average allocation of 59.5 percent (NAS Lemoore 2014a).

Passive drainage systems, consisting of drainage sumps and canals, are used throughout most of the agricultural outlease areas to retrieve and reuse excess irrigation water. Ninety percent of parcels have return water pipes to prevent runoff and return water to the fields. Currently, agricultural runoff from any

lease is prohibited and NAS Lemoore encourages lessees to conserve water where they can, including encouraging installation of more efficient irrigations system (such as drip irrigation) where feasible. In addition to encouraging water conservation in a region that is semiarid, this technique helps prevent runoff contributions to soil erosion and the perched aquifer (NAS Lemoore 2014a).

3.8.3 ENVIRONMENTAL CONSEQUENCES

3.8.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Under Alternative 1, power used by construction equipment and vehicles would primarily be generated from the consumption of diesel and gasoline from mobile or portable sources (i.e., generators). Temporary and localized power disruption could potentially occur when the solar PV system is brought on-line.

Proposed construction activities would require water, primarily for dust suppression during initial grading and site preparation activities. For development of up to a 390 MW solar PV system, as much as approximately 0.15 acre-feet of water per acre would be used; this equates to approximately 410 acre-feet of water for construction use. The water would be brought to the project area by the private partner; NAS Lemoore would not supply water for construction activities. If available and feasible, reclaimed water (tertiary treated) would be used during construction and water use would be minimized to the extent practicable.

Operation

The operation of Alternative 1 would require a 400 MVA substation, a switching/metering station, and one new 230-kV electrical transmission line to support the electricity generated by the solar PV system. The new 230-kV overhead transmission line would run east-west along the existing southern right-of-way of Lemoore NAS Road to 25th Street. The 230-kV electrical transmission line would connect to the existing PG&E 230-kV electrical transmission line that runs to the east of NAS Lemoore. Existing PG&E utility infrastructure would be sufficient to support the power generated from the proposed solar PV system.

Under Model 2, the power would be delivered via existing PG&E infrastructure to customers located outside of NAS Lemoore. Under the combination of Models 2 and 3, the power would be used both by regional customers and by NAS Lemoore. Under Model 3, a local renewable energy source would be created for NAS Lemoore; the power generated by the solar PV system could meet NAS Lemoore's energy needs. The integration of solar PV power within the region and/or NAS Lemoore would improve power supply, reliability, and availability. Implementation of Alternative 1 would support achievement of the Navy's renewable energy goals and strategies and contribute towards meeting California's renewable portfolio standard.

Periodic cleaning of the solar PV panels would occur. The cleaning would require deionized water. Using a factor of 0.05 acre-feet of water per MW, to periodically clean up to 390 MW of solar PV panels, an annual volume of approximately 20 acre-feet of deionized water would be required. The private partner would use deionized water provided by an off-site source. The water would be trucked in and then applied to the solar PV panels for cleaning. The periodic cleaning process would produce little to no over-spray or

accumulation of water below the solar PV panels. In addition, other cleaning techniques that use little water may be implemented to reduce the amount of water needed for cleaning.

Decommissioning

At the conclusion of the agreement, the partner would be required to decommission the solar PV array and all associated features and return the project area to its pre-project condition. Although the decommissioning of the solar PV system would eliminate the electricity generated from the proposed PV system, conditions would return to those described in Section 3.8.2. Temporary and localized power disruptions may occur when the system is decommissioned. Power used for construction equipment and vehicles would primarily be generated from the consumption of diesel and gasoline from mobile and portable sources.

Up to approximately 35 acre-feet of water would be used during decommissioning activities, primarily for dust suppression. The water would be brought to the project area by the private partner; NAS Lemoore would not supply water for decommissioning activities. If available and feasible, reclaimed water (tertiary treated) would be used during decommissioning activities.

Summary

Under Alternative 1, there would be the potential for temporary and localized power disruption when the solar PV system comes on-line. Alternative 1 would support achievement of Navy's renewable energy goals and strategies. Under the Model 2 and combination of Models 2 and 3, there would be an increase in regional power supply. Under Model 3, a local renewable energy source would be created for NAS Lemoore. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system. The private partner would use off-site sources to meet all project water needs; NAS Lemoore would not supply water. There would be no impact to NAS Lemoore water supply or use. Therefore, implementation of Alternative 1 would not have a significant impact to utilities.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under the Alternative 1 Option, impacts to utilities would be similar to those discussed under Alternative 1, though at a smaller scale. If developed under Model 3, the 20 MW rate of solar PV power generation would be sufficient to meet NAS Lemoore's current electricity demand. Construction would require up to approximately 21 acre-feet of water, periodic cleaning of the solar PV panels would require approximately 1 acre-foot of deionized water per year, and decommissioning activities would require approximately 2 acre-feet of water. All water would come from suppliers other than NAS Lemoore. Therefore, implementation of the Alternative 1 Option would not have a significant impact to utilities.

3.8.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Under Alternative 2, impacts to utilities would the same as described for Alternative 1. Therefore, implementation of Alternative 2 would not have a significant impact to utilities.

3.8.3.3 No Action Alternative

Under the No Action Alternative, the Navy would not enter into an agreement with a private partner to construct and operate a solar PV system at NAS Lemoore. The No Action Alternative would not support the Navy's renewable energy goals and strategies. The existing electrical substations and transmission/ distribution systems would continue to have adequate capacity to serve NAS Lemoore's demand. There

would be no impact to NAS Lemoore water supply or use. Therefore, the No Action Alternative would not have a significant impact to utilities.

3.9 TRANSPORTATION

3.9.1 DEFINITION OF RESOURCE

For the purposes of this analysis, transportation refers to the movement of vehicles on both public and private roadways. Figure 3.9-1 illustrates the local and regional roadway network, access restricted areas and access gates surrounding and within NAS Lemoore.

3.9.2 AFFECTED ENVIRONMENT

The affected environment for transportation includes the internal road network of NAS Lemoore and surrounding public streets in both Kings and Fresno counties. NAS Lemoore is located 40 miles (64 kilometers) south of the City of Fresno, and about 7 miles (11 meters) west of the City of Lemoore. Regional access to the project area is provided primarily via California State Route (SR) 198, which runs along a generally east/west alignment from Interstate 5 through the City of Lemoore. SR-198 extends along the southern boundary of NAS Lemoore and connects to local roads leading to the following four access gates: Main Gate, Operations Area Main Gate, Reeves Gate, and Avenal Gate (Figure 3.9-1). Secondary access to and from the project vicinity is provided by SR-41 and SR-269. SR-41 extends along a north/south axis from Fresno through SR-198. SR-269 also runs in a north/south direction, and connects SR-145 to SR-198 and points south to the west of NAS Lemoore. Based on data collected by Caltrans (2013c) for roadway segments near NAS Lemoore, SR-198 has an existing average daily traffic volume of 12,600, while SR-41 and SR-269 have average daily traffic volumes of 17,300 and 3,600, respectively. Within Kings County, both SR-198 and SR-41 operate at Level of Service (LOS)[7] C or better near NAS Lemoore (Kings County 2006). Given the relatively low traffic volume, SR-269 is expected to operate at LOS B.

NAS Lemoore has three developed areas known as the Administrative Area, the Operations Area, and the Family Housing Area. The Administrative Area and the Family Housing Area are located adjacent to each other in the southeastern portion NAS Lemoore. A same perimeter fence encloses both areas. Activities that occur on the Administrative Area include personnel and family support functions, and mission support activities that do not occur near the runways, hangars and other facilities within the Operations Area (NAS Lemoore 2014b).

Access to the Administrative Area occurs primarily through the Main Gate via SR-198 and Franklin Avenue, and there is a second gate approximately 1 mile (1.6 kilometers) north on Reeves Boulevard called the Reeves Gate (NAS Lemoore 2014b). The Reeves Gate includes two separate access points. The first one is on Reeves Boulevard, which accommodates vehicles that are travelling southbound.

[7] Roadway operating conditions are described in terms of LOS ratings, which have been developed by the Transportation Research Board. LOS is rated on a scale of A to F, with LOS A reflecting free-flowing traffic conditions and LOS F representing heavily congested conditions (Transportation Research Board 2010). Generally, LOS C or better is considered an acceptable operating condition during peak traffic periods in more rural contexts, while LOS D is considered to adequate in more urbanized areas.

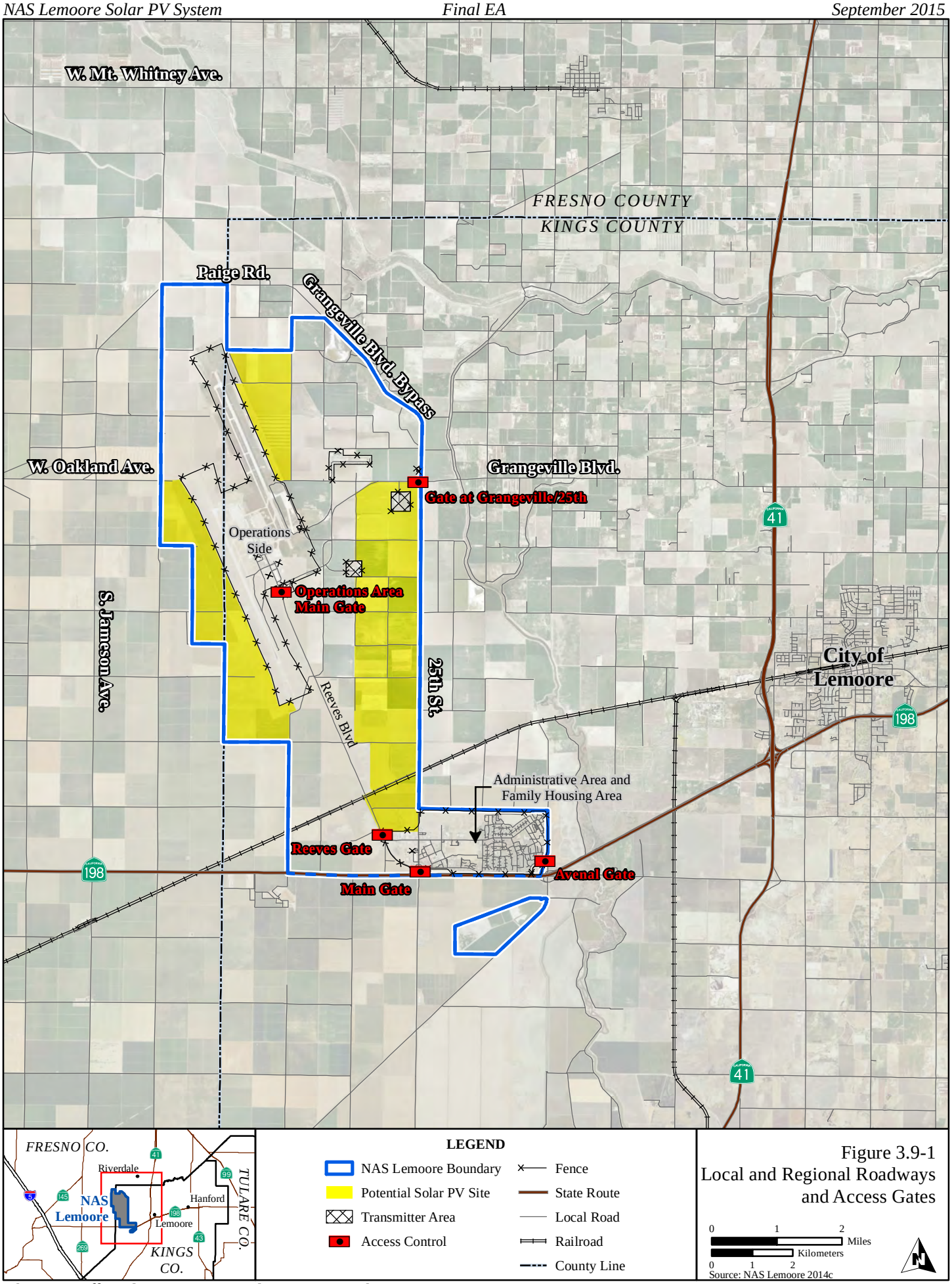


Figure 3.9-1
Local and Regional Roadways and Access Gates

The second entrance is located on a roadway that runs along the western Administrative Area fence line, and intersects with Reeves Boulevard just north of the Administrative Area fence line. Access to the Family Housing Area occurs primarily through the Avenal Gate (along Jackson Avenue/Franklin Avenue).

The Operations Area is enclosed by a separate fence, and is located approximately 5 miles (8 kilometers) northwest of the Administrative Area. The Operations Area includes two runways, aircraft hangars, maintenance shops, and other mission-support activities not conducted on the Administrative Area. The Operations Area Main Gate is also located on Reeves Boulevard, approximately 4 miles (6 kilometers) north of the Reeves Gate, and is the primary access point to the Operations Area (NAS Lemoore 2014b).

A fifth gate is located along Grangeville Boulevard at 25th Street. This gate is arranged to process traffic approaching NAS Lemoore from the east, via Grangeville Boulevard. However, motorists may access Site B and Site E without proceeding through this gate.

Outside of the Administrative Area, the Operations Area, and the Family Housing Area, the rest of the land on NAS Lemoore (approximately 13,234 acres [5,356 hectares]) is primarily undeveloped and is not enclosed by a perimeter security fence. Each of the potential solar PV sites are accessible via existing unpaved roads that lie outside of the separate, fenced Administrative Area and Operations Area on NAS Lemoore. In general, these unpaved roadways run along the perimeter of the large agricultural plots located outside of the Operations Area, the Administrative Area, and the Family Housing Area.

3.9.3 ENVIRONMENTAL CONSEQUENCES

3.9.3.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

Construction

Construction materials and equipment would be placed at one or more staging areas before the start of construction. Construction equipment would be delivered by trucks that would arrive to the vicinity of NAS Lemoore along SR-198. Transfer of materials and equipment would then occur on existing roadways, including Reeves Boulevard, Gateway Road, and Grangeville Boulevard, as well as unpaved, unnamed roadways in the agricultural areas. Construction workers would arrive to the site along a similar route, and a minimal amount of excavated material would be removed from the site along these roadways. Construction trips would result in a temporary increase in truck and passenger vehicle traffic on these roadways. Panel assembly would occur at the staging area(s) and other construction equipment and materials would be stored on site at the staging area(s) for the duration of construction. As a result, the delivery of construction equipment and materials would not result in a recurring increase in traffic volumes during construction.

In addition to the delivery of construction materials and equipment and the removal of construction debris, a peak of approximately 370 construction workers would travel to and from Sites A and B over the duration of the construction period. As a result, there would be a temporary increase in traffic associated with vehicle trips. Construction worker trips are likely to coincide with the traditional peak commuting periods (typically between 7:00 and 9:00 a.m. and 4:30 to 6:30 p.m.). Assuming each of the workers would drive alone to and from the construction zone, workers would generate a maximum of 740 daily trips during the construction period. This is a conservative assumption, given that some workers may elect to carpool if feasible. Vehicle trips would be distributed to SR-198, SR-41, SR-269, and other local and

regional facilities. However, even if all trips were added to a single state route (which is not likely), the proportional increase in traffic would be comparatively minor on SR-198 (i.e., 5.8 percent) and SR-41 (4.2 percent), and moderate on SR-269 (28 percent). The temporary increase in traffic would not alter existing LOS.

Vehicles would proceed to construction areas in Sites A and B, which are located outside the perimeter security fences that enclose the Operations Area and the Administrative Area/Family Housing Area. As a result, project trips would not interact with vehicles entering NAS Lemoore at the Main Gate, Operations Area Main Gate, or Reeves Gate.

Operation

Under Alternative 1, operation would involve maintenance activities that would occur periodically and would require a small number of vehicle trips per year to Sites A and B. All maintenance trips would occur outside of the fenced areas of NAS Lemoore, and would not contribute toward delays and queues at the NAS Lemoore access gates.

Decommissioning

Decommissioning activities would include the decommissioning of the solar PV system and removal of the materials from the site. Equipment would be conveyed to the site by truck, and would be parked in a staging area within the project site during the duration of the decommissioning. There would be a temporary increase in traffic associated with the delivery of decommissioning equipment, the removal of debris from the site, and from worker trips. The temporary increase in traffic would have not alter existing LOS.

Vehicles would proceed to construction areas in Sites A and B, which are located outside the perimeter security fences that enclose the Operations Area and the Administrative Area/Family Housing Area. As a result, decommissioning trips would not interact with vehicles entering NAS Lemoore at the Main Gate, the Operations Area Main Gate, or the Reeves Gate.

Summary

Alternative 1 would involve temporary increases in traffic associated with construction, operations and maintenance, and decommissioning activities. Some of the trips associated with these activities (i.e., delivery of construction materials and equipment; the removal of construction debris; and operations and maintenance) would be periodic, and would not regularly add traffic to the roadway network. The traffic generation associated with these activities is expected to be comparatively light. Construction and decommissioning vehicle trips would occur throughout the associated project phase. As discussed above, the volume of vehicle trips is relatively minor, and is not expected to affect existing LOS. Moreover, because the construction areas are outside of fenced areas on NAS Lemoore, traffic from Alternative 1 would not contribute toward any delays or queues at NAS Lemoore access gates. Therefore, implementation of Alternative 1 would not have a significant impact to transportation.

Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Under Alternative 1 Option, impacts to transportation would be similar to those discussed under Alternative 1, but activities would be concentrated to Site A. As would be the case with Alternative 1, construction traffic would be able to access Site A via paved and unpaved roadways located outside the NAS Lemoore fence line. As a result, construction trips would not contribute toward queues or delays at

NAS Lemoore access gates. Therefore, implementation of the Alternative 1 Option would not have a significant impact to transportation.

3.9.3.2 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Under Alternative 2, impacts to transportation would be similar to those of Alternative 1. The main difference is that construction, operations and maintenance, and decommissioning trips may also access Sites D and/or E, in addition to Sites A and B. Because Alternative 2 would have the same traffic generation as Alternative 1, the distribution of trips to additional locations would alter turning movements at some intersections and would reduce the concentration of traffic on some roadways. As with Alternative 1, Alternative 2 would not contribute toward any incremental increase in delays or queues at access gates at the Operations Area, the Administrative Area, or the Family Housing Area. Therefore, implementation of Alternative 2 would not have a significant impact to transportation.

3.9.3.3 No Action Alternative

Under the No Action Alternative, NAS Lemoore would not develop a solar PV system. There would be no net increase in traffic associated with construction, operations and maintenance, or decommissioning activities. Therefore, the No Action Alternative would not have a significant impact to transportation.

CHAPTER 4
CUMULATIVE IMPACT ANALYSIS

4.1 INTRODUCTION

CEQ regulations implementing NEPA require that the cumulative impacts of a Proposed Action be assessed (40 CFR §§ 1500-1508). A cumulative impact is defined as the following:

> *"the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR § 1508.7)*

Cumulative effects are most likely to arise when a relationship exists between the Proposed Action and other actions expected to occur in a similar location or during a similar time. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated.

CEQ's guidance for considering cumulative effects states that NEPA documents "should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant" (CEQ 1997). The first step in assessing cumulative effects; therefore, involves identifying and defining the scope of other actions and their interrelationship with the Proposed Action or alternatives. The scope of the cumulative effects analysis involves both the geographic extent of the effects and the timeframe in which the effects could be expected to occur. The scope must consider other projects that coincide with the location and timing of the Proposed Action and other actions, and the duration of potential effects on the environment. Section 4.2 identifies the projects considered in the cumulative analysis. Section 4.3 provides an analysis of potential cumulative impacts for each of the environmental resources discussed in this EA.

4.2 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

This section identifies past, present, and reasonably foreseeable future actions not related to the Proposed Action that have the potential to cumulatively impact the resources in the affected environment for NAS Lemoore and the associated regionally affected area. The geographic distribution, intensity, duration, and historical effects of similar activities were considered when determining whether a particular activity may contribute cumulatively to the impacts of the Proposed Action on the resources identified in this EA. The following discussion lists the past, present, and reasonably foreseeable future projects assessed in this section, along with any NEPA or environmental analysis that has been prepared or is anticipated to occur. Figure 4-1 depicts the locations of these projects.

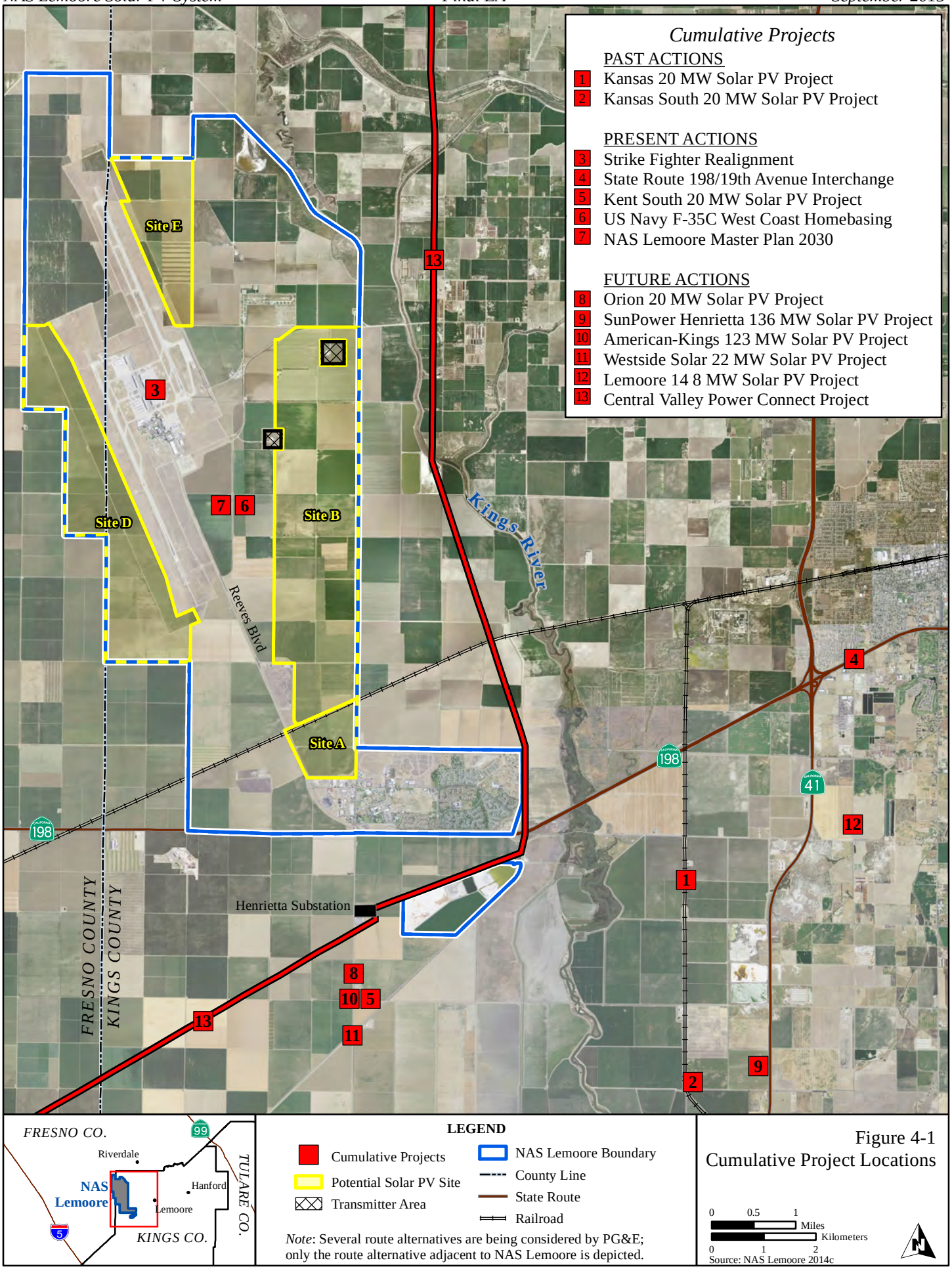


Figure 4-1
Cumulative Project Locations

4.2.1 PAST ACTIONS

Three past actions relevant to the analysis of cumulative impacts at NAS Lemoore have been identified and are described below.

- **Kansas 20 MW Solar PV Project**. This constructed 20 MW solar project is located southeast of NAS Lemoore (15515 21st Avenue, Lemoore). The Kansas Solar PV Project resulted in impacts to land use from the loss of farmland of statewide importance, biological resources, and transportation/traffic during construction (Kings County 2012).
- **Kansas South 20 MW Solar PV Project**. This 20 MW solar project is located southeast of NAS Lemoore (East side of 21st Avenue and north of Kansas Avenue, Stratford, CA). The project began operating in 2013. NRG Energy Inc. operates Kansas South via a Power Purchase Agreement with PG&E (NRG Energy Inc. 2014)**.** The Kansas South Solar PV Project resulted in impacts to land use from the loss of farmland of statewide importance, cultural resources, transportation/traffic during construction, air quality, biological resources, geology, hazardous materials, and water resources (Kings County 2013).

4.2.2 PRESENT ACTIONS

The following present actions are relevant to the analysis of cumulative impacts at NAS Lemoore.

- **Environmental Assessment (EA) for Strike Fighter Realignment at NAS Lemoore, California** (Navy 2011). This project involved the relocation of 24 FA-18E/F Super Hornet aircraft from the East Coast to NAS Lemoore and the transition of up to five squadrons of older FA-18C Hornet aircraft based at NAS Lemoore to newer FA-18E/F Super Hornets. The Strike Fighter realignment is scheduled to occur at NAS Lemoore between 2012 and 2015. Impacts associated with this action are primarily related to an increase in personnel, and associated impacts to socioeconomics, schools, and public services. Additional, less than significant, impacts are associated with the modification of structures constructed in 1959, but not eligible for the NRHP.
- **State Route 198/19th Avenue Interchange.** SR-198 is a major travel corridor and the main commuter route providing access to NAS Lemoore. A construction project is proposed to create an interchange where SR-198 and 19th Avenue meet in the City of Lemoore, approximately 4.5 miles (7.2 kilometers) east of NAS Lemoore. Construction began in spring 2013 and is expected to be completed in spring 2015 (Caltrans 2014). Impacts are to transportation/traffic (adverse during construction and beneficial during operation) and safety (beneficial) and would be localized to the project area.
- **Kent South 20 MW Solar PV Project.** This 20 MW solar project is located immediately south of NAS Lemoore (17264 25th Avenue, Lemoore, CA). A conditional use permit (12-02) has been approved for Recurrent to develop the project. As of December 2014, construction was on-going. The project would result in less than significant impacts to air quality, biological resources, geology, hazardous materials, and water resources.
- **US Navy F-35C West Coast Homebasing** (Navy 2014b). The Navy has prepared an EIS for the west coast homebasing of the F-35C at NAS Lemoore. As described in the EIS, seven Pacific Fleet FA-18 squadrons (70 total aircraft) currently based at NAS Lemoore would progressively transition to the new F-35C aircraft beginning in 2015 with the transition to be complete by 2028. Facility development needed to support F-35C homebasing may begin as early as 2015. The EIS

predicts beneficial impacts to socioeconomics related to increased employment opportunities at NAS Lemoore, but potentially adverse impacts to housing, schools, and public services (e.g., police support). The EIS projects less than significant impacts to safety related to an increased BASH risk. This risk is mitigated with a revised BASH plan developing policies to minimize the likelihood of incidents.

- **NAS Lemoore Master Plan 2030** (NAS Lemoore 2014b). The NAS Lemoore 2030 Master Plan identifies numerous funded, programmed, or unprogrammed projects throughout the Operations, Administration, and Ordnance and Fire School areas. These projects are currently being implemented.

4.2.3 FUTURE ACTIONS

- **Solar PV System Projects.** The following reasonably foreseeable solar projects are located in the cumulative effects region. The impacts associated with these facilities would be similar to those of past and present proposed PV projects, including less than significant impacts to air quality, biological resources, geology, hazardous materials, and water resources:
    - **Orion 20 MW Solar PV Project.** Located south of NAS Lemoore (16480 25th Avenue, Lemoore, CA), this project has received a conditional use permit (12-01) but as of January 2015, construction has not started.
    - **SunPower Henrietta 136 MW Solar PV Project.** Located southeast of NAS Lemoore (17515 20th Avenue, Lemoore, CA), this project has received a conditional use permit (11-03) but as of January 2015, construction has not started.
    - **American-Kings (First Solar) 123 MW Solar PV Project.** Located south of NAS Lemoore adjacent to the PG&E Henrietta substation (15866 25th Avenue, Lemoore, CA), this project received a conditional use approval (11-01) and is scheduled to start construction in October 2015.
    - **Westside Solar 22 MW Solar Project.** Located south of NAS Lemoore (southwest corner of 25th Ave and Avenal Cutoff), this project is estimated to start construction in 2015. An Initial Study and Mitigated Negative Declaration was prepared for this project (Kings County Community Development Agency 2015).
    - **Lemoore 14 8 MW Solar Project.** Located east of NAS Lemoore (14805 19th Avenue), this project received a conditional use approval in November 2014. Construction is estimated to start in 2015 or 2016 (Kings County 2014).
- **Central Valley Power Connect Project.** PG&E's Central Valley Power Connect is a proposed new 230-kV electric transmission line connecting Gates Substation east of Coalinga and Gregg Substation northwest of Fresno. The transmission line would span about 70 miles (113 kilometers) within a study area that includes portions of Fresno, Kings, and Madera counties. In addition to other needs, the project is needed to help grid operators integrate clean power in and out of the Central Valley. PG&E is currently studying several route alternatives; one of the routes would be located adjacent to the southeast boundary of NAS Lemoore and parallel with an existing 230-kV transmission line (PG&E 2014).

4.3 METHODOLOGY

4.3.1 GEOGRAPHIC SCOPE OF THE CUMULATIVE EFFECTS

For this analysis, a geographic scope, or ROI, for each cumulative effects issue was established. The ROI is generally based on the natural boundaries of the resources affected, rather than jurisdictional boundaries. The geographic scope may be different for each cumulative effects issue. The geographic extent of analysis may be different for each cumulative effects issue. The geographic analysis range for cumulative effects often extends beyond that of the direct effects of the proposed action. However, cumulative impact analysis does not extended beyond the area subject to indirect effects of the proposed action and alternative. Geographic area may vary among resources, as indirect effects associated with a Proposed Action also vary in extent by resource. However, if the Proposed Action and Alternatives are determined to have no direct or indirect effects on a resource, no future cumulative effects analysis is necessary. ROIs are defined in Section 4.4 for each resource listed below. Because ROIs vary for different resources, not all of the projects listed in Section 4.2 would be located within the ROIs defined for a particular resource.

4.3.2 TIME FRAME OF THE CUMULATIVE EFFECTS ANALYSIS

A time frame for each issue related to cumulative effects has been determined. The time frame is defined as the long-term and short-term duration of the effects anticipated. Long-term can be as the longest lasting effect. Time frames, like geographic scope, can vary by resource. Each project in a region has its own implementation schedule, which may or may not coincide or overlap with the schedule for implementing the Proposed Action. This is a consideration for short-term impacts from the Proposed Action. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the Proposed Action.

Past actions are projects that have been approved and/or permitted, and that have either very recently completed construction/implementation or have yet to complete construction/be implemented. Present actions are actions that are ongoing at the time of the analysis. Reasonably foreseeable future actions are those for which there are existing decisions, funding, or formal proposals, or which are highly probable based on known opportunities or trends. However, these are limited to within the designated geographic scope and time frame. Reasonably foreseeable future actions are not limited to those that are approved for funding. However, this analysis does not speculate about future actions that are merely possible, but rather highly probable based on information available at the time of this analysis.

For this cumulative effects analysis, the time frame considered for cumulatively considerable projects includes projects recently approved or completed that are not yet addressed as part of the existing conditions of the area, projects under construction, and projects that are in the environmental review or planning process and for which enough information is available to discern their potential impacts. Projects for which no or insufficient information is known, or for which substantial uncertainty exists regarding the project, are considered speculative and are not evaluated as part of this analysis.

4.4 CUMULATIVE IMPACT ANALYSIS

This section addresses the potential cumulative impacts of the Proposed Action in conjunction with the aforementioned cumulative projects. These projects represent past, present, and reasonably foreseeable actions with the potential for cumulative impacts when considered in conjunction with the potential impacts from the Proposed Action. However, if a proposed action would not result in direct or indirect impacts on a resource area, the action would not contribute to a cumulative impact on that resource area

and no further evaluation from a cumulative impact perspective is warranted. The resources that do not meet these criteria are public health and safety (Section 3.3), cultural resources (Section 3.6), and transportation (Section 3.9). Therefore, the Proposed Action would not cumulatively contribute to impacts to these resources areas, and they are not evaluated further in this section.

4.4.1 LAND USE

Land use within the project area is currently developed/productive agricultural land. Development potential of the land for other uses is limited by the safety requirements associated with the NAS Lemoore operations, as well as the NAS Lemoore Master Plan. Implementation of the action alternatives at Sites A and B would be consistent with the NAS Lemoore Master Plan, as the proposed site(s) have been noted for their solar development potential. The identified military cumulative projects are also consistent with land use designations for a military installation and the NAS Lemoore Master Plan. The action alternatives would also be consistent with regional solar PV projects by others. The farmland of statewide importance would be available for future agricultural use at NAS Lemoore's discretion.

The Kansas South 20 MW Solar project prepared a Soil Reclamation Plan to restore farmland of statewide importance to its pre-project condition after the life cycle of the project. This approach is likewise being followed by the other solar PV projects throughout the region, as the majority of these projects result in converting agricultural land to solar PV projects. These land use changes are all subject to zoning and development review within the county to ensure consistency with all zoning, long range planning, and community intentions for land use in the region. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to land use in conjunction with the impacts from other potentially cumulative actions.

4.4.2 BIOLOGICAL RESOURCES

Biological resources within the project area are lacking in diversity and quality habitat. All of the potential solar PV sites are currently leased by the Navy for agriculture use and are regularly disturbed, mechanically and chemically (herbicides/pesticides), for crop production. There is very little natural vegetation in the agricultural areas, as the fields are plowed or disked to the edge of roads and irrigation ditches. Non-native, herbaceous plant species are sparsely distributed along the borders of unpaved access roads and irrigation ditches near the agricultural fields.

The majority of non-developed land at NAS Lemoore is currently active or fallow agricultural land that does not provide suitable habitat for the majority of wildlife species that occur in the San Joaquin Valley. Two habitat management areas are adjacent to, but not within, the project area. NRMA 4 is approximately 50 acres (20 hectares) of annual grassland habitat, and is located in the northern part of NAS Lemoore. NRMA 5 is approximately 116 acres (47 hectares) of annual grassland and brushland habitat, and is managed for the federally listed San Joaquin kangaroo rat in the northeastern part of NAS Lemoore. The project area and surroundings also provide nesting, roosting, and foraging habitat for approximately 170 species of birds, 54 of which are likely resident species.

The Proposed Action entails construction, operation, and decommissioning of a solar PV system on lands that are currently used for agricultural purposes and that are highly disturbed. The Proposed Action would not be likely to adversely affect any federally listed threatened or endangered species or any other species of concern. Recent data and studies suggest that solar PV projects may deter use by the majority of bird species; the Proposed Action would also include features to minimize use of the facility by perching and nesting bird species. Thus, it is unlikely that the biological resource conditions would be substantially

reduced or improved over the existing highly disturbed conditions with the implementation of the Alternatives 1 or 2.

Past, present, and future projects, including other solar PV system projects, have been, and would similarly be required to avoid or minimize direct and indirect effects to biological resources. Impacts to biological resources would be similar for these projects as with the Proposed Action, as these projects also seek to convert highly disturbed agricultural land with poor habitat into solar PV projects. The region surrounding the project area is largely composed of agricultural land that is highly manipulated and disturbed, thereby providing little value to biological resources. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to biological resources in conjunction with the impacts from other potentially cumulative actions.

4.4.3 PUBLIC HEALTH AND SAFETY

Military training within the ROI often involves activities that are inherently hazardous to non-participating personnel, vehicles, or aircraft. The Proposed Action in conjunction with the past, present, and reasonably foreseeable projects would convert large areas of active agricultural land on and in the vicinity of NAS Lemoore into solar PV projects. These facilities cumulatively have the potential to contribute to changes in wildlife patterns and in reflective glare, both of which pose safety risks to pilots. However, recent studies suggest that solar PV facilities do not attract birds and may reduce BASH risk, and thus potential wildlife/safety impacts would be reduced.

Adverse impacts to public health and safety are not anticipated from the combined effects of the implementation of Alternatives 1 or 2 with other planned area projects, based on the analysis contained in this EA. Solar PV panels installed adjacent to or near the NAS Lemoore runways would be low-profile and essentially non-reflective (2 percent reflective), presenting no hazard to approaching or departing aircraft. The regional solar PV projects are subject to public review through the King's County conditional use permit process, as well as other statutory public review processes, which include a safety review and opportunity for input by NAS Lemoore.

The incidence of Valley Fever is increasing in the San Joaquin Valley. The most significant determinant of exposure is soil disturbance, as is typical of both agricultural and construction practices. In windy and dry conditions, the exposure risk may increase as dust becomes more widespread in the San Joaquin Valley. The Proposed Action, as well as all past, present, and reasonably foreseeable future projects in the region, would include dust abatement measures, which would contribute to reducing potential Valley Fever exposure. The conversion of regularly-disturbed agricultural land to solar PV projects throughout the region may cumulatively contribute to a reduction of dust in the region. While drought may increase dust and associated Valley Fever exposure risk, increased solar PV development in the San Joaquin valley would reduce dust and associated fever risk. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to public health and safety in conjunction with the impacts from other potentially cumulative actions.

4.4.4 SOCIOECONOMICS

Agriculture accounts for 15.9 percent of Kings County employment and 13.5 percent of Fresno County employment. Manufacturing accounts for 8.3 percent and 7.7 percent of employment in King and Fresno counties, respectively. Utilities employment is combined with trade and transportation jobs, and accounts for 12.6 percent and 16.7 percent of employment in King and Fresno counties, respectively (California EDD 2011).

NAS Lemoore dominates the Navy and Marine Corps Outlease Program with 16 farming entities, on average, leasing approximately 54 agricultural outleases on 12,776 acres (5,170 hectares). Revenues generated through the program at NAS Lemoore (estimated to be $1.3 million per year) are used to fund natural resources management programs while the outleases provide farming entities additional land to perform agricultural activities that increase employment and generating revenue. In addition to the direct lease revenue, the NAS Lemoore Outlease Program results in services and land improvements valued at over $1 million dollars per year, which is an estimated combined value of approximately $180 per acre (NAS Lemoore 2014a).

Continuing drought conditions have had an impact on agricultural revenue and employment. The drought experienced in 2009 correlated to a total decline in revenue of $342.6 million as compared to 2008. These losses were felt most strongly along the west-side of the valley and especially in Kern County. Drought years can result in a loss of between 2,500 and 9,800 agricultural jobs throughout the San Joaquin Valley. Pumping restrictions 2009 also saw 268,500 acres (108,659 hectares) of agricultural land fallowed; 129,800 acres (52,528 hectares) are directly attributed to irrigation pumping restrictions (Howitt et al. 2010).

The socioeconomic interplay between solar PV development and agricultural production is closely tied to drought. In years of drought, cumulative impact of solar PV development may be considered a socioeconomic benefit, as agricultural land that would otherwise be fallowed due to drought can still provide revenue to the region. However, during “wet” years, a solar PV project may preclude otherwise productive agricultural land from being used, which would also reduce potential agricultural employment and revenues in the region. Thus, in wet conditions, regional solar PV development may have a cumulative negative impact on socioeconomic conditions.

While the Proposed Action alone has the potential for adverse impacts to employment from the loss of agricultural positions, the majority of the past, present, and reasonably foreseeable future actions within the region include cumulative increases in local employment opportunities. These include both short-term construction opportunities with the multiple regional solar PV arrays being constructed, as well as long-term employment opportunities. The F-35C West Coast Homebasing project, which is currently underway, would have the biggest socioeconomic benefit, as the secondary employment impacts (i.e., those not directly associated with the F-35C Homebasing) are projected to total an estimated 471 jobs and an estimated $25.2 million in labor income (Navy 2014b). Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to socioeconomics in conjunction with the impacts from other potentially cumulative actions.

4.4.5 VISUAL RESOURCES

The sites within the project area all have similar visual character, generally consisting of agricultural fields. The sites are flat with little topographic relief. The viewsheds from each site are similar, consisting of power lines, dirt access roads, agricultural fields, tree-lined windbreaks, distant mountains, and the NAS Lemoore Operations Area. Overall, the visual landscape of the area is rural with vast agricultural fields, roadways, and irrigation ditches dominating the visual setting.

Implementation of Alternatives 1 or 2 would alter the visual environmental from agricultural to a solar PV system. The solar PV system would be compatible with NAS Lemoore’s visual character, and that of the surrounding area, which has several completed or planned solar PV projects. The new 230-kV transmission line would not change the context of the visual environment as several existing transmission lines are in the region.

This change in visual character from managed agriculture to solar PV system is consistent with regional development, where multiple solar PV projects are active, under construction, or proposed on previously or currently agricultural use lands. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to visual resources in conjunction with the impacts from other potentially cumulative actions.

4.4.6 CULTURAL RESOURCES

The Proposed Action entails construction, operation, and decommissioning of a solar PV system on lands that are currently used for agricultural purposes and that are highly disturbed. The Proposed Action would not be likely to adversely affect any cultural resources. Three archaeological sites are located within the APE for Alternative 1 and Alternative 2: LPV-01, CA-KIN-0001116H, and CA-KIN-0001117H.

LPV-01, a historic trash scatter, is recommended not eligible for listing in the NRHP. Sites CA-KIN-0001116H (a historic utility line) and CA-KIN-0001117H (a portion of the San Joaquin Valley Railroad) bisect Sites A and B. CA-KIN-0001116H is comprised of nine utility poles that were once used to power the railroad crossing lights and bells on Reeves Boulevard (Garner and Waechter 2014). Only one of the nine utility poles, the easternmost, lies within the APE. This pole would be avoided during construction of the solar PV panels and the perimeter fence. No construction would occur at or adjacent to the San Joaquin Valley Railroad (site CA-KIN-0001117H), which runs through the APE.

Past, present, and future projects, including other solar PV system projects, have been, and would similarly be required to avoid or minimize direct and indirect effects to cultural resources. While the F-35C Homebasing effort does include the demolition of several buildings, California SHPO and NAS Lemoore have concurred that these buildings are not eligible for NRHP listing and that the impact to the cultural resources of NAS Lemoore from that project is less than significant. The region surrounding the project area is largely composed of agricultural land that is highly manipulated and disturbed, with a low likelihood of containing intact cultural resources. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to cultural resources in conjunction with the impacts from other potentially cumulative actions.

4.4.7 AIR QUALITY

4.4.7.1 Alternative 1: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A and B

Sites A and B

The ROI in this air quality cumulative effects analysis includes the SJVAB. The minor impacts to air quality from Alternatives 1 or 2 that could contribute to potential cumulative impacts would be from the short-term air emissions from trucks and vehicles used during the construction of the project. Operational air emissions from proposed maintenance activities under Alternatives 1 or 2 would be negligible compared to the existing condition, and would not result in significant long-term increases in air emissions. In addition, during operations there would be a regional reduction in air emissions due to the reduction in the use of fossil fuels to produce electricity. The listed cumulative projects would also be required to conform to CAA General Conformity Rule requirements and/or the SJVAB SIP, and would not produce significant amounts of air emissions. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to air quality in conjunction with the impacts from other potentially cumulative actions.

4.4.7.2 Greenhouse Gasses Cumulative Effects Analysis

The potential effects of GHG emissions are by nature global and cumulative and it is impractical to attribute climate change to individual activities. Therefore, an appreciable impact on global climate change would only occur if GHG emissions associated with the Proposed Action or other alternatives were to combine with such emissions from other man-made activities in such a way as to appreciably increase climate change impacts on a global scale. Table 4.4-1 summarizes the annual GHG emissions that would occur with implementation of Alternative 1.

Table 4.4-1. Estimated Annual GHG Emissions – Alternative 1

Scenario/Activity	Metric tons per year			
	CO_2	CH_4	N_2O	CO_2e[1]
Construction				
Year - 2016	3,102.57	0.78	0.00	3,119.03
Year - 2017	3,768.11	0.96	0.00	3,788.22
Year - 2018	3,102.57	0.78	0.00	3,119.03
Year - 2019	3,768.11	0.96	0.00	3,788.22
Decommissioning				
Year 2055	82.92	0.003	0.00	82.98

Note: [1]$CO_2e = CO_2 + (21 * CH_4) + (310 * N_2O)$.

Currently, there are no formally adopted or published NEPA thresholds of significance for GHG emissions. Therefore, in the absence of a formally adopted threshold of significance for GHGs, this EA compares GHG emissions that would occur from implementation of Alternative 1 to the U.S. net GHG baseline inventory of 2012 (the most recent information available) to determine the relative increase in proposed GHG emissions. Total annual CO_2e emissions in the U.S. were approximately 5.5 billion metric tons (USEPA 2014). Therefore, the CO_2e emissions resulting from the Proposed Action would amount to, at the most, approximately 0.00007 percent of the total CO_2e emissions generated by the U.S. In addition, the total annual GHG emissions would be well below the reference point of 25,000 metric tons of CO_2e proposed in the draft NEPA guidance by the CEQ (CEQ 2014).

Potentially cumulative projects in the vicinity of the Proposed Action (listed in Section 4.2) could also release a nominal amount of GHGs from construction and operation activities when compared to the total annual CO_2e emissions in the U.S., California, and NAS Lemoore. In addition, the Navy has taken a number of steps to reduce GHG emissions from their activities. These actions include developing energy efficient technologies and weapons systems, improving military and civilian vehicles fuel efficiency, utilizing alternative fuel vehicles and electric vehicles, improving energy efficiency at Navy facilities, and installing solar and other renewable energy sources at Navy facilities.

Long-term beneficial impacts to air quality would occur with implementation of the solar PV system due to the benefits of contributing to the energy/power grid through alternative energy development and reducing GHG. Alternative 1 in conjunction with the other past, present, and future solar energy projects would have a beneficial impact to the SJVAB as a whole due to the potential reduction in GHG as compared to burning fossil fuels for electricity generation. Therefore, when GHG impacts from Alternative 1 are added to the GHG impacts from the cumulative projects, there would not be significant GHG cumulative impacts to global climate change from implementation of Alternative 1.

4.4.7.3 Alternative 1 Option: Construction, Operation, and Decommissioning of a 20 MW Solar PV System at Site A

Table 4.4-2 summarizes the annual GHG emissions that would occur with implementation of the Alternative 1 Option.

Table 4.4-2. Estimated Annual GHG Emissions – Alternative 1 Option

Scenario/Activity	Metric tons per year			
	CO_2	CH_4	N_2O	CO_2e[1]
Construction				
Year - 2016	1,720.59	0.47	0.00	1,730.35
Year - 2017	1,831.81	0.49	0.00	1,842.11
Decommissioning				
Year 2053	80.03	0.003	0.00	80.09

Note: [1]$CO_2e = CO_2 + (21 * CH_4) + (310 * N_2O)$.

The potential GHG emissions under the Alternative 1 Option would be less than the potential emissions under Alternative 1; therefore, there would not be significant GHG cumulative impacts to global climate change from implementation of the Alternative 1 Option.

4.4.7.4 Alternative 2: Construction, Operation, and Decommissioning of an up to 390 MW Solar PV System at Sites A, B, D, and/or E

Table 4.4-3 summarizes the annual GHG emissions that would occur with implementation of Alternative 2.

Table 4.4-3. Estimated Annual GHG Emissions – Alternative 2

Scenario/Activity	Metric tons per year			
	CO_2	CH_4	N_2O	CO_2e[1]
Construction				
Year - 2016	2,943.22	0.74	0.00	2,958.77
Year - 2017	772.05	0.08	0.00	773.63
Year - 2018	2,943.22	0.74	0.00	2,958.77
Year - 2019	772.05	0.08	0.00	773.63
Decommissioning				
Year 2055	96.89	0.003	0.00	96.96

Note: [1]$CO_2e = CO_2 + (21 * CH_4) + (310 * N_2O)$.

The GHG effects from the implementation of Alternative 2 would be greater to those effects from Alterative 1. However, the potential GHG emissions would still be nominal as compared to the total annual CO_2e emissions in the U.S. Therefore, when GHG impacts from Alternative 2 are added to the GHG impacts from the cumulative projects, there would not be significant GHG cumulative impacts to global climate change from implementation of Alternative 2.

4.4.7.5 No Action Alternative

Under the No Action Alternative, no project activities would occur; therefore, there would be no GHG impacts to global climate change.

4.4.8 UTILITIES

The Western Area Power Administration provides electricity to NAS Lemoore. NAS Lemoore owns and maintains all transmission lines and related infrastructure within the installation boundaries. Average annual electricity consumption at NAS Lemoore from FY 2008 through FY 2010 was 89,688,410

kilowatt-hours (NAS Lemoore 2014b). The peak NAS Lemoore energy demand (which occurred a few years ago) was just less than 20 MW.

Implementation of Alternatives 1 or 2 would generate additional electricity for regional customers (Model 2) or for NAS Lemoore (Model 3) or a combination thereof (Models 2 and 3). Past, present, and reasonably foreseeable future solar PV projects in the region would add a cumulative total of 319 MWs of potential electricity generation in the region. On-going transmission planning by the CAISO have identified and proposed upgrades to systems that require additional load requirements, and short- and long-term infrastructure needs throughout California. For example, the cumulative project, Central Valley Power Connect Project, proposes to construct a new 230-kV electrical transmission line connecting Gates Substation and Gregg Substation.

Historically, NAS Lemoore relied heavily on groundwater to meet the Station's—and the agricultural outleases—needs for irrigation. This reliance was matched by the surrounding agricultural region, and contributed to substantial groundwater mining of the aquifer. This mining continued until the CVP in the late 1960s brought surface water from northern California to the region for irrigation. By that time, groundwater mining had contributed to regional subsidence, i.e., the sinking of the surface as groundwater is removed and the ground settles into spaces that previously were saturated with water. NAS Lemoore experienced 10 feet (3 meters) of subsidence between 1926 and 1972. The CVP reduced the reliance of NAS Lemoore on groundwater resources, and thus subsidence was curtailed. Since the CVP, NAS Lemoore's rate of groundwater extraction has generally matched the natural rate of recharge of the aquifer, and the Station's use of groundwater has been to supplement surface water in drier years with poor surface water allocation (NAS Lemoore 2014a).

When a dry period stretches for multiple years, the natural recharge of the aquifer is diminished while the reliance on groundwater increases. Expanded cumulatively with other regional irrigators similarly returning to groundwater, the regional aquifer is under substantial stress as the water table continues to lower. This has also resulted in a return of subsidence concerns that have been specifically tied to periods of drought: 2 feet (0.6 meter) of subsidence were correlated with a drought in the early 1990s, while an additional half-foot of subsidence is believed to result directly from groundwater mining during the 2008-2010 drought period.

Climate change modelling predicts increased frequency of longer and more severe droughts in the region. Without substantial reduction of water demand in the region, the increase of drought combined with the agricultural practices of the region have the potential for substantial impacts to ground water supply and quality, as well as increase subsidence. Subsidence at NAS Lemoore has thus far occurred so slowly that it went unnoticed until measured. However, more rapid drawdown of the aquifer could speed subsidence to rates more likely to adversely impact NAS Lemoore.

The Proposed Action would remove agricultural land (the majority of which is irrigated) from production and install a solar PV system. The Proposed Action would have substantially lower water demands than active agriculture, and thus NAS Lemoore would need less water overall to irrigate. This trend of replacing productive agricultural land with solar PV projects is echoed by eight additional large-scale solar PV projects in the vicinity of NAS Lemoore. It is unknown to what degree the proposed solar PV projects would take irrigated land out of production (and thus decrease groundwater demand), however, it is likely that the cumulative result of these solar PV projects would be a regional net decrease in demand for water for irrigation. This would, in turn, reduce regional groundwater withdrawal and slow the regional rate of subsidence. Thus, the past, present, and reasonably foreseeable future solar PV projects, including the Proposed Action, would have a cumulative benefit to water supply and use. Therefore,

Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to utilities in conjunction with the impacts from other potentially cumulative actions.

4.4.9 TRANSPORTATION

Regional access to the project area is provided primarily via California SR-198, which runs along a generally east/west alignment from Interstate 5 through the City of Lemoore. SR-198 extends along the southern boundary of NAS Lemoore and connects to local roads leading to the following four access gates: Main Gate, Operations Area Main Gate, Reeves Gate, and Avenal Gate. Secondary access to and from the project vicinity is provided by SR-41 and SR-269. Based on data collected by Caltrans (2013c) for roadway segments near NAS Lemoore, SR-198 has an existing average daily traffic volume of 12,600, while SR-41 and SR-269 have average daily traffic volumes of 17,300 and 3,600, respectively. Within Kings County, both SR-198 and SR-41 operate at LOS C or better near NAS Lemoore (Kings County 2006). Given the relatively low traffic volume, SR-269 is expected to operate at LOS B.

The past, present, and reasonably foreseeable future projects that have the potential to interact with Alternative 1 or Alternative 2 (and therefore could contribute toward cumulative impacts to transportation) include the Base Realignment of NAS Lemoore, Final EIS for Development of Facilities to Support Basing U.S. Pacific Fleet FA-18E/F Aircraft on the West Coast, U.S. Navy F-35C West Coast Homebasing, the EA for Strike Fighter Realignment at NAS Lemoore, and the SR-198/19th Avenue Interchange. The following paragraphs describe potential cumulative effects that may occur when the Proposed Action's impacts are taken together with those of the past, present, and reasonably-foreseeable future projects described above.

Base Realignment of NAS Lemoore, Final EIS for Development of Facilities to Support Basing U.S. Pacific Fleet FA-18E/F Aircraft on the West Coast, and EA for Strike Fighter Realignment at NAS Lemoore.

The Base Realignment of NAS Lemoore and the Final EIS for Development of Facilities to Support Basing U.S. Pacific Fleet FA-18E/F Aircraft on the West Coast are past actions that occurred before 2015. Therefore, the operational traffic generated by these past projects is included in existing traffic counts, and associated impacts are accounted for in the description of the affected environment in Section 3.9. Accordingly, past projects would not contribute toward any cumulative effect on transportation that is not already accounted for in Section 3.9.

The EA for Strike Fighter Realignment at NAS Lemoore is a present project and the realignment is scheduled to occur between 2012 and 2015. As is the case for past actions, the traffic from this present action is accounted for by the assessment of the affected environment, and no additional cumulative impact to transportation would occur.

State Route 198/19th Avenue Interchange

Construction on SR-198/19th Avenue interchange in the City of Lemoore began in 2013 and is expected to conclude in early 2015. Trips to the construction site have increased traffic on SR-198 and the roadways of Kings County east of NAS Lemoore. However, construction is expected to be finished before the start of construction for Alternative 1 or Alternative 2. Therefore, interchange construction would not contribute toward any future cumulative impact to transportation.

The new interchange would increase capacity and improve access to various commercial and residential land uses that are accessed via 19th Avenue, which is located about 5 miles (8 kilometers) to the east of NAS Lemoore. This cumulative project would be expected to improve traffic flow and reduce existing

delays and queues at this location. In addition, access improvements may induce some existing motorists to change their travel routes to take advantage of the new interchange. However, given the relatively low volume of traffic generated by the Proposed Action, and considering the capacity benefits of this cumulative project, no significant cumulative effect would occur.

U.S. Navy F-35C West Coast Homebasing

The homebasing of the F-35C at NAS Lemoore is a present project that would increase the number of personnel at NAS Lemoore by late 2016. Additional trips associated with the increase in personnel are anticipated to occur on SR-198 and the paved roadways within the fenced areas of NAS Lemoore throughout the day. A number of military construction projects are planned in support of the F-35C homebasing and construction will occur in the developed, fenced areas of NAS Lemoore, on both the Operations Area and Administrative Area. Construction would occur between 2014 and 2021 on a series of projects outlined in the NAS Lemoore Master Plan for the year 2030. The construction traffic associated with these military construction projects will also travel along SR-198, and the paved roadways leading to the access gates to the fenced areas of NAS Lemoore. Traffic increases associated with the military construction projects will also occur on Reeves Boulevard, Franklin Avenue, and Jackson Avenue, where both construction and operations traffic will approach the access gates to enter the restricted areas of NAS Lemoore. All vehicles will enter NAS Lemoore through the Main Gate, Reeves Gate, Operations Area Main Gate, and Avenal Gate. The F-35C homebasing at NAS Lemoore will not result in significant impacts to traffic and transportation from increases in personnel and associated traffic on local roads. Temporary increases in traffic associated with construction and demolition activities will occur, but no significant impacts to levels of service are anticipated (Navy 2014b).

For the Proposed Action, incremental increases in traffic on local and regional roadways would occur during the construction of either action alternative, but construction-related vehicles would proceed to the construction sites located outside the fence line, and would therefore not mix with traffic from the F-35C project at the access gates or the immediate approaches to them. Implementation of Alternative 1 or 2 would not contribute toward queues or delays at any access gate onto NAS Lemoore. Therefore, Alternatives 1 or 2 would not have the potential to contribute appreciably to significant cumulative impacts to transportation in conjunction with the impacts from other potentially cumulative actions.

CHAPTER 5
OTHER NEPA CONSIDERATIONS

5.1 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND ALTERNATIVES, AND THE OBJECTIVES OF FEDERAL, STATE, LOCAL AND REGIONAL LAND USE PLANS, POLICIES AND CONTROLS

An assessment of the Proposed Action indicates that neither Alternative 1 nor Alternative 2 would conflict with the objectives of other regulations. A summary of regulatory compliance status is presented in Table 5-1.

Table 5-1. Summary of Applicable Environmental Regulations and Regulatory Compliance

Plans, Policies, and Controls	Regulatory Authority	Compliance status	EA Section
NEPA	Navy	This EA has been prepared in accordance with NEPA, CEQ regulations implementing NEPA, and Navy NEPA procedures.	Entire EA
CAA, CAAQS, SJVAPCD Rules and Regulations for Title V and non-Title V sources	USEPA and CARB	The air quality analysis in this EA concludes that proposed emissions under Alternatives 1 and 2: 1) would not exceed *de minimis* levels, 2) would not create a major regional source of air pollutants or affect the current attainment status at NAS Lemoore, and 3) would comply with all applicable state and regional air agency rules and regulations. A RONA has been prepared (Appendix B).	3.7, 4.3.7
EO 12898, Environmental Justice	Navy	Neither Alternative 1 nor 2 would result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.	1.5.2.2
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	Navy	Neither Alternative 1 nor Alternative 2 would result in environmental health risks and safety risks that may disproportionately affect children.	1.5.2.2
NHPA	SHPO	None of the archeological sites within the project area are eligible for listing under the NRHP. The Navy has requested the SHPO concur with a finding of "No Historic Properties Affected" finding (Appendix A).The Navy has initiated consultation with Tribal Governments.	3.6, 4.3.6
Clean Water Act	USEPA, U.S. Army Corps of Engineers, and California State Water Resources Control Board	Alternatives 1 or 2 would be implemented in compliance with California's General Construction Permit. Proposed construction and decommissioning activities would require preparation of a Stormwater Pollution Prevention Plan and use of BMPs to limit potential erosion and runoff.	1.5
ESA	USFWS	Neither Alternative 1 nor Alternative 2 would affect ESA-listed species or suitable habitat for ESA-listed species at NAS Lemoore. Critical habitat has not been designated on NAS Lemoore. Coordination with the USFWS is ongoing.	3.2, 4.3.2
Migratory Bird Treaty Act	USFWS	Neither Alternative 1 nor Alternative 2 would increase impacts to migratory birds.	3.2, 4.3.2
Farmland of Statewide Importance	Natural Resources Conservation Service	Alternatives 1 or 2 would temporarily impact farmland of statewide importance. No long-term conversion would occur.	3.1, 4.4.1

5.2 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL OF VARIOUS ALTERNATIVES AND MITIGATION MEASURES CONSIDERED

Energy demands would primarily occur during the construction/decommissioning phases of the project. The energy demands for the implementation of Alternative 1 or Alternative 2 are identical. The Alternative 1 Option, having a smaller footprint, would have lower energy demands.

Construction/decommissioning activities would consume large volumes of non-renewable fossil fuel, in the form of diesel gasoline, for the operation of construction equipment. One of the primary opportunities for conservation of fuel is the regular maintenance of vehicles and equipment to maximize their fuel efficiency. All equipment would be in proper working order. Equipment would not be allowed to idle when not in service, as is required for minimizing air quality impacts. In addition, all equipment would be shut down when not in operation for any extended periods of time.

Maintenance activities would require a small number of vehicles. In addition to the conservation options described above, fuel consumption could be further reduced by using a fuel efficient vehicle fleet, and limiting the use of less efficient vehicles and equipment to when they are required by the situation. Once operational, the Proposed Action would be net energy producer for the region.

5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of "…any irreversible or irretrievable commitments of resources that would be involved if the Proposed Action is implemented." The term "resources" (both renewable and nonrenewable) means the natural and cultural resources committed to, or lost by, the action, as well as labor, funds, and materials committed to the action.

The permanent use and subsequent loss of non-renewable resources, such as oil, natural gas, and iron ore, are considered irreversible because non-renewable resources cannot be replenished by natural means. An action that causes a loss in the value of an affected resource, which cannot be restored (e.g., disturbance of a cultural site), is considered an irretrievable commitment of resources. Similarly, the consumption of a renewable resource that would be lost for a period of time is also considered an irretrievable commitment of resources. Renewable natural resources include water, lumber, and soil, all of which can be replenished by natural means within a reasonable timeframe. Alternative 1 and Alternative 2 would both require the irretrievable commitments of both non-renewable and renewable resources in the use of fuel, construction materials, and labor. The operation and maintenance of the solar PV system would require fuel and certain types of materials.

The Proposed Action would comply with EO 13693, *Planning for Federal Sustainability in the Next Decade*. EO 13693 superseded EO 13423*, Strengthening Federal Environmental, Energy, and Transportation Management*, and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*. The goal of EO 13693 is to maintain federal leadership in sustainability and greenhouse gas emission reductions.

Both Alternative 1 and Alternative 2 would require a similar amount of construction materials and energy; the smaller footprint of the Alternative 1 Option would equate to a similarly smaller construction material and energy demand. The total amount of construction materials (e.g., concrete, insulation, wiring) required for the Proposed Action is relatively small when compared to the resources available in the region. The construction materials and energy required for facility development and operations are not in short supply. Moreover, the use of construction materials and energy would not have an adverse impact

on the continued availability of these resources. The commitment of energy resources to implement the Proposed Action would not be excessive in terms of region-wide usage. Furthermore, compliance with EO 13693 requirements would minimize irreversible or irretrievable effects to multiple non-renewable and renewable resources, while implementation of the action alternatives would further the goals and intentions of EO 13693 by increasing the amount of energy generated and/or used at NAS Lemoore that is derived from renewable sources.

5.4 Relationship Between Short-Term Environmental Impacts and Long-Term Productivity

Short-term uses of the environment associated with the Proposed Action would include the elimination of vegetative ground cover and termination of agricultural operations at the project sites. Project-related construction activities would temporarily increase air pollution emissions in the immediate vicinity of the affected area(s). Sustainability principles would be incorporated into building design and practices in accordance with NAVFAC Instruction 9830.1, Sustainable Development Policy (Navy 2003).

As discussed in Chapter 3, the action alternatives would result in both short- and long-term environmental effects. Construction, operation, and decommissioning of the solar PV system is unlikely to result in the types of impacts that would reduce environmental productivity, have long-term impacts on sustainability, affect biodiversity, or narrow the range of long-term beneficial uses of the environment.

The Proposed Action has a defined lifecycle in which long term, i.e., more than 30 years post-implementation, the project area would be returned to existing conditions and functioning with minimal net change from the pre-project environment. In the interim, however, agricultural and biotic productivity within the affected agriculture parcels would be eliminated, while renewable energy benefits would realized.

5.5 Any Probable Adverse Environmental Effects That Cannot Be Avoided and Are Not Amenable To Mitigation

No resource area would be subject to significant adverse impacts that would require mitigating. Table 3.0-1 presents the identified resource area avoidance/minimization measures for the alternatives. No adverse environmental effects would occur.

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CHAPTER 6
LIST OF AGENCIES AND PERSONS CONTACTED

State Historic Preservation Officer

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CHAPTER 7
LIST OF PREPARERS

Cardno prepared this EA under the direction of the NAVFAC SW. Members of the project team include the following Navy and contractor staff:

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CHAPTER 8
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Appendix A
Public and Agency Correspondence

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CARDNO SHAPING THE FUTURE
514 VIA DE LA VALLE SUITE 308
SOLANA BEACH, CA 92075

PROOF OF PUBLICATION

COUNTY OF FRESNO
STATE OF CALIFORNIA

The undersigned states:

McClatchy Newspapers in and on all dates herein stated was a corporation, and the owner and publisher of The Fresno Bee. The Fresno Bee is a daily newspaper of general circulation now published, and on all-the-dates herein stated was published in the City of Fresno, County of Fresno, and has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of November 28, 1994, Action No. 520058-9.
The undersigned is and on all dates herein mentioned was a citizen of the United States, over the age of twenty-one years, and is the principal clerk of the printer and publisher of said newspaper; and that the notice, a copy of which is hereto annexed, marked Exhibit A, hereby made a part hereof, was published in The Fresno Bee in each issue thereof (in type not smaller than nonpareil), on the following dates.

May 22, 2015, May 23, 2015, May 24, 2015

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated May 26, 2015

Holly Zarate

PUBLIC NOTICE

#1743985
NOTICE OF AVAILABILITY
Draft Environmental Assessment for the
Proposed Construction, Operation, and Decommissioning
of a Solar Photovoltaic System
at Naval Air Station Lemoore, California
Department of Defense
U.S. Department of the Navy

The Department of the Navy announces the availability of, and invites public comments on, the Draft Environmental Assessment (EA) prepared to analyze the potential environmental impacts resulting from the proposed construction, operation, and decommissioning of a solar photovoltaic system at Naval Air Station Lemoore, California. The Draft EA is available for on-line review at http://www.cnic.navy.mil/NASLSolarPV. The Draft EA is also available for hardcopy review at the following public libraries: Lemoore Branch Library, 457 C Street, Lemoore, CA; the Kings County Library, 401 North Douty Street, Hanford, CA; and, the Riverdale Branch Library, 20975 Malsbary Avenue, Riverdale, CA. Submit comments on the Draft EA to NAVFAC SW, Attn: Code JE20.KF, 1220 Pacific Highway, Building 131, San Diego, CA 92132, or via email to NAVFAC_SW_DesertIPTPublicComments@navy.mil no later than June 22, 2015.

Trustee

business in this state; will be held by the duly appointed trustee as shown below, of all right, title, and interest conveyed to and now held by the trustee in the hereinafter described property under and pursuant to a Deed of Trust described below. The sale will be made in an "as is" condition, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. Trustor: Gina Moreno, and Frances Moreno, husband and wife as joint tenants Duly Appointed Trustee: NATIONAL DEFAULT SERVICING CORPORATION Recorded 08/26/2005 as Instrument No. 0528556 (or Book, Page) of the Official Records of KINGS County, California. Date of Sale: 06/05/2015 at 12:30 PM Place of Sale: At the front entrance of the Administration Building of the Kings Government Center, 1400 West Lacey Boulevard, Hanford, CA 93230

Trustee

Estimated amount of unpaid balance and other charges: $302,431.17 Street Address or other common designation of real property: 2121 E LEMMON WAY, HANFORD, CA 93230-1825 A.P.N.: 008-131-022 The undersigned Trustee disclaims any liability for any incorrectness of the street address or other common designation, if any, shown above. If no street address or other common designation is shown, directions to the location of the property may be obtained by sending a written request to the beneficiary within 10 days of the date of first publication of this Notice of Sale. If the Trustee is unable to convey title for any reason, the successful bidder's sole and exclusive remedy shall be the return of monies paid to the Trustee, and the successful bidder shall have no further recourse. The undersigned mortgagee, beneficiary or authorized agent for the mortgagee or beneficiary pursuant to California Civil Code Section 2923.5(b) /2923.55(c) declares that the mortgagee, beneficiary or the mortgagee's or beneficiary's authorized agent has either contacted the borrower or tried with due diligence to contact the borrower as required by California Civil Code 2923.5/2923.55. NOTICE TO POTENTIAL BIDDERS: If you are considering bidding on this property

Trustee

lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You are encouraged to investigate the existence, priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or deed of trust on the property. NOTICE TO PROPERTY OWNER: The sale date shown on this notice of sale may be postponed one or more times by the mortgagee, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call 714-730-2727 or visit this Internet Web site www.ndscorp.com/sales, using the file number assigned to this case 13-21017-SP-CA. Information about postponements that are very short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Web site. The best way to verify postponement information is to attend the scheduled sale. Date: 05/12/2015 Tiffany and Bosco, P.A. As agent for National Default Servicing Corporation 1230 Columbia Street, Suite 680 San Diego, CA 92101 Phone 888-264-4010 Sales Line 714-730-2727; Sales Website: www.ndscorp.com/sales Lana Kaciudis, Trustee Sales Supervisor A-4524038 05/15/2015, 05/22/2015, 05/29/2015

Publish: May 15, 22, 29, 2015

Trustee

AD#45828

NOTICE OF TRUSTEE'S SALE TS No. **CA-14-633880-CL** Order No.: **733-1400862-70 YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 1/8 /2007. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER.** A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 to the Financial Code and authorized to do business in this state, will be held by duly appointed trustee. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. **BENEFICIARY MAY ELECT TO BID LESS THAN THE TOTAL AMOUNT DUE.** Trustor(s): Sharon M. Watts Unmarried Woman Recorded: **1/25/2007** as Instrument No. **0702268** of Official Records in the office of the Recorder of **KINGS** County, California; Date of Sale: **6/5/2015 at 12:30:00 PM** Place of Sale: **At the front entrance to the Government Center, 1400 W. Lacey Blvd., Hanford, CA 93230** Amount of unpaid balance and other charges: $119,093.44 The purported property address is: **1075 FRAN DRIVE, HANFORD, CA 93230** Assessor's Parcel No.: **011-460-008 NOTICE TO POTENTIAL BIDDERS:** If you are considering bidding on this property lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You are encouraged to investigate the existence, priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or deed of trust on the property. **NOTICE TO PROPERTY OWNER:** The sale date shown on this notice of sale may be postponed one or more times by the mortgagee, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call **714-573-1965** for information regarding the trustee's sale or visit this Internet Web site **http://www.qualityloan.com** , using the file number assigned to this foreclosure by the Trustee: **CA-14-633880-CL** . Information about postponements that are very short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Web site. The best way to verify postponement information is to attend the scheduled sale. The undersigned Trustee disclaims any liability for any incorrectness of the property address or other common designation, if any, shown herein. If no street address or other common designation is shown, directions to the location of the property may be obtained by sending a written request to the beneficiary within 10 days of the date of first publication of this Notice of Sale. **If the Trustee is unable to convey title for any reason, the successful bidder's sole and exclusive remedy shall be the return of monies paid to the Trustee, and the successful bidder shall have no further recourse. If the sale is set aside for any reason, the Purchaser at the sale shall be entitled only to a return of the deposit paid. The Purchaser shall have no further recourse against the Mortgagor, the Mortgagee, or the Mortgagee's Attorney.** If you have previously been discharged through bankruptcy, you may have been released of personal liability for this loan in which case this letter is intended to exercise the note holders right's against the real property only. As required by law, you are hereby notified that a negative credit report reflecting on your credit record may be submitted to a credit report agency if you fail to fulfill the terms of your credit obligations. QUALITY MAY BE CONSIDERED A DEBT COLLECTOR ATTEMPTING TO COLLECT A DEBT AND ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE. Date: **Quality Loan Service Corporation 411 Ivy Street San Diego, CA 92101 619-645-7711 For NON SALE information only Sale Line: 714-573-1965 Or Login to: http://www.qualityloan.com Reinstatement Line: (866) 645-7711 Ext 5318** Quality Loan Service Corp. TS No.: **CA-14-633880-CL** IDSPub #0082263 5/15/2015 5/22/2015 5/29/2015

Publish: May 15, 22, 29, 2015

Trustee

AD#45927

NOTICE OF TRUSTEE'S SALE TS No. **CA-14-627509-BF** Order No.: **140129525-CA-VOI YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 10/13/2005. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER.** A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 to the Financial Code and authorized to do business in this state, will be held by duly appointed trustee. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. **BENEFICIARY MAY ELECT TO BID LESS THAN THE TOTAL AMOUNT DUE.** Trustor(s): **LUIS M. FLORES AND ESPERANZA FLORES, HUSBAND AND WIFE** Recorded: **10/31/2005** as Instrument No. **0536063** of Official Records in the office of the Recorder of **KINGS** County, California; Date of Sale: **5/26/2015 at 12:30:00 PM** Place of Sale: **At the front entrance to the Government Center, 1400 W. Lacey Blvd., Hanford, CA 93230** Amount of unpaid balance and other charges: **$180,644.51** The purported property address is: **13403 CROCUS WAY, ARMONA, CA 93202** Assessor's Parcel No.: **017-140-015 NOTICE TO POTENTIAL BIDDERS:** If you are considering bidding on this property lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You are encouraged to investigate the existence, priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or deed of trust on the property. **NOTICE TO PROPERTY OWNER:** The sale date shown on this notice of sale may be postponed one or more times by the mortgagee, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call **714-573-1965** or visit this Internet Web site **http://www.qualityloan.com** , using the file number assigned to this foreclosure by the Trustee: **CA-14-627509-BF** . Information about postponements that are very short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Web site. The best way to verify postponement information is to attend the scheduled sale. The undersigned Trustee disclaims any liability for any incorrectness of the property address or other common designation, if any, shown herein. If no street address or other common designation is shown, directions to the location of the property may be obtained by sending a written request to the beneficiary within 10 days of the date of first publication of this Notice of Sale. **If the Trustee is unable to convey title for any reason, the successful bidder's sole and exclusive remedy shall be the return of monies paid to the Trustee, and the successful bidder shall have no further recourse. If the sale is set aside for any reason, the Purchaser at the sale shall be entitled only to a return of the deposit paid. The Purchaser shall have no further recourse against the Mortgagor, the Mortgagee, or the Mortgagee's Attorney.** If you have previously been discharged through bankruptcy, you may have been released of personal liability for this loan in which case this letter is intended to exercise the note holders right's against the real property only. As required by law, you are hereby notified that a negative credit report reflecting on your credit record may be submitted to a credit report agency if you fail to fulfill the terms of your credit obligations. QUALITY MAY BE CONSIDERED A DEBT COLLECTOR ATTEMPTING TO COLLECT A DEBT AND ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE. Date: **Quality Loan Service Corporation 411 Ivy Street San Diego, CA 92101 619-645-7711 For NON SALE information only Sale Line: 714-573-1965 Or Login to: http://www.qualityloan.com Reinstatement Line: (866) 645-7711 Ext 5318** Quality Loan Service Corp. TS No.: **CA-14-627509-BF** IDSPub #0082264 5/15/2015 5/22/2015 5/29/2015

Publish: May 15, 22, 29, 2015

Public Notices

AD#46579

NOTICE OF PUBLIC HEARING

A public hearing will be held before the Hanford City Council on Tuesday, June 2, 2015, at 7:00 p.m., in the Hanford City Council Chambers, Civic Auditorium, 400 N. Douty Street, Hanford, California, pertaining to the following:

An amendment to Sections 13.04.020 and 13.04.150 Regarding Water Use and Water Meter Installation; and

Municipal Code Amendment No. 2015-02, an amendment to Sections 17.04.030, 17.16.100, 17.18.100 and 17.20.100 amending the definition of landscaping and to allow non-living materials to be used in the required front yard

All interested persons may appear to present testimony at the hearings. If you challenge any action or decision by the City Council regarding the subject of the public hearing described in this notice in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing.

If you have questions or are in need of a translator or special services, please call the City Clerk at (559) 585-2515 at least five (5) days prior to the meeting to make arrangements.

BY: Jennifer Gomez
City Clerk

PUBLISH: May 22, 2015

Public Notices

AD#46139

PUBLIC NOTICE

The **KINGS COUNTY OFFICE OF EDUCATION** announces one vacancy on the Board of Trustees representing Area 2, which encompasses the cities of Avenal, Corcoran, and Kettleman City.

At the regular meeting of the **KINGS COUNTY OFFICE OF EDUCATION** the board made the following appointment:

Name of Appointee	Date of Appointment
Mrs. Mary Gonzales-Gomez	May 6, 2015

Unless a petition calling for a special election containing a sufficient number of signatures,

"A petition shall be deemed to bear a sufficient number of signatures if signed by at least the appropriate percentage of registered voters of the district who voted in the last regular election for governing board members.

The petition shall be submitted to the County Superintendent of Schools having jurisdiction who shall have thirty (30) days to verify the signatures. If the petition is determined to be legally sufficient by the County Superintendent of Schools, the appointment is terminated, and the County Superintendent of Schools shall call a special election to be conducted no later than the 120th day after the determination."

is filed in the office of the County Superintendent of Schools within thirty (30) days of the date of the appointment(s), it shall become an effective appointment.

Publish: May 13, 15, 20, 22, 27, 29, 2015, June 3, 5, 2015.

Public Notices

AD#46574

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Kings County Planning Commission will hold public hearings, pursuant to provisions of Appendix A of the *Kings County Code of Ordinances (Zoning Ordinance No. 269)*, to consider the following applications:

1. Conditional Use Permit No. 14-01 (Westside Assets) - A proposal to establish a 22 Megawatt (MW) photovoltaic solar energy generating facility to be constructed in two phases on approximately 186 gross acres. Phase I consists of a 2 MW solar generating facility on approximately 18 acres. Phase II consists of a 20 MW solar generating facility on approximately 168 acres. The project site is located at 25329 Avenal Cutoff Road (Phase I), and 25523 Avenal Cutoff Road (Phase II), Lemoore, Assessor's Parcel Numbers 026-010-042 (all) and 026 010 038 (partial).

2. Conditional Use Permit No. 15-02 (SAC Wireless - Verizon) - A proposal to establish a new 100-foot monopole wireless communication facility with a fenced lease area for ground equipment located at 4161 Dover Avenue, Hanford, Assessor's Parcel Number 002-180-017.

A proposed Mitigated Negative Declaration has been prepared for projects requiring environmental review, copies of which are available at the Kings County Community Development Agency at the address below.

Said hearings will be held Monday, June 1, 2015, at 7:00 p.m. in the Board of Supervisors Chambers, in the Administrative Building No. 1, Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California. Pursuant to California Government Code Section 65009, subdivision (b), if you challenge the Conditional Use Permits in court, you may be limited to raising only those issues you or someone else raised at the public hearings described in this notice, or in written correspondence delivered to the Kings County Planning Commission at, or prior to, the public hearings.

Anyone who may be interested in the proposals, or the proposed Mitigated Negative Declarations, is invited to appear and present his or her comments, evidence, or make statements of fact regarding said proposals. The proposal files and Mitigated Negative Declarations may be examined at the Kings County Community Development Agency, Building No. 6, Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California. For more information regarding CUP 14-01 please call Sandy Roper, of the Kings County Community Development Agency, at (559) 852-2685 and for information regarding CUP 15-02 please call Dan Kassik, of the Kings County Community Development Agency, at (559) 852-2655.

KINGS COUNTY PLANNING COMMISSION
/s/ Gregory R. Gatzka
Gregory R. Gatzka, Secretary

Publish: May 22, 2015

Public Notices

AD#46576

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN THAT the City Council of the City of Lemoore will conduct a Public Hearing at 7:30 p.m. on Tuesday, June 2, 2015 in the Lemoore City Council Chamber located at 429 "C" Street, Lemoore, California, on the identification of public nuisanceseed abatement. All interested persons are invited to attend and offer testimony.

A list of the properties identified as public nuisances is available for inspection at the Office of the City Clerk, 119 Fox Street, Lemoore, California. Questions regarding the properties may be directed to the Community Service Officer.

/s/
Mary J. Venegas
City Clerk

Dated: May 20, 2015
Publish: May 22, 2015

Public Notices

AD#46575

NOTICE OF PROPOSED ORDINANCE NO. 2015-03 OF THE CITY OF LEMOORE

NOTICE IS HEREBY GIVEN THAT, at the regular meeting of the City Council to be held on June 2, 2015 at 7:30 p.m. in the City Council Chamber located at 429 "C" Street, Lemoore, California, the City Council of the City of Lemoore will consider the adoption of proposed Ordinance No. 2015-03, amending Sections 5-1-24, 5-1-25 and 5-1-28 of the Lemoore Municipal Code Relating to Animal Control

In summary, Ordinance No. 2015-03 will add spay/neuter requirements before issuance of a dog license within the City of Lemoore.

A certified copy of the full text of the proposed ordinance is available for public review in the Office of the City Clerk at Lemoore City Hall.

/s/
Mary J. Venegas
City Clerk

Dated: May 20, 2015
Publish: May 22, 2015

Trustee

this loan in which case this letter is intended to exercise the note holders right's against the real property only. As required by law, you are hereby notified that a negative credit report reflecting on your credit record may be submitted to a credit report agency if you fail to fulfill the terms of your credit obligations. QUALITY MAY BE CONSIDERED A DEBT COLLECTOR ATTEMPTING TO COLLECT A DEBT AND ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE. Date: **Quality Loan Service Corporation 411 Ivy Street San Diego, CA 92101 619-645-7711 For NON SALE information only Sale Line: 714-573-1965 Or Login to: http://www.qualityloan.com Reinstatement Line: (866) 645-7711 Ext 5318** Quality Loan Service Corp. TS No.: **CA-14-623880-CL** IDSPub #0082263 5/15/2015 5/22/2015 5/29/2015

Publish: May 15, 22, 29, 2015

Lost

Lost Pocket knife, have sentimental value, Reward if found, Might have lost it at the mall, if found please call 559-923-4392

Help Wanted

2 open positions Available!! •OFFICE ASSISTANT/ receptionist. Must have computer skills. Bilingual a plus. •SHIPPING AND RECEIVING CLERK. Clean DMV Required. Fax resume to Napa West 559-884-2675.

ANTONINI FRUIT EXPRESS CLASS A TRUCK DRIVERS (Seasonal) NOW HIRING!
Haul tomatoes and other Ag Products! Current DMV printout w/ acceptable record. Doubles endorsement. Available to work any shift/ 7 days Experience preferred; recent truck school graduates welcome to apply! Competitive pay! Paid weekly! Cash performance bonus!
Apply in person:
19800 W. Gale Ave,
Huron, CA 93234
Questions: (559) 945-6712

Are You An Angel?
Visiting Angels needs **EXP CAREGIVERS** to assist the elderly.
Call 559-562-1286

EARLY CHILDHOOD EDUCATION CONSULTANT - (Categorically Funded) PRESCHOOL TEACHER/ SITE SUPERVISOR 2015-2016 SCHOOL YEAR
(Categorically Funded)

The Kings County Office of Education is accepting applications for the above positions.
Applications may be obtained at 1144 West Lacey Boulevard, Hanford, CA, 93230, or on www.kings.k12.ca.us/hr. For job information, please go to www.edjoin.org.
An Equal Opportunity Employer

Experienced Ranch hand/tractor driver/irrigator needed. Drivers license required. $10/hour starting. **Apply in person**
6700 Excelsior Ave Hanford

BUS DRIVER - $17.33 - $21.06/hr; 4.5 hrs./day (Split Shift)
Type 1 school bus. Req: licenses & certs. for driving a public school bus in CA. Apply at Hanford Elem. School Dist, 714 N White St., www.head.k12.ca.us or 559-585-3619.
Apply by 6/02/15 4 PM.

FOOD SERVICE WORKER I – $13.58 to $16.50/hr; 3.0 hrs/day; Apply at Hanford Elementary School District, 714 N. White St. or www.head.k12.ca.us. Apply by: 6/02/15 at 4 PM. (559) 585-3619

FOOD SERVICE WORKER II - $14.26-$17.33/hr.; 2.5 hrs/day
Sets up & serves food, cashiering, maint. duties. Req. 1 yr. exp. in food service. Apply at Hanford Elem. School Dist., 714 N. White St., www.head.k12.ca.us or (559)585-3619.
Apply by: 6/02/15 4PM.

FT ag mech/welder/tractor op wanted Hanford area. St. $11 hr w /benefits. Email resume: mcfranch@hughes.net

Full time Bilingual Social worker needed, Master degree required, in Hanford area, to apply fax resume to 661-396-8454 or email dmontalvo@fcshinc.com

Kings River-Hardwick School District is seeking applicants for the following position for the 2015-2016 school year.

Food service clerk
5.75 hrs/day, 10 months
$12.61-$15.33/hr

Apply online at www.edjoin.org or apply at 10300 Excelsior Ave, Hanford, 8:00am - 4:00pm, Mon - Fri

Lawrence & Co. College of Cosmetology located in Hanford has an opening for a P/T Financial Aid Advisor position. Call 584-1192 for info. E-mail resumes to jlawrenceandco@sbcglobal.net.

NOW HIRING
TRUCK DRIVERS, SHUTTLE DRIVER, OWNER OPERATORS, FOR OUR 2015 TOMATO SEASON
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NOW HIRING FOR THE NEW HANFORD LOCATION. PLEASE PRINT AN APPLICATION FROM
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DROP APPLICATION OFF AT 3000 N DINUBA BLVD, VISALIA MOUNTAIN MIKES OR **FAX TO 559-750-4164**

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We test all applicants for drugs prior to hire
Se buscan pintores
con min. de 5 anos de exp.y I.D valida de CA interesados por favor de llamar a **559-618-6479** Enviamos a todo solicitantes a prueba de droga antes de contratar

PART-TIME CLERK

A progressive agricultural company is seeking a motivated part-time clerk with good communication and computer skills to process inter-company daily correspondence, perform light clerical duties and filing. Must have a good driving record.

This position is at our Coalinga office located at I-5 and Hwy 145.
Please mail or fax resume to Harris Feeding Company, Att: Resumes, Rt. 1, Box 400, Coalinga, CA 93210, fax to (559) 884-2253 or apply on-line at
www.harrisranchbeef.com

Police Records Technician City of Lemoore
$2,438-$3,127 onth
plus excellent benefits
Apply by 6/5/15 at 4:00 p.m.
See **www.lemoore.com** for more details. EOE

RDA needed for our busy pedo office. Must be energetic and have a positive attitude. 4 days a week Mon-Thur. Bilingual preferred. **Fax resume to 559-582-1365**

Semi-truck/Gooseneck Driver, Must have Class A, Cattle exp. clean DMV record, fax/ email resume to 559-589-9619 bjinc12@yahoo.com

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Accepting applications for July-Oct season. F/T, P/T & wknds. New & late model equip. Truck base available in Firebaugh, Los Banos, Patterson, Hanford. Need DMV printout, Class A, with doubles endorsement. Applications available: Carlucci Transport, Inc.
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PH (559)659-3981

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Complete Landscaping
Natural Pruning Tree Service
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Doing all home improvements
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Pruning, flower beds, sprinklers, clean ups, 1 time jobs. No job too big or small! Military & Sr Disc. Free Est. Call Manny 559-572-6937

Handy Man Service, All home repairs, also painting & tile repair, dry wall & water repair, No job to small or large, same day response, 25 yrs. Exp. call 559-572-4754

I FILL IN POOLS AND MUCH MORE REMOVALS & LOT CLEAN-UPS CALL 559-816-2493

J & J
CUSTOM CONCRETE
No job too small
Free estimates. Non lic.
559-589-0199

NOTICE OF AVAILABILITY

Draft Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California Department of Defense U.S. Department of the Navy

The Department of the Navy announces the availability of, and invites public comments on, the Draft Environmental Assessment (EA) prepared to analyze the potential environmental impacts resulting from the proposed construction, operation, and decommissioning of a solar photovoltaic system at Naval Air Station Lemoore, California. The Draft EA is available for online review at http://www.cnic.navy.mil/NASLSolarPV. The Draft EA is also available for hardcopy review at the following public libraries: Lemoore Branch Library, 457 C Street, Lemoore, CA; the Kings County Library, 401 North Douty Street, Hanford, CA; and, the Riverdale Branch Library, 20975 Malsbary Street, Riverdale, CA. Submit comments on the Draft EA to NAVFAC SW, Attn: Code JE20.KF, 1220 Pacific Highway, Building 131, San Diego, CA 92132, or via email to NAVFAC_SW_DesertIPTPublicComments@navy.mil no later than June 22, 2015.

46540

Help Wanted

Hanford Nursing & Rehabilitation Center

DIETARY AIDE
FT and PT positions for a skilled nursing facility. Experience preferred. Please apply at Hanford Nursing and Rehabilitation Center. 1007 W. Lacey Blvd. Hanford. EOE

DRIVER TRAINEES NEEDED NOW!
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KINGS COUNTY **Classifieds**

ANTONINI FRUIT EXPRESS CLASS A TRUCK DRIVERS (Seasonal)
NOW HIRING!
Haul tomatoes and other Ag Products! Current DMV printout w/ acceptable record. Doubles endorsement; Available to work any shift/ 7 days Experience preferred; recent truck school graduates welcome to apply! Competitive pay! Paid weekly! Cash performance bonus! Apply in person: 19800 W. Gale Ave, Huron, CA 93234 Questions: (559) 945-6712

EARLY CHILDHOOD EDUCATION CONSULTANT - (Categorically Funded) PRESCHOOL TEACHER/ SITE SUPERVISOR 2015-2016 SCHOOL YEAR (Categorically Funded)

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An Equal Opportunity Employer

BUS DRIVER - $17.33 - $21.06/hr; 4.5 hrs./day (Split Shift)
Type 1 school bus. Req: licenses & certs. for driving a public school bus in CA. Apply at Hanford Elem. School Dist.,714 N White St., www.hesd.k12.ca.us or 559-585-3619. Apply by 6/02/15 4 PM.

FOOD SERVICE WORKER I – $13.58 to $16.50/hr; 3.0 hrs/day; Apply at Hanford Elementary School District, 714 N. White St. or www.hesd.k12.ca.us. Apply by: 6/02/15 at 4 PM. (559) 585-3619

FOOD SERVICE WORKER II - $14.26-$17.33/hr.; 2.5 hrs/day Sets up & serves food, cashiering, maint. duties. Req. 1 yr. exp. in food service. Apply at Hanford Elem. School Dist., 714 N. White St., www.hesd.k12.ca.us or (559)585-3619. Apply by: 6/02/15 4PM.

FT ag mech/welder/tractor op wanted Hanford area. St. $11 hr w /benefits. Email resume: mcfranch@hughes.net

Full time Bilingual Social worker needed, Master degree required, in Hanford area, to apply fax resume to 661-396-8454 or email dmontalvo@lcshinc.com

Kings River-Hardwick School District is seeking applicants for the following position for the 2015-2016 school year.

Food service clerk
5.75 hrs/day, 10 months
$12.61-$15.33/hr

Apply online at www.edjoin.org or apply at 10300 Excelsior Ave, Hanford. 8:00am - 4:00pm, Mon - Fri

Lawrence & Co. College of Cosmetology located in Hanford has an opening for a P/T Financial Aid Advisor position. Call 584-1192 for info. E-mail resumes to jllawrenceandco@sbcglobal.net.

Kings Nursing & Rehabilitation Center

L.V.N.
Experienced LVN needed for skilled nursing facility. Part time position available. Please apply in person at Kings Nursing and Rehab. Center 851 Leslie Lane, Hanford. EOE

NEW MOUNTAIN MIKE'S PIZZA RESTAURANT
820 W LACEY BY SIZZLERS
NOW HIRING FOR THE NEW HANFORD LOCATION. PLEASE PRINT AN APPLICATION FROM **MOUNTAINMIKES.COM**
DROP APPLICATION OFF AT 3000 N DINUBA BLVD, VISALIA MOUNTAIN MIKES OR **FAX TO 559-750-4164**

NOW HIRING
TRUCK DRIVERS, SHUTTLE DRIVER, OWNER OPERATORS, FOR OUR 2015 TOMATO SEASON
PAID TRAINING, RATE INCREASE!! 800-289-1639 WWW.YCTINC.COM

Painters Wanted
Min. 5 years exp.
Must have CA I.D. Please call 559-618-6479
We test all applicants for drugs prior to hire
Se buscan pintores
con min. de 5 anos de exp.y LD valida de CA interesados por favor de llamar a **559-618-6479** Enviamos a todo solicitantes a prueba de droga antes de contratar

Police Records Technician
City of Lemoore
$2,438-$3,127 onth
plus excellent benefits
Apply by 6/5/15 at 4:00 p.m.
See **www.lemoore.com** for more details. EOE

Ruiz Foods

Processing Superintendent
This is a hands-on position and requires a large portion of time in the plant on 2nd or 3rd shift. Responsible for the Bakery, Kitchen, and Prebatch areas. BS degree in Food Science/Bakery Science preferred andr 8 plus years' as supervisor in a USDA plant environment. AIB certification a plus. Bi-lingual English / Spanish preferred. Microsoft Excel, Word and Outlook required. We offer competitive salary and excellent benefits. Send resume to: HR, P.O. Box 37, Dinuba, CA 93618. Fax # (559) 591-1593 Or e-mail us at: **jobs@ruizfoods.com.** EOE M/F/D/W

RDA needed for our busy pedo office. Must be energetic and have a positive attitude. 4 days a week Mon-Thur. Bilingual preferred. **Fax resume to 559-582-1365**

Semi-truck/Gooseneck Driver, Must have Class A, Cattle exp. clean DMV record, fax/ email resume to 559-589-9619 bjnc12@yahoo.com

KINGS COUNTY **Classifieds**
Call us today
559.582.0471

Hanford Nursing & Rehabilitation Center

RN - Assistant Director of Nursing
RN leadership position immediately available for a dynamic individual. Med/Surg experience preferred. Hanford Nursing & Rehabilitation Center, 1007 W. Lacey Blvd., Hanford. Excellent salary and benefit package. Email resume to sbrown@missioncg.com. EOE

Kings Nursing & Rehabilitation Center

RN SUPERVISOR
P/T position in our rapid-recovery unit. Experience preferred, must be well organized and detail oriented. Apply at Kings Nursing & Rehab Center 851 Leslie Lane, Hanford. Email dzable@kingsnrc.com EOE

TRUCK DRIVERS
Accepting applications for July-Oct season. F/T, P/T & wknds. New & late model equip. Truck base available in Firebaugh, Los Banos, Patterson, Hanford. Need DMV printout, Class A, with doubles endorsement. Applications available: Carlucci Transport, Inc. 1487 13th St., Firebaugh, CA. PH (559)659-3981

Classifieds work. We're here to work for you!
KINGS COUNTY **Classifieds**

Veterinary Assistant Full Time, Must be friendly, team player, basic knowledge of computer skills, animal lover and able to work flexible hours including Saturdays. Must be comfortable handling animals, cleaning, answering phones, etc. Bilingual preferred. Bring resume to Lacey Animal Hospital 12181 W. Lacey Blvd, Hfd.

Instructions

PIANO LESSONS
Ages 7-12, teens, and adults.
Phyllis Gaines M.Mus.ED
559-924-2300

Expert Service

00- Licensed Handyman. All home repairs, kitchen/bath Remodels, Elec, plumb, painting, Available weekends !!!! Call Jim @ 670-8949. #533535

000~1 H&F Handyman
★ Service ★
Maintenance, Repair. 15+ yrs. exp., Taking care of your House inside & out. 559-981-0777

1st Class Custom Remodeling Serving the Public since 1982
J.R. SCOTT Construction,Inc.
(559) 584-6871 lic#429036
jrscottconstruction.com

RESPIRATORY THERAPY MANAGER

FULL TIME

Under the supervision of the Director of Patient Services manages all aspects of the Respiratory Therapy department. Supervises all work requested by the physicians, and performs the activities of a Respiratory Therapist. Oversees a wide variety of administrative, fiscal and technical activities to ensure the efficient operation of the Respiratory Therapy Department.

All interested and qualified candidates please download and complete application from: **www.coalingamedicalcenter.com** - and mail, fax or email to:

Human Resources Manager
Coalinga Regional Medical Center
1191 Phelps Avenue • Coalinga, CA 93210
Phone: (559) 935-6420 • Fax: (559) 935-6512
Email: **jobs@coalingahospital.com**

HOBBY LOBBY

NOW HIRING
GREAT PEOPLE IN HANFORD!

ACCEPTING APPLICATIONS FOR NEW STORE TEMPORARY SETUP HELP
with opportunity for full- & part-time positions:
• Floral • Crafts • Art • Custom Frames
• Hobbies • Fabric • Cashiers

TEMPORARY & PART-TIME BENEFITS INCLUDE:
• $10.16/hr. minimum • Employee Discount • Closed Sundays

FULL-TIME BENEFITS INCLUDE:
• $15.24/hr. minimum • Employee Discount • Closed Sundays • Vacation & Holiday Pay
• Personal Paid Time Off • 401(k) Plan • Medical & Dental Plan
• Group Life & LTD Insurance • Flexible Spending Plan • Christmas Bonus

Apply in Person
Monday, May 25 – Friday, May 29, 2015 from 9 am – 5 pm
113 Court St., 3rd Floor, Corner of Irwin & 8th, Hanford, CA 93230

Equal Opportunity Employer
Drug/alcohol testing compliant with applicable statutes
Call (877) 303-4347 for reasonable accommodation of disability during the hiring process.

Where You and Tulare County Jobs Click.



- Supervising Office Assistant
- Mental Health Case Manager I/II
- Staff Services Analyst I
- Election Clerk
- Administrative Aide

HUMAN RESOURCES & DEVELOPMENT
TULARE COUNTY
(559) 636-4900
EQUAL OPPORTUNITY EMPLOYER

www.co.tulare.ca.us/HRD

Special Notices



CLASSIFIED ADVERTISING DEADLINES

Due to the Memorial Day holiday, The Sentinel and Lee Central California Newspapers have the following early classified advertising deadlines.

Sentinel & Weeklies Class Display Ad Reservation Deadlines

Publication Day	Deadline
Tuesday, May 26	Friday, May 22 • 11:30 am
Wednesday, May 27 *(Selma/Kingsburg/CVG N)*	Thursday, May 21 • 11:30 am
Wednesday, May 27 *(Sentinel Sampler)*	Friday, May 22 • 11:30 am

Sentinel & Weeklies Class Liner Ad Reservation Deadlines

Publication Day	Deadline
Tuesday, May 26	Friday, May 22 • 2:00 pm
Wednesday, May 27 *(Selma/Kingsburg/CVG N/Sentinel Sampler)*	Friday, May 22 • 12:00 pm
Friday, May 29 *(Lemoore Navy News)*	Friday, May 22 • 12:00 pm

Sentinel Legal Ad Reservation Deadlines

Publication Day	Deadline
Saturday, May 23	Thursday, May 21 • 12:00 pm
Tuesday, May 26	Thursday, May 21 • 2:00 pm
Wednesday, May 27	Friday, May 22 • 2:00 pm
Wednesday, May 27 *(Selma/Kingsburg)*	Thursday, May 21 • 12:00 pm

559.582.0471

THE SENTINEL

43455

Public Notices

NOTICE OF AVAILABILITY

Draft Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California Department of Defense U.S. Department of the Navy

The Department of the Navy announces the availability of, and invites public comments on, the Draft Environmental Assessment (EA) prepared to analyze the potential environmental impacts resulting from the proposed construction, operation, and decommissioning of a solar photovoltaic system at Naval Air Station Lemoore, California. The Draft EA is available for online review at http://www.cnic.navy.mil/NASLSolarPV. The Draft EA is also available for hardcopy review at the following public libraries: Lemoore Branch Library, 457 C Street, Lemoore, CA; the Kings County Library, 401 North Douty Street, Hanford, CA; and, the Riverdale Branch Library, 20975 Malsbary Street, Riverdale, CA. Submit comments on the Draft EA to NAVFAC SW, Attn: Code JE20.KF, 1220 Pacific Highway, Building 131, San Diego, CA 92132, or via email to NAVFAC_SW_DesertIPTPublicComments@navy.mil no later than June 22, 2015.

46540

Press Operator

Lee Central California Newspapers is seeking a full-time Press Operator to work at its Selma, CA location. The press operator is part of a team that produces a high quality printed product in a safe and timely manner. Shifts are Monday through Friday beginning at 7 AM. Shifts may vary based on business needs. Apply online at www.HanfordSentinel.com/workhere.

Responsibilities
•Maintain equipment including cleaning, lubricating, adjusting and inspections.
•Adjust ink-to-water ratio by hand adjusting ink keys and water knob to obtain proper printed ink densities and color balance for optimum appearance of product and operation of press.
•Spot and mount plates to achieve proper page rotation and color reproduction.
•Operate clamp truck to stack and un-stack paper rolls. Inspect clamp truck before operating on a daily basis. Load rolls into press and prep for splice.
•Maintain and clean press and peripheral equipment including but not limited to, changing ink rollers, bearings, light bulbs, pipe rollers, folder knives, slitters, washing of walls, press units or super structure.
•Performs all tasks in a safe manner in compliance with company policy and OSHA requirements.
•Operates industrial equipment in a newspaper production warehouse in a safe and efficient manner.
•Work effectively in a team oriented environment.

Requirements
•1+ year's web press operator experience required.
•A high degree of mechanical aptitude
•Must have good eye to hand coordination.
•Must be able to work in a fast-paced environment while maintaining a high level of accuracy.
•Excellent color vision.
•Ability to climb ladders and lift 50lbs and work in an active environment.
•High school diploma or general education degree (GED).
•Previous position demonstrating mechanical aptitude.
•Ability to read and interpret documents such as safety rules, operating and maintenance instructions, and procedure manuals.
•Must be able to follow written and verbal instructions.
•Ability to add, subtract, multiply, and divide.
•Must be able to stand for 4 hours or more at a time.

Benefits
Excellent medical, dental and 401k with matching, and paid time off.

Who We Are
Lee Central California Newspapers including The Hanford Sentinel, The Kingsburg Recorder, and The Selma Enterprise are a division of Lee Enterprises. Lee Enterprises is a leading provider of local news, information and advertising in primarily midsize markets, with 46 daily newspapers and a joint interest in four others, rapidly growing digital products and nearly 300 specialty publications in 23 states. Lee's newspapers have circulation of 1.2 million daily and 1.4 million Sunday, reaching more than four million readers daily. Lee's digital sites attract more than 20 million unique visits monthly, and Lee's weekly publications have distribution of more than 4.5 million households. Lee is based in Davenport, Iowa, and our stock is traded on the New York Stock Exchange under the symbol LEE. See our website at www.hanfordsentinel.com . Learn about our parent company at www.lee.net. We are an equal opportunity, drug-free employer.

THE SENTINEL LEE ENTERPRISES

46260

KINGS COUNTY Classifieds

TO CONTACT US

THE SENTINEL
300 W. 6th St., Hanford, CA 93230
Ph: 582-0471 • Fax: 582-8631
Call Toll-Free 1-888-606-0605

The Sentinel's Office Hours:
Monday - Friday: 8:00 a.m. - 5:00 p.m.

E-mail:
SentinelClassifieds@HanfordSentinel.com

LINE AD DEADLINES

Monday Sentinel *2:00 p.m. Friday*

Tuesday-Friday Sentinel
12 noon prior to publication

Saturday Sentinel *4:00 p.m. Thursday*

• Central Valley Guide North
• Lemoore Navy News • Selma Enterprise
• Kingsburg Recorder • Sentinel Sampler
~ 12 Noon Monday ~

WE ACCEPT:

CHECK YOUR AD: *This newspaper is not responsible beyond the cost of an ad and is responsible for the first incorrect insertion only. Publisher reserves the right to edit, classify, change classifications or reject copy. This newspaper is not responsible for any damages or loss that might result from error or omission of an ad beyond the cost of the ad itself. If an ad is omitted, no charges shall be incurred and this newspaper is not liable.*

AD OWL

Build your Classified ad when you want it!

Go to HanfordSentinel.com to build your Private Party Classified ad the way you want it, when you need it. Use the Ad Owl system to build and pay for your ads 24 hours a day!

Public Notices

AD#46505
BUDGET INSPECTION AND PUBLIC HEARING

The proposed **2015-2016** budget of the **Westside Elementary School District** will be available for inspection by the public during regular business hours beginning June 12, 2015 at the Westside Elementary School, 19191 Excelsior Avenue, Five Points, CA 93624.

A public hearing on the proposed 2015-2016 budget will be held by the governing board at 4:00 PM, June 16, 2015, at the Westside Elementary School Library, 19191 Excelsior Avenue, Five Points, CA 93624. Prior to the public hearing on the proposed budget, there will be a public hearing regarding the Local Control and Accountability Plan (LCAP).

Signed,

Jamie Perry, Senior Director
District Financial Services
Fresno County Office of Education

Publish: May 26, 2015

We meet your needs!
KINGS COUNTY Classifieds

Public Notices

AD#46370
NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN that the HANFORD JOINT UNION HIGH SCHOOL DISTRICT (hereafter, the "Owner") will receive sealed bids prior to the date and time stated below for the Bid Opening for the Hanford High School Network Improvements Project (hereafter, the "Project").

PLANS AND SPECIFICATIONS AVAILABLE:

Plans and Specifications for the work may be examined and obtained at the office of:
Renee Creech - Director of Business
823 W. Lacey Blvd.
Hanford, California 93230
Tel. (559) 583-5901 Ext. 3112

On and after the publication of this Notice, bonafide general contract bidders may secure copies of the proposed Contract Documents from the Director of Business on the following basis:

1. Limited to two sets of Bidding Documents per General Contractor.
2. Additional complete sets may be purchased at the cost of reproduction and delivery.
3. Contract Documents will also be issued to various Builders Exchanges for sub-contractors use or sub-contractors may purchase complete sets from the Architect at the cost of reproduction and delivery.
4. No partial sets or individuals sheets will be issued or sold.

Time of completion for this project is estimated to be approximately forty (40) calendar days from the date established in the Owner's Notice to Proceed, but will be more accurately specified in the Instructions to Bidders. It is anticipated in any event that a Notice to Proceed will not be issued before June 12, 2015.

PRE-BID CONFERENCE:

A MANDATORY PRE-BID CONFERENCE and walk-through will be held at 1:30 p.m. on May 21, 2015 and May 27, 2015 for those interested Bidders. All parties concerned must meet at Hanford High School, located at 120 E. Grangeville Blvd., Hanford, California.

SEALED BIDS:

Sealed bids on the above project shall be sealed and filed in the Business Office of the Owner located at 823 W. Lacey Boulevard, Hanford, California on or before 11:00 a.m. on June 4, 2015. Bids will be opened in public in the Board Room of the Owner, 823 W. Lacey Boulevard, Hanford, California 93230 at or after 11:00 a.m. on June 4, 2015.

BIDDER'S BOND:

Bids must be accompanied by a bidder's bond, approved by the Owner or a certified or cashier's check for at least ten percent (10%) of the amount bid and made payable to the Owner. Said Bidder's Bond or certified cashier's check shall be declared forfeited if the successful bidder refuses or neglects to enter into contract after being so requested by the Owner. Said Bond shall be obtained from an admitted surety company satisfactory to the Owner.

CONTRACTOR'S LICENSE REQUIRED:

The Board will not consider or accept any bids from contractors who are not licensed to do business in the State of California, in accordance with Section 7000 et seq. of the Business and Professions Code of the State of California, providing for the licensing of contractors. In accordance with Section 3300 of the Public Contract Code, any such subcontractor shall have a C7 or C10 license as required for the successful performance of the Contract.

BONDS REQUIRED:

The successful bidder will be required to furnish a Payment Bond in an amount equal to 100 percent of the contract price, to be obtained from a surety company satisfactory to the Owner.

All bonds required, whether Bid, Performance, Payment, or other bonds, shall be issued by an admitted surety insurer. Payment and Performance bonds required for this project will neither be accepted nor approved by the Owner unless they are underwritten by an admitted surety, comply with California Code of Civil Procedure Section 995.630(a) and (b), and the bonds are accompanied by the County Clerk's certificate as provided for in the California Code of Civil Procedure Section 995.640(b). The Owner reserves the right to verify the acceptability of the surety and the form of the bond.

SUBSTITUTION OF SECURITIES:

Bidders are hereby put on notice that (pursuant to Public Contracts Code Section 22300) the successful bidder may either establish an escrow account and agent for deposit of retention or may substitute securities for any monies retained by District to insure performance of the Contract.

PREVAILING WAGE PROVISION:

Payment of wages for work on this project shall be subject to the requirement for the payment of prevailing wages pursuant to Labor Code Section 1770 et seq. Copies of the applicable prevailing wage rates are on file with the Owner's business office and they are available to any interested party on request.

INSURANCE:

Prior to the execution of the Construction Agreement and in accordance with the instructions of the Owner, the successful bidder shall be required to furnish, in a form satisfactory to Owner, proof of property damage and personal injury liability insurance for a combined single limit of not less than $1,000,000.00. The successful bidder shall also provide proof of workers compensation insurance sufficient to meet those requirements for construction of public works in California.

SUBCONTRACTOR'S LIST: Each bid filed shall set forth:

a. the work performed, the name, and the location of the place of business of each subcontractor who will perform work or labor or render service to the general contractor in or about the construction of the work or improvement in an amount in excess of 1¼ of 1 percent of the general contractor's total bid;

b. the portion of the work which will be done by each subcontractor.If this is required by Section 4104 of the Public Contract Code of the State of California, as amended, and all bids shall be submitted subject to the terms, conditions and penalties of Sections 4100 through 4113 inclusive of said Public Contract Code, as amended.

MISCELLANEOUS:

The Owner reserves the right to reject any or all bids or to waive any informality in any bid.

If this contract is awarded, then the Notice of Award shall be issued to the lowest responsible bidder within 30 days following the bid opening.

Unless otherwise required by law, no bidder may withdraw his bid for a period of sixty (60) days after the date the Board awards bid to the lowest responsible bidder. The Bid Bond shall be returned sixty (60) days from the time the Award is made.

Dated: May 14, 2015

HANFORD JOINT UNION
HIGH SCHOOL DISTRICT

By _____
Renee Creech
Director of Business

Publish: May 19 & 26, 2015

Ficticious Business Name

AD#45776
FILE # 2015-0187
✔ORIGINAL
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
OHANA CHILL
148 N 11TH AVE
HANFORD, CA 93230 KINGS
545 W STACIE
PORTERVILLE, CA 93257
Full name and address(es) of Registrant(s):
JASON MARTIN
545 W STACIE AVE
PORTERVILLE, CA 93257
CALIFORNIA
The Business is conducted by:
AN INDIVIDUAL
Registrant commenced to transact business under the fictitious business name or names listed above on. 04/13/2015
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**JASON MARTIN,** OWNER
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above APRIL 29, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS

Public Notices

AD#46132
FILE # 2015-0181
✓ **REFILE**
PREVIOUS FILE# 10-195
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
VALLEY MOVING & STORAGE
593 W. IONA AVENUE
LEMOORE, CA 93245 KINGS
P O BOX 190
LEMOORE, CA 93245
Full name and address(es) of Registrant(s):
KINGS VALLEY MOVING & STORAGE, INC.
593 W. IONA AVENUE
LEMOORE, CA 93245
CALIFORNIA
The Business is conducted by:
A CORPORATION
Registrant commenced to transact business under the fictitious business name or names listed above on. 06/06/1979
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**FRANK R. HOMAN**, PRESIDENT
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above APR 28, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINE LEE,
KINGS COUNTY CLERK
by/s/MONICA GOMEZ, Deputy
Publish: MAY 12, 19, 26, JUN 2, 2015

Public Notices

FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINE LEE,
KINGS COUNTY CLERK
by/s/SUSAN VARGAS, Deputy
Publish: MAY 5, 12, 19, 26, 2015

AD#46123
FILE # 2015-0197
✔ORIGINAL
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
MODERN STYLE PET
2317 MICHAEL CIRCLE
HANFORD, CA 93230 KINGS
2317 MICHAEL CIRCLE
HANFORD, CA 93230
Full name and address(es) of Registrant(s):
DONALD MATHEWS
2317 MICHAEL CIRCLE
HANFORD, CA 93230
The Business is conducted by:
AN INDIVIDUAL
Registrant commenced to transact business under the fictitious business name or names listed above on. 05/07/2015
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**DON MATHEWS,** OWNER
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above MAY 07, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINE LEE,
KINGS COUNTY CLERK
by/s/MONICA GOMEZ, Deputy
Publish: MAY 12, 19, 26, JUN 2, 2015

Public Notices

federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINA MCKAY,
KINGS COUNTY
ASSISTANT CLERK-RECORDER
by/s/SUSAN VARGAS, Deputy
Publish: MAY 12, 19, 26, JUNE 2, 2015

AD#46133
FILE # 2015-0182
✓ **REFILE**
PREVIOUS FILE# 10-194
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
LEMOORE VAN & STORAGE
581 W. IONA AVENUE
LEMOORE, CA 93245 KINGS
P O BOX 190
LEMOORE, CA 93245
Full name and address(es) of Registrant(s):
PAUL A HOMAN
148 W. CANTEBURY
LEMOORE, CA 93245
VIRGINIA A HOMAN
254 HAMLET ST
LEMOORE, CA 93245
The Business is conducted by:
A GENERAL PARTNERSHIP
Registrant commenced to transact business under the fictitious business name or names listed above on. 04/01/1992
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**PAUL A HOMAN**, PARTNER
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above APR 28, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINA MCKAY,
KINGS COUNTY
ASSISTANT CLERK-RECORDER
by/s/SUSAN VARGAS, Deputy
Publish: MAY 12, 19, 26, JUNE 2, 2015

AD#46134
FILE # 2015-0183
✓ **REFILE**
PREVIOUS FILE# 10-196
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
LAMBERT TRANSFER & STORAGE
455 W. IONA AVENUE
LEMOORE, CA 93245 KINGS
P O BOX 190
LEMOORE, CA 93245
Full name and address(es) of Registrant(s):
LEMBERT ENTERPRISES, INC.
455 W. IONA AVENUE
LEMOORE, CA 93245
VIRGINIA A HOMAN
CALIFORNIA
The Business is conducted by:
A CORPORATION
Registrant commenced to transact business under the fictitious business name or names listed above on. 04/15/1967
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**JEANETTE HOMAN**, PRESIDENT
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above APR 28, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)

Public Notices

Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINA MCKAY,
KINGS COUNTY
ASSISTANT CLERK-RECORDER
by/s/SUSAN VARGAS, Deputy
Publish: MAY 12, 19, 26, JUNE 2, 2015

AD#46302
FILE # 2015-0211
✔ORIGINAL
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
LEMOORE ANTIQUES AND COLLECTIBLES
414 W D ST
LEMOORE, CA 93245 KINGS
414 W D ST
LEMOORE, CA 93245
Full name and address(es) of Registrant(s):
JEREMY DAY
508 E BURLWOOD LN
LEMOORE, CA 93245
The Business is conducted by:
AN INDIVIDUAL
Registrant commenced to transact business under the fictitious business name or names listed above on. N/A
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**JEREMY DAY**, OWNER
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above MAY 14, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINE LEE,
KINGS COUNTY CLERK
by/s/MONICA GOMEZ, Deputy
Publish: MAY 19, 26, JUN 2, 9, 2015

AD#46304
FILE # 2015-0207
✔ORIGINAL
FICTITIOUS BUSINESS NAME STATEMENT
THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:
FANTASY HAIR & NAILS LLC
2475 NORTH 10TH AVE
HANFORD, CA 93230 KINGS
2475 NORTH 10TH AVE
HANFORD, CA 93230
Full name and address(es) of Registrant(s):
FANTASY HAIR & NAILS LLC
2475 NORTH 10TH AVE
HANFORD, CA 93230
CALIFORNIA
The Business is conducted by:
A LIMITED LIABILITY COMPANY
Registrant commenced to transact business under the fictitious business name or names listed above on. 05/13/2015
I declare that all information in this statement is true and correct (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
/s/**TUNG Q NGUYEN,** PRESIDENT
This statement was filed with the County Clerk of Kings County on date indicated by the file stamp above MAY 14, 2015
NOTICE - THIS FICTITIOUS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED PRIOR TO THAT DATE. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, of common law (See Section 14411 -et seq., Business and Professions Code.)
I HEREBY CERTIFY THAT THE

Classifieds work.
We're here to work for you!
KINGS COUNTY Classifieds

Public Notices

NOTICE OF AVAILABILITY

Draft Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California Department of Defense U.S. Department of the Navy

The Department of the Navy announces the availability of, and invites public comments on, the Draft Environmental Assessment (EA) prepared to analyze the potential environmental impacts resulting from the proposed construction, operation, and decommissioning of a solar photovoltaic system at Naval Air Station Lemoore, California. The Draft EA is available for online review at http://www.cnic.navy.mil/NASLSolarPV. The Draft EA is also available for hardcopy review at the following public libraries: Lemoore Branch Library, 457 C Street, Lemoore, CA; the Kings County Library, 401 North Douty Street, Hanford, CA; and, the Riverdale Branch Library, 20975 Malsbary Street, Riverdale, CA. Submit comments on the Draft EA to NAVFAC SW, Attn: Code JE20.KF, 1220 Pacific Highway, Building 131, San Diego, CA 92132, or via email to NAVFAC_SW_DesertIPTPublicComments@navy.mil no later than June 22, 2015.

46540

Ficticious Business Name

FOREGOING IS A CORRECT COPY OF THE ORIGINAL STATEMENT ON FILE IN MY OFFICE
KRISTINE LEE,
KINGS COUNTY CLERK
by/s/MONICA GOMEZ, Deputy
Publish: MAY 19, 26, JUN 2, 9, 2015

Petitions

AD#46610
NOTICE OF PETITION TO ADMINISTER ESTATE OF ROBIN E. FREER
CASE NUMBER: 15P0036
To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of: **ROBIN ELEANOR FREER, ROBIN E. FREER**
A Petition for Probate has been filed by: **RANDALL A. FREER** in the Superior Court of California, county of: **KINGS**
The Petition for Probate requests that: **RANDALL A. FREER** be appointed as personal representative to administer the estate of the decedent.
The petition requests the decedent's wil and codicils, If any, be admitted to probate. The will and any codicils are available for examination in the file kept by the court.
✓ The petition requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.
A HEARING on the petition will be held on a: Date: **7/21/15** Time: **9:00 AM** Dept.: **4**
b: Address of Court:
SUPERIOR COURT OF CALIFORNIA, COUNTY OF KINGS
1426 SOUTH DRIVE
HANFORD, CA 93230
If you object to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.
If you are a creditor or a contingent creditor of the deceased, you must file your claim with the court and mail a copy to the personal representative appointed by the court within four months from the date of first issuance of letters as provided in Probate Code section 9100. The time for filing claims will not expire before four months from the hearing date noticed above.
You may examine the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1250. A Request for Special Notice form is available from the court clerk.
✓ Attorney for Petitioner:
RANDALL W. ROSA
115 S. SCHOOL STREET, SUITE6
LODI, CA 95240
(209)333-8061
Publish: May 26, June 2, 9, 2015

AD#46612
NOTICE OF PETITION TO ADMINISTER ESTATE OF JOHN WASHINGTON
CASE NUMBER: 15P0037
To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of: **JOHN WASHINGTON**
A Petition for Probate has been filed by: **APRIL WASHINGTON** in the Superior Court of California, county of: **KINGS**
The Petition for Probate requests that: **APRIL WASHINGTON** be appointed as personal representative to administer the estate of the decedent.
The petition requests the decedent's wil and codicils, If any, be admitted to probate. The will and any codicils are available for examination in the file kept by the court.
✓ The petition requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.
A HEARING on the petition will be held on a: Date: **6/19/15** Time: **9:00 AM** Dept.: **4**
b: Address of Court:
SUPERIOR COURT OF CALIFORNIA, COUNTY OF KINGS
1426 SOUTH DRIVE
HANFORD, CA 93230
If you object to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.
If you are a creditor or a contingent creditor of the deceased, you must file your claim with the court and mail a copy to the personal representative appointed by the court within four months from the date of first issuance of letters as provided in Probate Code section 9100. The time for filing claims will not expire before four months from the hearing date noticed above.
You may examine the file kept by the court.
If you are a person interested in the estate, you may file with the court a Request for Special Notice of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1250. A Request for Special Notice form is available from the court clerk.
✓Petitioner:
APRIL WASHINGTON
904 W. PEBBLE DRIVE
HANFORD, CA 93230
(559)639-3741
Publish: May 26, 30, June 4, 2015

Trustee

AD#46013
APN: 014-242-033-000
T.S. No. 015514-CA
NOTICE OF TRUSTEE'S SALE
IMPORTANT NOTICE TO PROPERTY OWNER:
YOU ARE IN DEFAULT UNDER A DEED OF TRUST, DATED 4/26/2005. UNLESS

Mike N. Oliphant
Project Manager
Mining and Specialty
Portfolios

Chevron Environmental Management Company
P.O. Box 6012
San Ramon, CA 94583
Tel (925) 790 6431
Fax (925) 790 6772
mike.oliphant@chevron.com

June 4, 2015

Stakeholder Communication – NAVFAC Southwest

Department of the Navy
Naval Facilities Engineering Command Southwest
Attn: Code JE20.KF
1220 Pacific Highway
San Diego, California 92132-5190

Subject: **Comments on the Draft Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California**
Historical Pipeline Portfolio–Bakersfield to Richmond

To Whom It May Concern:

On behalf of Chevron Environmental Management Company (CEMC), Leidos Engineering, LLC (Leidos; CEMC contract consultant) recently reviewed the Draft Environmental Assessment (EA) for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California (NASL). The information contained in this letter may help you in subsequent planning efforts to understand something about Chevron's former pipeline operations in Kings and Fresno counties, as residual weathered crude oil, abandoned pipeline, and asbestos-containing materials (ACM) could potentially be encountered during subsurface construction activities in this former pipeline right of way (ROW).

A portion of the former Old Valley Pipeline (OVP) existed in the vicinity of the proposed project area. This formerly active pipeline was constructed in the early 1900s and carried crude oil from the Kern County Oil Fields (in and near Bakersfield) to the San Francisco Bay Area. Pipeline operations for the OVP ceased in the 1940s, at which point the pipeline was taken out of commission. The degree and method of decommissioning varied: in some instances the pipeline was removed, while in others it remained in place. Because this pipeline has been decommissioned, with the majority of pipeline having been removed, it is not readily identified as underground utilities through the Underground Service Alert North System or utility surveys. Figure 1 illustrates the location of the former OVP ROW with respect to potential solar PV system sites at NASL. Figures 2 through 4 illustrate the location of the former OVP ROW with respect to Alternative 1. Figure 5 illustrates the location of the former OVP ROW with respect to Alternative 2. The location of the pipeline shown on Figures 1 through 5 is based on historical as-built drawings and the approximated positional accuracy of the alignments is generally +/-50 feet. The OVP was installed at depths of up to 10 feet below ground surface. The steel pipeline was typically encased in a protective coating composed of coal tar and ACM.

Working under the direction of State regulatory agencies, CEMC conducted risk assessments at numerous locations with known historical crude-oil release points along the former OVP. Analytical results from these risk assessments indicated that the crude-contaminated soil was non-hazardous. Accordingly, it is likely that if soil affected by the historical release of crude oil from this former pipeline is encountered during construction activities it may be

reused as backfill on site. Properly abandoned crude-oil pipeline may be left in the ground. Parties conducting construction activities in the vicinity of this former pipeline ROW may wish to use the information provided in this letter to help prepare for the possibility of encountering abandoned pipeline and pipeline-related ACM during the course of their work.

For more information regarding this historic pipeline, please visit http://www.hppinfo.com/. If you would like additional information, or would like to request more detailed maps, please contact Leidos consultants Mike Hurd (michael.t.hurd@leidos.com) at (510) 466-7161 or Tan Hoang (tan.t.hoang@leidos.com) at (916) 979-3742.

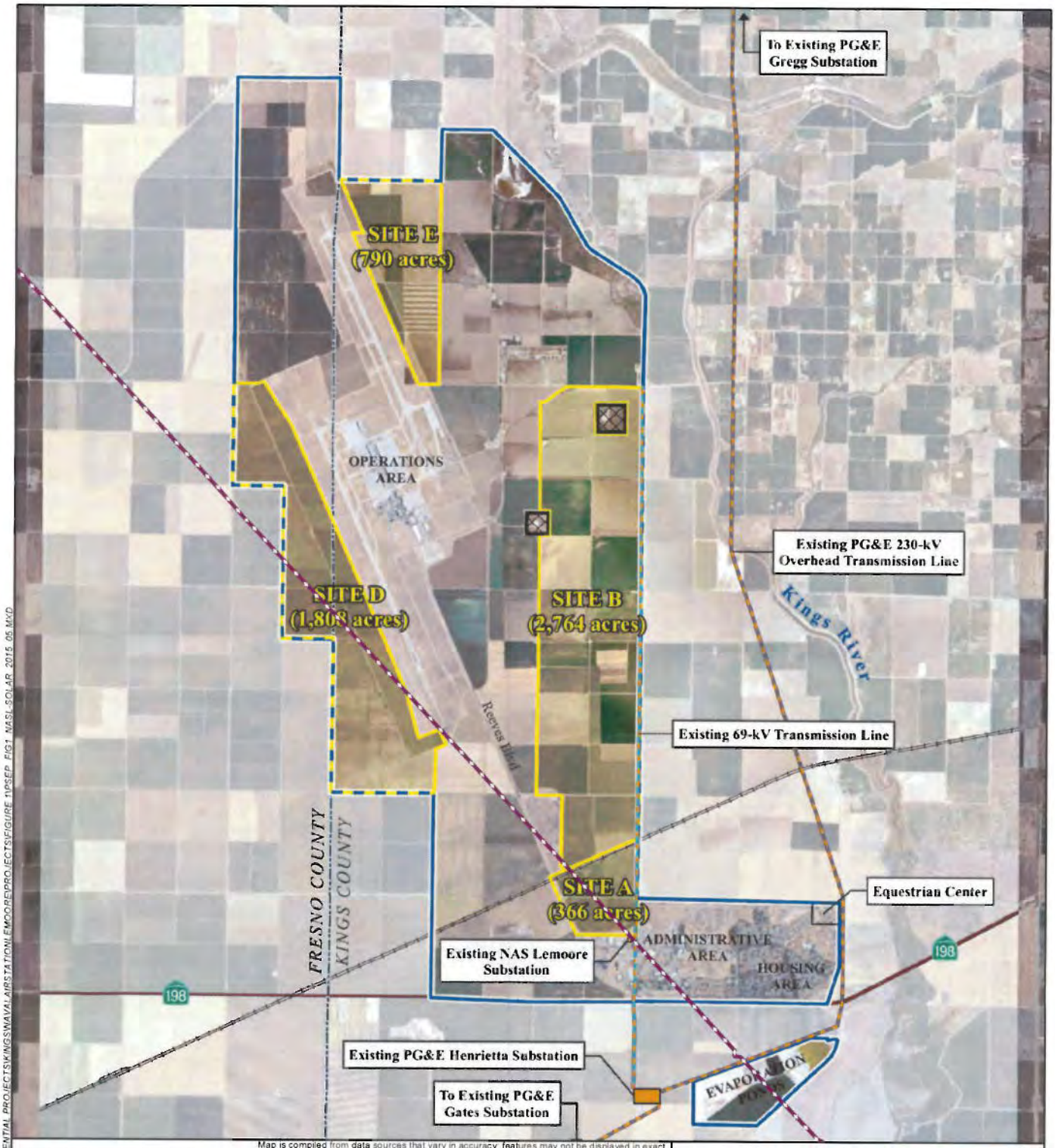
Sincerely,

Mike Oliphant

MO/klg

Enclosures:
Figure 1. Historical Pipeline Right of Way – Potential Solar PV System Sites
Figure 2. Historical Pipeline Right of Way – Alternative 1 (Figure 2-1)
Figure 3. Historical Pipeline Right of Way – Alternative 1 Option (Figure 2-2A)
Figure 4. Historical Pipeline Right of Way – Alternative 1 Option (Figure 2-2B)
Figure 5. Historical Pipeline Right of Way – Alternative 2 (Figure 2-3)

cc: Mr. Mike Hurd – Leidos
1000 Broadway, Suite 675, Oakland, California 94607
Mr. Roman Benitez – Naval Air Station Lemoore
750 Enterprise Avenue, NAS Lemoore, California 93246



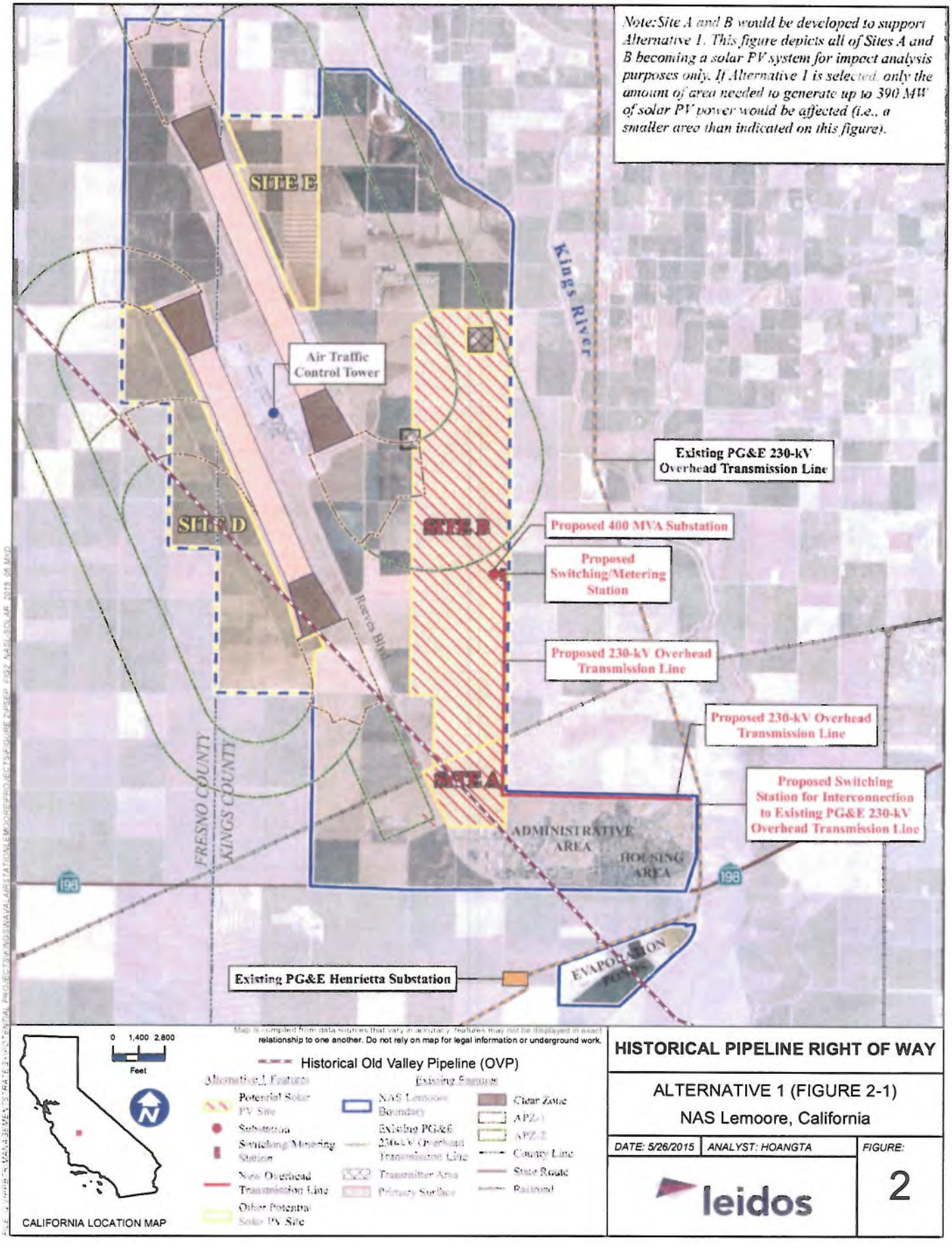
FILE: Q:\HPP\BTR\MANAGEMENT\STRATEGY\POTENTIAL PROJECTS\KINGS\NAVAL AIR STATION\LEMOORE\PROJECTS\FIGURE 1\PSEP_FIG1_NASL-SOLAR_2015_05.MXD

HISTORICAL PIPELINE RIGHT OF WAY

POTENTIAL SOLAR PV SYSTEM SITES
NAS Lemoore, California

DATE: 5/26/2015 | ANALYST: HOANGTA | FIGURE: 1

leidos



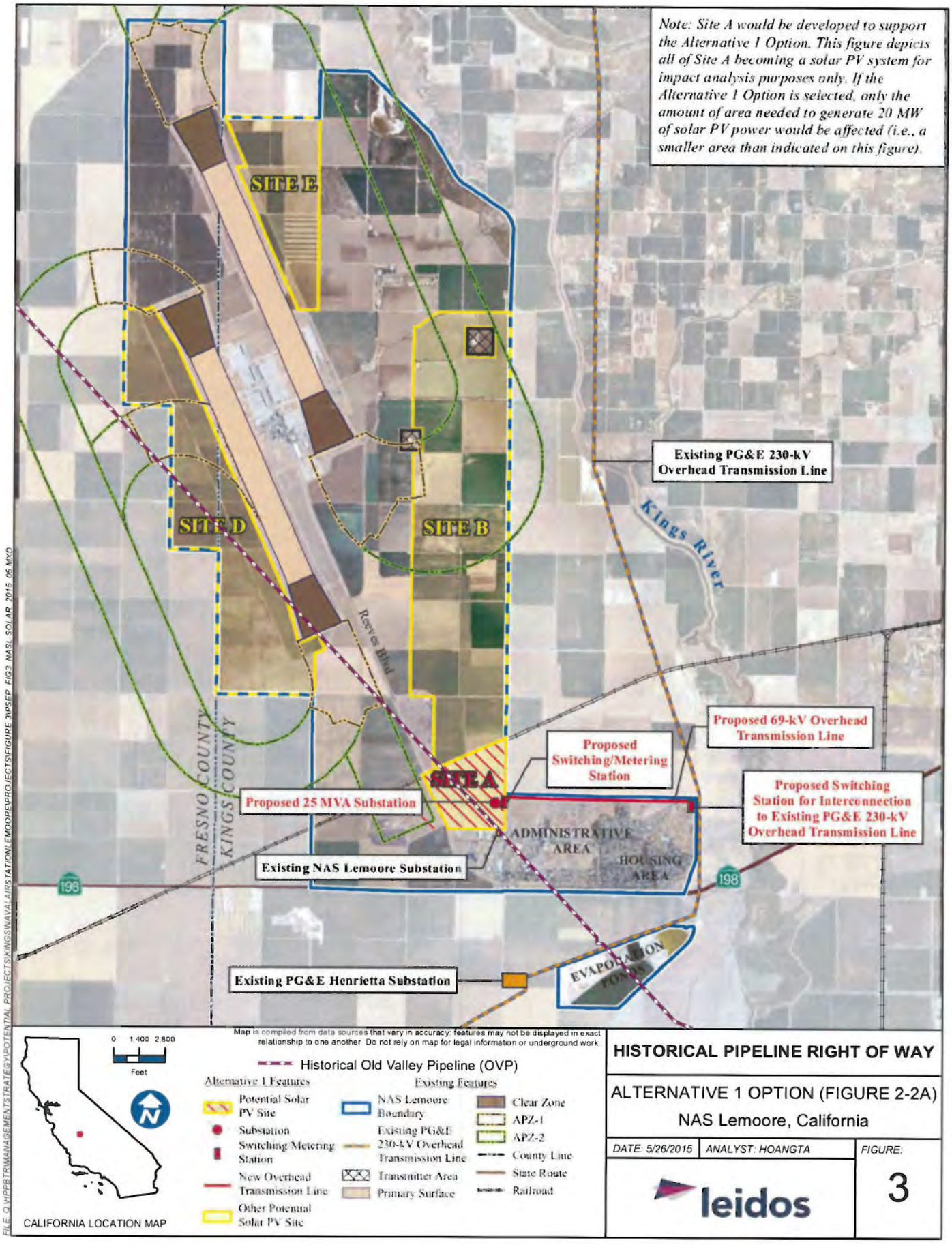
Map is compiled from data sources that vary in accuracy. Features may not be displayed in exact relationship to one another. Do not rely on map for legal information or underground work.

HISTORICAL PIPELINE RIGHT OF WAY

ALTERNATIVE 1 (FIGURE 2-1)

NAS Lemoore, California

DATE: 5/26/2015	ANALYST: HOANGTA	FIGURE:
leidos		2



FILE: Q:\PPBTR\MANAGEMENTSTRATEGY\POTENTIAL PROJECTS\KINGS\AVALAIRSTATION\LEMOORE\PROJECTS\FIGURE 3\PSEP_FIG3_NASL_SOLAR_2015_05.MXD

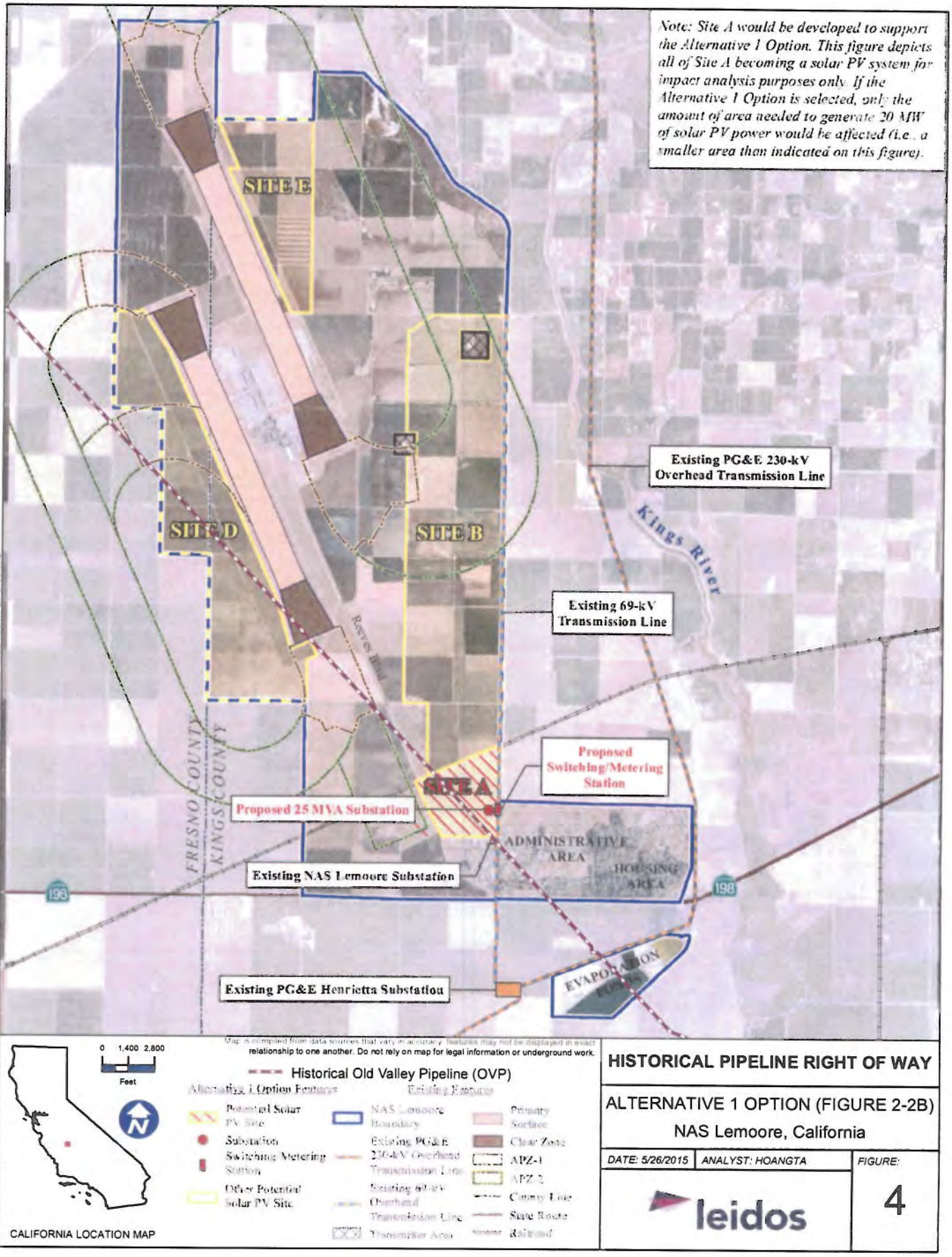
HISTORICAL PIPELINE RIGHT OF WAY

ALTERNATIVE 1 OPTION (FIGURE 2-2A)

NAS Lemoore, California

DATE: 5/26/2015 | ANALYST: HOANGTA | FIGURE: 3

leidos



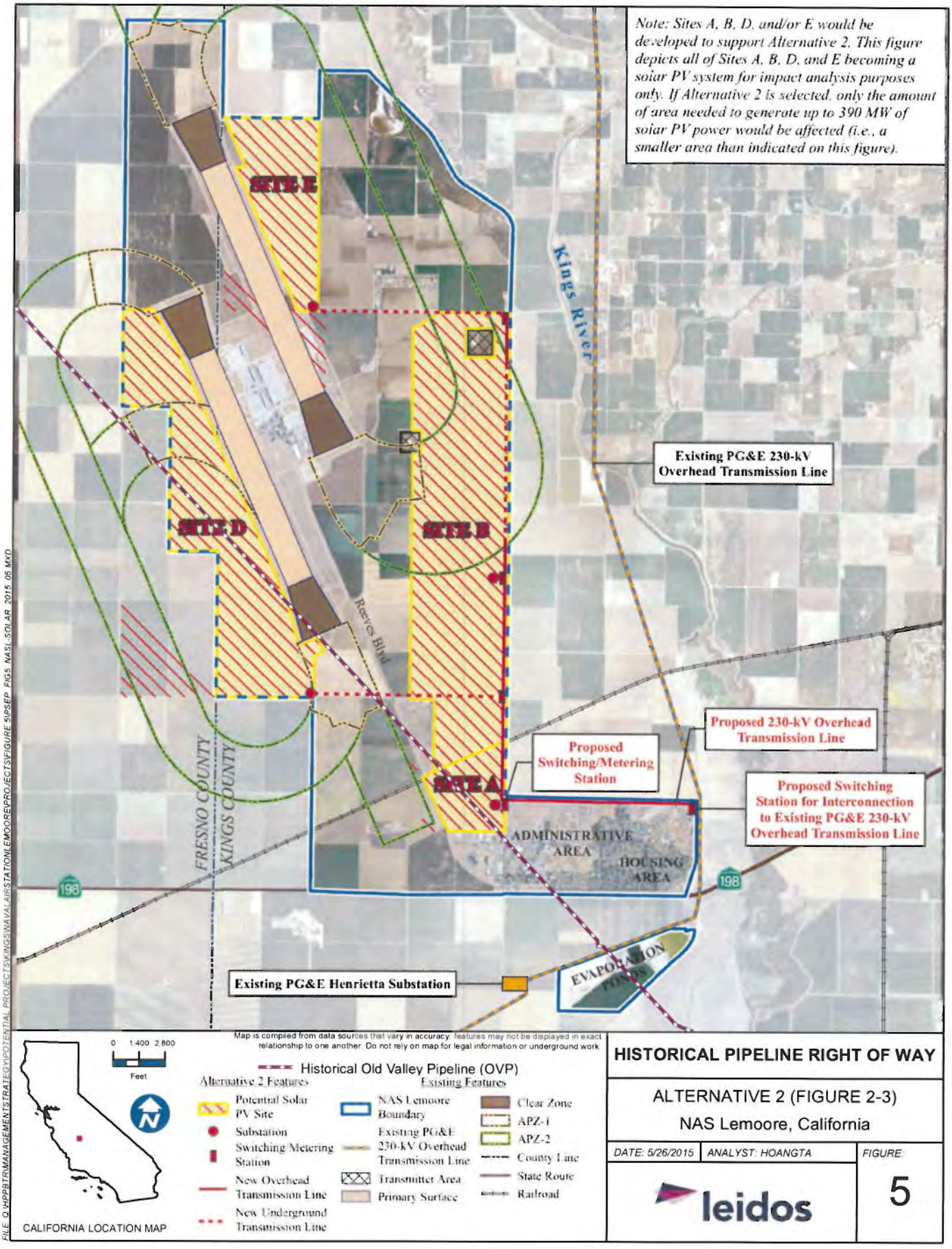
Map is compiled from data sources that vary in accuracy. Features may not be displayed in exact relationship to one another. Do not rely on map for legal information or underground work.

HISTORICAL PIPELINE RIGHT OF WAY

ALTERNATIVE 1 OPTION (FIGURE 2-2B)

NAS Lemoore, California

DATE: 5/26/2015	ANALYST: HOANGTA	FIGURE:
leidos		4



FILE: Q:\PPBTR\MANAGEMENT\STRATEGY\POTENTIAL PROJECTS\KINGS\NAVALAIRSTATIONLEMOORE\PROJECTS\FIGURE 5\PSEP_FIG5_NASL-SOLAR_2015_05.MXD

HISTORICAL PIPELINE RIGHT OF WAY

ALTERNATIVE 2 (FIGURE 2-3)
NAS Lemoore, California

DATE: 5/26/2015	ANALYST: HOANGTA	FIGURE: 5

leidos

DEPARTMENT OF THE NAVY
NAVAL AIR STATION LEMOORE
700 AVENGER AVENUE
LEMOORE, CA 93246-5001

IN REPLY REFER TO:
5090
Ser N45/055
April 15, 2015

Dr. Carol Roland-Nawi
State Historic Preservation Officer
OFFICE OF HISTORIC PRESERVATION
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Dr. Roland-Nawi:

SUBJECT: PHOTOVOLTAIC SYSTEM, NAVAL AIR STATION (NAS) LEMOORE

The Navy is proposing an undertaking to install a photovoltaic (PV) system at Naval Air Station (NAS) Lemoore, Kings County, California. There are four alternative locations proposed for this project (Area A, Area B, Area D, and Area E) and under one scenario all four locations would be required for the installation of the photovoltaic system. All four of the areas are within the agricultural fields and up to 5,728 acres (2,318 hectare) of land would be developed for the PV system.

In accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (16 USC 470s), the Navy is providing: a) description of the proposed undertaking; b) proposed Areas of Potential Effects (APE) for areas A, B, D, and E; c) identification of historic properties; and d) the Navy's determination of *No Historic Properties Affected* in accordance with 36 CFR 800.4(d).

DESCRIPTION OF UNDERTAKING

An undertaking is proposed to install a PV system at NAS Lemoore. The purpose of the project is to increase Navy installation energy security, operational capability, strategic flexibility and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of a solar PV system at NAS Lemoore. The project is required to meet the renewable energy standards put forth by the 1 Gigawatt Initiative, Executive Order 13514, and Secretary of the Navy Energy Goals.

A 390 Megawatt (MW) ground mounted photovoltaic system is proposed at four locations at NAS Lemoore. The ground mounted panels would include site preparations: grading to bare mineral soil to remove vegetation at all areas within the APE, installation of underground electrical lines and circuitry (3 feet deep as required by UFC codes), and trenching between panels to complete the electrical circuits. The facilities to be constructed include solar photovoltaic panels, steel tracking structure, inverters, combiner boxes, electrical switchgear, a substation, a switching/metering station, transmission lines, associated electrical wiring, connections, and other items required for the PV system. All electrical equipment, including inverters and transformers would be constructed on concrete pads and all solar PV wiring would

be routed underground. Gravel roads would be graded between the rows of solar PV panels and around the site perimeter for maintenance access. No access improvements would be required as part of this project because the road network adjacent to the project area is sufficient. The areas associated with the existing transmitter areas within Site B would be avoided; no construction in these areas would occur. The ground mounted systems would be enclosed by chain link panels with barbed-wire outriggers in accordance with force protection standards. It is also a safety issue to provide perimeter fencing so individuals cannot enter the solar fields.

A typical configuration for this type of installation is to affix the solar PV panels atop constructed mounting structures, mounted on posts bored into the ground, or be placed on concrete block above ground. Foundations for the mounting structures would be built on engineered fill or native soil at a minimum of 24 inches below adjacent grade or finished grade. Each pole footing would consist of a 4-inch cross-sectional area and would require a depth of 4 to 6 feet (1.2 to 1.8 meters) below ground surface.

A 400 Megavolt ampere (MVA) substation would also be constructed. The substation would cover approximately 1.8 acres (0.7 hectare) and would serve as the interface connection of the solar PV field to the existing Pacific Gas & Electric (PG&E) 230-kilovolt (kV) transmission line. A 230-kV switching/metering station would also be constructed. The switching/metering station would cover approximately 8,100 square feet (750 square meters) and would meter the solar PV power generated. Finally, a switching station covering approximately 0.5 acre (0.2 hectare) would be constructed adjacent to the existing equestrian center to transfer electrical power generated to the existing PG&E 230-kV transmission line. A graveled buffer area would be developed around the switching station and a fence would be constructed to restrict access to the site. The depth of disturbance for the three support structures is not expected to be below 6 feet (1.8 meters).

The existing 69-kV transmission line would not have capacity for the electricity generated therefore a new 230-kV transmission line would be constructed to the existing PG&E 230-kV transmission line. To support the new 230-kV transmission line, approximately one hundred, 80-foot (24-meter) tall steel poles would be constructed along the proposed route. Power would be delivered via the existing PG&E 230-kV transmission lines to the PG&E Henrietta substation. The west-east segment of the 230-kV transmission line would be underground to avoid encroachment on the existing flight easement. The flight easement does not allow vertical structures above 25 feet (8 meters) tall. Upon clearing the easement, the transmission line would run above ground along the eastern boundary of Sites A and/or B, then east to tie into the existing PG&E 230-kV transmission line.

At all locations, typical maintenance would consist of hosing down the panels twice a year. For systems of these sizes, work would be performed by one or two person(s) using a mobile water truck. At the conclusion of the agreement, the solar PV system would be decommissioned and the site returned to its pre-project condition.

AREA OF POTENTIAL EFFECT

Consistent with 36 CFR 800.16(d), the APE for this project is defined as the geographic area within which the proposed undertaking may directly cause effects to historic properties. Enclosure (1) is a location map for NAS Lemoore. Enclosure (2) depicts the APE for Areas A, B, D, and E. All four locations encompass the project area and construction lay-down areas.

The project would consist of a 390 MW ground-mounted photovoltaic system on 5,728 acres (2,318 hectare) located within the agricultural fields surrounding the airfield at NAS Lemoore. The vertical depth of disturbance for the proposed undertaking is not expected to exceed 6 feet (the depth of previous recorded disturbances due to agricultural activities). The APE map depicts multiple substations and switching/metering stations. These refer to the location of these structures under different scenarios and in the end only one location for each structure will be chosen.

IDENTIFICATION OF HISTORIC PROPERTIES

Records Search

A complete cultural resources records search of NAS Lemoore was carried out in March 2010 and an updated records search was conducted on the eastern side of the Operations Area in 2014. In addition, the NAVFAC SW archaeologist checked through the base records for any additional information that might not have been included in the records search. The records searches indicated 32 cultural resource studies have been conducted within a one mile radius of the base, five of which fall within the APE. The record searches identified one archaeological site and four isolates recorded within the boundary of the base. The archaeological resources include one historic waste scatter, CA-KIN-74H (P-16-000081), and three prehistoric isolates, P-16-000082, P-16-000083, and GH-1. None of these resources are located within or adjacent to the APE.

Previous Studies

As a part of the 1997 Historic and Archaeological Resource Protection (HARP) study, NAS Lemoore was divided into five possible sensitivity zones for archaeological resources: High Sensitivity Zones 1 through 4, occupying a total of 760 acres (307 hectares), and a Low Sensitivity Zone, occupying the remaining 17,611 acres (7,126 hectares) (Milliken and Mikesell 1997). In 1999, it was determined that the 1997-2002 HARP Plan's conclusion of high sensitivity zones and potential buried sites was only based on a small number of surface surveys and studies conducted in other parts of the San Joaquin Valley, and sensitivity should be reassessed (Milliken and Young 2000).

In 1999, 220 acres (89 hectares) within what was considered to be high sensitivity areas was sample surveyed. Sensitivity Zone 4 was only subject to a cursory reconnaissance survey because agricultural activities had completely altered the natural landscape, and an intensive survey would not have proven useful. Sample areas from Zones 1, 2, and 3 were subject to an

intensive level survey. As a result of the fieldwork, one historic refuse scatter (CA-KIN-74H) and two prehistoric isolates (P-16-000082 and -000083) were identified. The survey resulted in a reduction of the original 760 acres (307 hectares) of high sensitivity to 138 acres (56 hectares) of what was reclassified as medium sensitivity. In addition to the archaeological sample survey, a geomorphological trenching program was conducted to confirm the presence of an alluvial fan, which could indicate the existence of buried archaeological sites. The trenching results indicated that portions of NAS Lemoore are underlain by buried terminal Pleistocene soil surfaces. While it is always possible that buried archaeological sites may exist within the Station, the chance of encountering a buried site is quite low (Milliken and Young 2000). As a result of the 1999 fieldwork, two significant conclusions were reached: 1) "there is no longer any acreage delimited having high sensitivity for prehistoric archaeological sites at the Station" and 2) "the likelihood of encountering a buried prehistoric site on the Station during an undertaking is so low that archaeological monitoring is not regularly recommended" (Milliken and Young 2000: i).

Today, more than two-thirds of the land in NAS Lemoore is utilized for agricultural purposes, and has been leased to local farmers. Ground-disturbing agricultural activities include cultivation, well drilling, irrigation, drainage ditch construction, sump construction, and three-four foot deep soil ripping to break up hardpans (Milliken and Young 2000).

Archaeological Survey

A conference call between NAVFAC SW and SHPO was held on November 15, 2012 to discuss a strategy to survey the agricultural parcels on NAS Lemoore. It was determined that a minimum of 25 percent of each parcel should be surveyed, including any areas that are not normally plowed (roads, ditches, etc.), and that disturbances will not be greater than previous recorded disturbances.

In 2012 and 2013, Far Western conducted a Phase 1 archaeological survey of Sites D and E. The survey in 2012 was completed at 100 percent ground coverage and the survey in 2013 was completed at 64 percent ground coverage. The 2012 survey report was sent on May 23, 2012 as part of the consultation for the FY13 Agricultural Outlease Advertisement Project. SHPO concurred on July 12, 2012. The 2013 survey report was sent on March 24, 2015 as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 Leases Project. The Navy is currently waiting for SHPO to respond to the letter.

In 2014, Cardno, Inc. conducted a Phase 1 archaeological survey of Sites A and B. The survey was completed at 100 percent ground coverage. The 2014 survey report was sent on March 24, 2015 as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 Leases Project. The Navy is currently waiting for SHPO to respond to the letter.

FINDINGS

The 2012 Phase 1 archaeological survey by Far Western identified no historic resources. The 2013 Phase 1 Archaeological survey identified 7 isolated artifacts and 2 historic resources.

Three of the isolates are located within the APE; however isolated artifacts can provide little information beyond what has already been collected and is considered ineligible for the NRHP. The two sites that were recorded are P-16-000277 a segment of a utility line and P-000122 a segment of the San Joaquin Valley Railroad. Both of these sites are located adjacent to the APE and will not be affected by the proposed photovoltaic system. The Phase 1 archaeological survey by Cardno, Inc. identified one new site and 8 isolated artifacts. All 8 of the isolated artifacts are located within the current APE; however isolated artifacts can provide little information beyond what has already been collected and is considered ineligible for the NRHP. The archaeological site that was recorded is located within the APE and is a historic trash scatter likely dating to the early to the mid-20th century. Cardno, Inc. evaluated the site for listing in the NRHP under the four criteria and recommend that the site is ineligible for listing. NAVFAC SW has previously requested that the CA SHPO concur with the finding that historical archaeological site LPV-01 is not eligible for listing in the National Register as part of the FY15 Agricultural Outlease Advertisement of 14 Leases Project at NAS Lemoore.

Based on the information presented above, the archaeological surveys determined that the APE has been completely disturbed due to previous agricultural activities, that all ground disturbances resulting from the new photovoltaic system will not exceed 6 feet (1.8 meters) (the depth of previous recorded disturbances of previous agricultural activities), and that based on land use since the early 20th century and the geomorphology of the vicinity, encountering archaeological deposits within 7 feet (2 meters) of the surface represents a low probability (see Milliken and Young's 2000 report – Surface Reconnaissance, Geomorphological Analysis, and Reassessment of Archaeological Sensitivity Zones at Naval Air Station, Lemoore. Report on file at NAS Lemoore). It is the Navy's recommendation that due to the information presented above, the likelihood of encountering intact archaeological deposits for the new photovoltaic system is very low.

In the event of a discovery during any excavation the contractor will be required to immediately stop work in the area of the discovery and immediately notify the Navy of the discovery. The Navy will have the discovery site evaluated by a professional archeologist, and in consultation with the SHPO, if the discovery is determined to qualify for listing on the NRHP, the Navy will develop and implement an appropriate treatment plan before authorizing the excavation or construction responsible for the discovery to proceed.

NATIVE AMERICAN CONSULTATION

Native American consultation is being initiated concurrent with this letter submission. All relevant tribes listed below in the "Copy to" section are being contacted.

5090
Ser N45/055
April 15, 2015

REQUEST FOR CONCURANCE

Based on the results of the records search and field investigation, the Navy respectfully requests your concurrence with the definition of the APE and the finding of "No Historic Properties Affected" in accordance with 36 CFR 800.4(d) within 60 days of receipt of this correspondence for the photovoltaic system at NAS Lemoore. If you have any questions or need additional information, please contact NAVFAC SW archaeologist Mr. Joseph Baumann by email at joseph.baumann@navy.mil or by phone at 619-532-2787. In addition, please send a PDF copy of the response letter to Mr. Baumann at the e-mail address stated above.

Sincerely,

MARK P. PATTERSON
Environmental Compliance Branch Manager
By direction of the Commanding Officer

Enclosures: 1. Project Location Map
2. APE Map

Copy to: Picayune Rancheria Chukchansi Indians
46575 Road 417 #A
Coarsegold, California 93614

Tachi-Yokut Tribe-Santa Rosa Rancheria
P.O. Box 8
16835 Alkali Dr.
Lemoore, CA 93245

Cold Springs Rancheria Tribe
P.O. Box 209
Tollhouse, CA. 93667

Big Sandy Rancheria of Mono Indians
37387 Auberry Mission Road
Auberry, CA 93602

Table Mountain Rancheria Tribe
23736 Sky Harbour Rd
Friant, CA 93626

5090
Ser N45/055
April 15, 2015

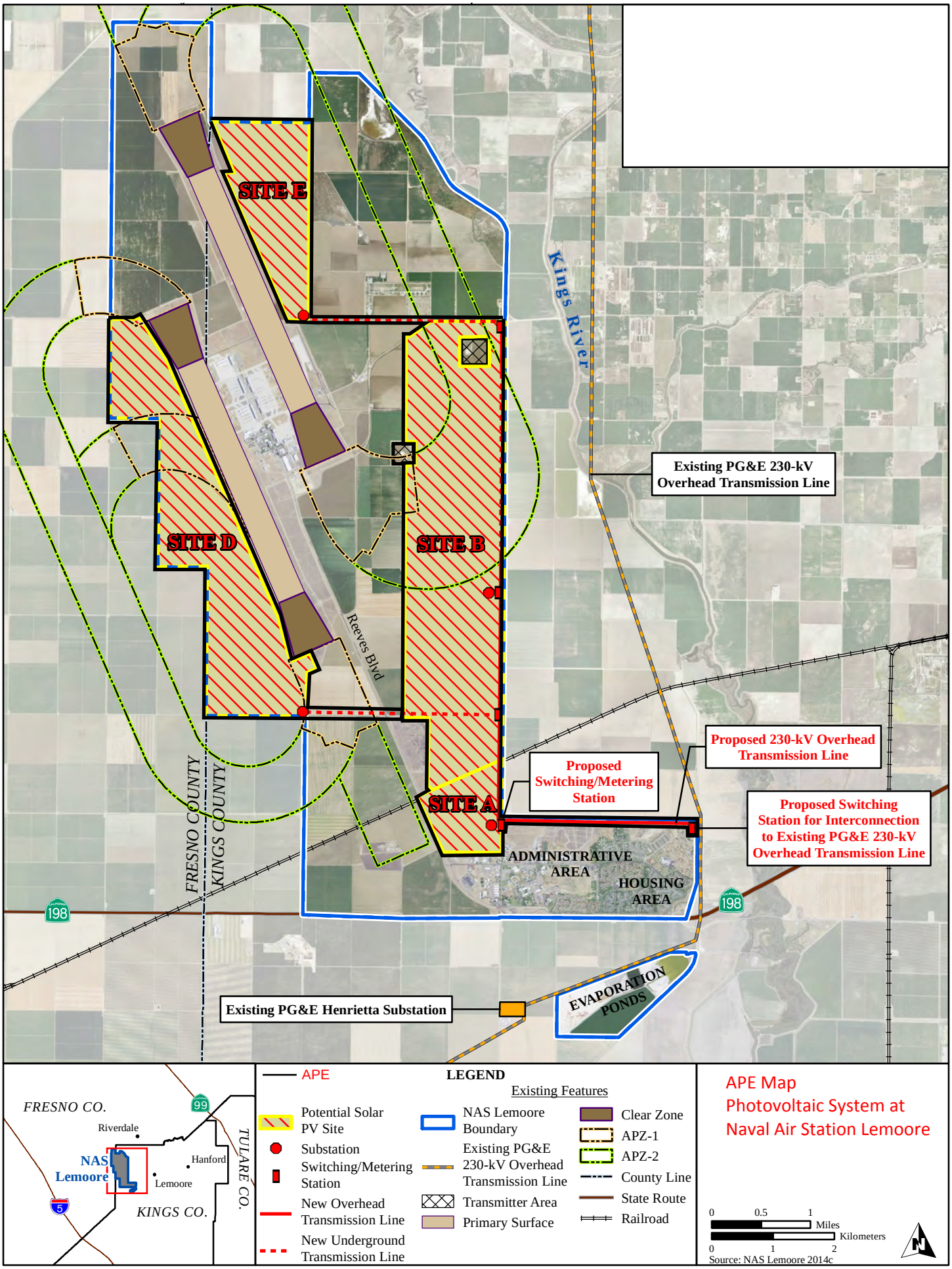
Tule River Indian Tribe
340 North Reservation Road
Porterville, CA 93257

North Fork Rancheria Tribal Office
P.O. Box 929
North Fork, CA 93643



Project Location Map

Enclosure 1



APE Map
Photovoltaic System at
Naval Air Station Lemoore

Ryan Pingree

From: Baumann, Joseph E CIV NAVFAC SW, ESWD <joseph.baumann@navy.mil>
Sent: Monday, August 10, 2015 12:56 PM
To: 'Tozer, Tristan@Parks'
Cc: Bethke, Alexander B CIV NAVFAC SW
Subject: Photovoltaic System, NAS Lemoore

Hi Tristan,

The Navy has proposed to install a Photovoltaic System at Naval Air Station (NAS) Lemoore, Kings County, California (Undertaking). Consistent with 36 CFR 800.3(a), regulations implementing Section 106 of the National Historic Preservation Act of 1966 (16 USC 470f), the Navy initiated consultation on the proposed Undertaking in a letter sent April 20, 2015. In that letter, the Navy determined the APE for the Undertaking and results of Phase 1 archaeological surveys. The surveys identified one archaeological site (LPV-01) within the APE, however this site was determined ineligible for the National Register of Historic Places (NRHP) in a letter sent for the FY15 Agricultural Outlease Advertisement which the SHPO concurred with on May 18, 2015 (USN_2015_0327_001). The surveys also identified that the APE has been highly disturbed in the past due to agricultural activities and the vertical APE of the photovoltaic project will not exceed the depth of previous recorded disturbanc
es of the agricultural activities. As a result, the Navy presented a finding of "no historic properties affected" consistent with 36 CFR 800.4(d)(1). In addition, the Navy sent out Native American consultation letters concurrently with the SHPO letter and to this date the Navy has not received any letters of interest from the Native American tribes. This e-mail is to inform you that the Navy intends to move forward on the Lemoore Photovoltaic System Project.

V/R

Joe

Joseph Baumann
Desert IPT, Code OPJE2.JB
1220 Pacific Highway
San Diego, CA 92132
Voice: (619) 532-2787
Fax: (619) 532-1195
joseph.baumann@navy.mil

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Appendix B
RONA and Air Quality Calculations

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RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION, LEMOORE

SAN JOAQUIN VALLEY AIR BASIN

INTRODUCTION

The U.S. Environmental Protection Agency (USEPA) published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule* in the 30 November 1993, Federal Register (40 Code of Federal Regulations [CFR] Parts 6, 51, and 93). The U.S. Department of the Navy (Navy) published *Clean Air Act (CAA) General Conformity Guidance* in OPNAVINST 5090.1D dated 30 October 2007 and the Navy guidance for compliance with the CAA General Conformity Rule, dated 30 July 2013. These publications provide implementing guidance to document CAA Conformity Determination requirements.

Federal regulations state that no department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the Federal agency to determine whether a Federal action conforms to the applicable implementation plan, before the action is taken (40 CFR Part 1, Section 51.850[a]).

The General Conformity rule applies to federal actions proposed within areas which are designated as either nonattainment or maintenance areas for a National Ambient Air Quality Standard (NAAQS) for any of the criteria pollutants. Former nonattainment areas that have attained a NAAQS are designated as maintenance areas. Emissions of pollutants for which an area is in attainment are exempt from conformity analyses.

The project would occur within the San Joaquin Valley Air Basin (SJVAB). This portion of the SJVAB is currently in extreme nonattainment of the 8-hour ozone (O_3) NAAQS and is in nonattainment of the 24-hour and annual fine particulate matter ($PM_{2.5}$) NAAQS. The SJVAB is a maintenance area for particulate matter less than or equal to 10 microns in diameter (PM_{10}) NAAQS, and is attainment of the sulfur dioxide (SO_2) and carbon monoxide (CO) standards. Although the air basin is in attainment of the SO2 NAAQS, annual SO2 emissions are analyzed because they are a major precursor to ambient $PM_{2.5}$. Therefore, only project emissions of $PM_{2.5}$, PM_{10}, SO_2, O_3 (or its precursors, volatile organic compounds [VOCs] and oxides of nitrogen [NO_x]) are analyzed for General Conformity Rule applicability.

The annual *de minimis* levels for this region are 10 tons of VOC and NO_x, and 100 tons of $PM_{2.5}$, PM_{10}, and SO_2, as listed in Table 1. Federal actions may be exempt from conformity determinations if they do not exceed designated *de minimis* levels (40 CFR Part 1, Section 51.853[b]).

Table 1. Conformity *de minimis* Levels for Criteria Pollutants in the San Joaquin Air Basin

Criteria Pollutant	*De minimis Level (tons/year)*
Volatile Organic Compounds (VOC)	10
Oxides of Nitrogen (NO_x)	10
Sulfur Dioxide (SO_2)	100
Fine Particulate Matter ($PM_{2.5}$)	100
Particulate Matter (PM_{10})	100

PROPOSED ACTION

Action Proponent: Naval Air Station (NAS) Lemoore

Location: Kings and Fresno Counties, California

Proposed Action Name**:** Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore, California

Proposed Action & Emissions Summary: Under the Proposed Action, the Navy and a private partner would enter into an agreement to allow the private partner to use Navy land to construct, operate, and own a proposed solar PV system. The partner would sell the generated power to regional customers and/or the Navy. The private partner would be responsible for maintenance, operation, and the eventual decommissioning of the solar PV system.

Under the Preferred Alternative (Alternative 1), an up to 390 MW solar PV system would be constructed and operated at Sites A and B (2,730 acres) at NAS Lemoore. At the end of the agreement, the solar PV system would be decommissioned and the site returned to its pre-project condition. Construction emissions were estimated using the California Emissions Estimator Model, which is the current comprehensive tool for quantifying air quality impacts from land use projects throughout California. Estimated emissions due to implementation of the Proposed Action are shown in Table 2. Based on the air quality analysis for each alternative, estimated emissions would be below conformity *de minimis* levels.

Table 2. Estimated Emissions Resulting from Implementation of Alternative 1

Emissions Activity Per Year	*Air Pollutant Emissions (tons)*					
	VOCs	*NO_x*	*CO*	*SO_2*	*PM_{10}*	*$PM_{2.5}$*
Construction						
2016 Total Emissions	0.55	1.98	17.11	0.03	2.00	0.74
2017 Total Emissions	0.63	2.69	20.87	0.04	0.67	0.23
2018 Total Emissions	0.55	1.98	17.11	0.03	2.00	0.74
2019 Total Emissions	0.63	2.69	20.87	0.04	0.67	0.23
Decommissioning						
Year – 2055	0.37	0.15	0.36	0.0009	0.04	0.009
Conformity *de minimis* threshold	10	10	NA	100	100	100
Exceeds Conformity *de minimis* threshold?	No	No	NA	NA	No	No

Note: NA = not applicable.

During the proposed construction and decommissioning activities, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Construction equipment with combustive engines would meet the USEPA's Tier 4 emission standards, as practicable to do so. Dust suppression methods (such as

using water trucks to wet the construction/decommissioning area) would be implemented to minimize fugitive dust emissions. After construction activities have occurred, a soil stabilizer would be applied to unvegetated soil, and gravel would be placed on access roads between the rows of solar PV panels and around the site perimeter (outside of the fence line).

Operational emissions from maintenance and repair activities would be minor and infrequent. Emissions would be generated from operational activities such as the use of vehicles and equipment with combustive engines, and generation of fugitive dust when driving vehicles on unpaved surfaces within and around the solar PV system. On a region-wide scale, the use of solar PV panels would have beneficial air quality impacts because fossil fuels would not be used for the necessary electricity generation, resulting in fewer air emissions (including GHG and criteria pollutant emissions). Providing solar energy to NAS Lemoore or the region would have long-term direct and indirect benefits to air quality in the SJVAB.

Affected Air Basin: San Joaquin Valley Air Basin

Date RONA Prepared: 14 July 2015

RONA Prepared By: Cardno

PROPOSED ACTION EXEMPTION(S)

The Proposed Action is located within a nonattainment and maintenance area; therefore, the Proposed Action is subject to the General Conformity Rule requirements. Because project emissions would be below *de minimis* thresholds, the project has demonstrated conformity with the requirements of the General Conformity Rule, and a formal CAA Conformity Determination is not required.

ATTAINMENT AREA STATUS AND EMISSIONS EVALUATION CONCLUSION

The SJVAB is an extreme nonattainment area for the 8-hour federal O_3 standard; VOCs and NO_x are precursors to the formation of O_3.The SJVAB is in nonattainment of the 24-hour and annual $PM_{2.5}$ standard, and is considered a maintenance area for the federal PM_{10} standard.

Emissions associated with the Proposed Action were calculated using data presented in Chapter 2 of the EA, project design details, general air quality assumptions, and modeled using the California Emissions Estimator Model, which is the current air quality model for land use projects in California.

The Navy concludes that *de minimis* thresholds for applicable criteria pollutants would not be exceeded as a result of implementation of Alternative 1, the Alternative 1 Option, or Alternative 2. The emissions data supporting that conclusion are shown in Tables 2 through 4, which is a summary of the calculations, methodology, and data included in Appendix B. Therefore, the Navy concludes that formal CAA Conformity Determination procedures are not required, resulting in this RONA.

RONA APPROVAL

To the best of my knowledge, the information presented in this RONA is correct and accurate, and I concur in the finding that implementation of the Proposed Action does not require a formal CAA Conformity Determination.

BELCHER.DALLAS.J.1392199485 Digitally signed by BELCHER.DALLAS.J.1392199485
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USN, cn=BELCHER.DALLAS.J.1392199485
Date: 2015.07.20 12:34:54 -07'00'

Dallas Belcher — 20 July 2015

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NAS Lemoore Solar PV System - Alternative 1 - Construction - Phase One

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	58.54	1000sqft	1.34	58,544.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Phase Two would have the same project characteristics and air emissions

Land Use - General Light Industry was chosen as the closest Land Use Type option. "Unit amount" = half of the proposed "construction" (substation + s/m station + switching station + trans poles; assumed PV panels constructed offsite).

Construction Phase - No demolition, paving, or architectural coating phases. Two construction phases; each phase to last 2 years. Assumed 4 months site prep, 4 months grading, 16 months construction.

Off-road Equipment - "Other general construction equipment" = pile drivers and "Off-highway trucks" includes water trucks.

Off-road Equipment - "Off-highway trucks" = includes water trucks.

Off-road Equipment - "Off-highway trucks" = water trucks.

Grading - Each two-year construction phase assumed to disturb half of the 2,730 acres on which the PV system will be placed, and assumed that 50% of the site would be graded. All cut/fill to remain onsite.

Trips and VMT - Vendor trips include water truck trips to and from the site.

Land Use Change - Assume that existing cropland will be removed.

Construction Off-road Equipment Mitigation - Assume latest engine technology.

NAS Lemoore Solar PV System - Alternative 1 - Construction - Phase One

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.8128	28.8102	20.0078	0.0345	3.6298	1.3436	4.9734	1.3514	1.2404	2.5918	0.0000	3,102.5695	3,102.5695	0.7838	0.0000	3,119.0287
2017	3.2477	32.7132	22.3746	0.0425	0.6003	1.5346	2.1349	0.1602	1.4209	1.5811	0.0000	3,768.1120	3,768.1120	0.9579	0.0000	3,788.2284
Total	**6.0605**	**61.5234**	**42.3824**	**0.0769**	**4.2301**	**2.8783**	**7.1083**	**1.5116**	**2.6613**	**4.1729**	**0.0000**	**6,870.6815**	**6,870.6815**	**1.7417**	**0.0000**	**6,907.2571**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.5494	1.9795	17.1076	0.0345	1.9521	0.0514	2.0034	0.6929	0.0508	0.7437	0.0000	3,102.5665	3,102.5665	0.7838	0.0000	3,119.0257
2017	0.6340	2.6853	20.8736	0.0425	0.6003	0.0671	0.6674	0.1602	0.0662	0.2264	0.0000	3,768.1082	3,768.1082	0.9579	0.0000	3,788.2246
Total	**1.1833**	**4.6648**	**37.9812**	**0.0769**	**2.5524**	**0.1185**	**2.6708**	**0.8532**	**0.1169**	**0.9701**	**0.0000**	**6,870.6747**	**6,870.6747**	**1.7417**	**0.0000**	**6,907.2503**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**80.47**	**92.42**	**10.38**	**0.00**	**39.66**	**95.88**	**62.43**	**43.56**	**95.61**	**76.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

NAS Lemoore Solar PV System - Alternative 1 - Construction - Phase One

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2016	4/30/2016	5	86	
2	Grading	Grading	5/1/2016	8/31/2016	5	88	
3	Building Construction	Building Construction	9/1/2016	12/31/2017	5	347	

Acres of Grading (Site Preparation Phase): 1365

Acres of Grading (Grading Phase): 682.5

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Building Construction	Generator Sets	3	6.00	84	0.74
Grading	Rubber Tired Dozers	5	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	7	6.00	97	0.37
Building Construction	Cranes	2	6.00	226	0.29
Building Construction	Forklifts	3	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Grading	Graders	3	6.00	174	0.41
Site Preparation	Rubber Tired Dozers	5	6.00	255	0.40
Building Construction	Welders	2	6.00	46	0.45
Site Preparation	Scrapers	3	6.00	361	0.48
Site Preparation	Off-Highway Trucks	10	6.00	400	0.38
Building Construction	Off-Highway Trucks	15	6.00	400	0.38
Grading	Concrete/Industrial Saws	1	6.00	81	0.73

Grading	Off-Highway Trucks	10	6.00	400	0.38
Building Construction	Other Construction Equipment	3	6.00	171	0.42
Building Construction	Rubber Tired Dozers	5	6.00	255	0.40
Building Construction	Scrapers	1	6.00	361	0.48
Building Construction	Trenchers	2	6.00	80	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	29	350.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	26	350.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	46	350.00	20.00	0.00	16.80	15.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	1365 / 0	-8,463.00	0.0000	0.0000	-8,463.00
Total		**-8,463.00**	**0.0000**	**0.0000**	**-8,463.00**

NAS Lemoore Solar PV System - Alt 1 - Decommissioning

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	117.09	1000sqft	2.69	117,090.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - CalEEMod does not have an "agricutural" or "utility" land use type as a default option, so "General Light Industry" was chosen as the closest option. "Unit amount" = amount of proposed "construction" (substation + switching/metering station + switching station + transmission poles; assumed that PV panels are already constructed when placed onsite)

Construction Phase - Demolition phase only. Two months of demolition activity, assumed to be the year 2055 (Model 2, 37 years from construction)

Off-road Equipment - Equipment mix per DOPAA.
"Other general construction equipment" = pile drivers.
"Off-highway trucks" = water trucks.
Vehicle Trips - Assumed all trips are Mon-Fri.

Land Use Change - Land use change from unvegetated solar PV field to agricultural (default = "cropland").

Off-road Equipment - Construction mix per DOPAA.

NAS Lemoore Solar PV System - Alt 1 - Decommissioning

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2055	0.0372	0.1481	0.3598	8.9000e-004	0.0661	3.0600e-003	0.0692	0.0107	3.0600e-003	0.0138	0.0000	82.9158	82.9158	2.9600e-003	0.0000	82.9779
Total	**0.0372**	**0.1481**	**0.3598**	**8.9000e-004**	**0.0661**	**3.0600e-003**	**0.0692**	**0.0107**	**3.0600e-003**	**0.0138**	**0.0000**	**82.9158**	**82.9158**	**2.9600e-003**	**0.0000**	**82.9779**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2055	0.0372	0.1481	0.3598	8.9000e-004	0.0339	3.0600e-003	0.0370	5.8500e-003	3.0600e-003	8.9100e-003	0.0000	82.9157	82.9157	2.9600e-003	0.0000	82.9778
Total	**0.0372**	**0.1481**	**0.3598**	**8.9000e-004**	**0.0339**	**3.0600e-003**	**0.0370**	**5.8500e-003**	**3.0600e-003**	**8.9100e-003**	**0.0000**	**82.9157**	**82.9157**	**2.9600e-003**	**0.0000**	**82.9778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.69**	**0.00**	**46.54**	**45.43**	**0.00**	**35.34**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2055	2/28/2055	5	43	

NAS Lemoore Solar PV System - Alt 1 - Decommissioning

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Scrapers	1	6.00	81	0.73
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Demolition	Off-Highway Trucks	1	6.00	400	0.38
Demolition	Cranes	1	6.00	226	0.29
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	18.00	0.00	533.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

4.0 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	0 / 3130	19,406.0000	0.0000	0.0000	19,406.0000
Total		**19,406.0000**	**0.0000**	**0.0000**	**19,406.0000**

NAS Lemoore Solar PV System - Alt 1 Option - construction - Phase One

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	9.63	1000sqft	0.22	9,625.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - same assumptions as Alternative 1.

Construction Phase - Phase 1 construction estimated to last two years, with 4 months each of site prep and grading, and 16 months of construction.

Off-road Equipment - Equipment mix per DOPAA.

Grading - Assumed that half of the entire site would be prepared during one phase of construction, and 1/4 of the entire site would be graded during one phase of construction.

Trips and VMT - "Vendor" trips include water trucks delivering to the site (and returning).

Construction Off-road Equipment Mitigation - Assume that construction vehicle engines meet the USEPA Tier 4 requirements.

NAS Lemoore Solar PV System - Alt 1 Option - construction - Phase One

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	1.8463	19.1546	12.7408	0.0188	2.2634	0.9487	3.2121	1.1332	0.8771	2.0103	0.0000	1,720.5873	1,720.5873	0.4652	0.0000	1,730.3564
2017	1.8772	18.8623	12.7640	0.0204	0.1693	0.9461	1.1154	0.0451	0.8771	0.9222	0.0000	1,831.8142	1,831.8142	0.4904	0.0000	1,842.1117
Total	**3.7235**	**38.0168**	**25.5048**	**0.0392**	**2.4326**	**1.8948**	**4.3274**	**1.1783**	**1.7542**	**2.9325**	**0.0000**	**3,552.4016**	**3,552.4016**	**0.9555**	**0.0000**	**3,572.4681**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.2666	1.0681	9.8356	0.0188	1.1088	0.0288	1.1377	0.5340	0.0287	0.5626	0.0000	1,720.5855	1,720.5855	0.4652	0.0000	1,730.3545
2017	0.2865	1.3096	10.6362	0.0204	0.1693	0.0319	0.2012	0.0451	0.0317	0.0768	0.0000	1,831.8123	1,831.8123	0.4904	0.0000	1,842.1097
Total	**0.5532**	**2.3777**	**20.4718**	**0.0392**	**1.2781**	**0.0608**	**1.3388**	**0.5791**	**0.0604**	**0.6395**	**0.0000**	**3,552.3977**	**3,552.3977**	**0.9555**	**0.0000**	**3,572.4642**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**85.14**	**93.75**	**19.73**	**0.00**	**47.46**	**96.79**	**69.06**	**50.86**	**96.56**	**78.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

NAS Lemoore Solar PV System - Alt 1 Option - construction - Phase One

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2016	4/30/2016	5	86	
2	Grading	Grading	5/1/2016	8/30/2016	5	87	
3	Building Construction	Building Construction	9/1/2016	12/31/2017	5	347	

Acres of Grading (Site Preparation Phase): 183

Acres of Grading (Grading Phase): 92

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	174	0.41
Grading	Concrete/Industrial Saws	2	6.00	81	0.73
Site Preparation	Tractors/Loaders/Backhoes	5	6.00	97	0.37
Site Preparation	Rubber Tired Dozers	5	6.00	255	0.40
Grading	Rubber Tired Dozers	5	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	7	6.00	97	0.37
Building Construction	Cranes	2	6.00	226	0.29
Building Construction	Forklifts	4	6.00	89	0.20
Site Preparation	Scrapers	1	6.00	361	0.48
Site Preparation	Off-Highway Trucks	5	6.00	400	0.38
Site Preparation	Other Construction Equipment	2	6.00	171	0.42
Grading	Graders	4	6.00	174	0.41
Grading	Off-Highway Trucks	5	6.00	400	0.38
Building Construction	Tractors/Loaders/Backhoes	5	6.00	97	0.37
Building Construction	Generator Sets	2	6.00	84	0.74
Building Construction	Off-Highway Trucks	5	6.00	400	0.38

Building Construction	Other Construction Equipment	2	6.00	171	0.42
Building Construction	Rubber Tired Dozers	4	6.00	255	0.40
Building Construction	Scrapers	1	6.00	361	0.48
Building Construction	Trenchers	2	6.00	80	0.50
Building Construction	Welders	2	6.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	19	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	23	100.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	29	100.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	183 / 0	-1,134.60	0.0000	0.0000	-1,134.60
Total		**-1,134.60**	**0.0000**	**0.0000**	**-1,134.60**

NAS Lemoore Solar PV System - Alt 1 OPTION - Decommissioning

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	19.25	1000sqft	0.44	19,250.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - CalEEMod does not have an "agricutural" or "utility" land use type as a default option, so "General Light Industry" was chosen as the closest option. "Unit amount" = amount of proposed "construction" (substation + switching/metering station + switching station + transmission poles; assumed that PV panels are already constructed when placed onsite)
Construction Phase - Demolition phase only. Two months of demolition activity, assumed to be the year 2055 (Model 2, 37 years from construction)

Off-road Equipment - Equipment mix per DOPAA.
"Other general construction equipment" = pile drivers.
"Off-highway trucks" = water trucks.
Vehicle Trips - Assumed all trips are Mon-Fri.

Land Use Change - Land use change from unvegetated solar PV field to agricultural (default = "cropland").

Off-road Equipment - Construction mix per DOPAA.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2053	0.0361	0.1400	0.3403	8.6000e-004	0.0148	2.9800e-003	0.0178	2.7300e-003	2.9800e-003	5.7200e-003	0.0000	80.0259	80.0259	2.8700e-003	0.0000	80.0862
Total	**0.0361**	**0.1400**	**0.3403**	**8.6000e-004**	**0.0148**	**2.9800e-003**	**0.0178**	**2.7300e-003**	**2.9800e-003**	**5.7200e-003**	**0.0000**	**80.0259**	**80.0259**	**2.8700e-003**	**0.0000**	**80.0862**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2053	0.0361	0.1400	0.3403	8.6000e-004	9.5200e-003	2.9800e-003	0.0125	1.9300e-003	2.9800e-003	4.9100e-003	0.0000	80.0258	80.0258	2.8700e-003	0.0000	80.0861
Total	**0.0361**	**0.1400**	**0.3403**	**8.6000e-004**	**9.5200e-003**	**2.9800e-003**	**0.0125**	**1.9300e-003**	**2.9800e-003**	**4.9100e-003**	**0.0000**	**80.0258**	**80.0258**	**2.8700e-003**	**0.0000**	**80.0861**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**35.72**	**0.00**	**29.72**	**29.30**	**0.00**	**14.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2053	2/28/2053	5	43	

NAS Lemoore Solar PV System - Alt 1 OPTION - Decommissioning

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Off-Highway Trucks	1	6.00	400	0.38
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Demolition	Cranes	1	6.00	226	0.29
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Scrapers	1	6.00	81	0.73

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	88.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

NAS Lemoore Solar PV System - Alt 1 OPTION - Decommissioning

10.0 Vegetation

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	0 / 366	2,269.2000	0.0000	0.0000	2,269.2000
Total		**2,269.2000**	**0.0000**	**0.0000**	**2,269.2000**

NAS Lemoore Solar PV System - Alt 2 - construction - Phase One

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	62.14	1000sqft	1.43	62,144.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - same assumptions as Alternative 1. Phase Two would have the same project characteristics and air emissions.

Land Use - Assumed that half of the site was constructed during one of the two construction phases.

Construction Phase - One construction phase lasts two years, with 4 months of site prep, 4 months of grading, and 16 months of construction.

Off-road Equipment - Equipment mix per DOPAA.

Off-road Equipment - Equipment mix per DOPAA.

Grading - Assume that 1/2 of the site is prepared during one constrution phase, and 1/4 of the site is graded.

Trips and VMT - Vendor trips include water trucks delivering to the site (and returning)

Land Use Change -

Construction Off-road Equipment Mitigation - Assume that combustive engines meet USEPA Tier 4 standards.

Off-road Equipment - Equipment mix per DOPAA.

NAS Lemoore Solar PV System - Alt 2 - construction - Phase One

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	2.8318	29.0045	20.1425	0.0345	4.8021	1.3565	6.1586	1.4715	1.2523	2.7237	0.0000	3,103.7814	3,103.7814	0.7905	0.0000	3,120.3829
2017	3.2369	32.5071	22.3146	0.0418	0.5809	1.5305	2.1114	0.1547	1.4171	1.5717	0.0000	3,709.2966	3,709.2966	0.9575	0.0000	3,729.4044
Total	**6.0687**	**61.5116**	**42.4571**	**0.0763**	**5.3830**	**2.8870**	**8.2700**	**1.6262**	**2.6693**	**4.2955**	**0.0000**	**6,813.0781**	**6,813.0781**	**1.7481**	**0.0000**	**6,849.7872**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.5812	2.2178	17.2961	0.0345	2.4748	0.0747	2.5495	0.7456	0.0722	0.8179	0.0000	3,103.7784	3,103.7784	0.7905	0.0000	3,120.3798
2017	0.7197	3.3623	20.8505	0.0418	0.5809	0.1338	0.7147	0.1547	0.1275	0.2821	0.0000	3,709.2929	3,709.2929	0.9575	0.0000	3,729.4006
Total	**1.3009**	**5.5801**	**38.1466**	**0.0763**	**3.0557**	**0.2085**	**3.2642**	**0.9003**	**0.1997**	**1.1000**	**0.0000**	**6,813.0712**	**6,813.0712**	**1.7481**	**0.0000**	**6,849.7803**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**78.56**	**90.93**	**10.15**	**0.00**	**43.23**	**92.78**	**60.53**	**44.64**	**92.52**	**74.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

NAS Lemoore Solar PV System - Alt 2 - construction - Phase One

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2016	4/30/2016	5	86	
2	Grading	Grading	5/1/2016	8/30/2016	5	87	
3	Building Construction	Building Construction	9/1/2016	12/31/2017	5	347	

Acres of Grading (Site Preparation Phase): 2,864

Acres of Grading (Grading Phase): 1,432

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.00	174	0.41
Site Preparation	Rubber Tired Dozers	5	6.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Grading	Graders	3	6.00	174	0.41
Grading	Rubber Tired Dozers	5	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	7	6.00	97	0.37
Building Construction	Cranes	2	6.00	226	0.29
Building Construction	Forklifts	3	6.00	89	0.20
Building Construction	Generator Sets	3	6.00	84	0.74
Site Preparation	Scrapers	3	6.00	361	0.48
Site Preparation	Off-Highway Trucks	10	6.00	400	0.38
Site Preparation	Other Construction Equipment	2	6.00	171	0.42
Grading	Concrete/Industrial Saws	1	6.00	81	0.73
Building Construction	Tractors/Loaders/Backhoes	10	6.00	97	0.37
Grading	Off-Highway Trucks	10	6.00	400	0.38
Building Construction	Welders	2	6.00	46	0.45

Building Construction	Off-Highway Trucks	15	6.00	400	0.38
Building Construction	Other Construction Equipment	3	6.00	171	0.42
Building Construction	Rubber Tired Dozers	5	6.00	255	0.40
Building Construction	Scrapers	1	6.00	361	0.48
Building Construction	Trenchers	2	6.00	80	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	31	350.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	26	350.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	46	350.00	20.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	2864 / 0	-17,756.80	0.0000	0.0000	-17,756.80
Total		**-17,756.80**	**0.0000**	**0.0000**	**-17,756.80**

NAS Lemoore Solar PV System - Alt 2 - Decommissioning

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	124.29	1000sqft	2.85	124,290.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - CalEEMod does not have an "agricutural" or "utility" land use type as a default option, so "General Light Industry" was chosen as the closest option. "Unit amount" = amount of proposed "construction" (substation + switching/metering station + switching station + transmission poles; assumed that PV panels are already constructed when placed onsite)

Construction Phase - Demolition phase only. Two months of demolition activity, assumed to be the year 2053 (Model 2, 37 years from construction)

Off-road Equipment - Equipment mix per DOPAA.
"Other general construction equipment" = pile drivers.

Vehicle Trips - Assumed all trips are Mon-Fri.

Land Use Change - Land use change from unvegetated solar PV field to agricultural (default = "cropland").

Off-road Equipment - Construction mix per DOPAA.

NAS Lemoore Solar PV System - Alt 2 - Decommissioning

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2055	0.0411	0.1347	0.3303	1.0100e-003	0.0704	3.1500e-003	0.0735	0.0114	3.1500e-003	0.0146	0.0000	96.8897	96.8897	3.2500e-003	0.0000	96.9581
Total	**0.0411**	**0.1347**	**0.3303**	**1.0100e-003**	**0.0704**	**3.1500e-003**	**0.0735**	**0.0114**	**3.1500e-003**	**0.0146**	**0.0000**	**96.8897**	**96.8897**	**3.2500e-003**	**0.0000**	**96.9581**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2055	0.0411	0.1347	0.3303	1.0100e-003	0.0362	3.1500e-003	0.0394	6.2600e-003	3.1500e-003	9.4100e-003	0.0000	96.8896	96.8896	3.2500e-003	0.0000	96.9579
Total	**0.0411**	**0.1347**	**0.3303**	**1.0100e-003**	**0.0362**	**3.1500e-003**	**0.0394**	**6.2600e-003**	**3.1500e-003**	**9.4100e-003**	**0.0000**	**96.8896**	**96.8896**	**3.2500e-003**	**0.0000**	**96.9579**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.55**	**0.00**	**46.47**	**45.23**	**0.00**	**35.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2055	2/28/2055	5	43	

NAS Lemoore Solar PV System - Alt 2 - Decommissioning

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Off-Highway Trucks	1	6.00	400	0.38
Demolition	Rubber Tired Dozers	1	6.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Demolition	Cranes	1	6.00	226	0.29
Demolition	Concrete/Industrial Saws	1	6.00	81	0.73
Demolition	Scrapers	1	6.00	361	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	565.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

10.0 Vegetation

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	0 / 5728	35,513.6000	0.0000	0.0000	35,513.6000
Total		**35,513.6000**	**0.0000**	**0.0000**	**35,513.6000**

Environmental Assessment Addendum

Construction, Operation, and Decommissioning of a Solar Photovoltaic System at Naval Air Station Lemoore 25 February 2016

This addendum of the September 2015 Environmental Assessment (EA) for the construction, operation, and decommissioning of solar photovoltaic (PV) systems at Naval Air Station (NAS) Lemoore documents changes to the project description and examines the potential for changes to environmental impacts as they are described in the EA.

Project Description Change (Selected Alternative-Alternative 1)

The Selected Alternative Description in the EA and Finding of No Significant Impact includes the construction, operation, and eventual decommissioning of a solar PV system at NAS Lemoore. This project has been changed to include the addition of a new 230 KV gen-tie power transmission line in a location outside of the project footprint analyzed in the EA. The height of the power line poles will be in accordance with the Federal Aviation Administration (FAA) recommendations and Naval Flight Information Group (NAVFIG) approval. They will be buried up to 25 feet beneath the surface. The attached figures show the location of the proposed new power transmission line and drawings of the power poles that will be constructed, both on and off of the installation.

As the EA states that the trees associated with windbreaks in the project area would not be removed, a second change to the project description is that the trees would be removed in the locations where Solar PV panels will be installed.

The above revisions to the project would require only minor alterations to the construction methodology; equipment used, and project duration. This is because the proposed new power line would be constructed and maintained in a similar fashion to the power lines described in the EA as part of the Alternative 1. The only difference being a change in the location of the power transmission lines. The removal of the windbreak trees would require chainsaws and other tree removal equipment.

Supplemental Analysis

For the following resource areas that were analyzed in the EA, the environmental impacts of the new power line and tree removal changes to the project description would be similar to those described in the EA, including: geological resources; water resources; hazardous materials and wastes; environmental justice; socioeconomics; air quality/climate change, and transportation.

For the following resource areas that were analyzed in the EA, minor changes to resource impacts would occur from those described in the EA, as listed below:

Land Use

For land use the potential impacts of the changed project would be similar to those described in the EA for the selected alternative, with the exception that the power line will be installed on lands outside of the EA project footprint. The land where the power line will be installed is very similar to the lands in the project footprint as they are also leased for agricultural production. The power line poles would take minimal amounts of land away from agricultural uses; therefore, changes in impacts to land use would be negligible from those described in the EA. The removal of the windbreak trees would result in no changes to the impacts described in the EA for land use. Therefore, there would be no significant impacts to land use from the addition of the power line and tree removal to the project.

Biological Resources

As the addition of the new power line would be on lands currently leased to farmers for agriculture purposes, similar to the lands analyzed in the EA, there would be no changes in potential impacts to biological resources from those described in the EA. The ground-nesting bird impact avoidance measure described in the EA would also be implemented in the new power line area. This includes, "To avoid impacts to ground-nesting birds, such as burrowing owls and killdeer, a survey for active nests or nesting activity would be conducted before construction should clearing and grubbing occur during the nesting season (typically February 15 to August 31). If the survey finds active nests, construction personnel would either avoid the nests until fledglings have left, or permitted personnel would relocate the eggs and chicks following all federal and state regulations and permitting requirements".

To avoid potential impacts to nesting birds that may be in the windbreak trees, the trees would be removed outside of bird nesting season. If this is not possible, a nest survey by a qualified biologist would occur prior to any tree removal activity. If the survey finds active nests, construction personnel would either avoid the nests until fledglings have left, or permitted personnel would relocate the eggs and chicks following all federal and state regulations and permitting requirements. Also, tree removal activities would be conducted in compliance with the Migratory Bird Treaty Act and its general requirements related to nest impact avoidance guidelines. Therefore, there would be no significant impacts to biological resources from the new power line and windbreak tree removal.

Public Health and Safety

The new power line is being proposed on lands outside of the original project footprint analyzed in the EA and in the vicinity of the NAS Lemoore airfield. The height of the power line poles will be in accordance with FAA recommendations and NAVFIG approval, which will take into account the safety of pilots, aircraft, and protection of Government assets. The removal of the windbreak trees would result in a reduced potential for impacts to public health and safety. This is because currently the birds that roost and nest in the trees pose a slight risk of hitting an NAS Lemoore jet that is in-flight and this risk would be removed once the trees, and thus the birds, are no longer in the area. Therefore, there would be no significant impacts to public health and safety from the new power line and windbreak tree removal.

Visual Resources

Construction of the new power line would result in visual quality impacts similar to those described in the EA. There would be insignificant short-term visual impacts from the staging of construction

equipment, vehicles, materials, and workers. Operation of the new power line would result in minor changes to the project's visual quality impacts described in the EA. This is because the power line would be installed in a location outside of the original project footprint. However, as the new power line would be located on NAS Lemoore lands currently used for agriculture crop production, which is consistent with the lands analyzed for the project in the EA, and as the power line would not be located near any residences, it would not result in significant impacts to visual quality.

The removal of trees would also result in a slight change in visual quality impacts from those described in the EA. However, impacts would be minor as the viewer sensitivity of the area is minimal as it can only be viewed from nearby roadways, buildings on NAS Lemoore and adjacent parcels. Therefore, removal of the windbreak trees would not result in significant impacts to visual quality.

Cultural Resources

NAS Lemoore submitted to the State Historic Preservation Officer (SHPO) an amendment to their existing consultation on the solar PV project and requested their concurrence on the addition of the new power line to the project. This amended consultation included a map of the proposed power line route and information that the depth of the new transmission line poles may extend to 25 feet beneath the surface. The primary use pattern for this tract of land is agricultural and this use pattern is unchanged from the historic period to the present. Given that the soil deposition beyond a depth of six feet predates human occupation in the subject location, the Navy believes that consideration of any vertical area of potential effect beyond six feet is not relevant to consideration of effects or potential resources. Therefore, there would be no significant impacts to cultural resources from the new power line; however, final SHPO concurrence is needed prior to any ground breaking activities on the new power line.

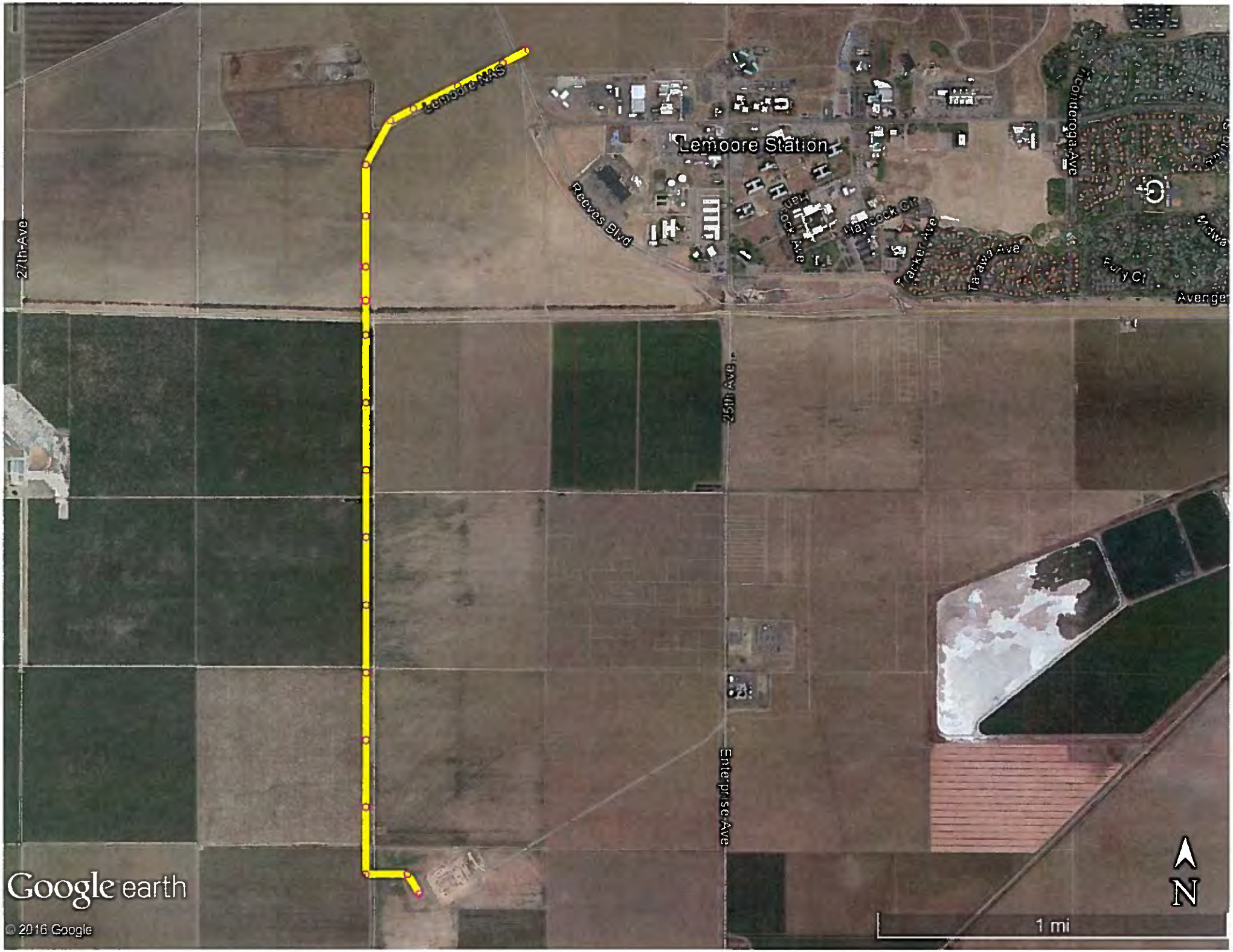
Utilities

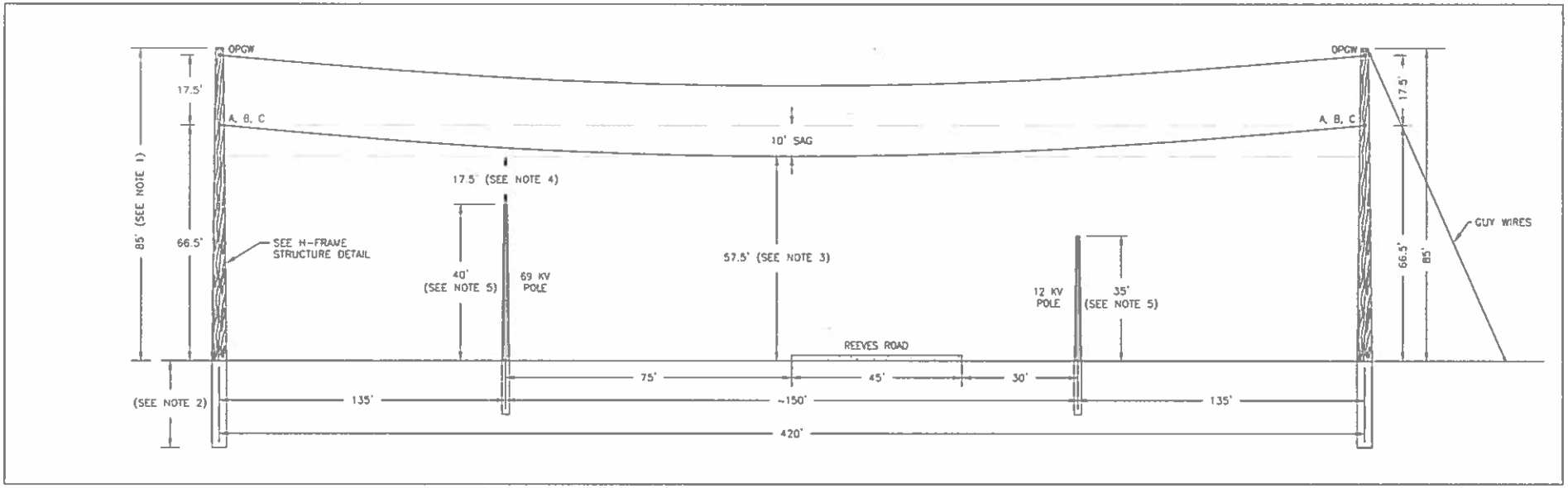
Operation of the new power line would result in minor changes to the project's impacts to utilities that were described in the EA. This is because the power line would be installed in a location outside of the original project footprint. However, as the new power line would enhance the use of renewable energy, there would be beneficial impacts to utilities from the proposed new power line.

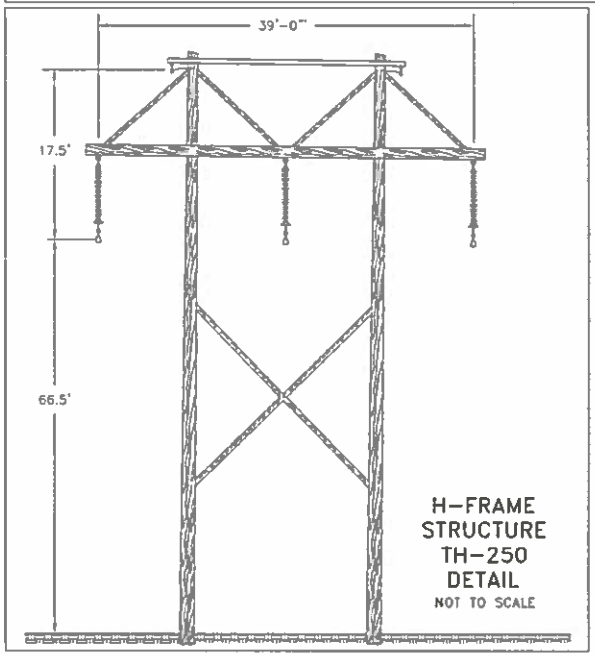
Conclusion

As described above, the project description changes would result in minimal impact changes to those described in the EA and would not result in significant impacts to resources at NAS Lemoore.

KATHRYN STEWART
Environmental Business Line Coordinator


Lemoore NAS
Lemoore Station
Reeves Blvd
27th Ave
Hancock Ave
Hancock Ct
Parker Ave
Tarawa Ave
Fury Ct
Leonardo Ave
Enterprise Ave
Google earth
© 2016 Google
N
1 mi





H-FRAME STRUCTURE TH-250 DETAIL
NOT TO SCALE

LEMOORE REEVES ROAD CROSSING-230 KV H-FRAME GEN-TIE DETAIL (FACING NORTH)

02/09/2016

NOT TO SCALE

NOTES	
1.	MAXIMUM POLE HEIGHT OF 90 FT
2.	POLE DEPTH RANGE OF 15-20 FT.
3.	G.O. 95 REQUIRES 30 FT OF CLEARANCE BETWEEN 230 KV LINE AND A TRANSPORTATION ROAD.
4.	G.O. 95 REQUIRES 10.67 FT OF CLEARANCE BETWEEN A 230 KV LINE AND AN ADJACENT DISTRIBUTION LINE.
5.	EXISTING 12 KV AND 69 KV POLE HEIGHTS ARE APPROXIMATE.

2/9/2016 10:02 AM D16-02-000_PE LEMOORE REEVES RD CROSSING - 230 KV GEN-TIE DETAIL.DWG

Appendix B
Agency Correspondence

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DEPARTMENT OF THE NAVY
NAVAL AIR STATION LEMOORE
700 AVENGER AVENUE
LEMOORE CA 93246-5001

IN REPLY REFER TO:
5090
Ser N45/028
May 17, 2024

Ms. Julianne Polanco
State Historic Preservation Officer
Office Of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco:

SUBJECT: AMENDED PHOTOVOLTAIC SYSTEM, NAVAL AIR STATION LEMOORE

Naval Air Station (NAS) Lemoore previously consulted with your office and potentially interested parties in 2015 and 2016, respectively, regarding the installation of a photovoltaic (PV) system at NAS Lemoore, California previous consultations and received concurrences regarding SHPO Case Number USN_2015_0424_002. NAS Lemoore has identified a change in the undertaking and is therefore amending the original consultation to account for these modifications.

In accordance with 36 Code of Federal Regulations (CFR) 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 United States Code 300101 et seq), the Navy is providing:

a. Description of the proposed revised undertaking

b. Proposed Areas of Potential Effects (APE)

c. Identification of historic properties

d. Navy's finding of No Adverse Effect in accordance with 36 CFR 800.5(b)

DESCRIPTION OF THE UNDERTAKING

The proposed 2015 undertaking included a lease of up to 2,730 acres of NAS Lemoore property to a private partner for the construction and operation of a solar PV system (up to 390 megawatts [MW]) to increase NAS Lemoore's installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable and resilient energy-generating assets at Navy installations. The undertaking resulted in NAS Lemoore leasing a 930-acre parcel (Site A and parts of Site B from the original undertaking) to a private partner in 2016 to construct and operate up to a 125 MW solar PV system and associated infrastructure. The planned PV system was not constructed, and the lease was transferred to another private partner.

The current lease is proposing to modify the lease to allow for the construction and operation of additional resilient energy systems within the same 930-acre parcel. The changes proposed as part of the revised undertaking would include the construction and operation of an additional 300 MW of PV systems (for a total of up to 425 MW) and options to construct a data center, electric vehicle charging stations, battery energy storage systems, backup generation/microgrid, and related infrastructure. The current undertaking also includes associated transmission routes and fiber routes, some of which extend beyond the NAS Lemoore boundary.

The following is a description of the revised undertaking and how it differs from the original 2015 and 2016 undertaking:

Solar PV Array System. The 2015 undertaking included constructing a PV array system anywhere within 2,730 acres of NAS Lemoore property. The current undertaking would locate the development of a 425 MW solar PV array system and related infrastructure within the already-leased 930-acre parcel Solar PV Array Area (Enclosure 2). The PV system panels would be mounted on a ground-based tracking system, covering up to 850-acres of the site. The tracking structure would be constructed from steel to ensure durability against environmental factors and would be permanently affixed to the ground to ensure structural integrity. The PV system would incorporate Data Center combiners, inverters, transformers, sensors, and switchgear to collect and convert solar energy into usable power for the DC and/or Battery Energy Storage System. The collection system would be distributed uniformly across 850 acres of the site. Additionally, operations and maintenance storage would be included in the PV system to house spare parts and equipment. This would include up to eight 40-foot standard shipping containers on concrete pads.

Other Project Components within the 930-acre leased parcel. The undertaking includes the option to construct a data center, electric vehicle charging stations, battery energy storage systems, backup generation/microgrid, substations, and related infrastructure within the 930-acre leased parcel (Enclosure 2).

(a) Data Center. The data center would be housed in a two-story building with a building footprint of up to 600,000 square feet, requiring up to 800,000 square feet of land. This building would be concrete tilt-wall construction or equivalent and 55-feet maximum height. The Data Center would be secured by fences and gates.

(b) Electric Vehicle Charging Stations. The electric vehicle charging station would support passenger vehicles and high-capacity electric trucks and military vehicles. The station would have a secured entrance separate from the Data Center facility. The system consists of two main components: 1) the charging stations or portals, providing the connection cables to vehicles and user interface, and 2) the energy router backend(s) (power electronics) providing the interface point between the grid and the charging stations.

(c) Battery Energy Storage Systems. A battery energy storage system is a type of energy storage technology that utilizes batteries to store electrical energy. It consists of many battery modules housed in self-contained units placed on concrete pads. The concrete pads would not be deeper than 2 feet below ground surface.

(d) Backup Generation/Microgrid. The project would include up to 160 MW backup generation/microgrid. This would entail up to 74 individual generator sets or other configurations that achieve the required generation capacity. Each generator set would be in a containerized configuration which consists of the engines, fuel tanks, selective catalytic reduction, and enclosure/control.

(e) Substations. The utility substation and data center substation would collect and distribute energy from the solar PV system and other systems. Each substation is expected to occupy less than 10 acres each. Key components of the substations would include transformers, circuit breakers, switches, relays, capacitors, and control systems.

Transmission Line and Fiber Routes. The proposed undertaking also includes associated transmission routes and fiber routes (Enclosure 2).

(a) Transmission Route 1 was included in the 2015 consultation and would be located with the NAS Lemoore boundary. Transmission Route 1 is bordered to the south by NAS Lemoore Main Base and to the north by non-Navy agricultural fields. A switchyard would be located on less than 3 acres of land at the eastern end of the Transmission Route 1 and would connect with an existing transmission line. The route would be about 2-miles long and would entail about a 125- to 175-foot-wide easement for constructing new transmission structures (e.g., poles) that are up to 90 feet in height.

(b)Transmission Route 2 was included in the 2016 amended consultation and is bordered by agricultural fields along its entire route. The portion north of State Route 198 occurs within NAS Lemoore while the portion south of State Route 198 is off Navy property. A switchyard would be located at the southern end of Transmission Route 2 on less than 3 acres of land and would connect with an existing transmission line. The route would be about 2-miles long and would entail about a 125- to 175-foot-wide easement for constructing new transmission structures (e.g., poles) that are up to 90 feet in height.

(c) Transmission Route 3 would run from the 930-acre leased parcel south through NAS Lemoore Main Base on existing transmission lines. It would exit the installation just west of the Main Gate and cross State Route 198 at 25th Avenue. It would continue south along 25th Avenue to the Henreitta Substation. This route would be hung on an existing transmission line and would not require new construction.

In addition to the transmission lines, there are three possible fiber routes. The proposed fiber routes would range from about 0.75 to 2 miles long. Construction would occur within a 20-foot-wide easement, and the new fiber line would be placed in a trench about 3 feet below the ground surface.

(a) Fiber Route A is proposed to run parallel to Transmission Route 1 as described above.

(b) Fiber Route B is proposed to originate near the southwestern boundary of the proposed solar array, run southeast along Reeves Bypass, and then continue off-base along 25th Avenue toward the Henrietta Substation.

(c) Fiber Route C is located within the 930-acre leased parcel, along the installation boundary with non-Navy agricultural fields.

The 2015 and 2016 amended consultation only addressed Transmission Route 1 and the on-base portion of Transmission Route 2.

AREA OF POTENTIAL EFFECT

Consistent with 36 CFR 800.16(d), the Area of Potential Effect (APE) for this project is defined as the geographic area within which the proposed undertaking may directly or indirectly cause effects to historic properties. Enclosure (2) depicts the APE and includes the 930-acre leased parcel (marked as the Solar PV Array Area in the legend) and the associated transmission and fiber routes discussed above and

shown on the figure. Note that the 930-acre leased parcel is a subset of the APE addressed for the 2015 consultation. The vertical depth of disturbance for the proposed undertaking is not expected to exceed 20 feet, which was communicated in 2016 for Transmission Route 2. In most cases (aside from where new transmission lines are proposed), ground disturbance will not exceed 6 feet, which is consistent with what was communicated in 2015 for the original undertaking.

IDENTIFICATION OF HISTORIC PROPERTIES

Records Search

A complete cultural resources records search within a one-mile radius of NAS Lemoore was carried out in March 2010 (Navy 2012). A subsequent record search was conducted for an archaeological survey related to the original undertaking (Dougherty and Jones 2015). In addition, the Navy reviewed base records for any additional information that might not have been included in the records search. As noted during consultations for the original undertaking, the 2010 records search indicated 32 cultural resource studies have been conducted within a one-mile radius of the base, five of which fell within the APE addressed for the 2015 consultation. The 2010 records search identified one historic waste scatter (CA-KIN-74H/P-16-000081) and three prehistoric isolates (P-16-000082, P-16-000083, and GH-1) recorded at NAS Lemoore. None of these resources are located within or adjacent to the APE for this project. Additional information about previous studies at NAS Lemoore is provided in the 2015 and 2016 amended consultation documents.

Archaeological Survey

In 2014, Cardno conducted a Phase 1 archaeological survey of Sites A and B of the original undertaking (Dougherty and Jones 2015). This covered the entire 930-acre leased parcel area associated with the current undertaking. The survey was completed at 100 percent ground coverage. The 2014 survey report was sent to SHPO on March 24, 2015, as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 leases. Of the six previously recorded sites within or adjacent to this survey area, two are located near the 930-acre leased parcel area. Site CA-KIN-0001116H is a historic utility line that runs parallel to the San Joaquin Valley Railroad. The portion of site CA-KIN-0001116H adjacent to the APE consists of one utility pole located within the railroad corridor, along an existing road. The second site, CA-KIN-00017H, is a portion of the San Joaquin Valley Railroad, which is still an active railroad line. Neither historic resource has been evaluated for listing in the National Register of Historic Places (NRHP). The two historic resources are located adjacent to the 930-acre leased parcel area within the railroad easement that bisects the proposed solar PV array areas. Because they are located outside of the current leased parcel, both historic resources would be avoided during construction, operation, and decommissioning activities. The Phase 1 archaeological survey by Cardno also identified four isolated artifacts within the 930-acre leased parcel area; however, isolated artifacts can provide little information beyond what has already been collected and are considered ineligible for the NRHP.

In 2013, Far Western conducted a Phase 1 archaeological survey of 6,565 acres at NAS Lemoore (Garner and Waechter 2014), which covered the on-base portion of Transmission Route 2. The 2013 survey was completed at 64 percent ground coverage. This 2013 survey report was also sent to SHPO on March 24, 2015 as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 leases. No archaeological resources were recorded within the APE for the on-base portion of

Transmission Line 2 during Far Western's survey, although it did identify two isolated artifacts (ISO-01, ISO-02), and additional segments associated with CA-KIN-0001116H and CA-KIN-00017H (historic resources described above) located in the general area but over 2,000 feet away from the on-base portion of Transmission Route 2.

Three other archaeological surveys are worthy of note. First, a 300-acre archaeological survey was conducted in 1991 of leased agricultural lands on NAS Lemoore that were slated for development (Yohe and Parr 1991). The on-base portion of Fiber Route B runs along the eastern border of this survey area. The entire area was surveyed using 30-meter transects. No archaeological resources were recorded during this survey. Second, an archaeological survey of the family housing areas at NAS Lemoore was conducted using 30-meter transects (TEC 2007). About half of Transmission Route 1 and Fiber Route A run just north of this survey area. No archaeological resources were encountered during the survey. Finally, a cultural resources survey was conducted for a proposed telephone line south of NAS Lemoore along 25th Avenue from State Route 198 to just past the Henrietta Substation (URS 2002). The off-base portions of Transmission Line 3 and Fiber Route B run along the same corridor. The 400-foot-wide project corridor was surveyed using 10 to 15 meter transects. The area surveyed was almost entirely within agricultural fields. The report noted the presence of one recorded historic resource that runs along this survey corridor, P-16-000136. P-16-000136 consists of a portion of the Camden Junction-Henrietta and Henrietta-Tulare Lake (Line Number 702) transmission line, a 31.55-mile 70-kilovolt line that runs between Camden Junction south to the Henrietta Substation and then south to the Tulare Lake Substation. This utility line has not been evaluated for listing in the NRHP (Dougherty and Jones 2015).

Besides the presence of a few isolated artifacts, P-16-000136 is the only known recorded historic resource located within the current APE.

FINDINGS

Based on the information presented above, the current project APE has been disturbed primarily due to previous agricultural activities. The previous consultations have acknowledged that long-term agricultural use has resulted in the tilling of soil down to at least 6 feet. In addition, there are no known archaeological historic properties within the APE, and there is a low probability of encountering intact archaeological deposits and features during ground-disturbing activities within the 930-acre leased parcel area and the other associated project components located on NAS Lemoore due to prior extensive agricultural use and tilling as well as the geomorphology of the area (see Milliken and Young 2000). The off-base construction areas share a similar land use history as the on-base components, including extensive ground-disturbance from agricultural activities. In the event of a discovery during any excavation on NAS Lemoore and the contractor will be required to immediately stop work in the area of the discovery and immediately notify the Navy officials of the discovery. The Navy officials will have the discovery site evaluated by a professional archeologist, and if, in consultation with the SHPO, the discovery is determined to qualify for listing on the NRHP, the Navy officials will develop and implement an appropriate treatment plan before authorizing any excavation or construction relevant to the discovery to proceed.

There is one recorded historic resource within the APE, P-16-000136. P-16-000136 consists of a portion of the Camden Junction-Henrietta and Henrietta-Tulare Lake (Line Number 702) transmission line, a 31.55-mile 70-kilovolt line run between Camden Junction south to the Henrietta Substation and then south to the Tulare Lake Substation. Proposed Transmission Route 3 would hang a second line on

the existing transmission poles associated with P-16-000136 for approximately 1.6 miles of the 31.55-mile-long line. Assuming the transmission line is NRHP-eligible for purposes of assessing effects, the addition of another cable to existing poles along approximately 5 percent of the existing transmission line would not cause adverse effects to the property as a whole or in part. Trenching for Fiber Route B along the same general route would be designed to avoid adverse effects on P-16-000136.

INTERESTED PARTY CONSULTATIONS

Interested party consultation is being initiated concurrent with this letter submission. All parties listed below in the "Copy to" section are being contacted by this correspondence, including the Tribal entities and municipal governments.

Based on the results of the records search and field investigation, the NAS Lemoore respectfully requests your concurrence with the definition of the APE and the revised finding of "No Adverse Effect" in accordance with 36 CFR 800.5(b) within 60 days of receipt of this correspondence for the solar PV system at NAS Lemoore.

Should you have any questions or need additional information, please contact Laura Stevens by email at laura.m.stevens15.civ@us.navy.mil or by phone at 559-998-1074.

Sincerely,

MICHAEL CURRY
Installation Environmental Program Director
By direction of the
Commanding Officer

Enclosures: 1. 2015-2016 Consultation Correspondence for the Photovoltaic System at NAS Lemoore
2. Project Location Map

Copy to:

Elizabeth Kipp, Chairperson
Big Sandy Rancheria of Mono Indians
37387 Auberry Mission Road
Auberry, CA 93602

Shane Ratchford, Chairperson
Cold Springs Rancheria of Mono Indians
P.O. Box 209
Tollhouse, CA 93667

Delia Dominguez, Chairperson
Kitanemuk & Yowlumne Tejon Indians
115 Radio Street
Bakersfield, CA, 93305

Fred Beihn, Chairperson
North Fork Rancheria of Mono Indians
North Fork Rancheria Tribal Office
P.O. Box 929
North Fork, CA 93643-0929

Tracey Hopkins, Chairperson
Picayune Rancheria of the Chukchansi Indians
49260 Chapel Hill Drive
Oakhurst, CA 93644

Leo Sisco, Chairperson
Santa Rosa Rancheria Tachi Yokut Tribe
P.O. Box 8
Lemoore, CA 93245

Michelle Heredia – Cordova, Chairperson
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

Neil Peyron, Chairperson
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93257

Kenneth Woodrow, Chairperson
Wuksachi Indian Tribe/Eshom Valley Band
1179 Rock Haven Ct.
Salinas, CA, 93906

Patricia Matthews, Mayor
City of Lemoore
711 W. Cinnamon Drive
Lemoore, California 93245

Chuck Kinney
Community Development Director
Kings County
1400 W. Lacey Blvd.
Hanford, CA 93230

Steven White, Director
Public Works and Planning
Fresno County
2220 Tulare St., 6th Floor
Fresno, CA 93721

DEPARTMENT OF THE NAVY
NAVAL AIR STATION LEMOORE
700 AVENGER AVENUE
LEMOORE, CA 93246-5001

IN REPLY REFER TO:
5090
Ser N45/055
April 15, 2015

Dr. Carol Roland-Nawi
State Historic Preservation Officer
OFFICE OF HISTORIC PRESERVATION
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Dr. Roland-Nawi:

SUBJECT: PHOTOVOLTAIC SYSTEM, NAVAL AIR STATION (NAS) LEMOORE

The Navy is proposing an undertaking to install a photovoltaic (PV) system at Naval Air Station (NAS) Lemoore, Kings County, California. There are four alternative locations proposed for this project (Area A, Area B, Area D, and Area E) and under one scenario all four locations would be required for the installation of the photovoltaic system. All four of the areas are within the agricultural fields and up to 5,728 acres (2,318 hectare) of land would be developed for the PV system.

In accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (16 USC 470s), the Navy is providing: a) description of the proposed undertaking; b) proposed Areas of Potential Effects (APE) for areas A, B, D, and E; c) identification of historic properties; and d) the Navy's determination of *No Historic Properties Affected* in accordance with 36 CFR 800.4(d).

DESCRIPTION OF UNDERTAKING

An undertaking is proposed to install a PV system at NAS Lemoore. The purpose of the project is to increase Navy installation energy security, operational capability, strategic flexibility and resource availability through the development of renewable energy generating assets at Navy installations by the construction and operation of a solar PV system at NAS Lemoore. The project is required to meet the renewable energy standards put forth by the 1 Gigawatt Initiative, Executive Order 13514, and Secretary of the Navy Energy Goals.

A 390 Megawatt (MW) ground mounted photovoltaic system is proposed at four locations at NAS Lemoore. The ground mounted panels would include site preparations: grading to bare mineral soil to remove vegetation at all areas within the APE, installation of underground electrical lines and circuitry (3 feet deep as required by UFC codes), and trenching between panels to complete the electrical circuits. The facilities to be constructed include solar photovoltaic panels, steel tracking structure, inverters, combiner boxes, electrical switchgear, a substation, a switching/metering station, transmission lines, associated electrical wiring, connections, and other items required for the PV system. All electrical equipment, including inverters and transformers would be constructed on concrete pads and all solar PV wiring would

be routed underground. Gravel roads would be graded between the rows of solar PV panels and around the site perimeter for maintenance access. No access improvements would be required as part of this project because the road network adjacent to the project area is sufficient. The areas associated with the existing transmitter areas within Site B would be avoided; no construction in these areas would occur. The ground mounted systems would be enclosed by chain link panels with barbed-wire outriggers in accordance with force protection standards. It is also a safety issue to provide perimeter fencing so individuals cannot enter the solar fields.

A typical configuration for this type of installation is to affix the solar PV panels atop constructed mounting structures, mounted on posts bored into the ground, or be placed on concrete block above ground. Foundations for the mounting structures would be built on engineered fill or native soil at a minimum of 24 inches below adjacent grade or finished grade. Each pole footing would consist of a 4-inch cross-sectional area and would require a depth of 4 to 6 feet (1.2 to 1.8 meters) below ground surface.

A 400 Megavolt ampere (MVA) substation would also be constructed. The substation would cover approximately 1.8 acres (0.7 hectare) and would serve as the interface connection of the solar PV field to the existing Pacific Gas & Electric (PG&E) 230-kilovolt (kV) transmission line. A 230-kV switching/metering station would also be constructed. The switching/metering station would cover approximately 8,100 square feet (750 square meters) and would meter the solar PV power generated. Finally, a switching station covering approximately 0.5 acre (0.2 hectare) would be constructed adjacent to the existing equestrian center to transfer electrical power generated to the existing PG&E 230-kV transmission line. A graveled buffer area would be developed around the switching station and a fence would be constructed to restrict access to the site. The depth of disturbance for the three support structures is not expected to be below 6 feet (1.8 meters).

The existing 69-kV transmission line would not have capacity for the electricity generated therefore a new 230-kV transmission line would be constructed to the existing PG&E 230-kV transmission line. To support the new 230-kV transmission line, approximately one hundred, 80-foot (24-meter) tall steel poles would be constructed along the proposed route. Power would be delivered via the existing PG&E 230-kV transmission lines to the PG&E Henrietta substation. The west-east segment of the 230-kV transmission line would be underground to avoid encroachment on the existing flight easement. The flight easement does not allow vertical structures above 25 feet (8 meters) tall. Upon clearing the easement, the transmission line would run above ground along the eastern boundary of Sites A and/or B, then east to tie into the existing PG&E 230-kV transmission line.

At all locations, typical maintenance would consist of hosing down the panels twice a year. For systems of these sizes, work would be performed by one or two person(s) using a mobile water truck. At the conclusion of the agreement, the solar PV system would be decommissioned and the site returned to its pre-project condition.

AREA OF POTENTIAL EFFECT

Consistent with 36 CFR 800.16(d), the APE for this project is defined as the geographic area within which the proposed undertaking may directly cause effects to historic properties. Enclosure (1) is a location map for NAS Lemoore. Enclosure (2) depicts the APE for Areas A, B, D, and E. All four locations encompass the project area and construction lay-down areas.

The project would consist of a 390 MW ground-mounted photovoltaic system on 5,728 acres (2,318 hectare) located within the agricultural fields surrounding the airfield at NAS Lemoore. The vertical depth of disturbance for the proposed undertaking is not expected to exceed 6 feet (the depth of previous recorded disturbances due to agricultural activities). The APE map depicts multiple substations and switching/metering stations. These refer to the location of these structures under different scenarios and in the end only one location for each structure will be chosen.

IDENTIFICATION OF HISTORIC PROPERTIES

Records Search

A complete cultural resources records search of NAS Lemoore was carried out in March 2010 and an updated records search was conducted on the eastern side of the Operations Area in 2014. In addition, the NAVFAC SW archaeologist checked through the base records for any additional information that might not have been included in the records search. The records searches indicated 32 cultural resource studies have been conducted within a one mile radius of the base, five of which fall within the APE. The record searches identified one archaeological site and four isolates recorded within the boundary of the base. The archaeological resources include one historic waste scatter, CA-KIN-74H (P-16-000081), and three prehistoric isolates, P-16-000082, P-16-000083, and GH-1. None of these resources are located within or adjacent to the APE.

Previous Studies

As a part of the 1997 Historic and Archaeological Resource Protection (HARP) study, NAS Lemoore was divided into five possible sensitivity zones for archaeological resources: High Sensitivity Zones 1 through 4, occupying a total of 760 acres (307 hectares), and a Low Sensitivity Zone, occupying the remaining 17,611 acres (7,126 hectares) (Milliken and Mikesell 1997). In 1999, it was determined that the 1997-2002 HARP Plan's conclusion of high sensitivity zones and potential buried sites was only based on a small number of surface surveys and studies conducted in other parts of the San Joaquin Valley, and sensitivity should be reassessed (Milliken and Young 2000).

In 1999, 220 acres (89 hectares) within what was considered to be high sensitivity areas was sample surveyed. Sensitivity Zone 4 was only subject to a cursory reconnaissance survey because agricultural activities had completely altered the natural landscape, and an intensive survey would not have proven useful. Sample areas from Zones 1, 2, and 3 were subject to an

intensive level survey. As a result of the fieldwork, one historic refuse scatter (CA-KIN-74H) and two prehistoric isolates (P-16-000082 and -000083) were identified. The survey resulted in a reduction of the original 760 acres (307 hectares) of high sensitivity to 138 acres (56 hectares) of what was reclassified as medium sensitivity. In addition to the archaeological sample survey, a geomorphological trenching program was conducted to confirm the presence of an alluvial fan, which could indicate the existence of buried archaeological sites. The trenching results indicated that portions of NAS Lemoore are underlain by buried terminal Pleistocene soil surfaces. While it is always possible that buried archaeological sites may exist within the Station, the chance of encountering a buried site is quite low (Milliken and Young 2000). As a result of the 1999 fieldwork, two significant conclusions were reached: 1) "there is no longer any acreage delimited having high sensitivity for prehistoric archaeological sites at the Station" and 2) "the likelihood of encountering a buried prehistoric site on the Station during an undertaking is so low that archaeological monitoring is not regularly recommended" (Milliken and Young 2000: i).

Today, more than two-thirds of the land in NAS Lemoore is utilized for agricultural purposes, and has been leased to local farmers. Ground-disturbing agricultural activities include cultivation, well drilling, irrigation, drainage ditch construction, sump construction, and three-four foot deep soil ripping to break up hardpans (Milliken and Young 2000).

Archaeological Survey

A conference call between NAVFAC SW and SHPO was held on November 15, 2012 to discuss a strategy to survey the agricultural parcels on NAS Lemoore. It was determined that a minimum of 25 percent of each parcel should be surveyed, including any areas that are not normally plowed (roads, ditches, etc.), and that disturbances will not be greater than previous recorded disturbances.

In 2012 and 2013, Far Western conducted a Phase 1 archaeological survey of Sites D and E. The survey in 2012 was completed at 100 percent ground coverage and the survey in 2013 was completed at 64 percent ground coverage. The 2012 survey report was sent on May 23, 2012 as part of the consultation for the FY13 Agricultural Outlease Advertisement Project. SHPO concurred on July 12, 2012. The 2013 survey report was sent on March 24, 2015 as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 Leases Project. The Navy is currently waiting for SHPO to respond to the letter.

In 2014, Cardno, Inc. conducted a Phase 1 archaeological survey of Sites A and B. The survey was completed at 100 percent ground coverage. The 2014 survey report was sent on March 24, 2015 as part of the consultation for the FY15 Agricultural Outlease Advertisement of 14 Leases Project. The Navy is currently waiting for SHPO to respond to the letter.

FINDINGS

The 2012 Phase 1 archaeological survey by Far Western identified no historic resources. The 2013 Phase 1 Archaeological survey identified 7 isolated artifacts and 2 historic resources.

Three of the isolates are located within the APE; however isolated artifacts can provide little information beyond what has already been collected and is considered ineligible for the NRHP. The two sites that were recorded are P-16-000277 a segment of a utility line and P-000122 a segment of the San Joaquin Valley Railroad. Both of these sites are located adjacent to the APE and will not be affected by the proposed photovoltaic system. The Phase 1 archaeological survey by Cardno, Inc. identified one new site and 8 isolated artifacts. All 8 of the isolated artifacts are located within the current APE; however isolated artifacts can provide little information beyond what has already been collected and is considered ineligible for the NRHP. The archaeological site that was recorded is located within the APE and is a historic trash scatter likely dating to the early to the mid-20th century. Cardno, Inc. evaluated the site for listing in the NRHP under the four criteria and recommend that the site is ineligible for listing. NAVFAC SW has previously requested that the CA SHPO concur with the finding that historical archaeological site LPV-01 is not eligible for listing in the National Register as part of the FY15 Agricultural Outlease Advertisement of 14 Leases Project at NAS Lemoore.

Based on the information presented above, the archaeological surveys determined that the APE has been completely disturbed due to previous agricultural activities, that all ground disturbances resulting from the new photovoltaic system will not exceed 6 feet (1.8 meters) (the depth of previous recorded disturbances of previous agricultural activities), and that based on land use since the early 20th century and the geomorphology of the vicinity, encountering archaeological deposits within 7 feet (2 meters) of the surface represents a low probability (see Milliken and Young's 2000 report – Surface Reconnaissance, Geomorphological Analysis, and Reassessment of Archaeological Sensitivity Zones at Naval Air Station, Lemoore. Report on file at NAS Lemoore). It is the Navy's recommendation that due to the information presented above, the likelihood of encountering intact archaeological deposits for the new photovoltaic system is very low.

In the event of a discovery during any excavation the contractor will be required to immediately stop work in the area of the discovery and immediately notify the Navy of the discovery. The Navy will have the discovery site evaluated by a professional archeologist, and in consultation with the SHPO, if the discovery is determined to qualify for listing on the NRHP, the Navy will develop and implement an appropriate treatment plan before authorizing the excavation or construction responsible for the discovery to proceed.

NATIVE AMERICAN CONSULTATION

Native American consultation is being initiated concurrent with this letter submission. All relevant tribes listed below in the "Copy to" section are being contacted.

5090
Ser N45/055
April 15, 2015

REQUEST FOR CONCURANCE

Based on the results of the records search and field investigation, the Navy respectfully requests your concurrence with the definition of the APE and the finding of "No Historic Properties Affected" in accordance with 36 CFR 800.4(d) within 60 days of receipt of this correspondence for the photovoltaic system at NAS Lemoore. If you have any questions or need additional information, please contact NAVFAC SW archaeologist Mr. Joseph Baumann by email at joseph.baumann@navy.mil or by phone at 619-532-2787. In addition, please send a PDF copy of the response letter to Mr. Baumann at the e-mail address stated above.

Sincerely,

MARK P. PATTERSON
Environmental Compliance Branch Manager
By direction of the Commanding Officer

Enclosures: 1. Project Location Map
2. APE Map

Copy to: Picayune Rancheria Chukchansi Indians
46575 Road 417 #A
Coarsegold, California 93614

Tachi-Yokut Tribe-Santa Rosa Rancheria
P.O. Box 8
16835 Alkali Dr.
Lemoore, CA 93245

Cold Springs Rancheria Tribe
P.O. Box 209
Tollhouse, CA. 93667

Big Sandy Rancheria of Mono Indians
37387 Auberry Mission Road
Auberry, CA 93602

Table Mountain Rancheria Tribe
23736 Sky Harbour Rd
Friant, CA 93626

5090
Ser N45/055
April 15, 2015

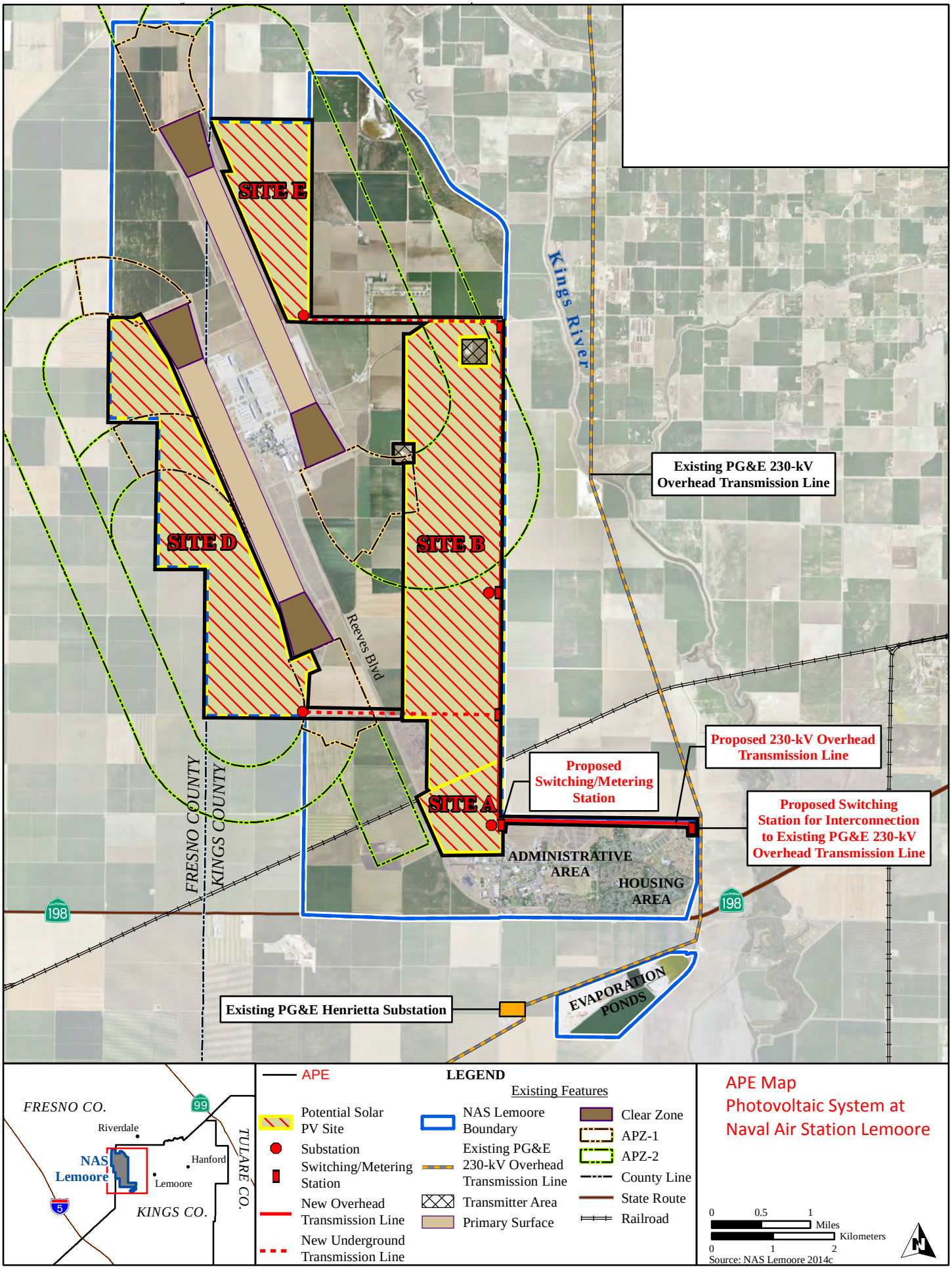
Tule River Indian Tribe
340 North Reservation Road
Porterville, CA 93257

North Fork Rancheria Tribal Office
P.O. Box 929
North Fork, CA 93643



Project Location Map

Enclosure 1



APE Map
Photovoltaic System at
Naval Air Station Lemoore

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

October 04, 2016

Reply In Reference To: USN_2015_0424_002

T. June Wheaton, Acting
Installation Environmental Program Director
Naval Air Station Lemoore
Department of the Navy
700 Avenger Avenue
Lemoore, CA 93246-5001

RE: Photovoltaic System and Transmission Line Project, Naval Air Station Lemoore (your 5090 Ser N45/055 letter of April 15, 2015, 5090 Ser N45/0080 of August 5, 2016, and supplemental e-mail of October 3, 2016)

Dear Ms. Wheaton:

Naval Air Station Lemoore (NAS Lemoore) is continuing its consultation on the above cited undertaking, in accordance with Section 106 of the *National Historic Preservation Act of 1966* (16 U.S.C. §306108) as amended, and its implementing regulations found at 36 CFR Part 800.

NAS Lemoore is proposing to approve the construction of a 390 megawatt photovoltaic (PV) system on 5,728 acres of federally owned land and replacement of an existing 69 kilovolt (kV) with a new 230 kV transmission line. The new PV system could be located on up to four different locations on the base. All of the locations are agricultural lands which are leased to local farmers. The new transmission line will consist of approximately 20 - 57 to 63 feet tall wooden H-frame poles, 9 of which will be located on federally owned land and 11 will be located on private lands. The transmission line is approximately two miles long, which will traverse either leased federally owned land or private lands. All of the lands are currently used for agricultural purposes. Currently, NAS Lemoore consists of approximately 18,784 acres, of which approximately 12,000 acres are leased for agricultural purposes. The area of potential effect (APE) contains the above described elements.

As documentation for your finding of effect, you stated that a records review was conducted of NAS Lemoore's Cultural Resources Management Database in March 2010 and updated in 2014. Those records reviews identified 32 cultural resources surveys that had been conducted previously within a one mile radius of NAS Lemoore, of which five included the APE. The previous surveys identified only one archaeological site (CA-KIN-74H – a historic refuse scatter) and four prehistoric isolates as being located within the boundary of NAS Lemoore. None of the previously identified cultural resources are located within or near the APE. No cultural resources were identified as being located within the APE.

For the proposed undertaking, NAS Lemoore consulted with seven Native American tribes in April 2015 and August 2016. As of today, NAS Lemoore has received only the following response to those letters:

- Hector "Lalo" Franco, Director, Cultural and Historical Preservation Department, Santa Rosa Rancheria of the Tachi Yokut Tribe requested a site visit of the APE.

Currently, NAS Lemoore is working with Mr. Franco to schedule that site visit.

Based on the records reviews, the previous cultural surveys/investigations, and tribal consultation, NAS Lemoore has determined that there are no cultural resources located within the APE. NAS Lemoore has requested me to review and comment on its identification of the APE and its finding of No Historic Properties Affected.

My staff has reviewed the documentation you provided and I would like to offer the following comments:

- I have no objections to your identification and delineation of the APE, pursuant to 36 CFR Parts 800.4(a)(1) and 800.16(d);
- If the site visit with the Tribe results in new and pertinent information about the existence of cultural resources within the APE, you are reminded that you will need to consult with me again in regards to the new information; and
- I do not object to your finding of No Historic Properties Affected for the proposed undertaking, as described above.

Be advised that under certain circumstances, such as an unanticipated discovery or a change in project description, you may have additional future responsibilities for this undertaking under 36 CFR Part 800. Should you encounter cultural artifacts during ground disturbing activities, please halt all work until a qualified archaeologist can be consulted on the nature and significance of such artifacts.

If you have any questions or concerns, please contact the following member of my staff: Tristan Tozer at (916) 445-7027 or via e-mail at Tristan.Tozer@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

cc: Alexander Bethke, NAVFAC SW Cultural Resources Program Lead

Enclosure 2 – APE Map

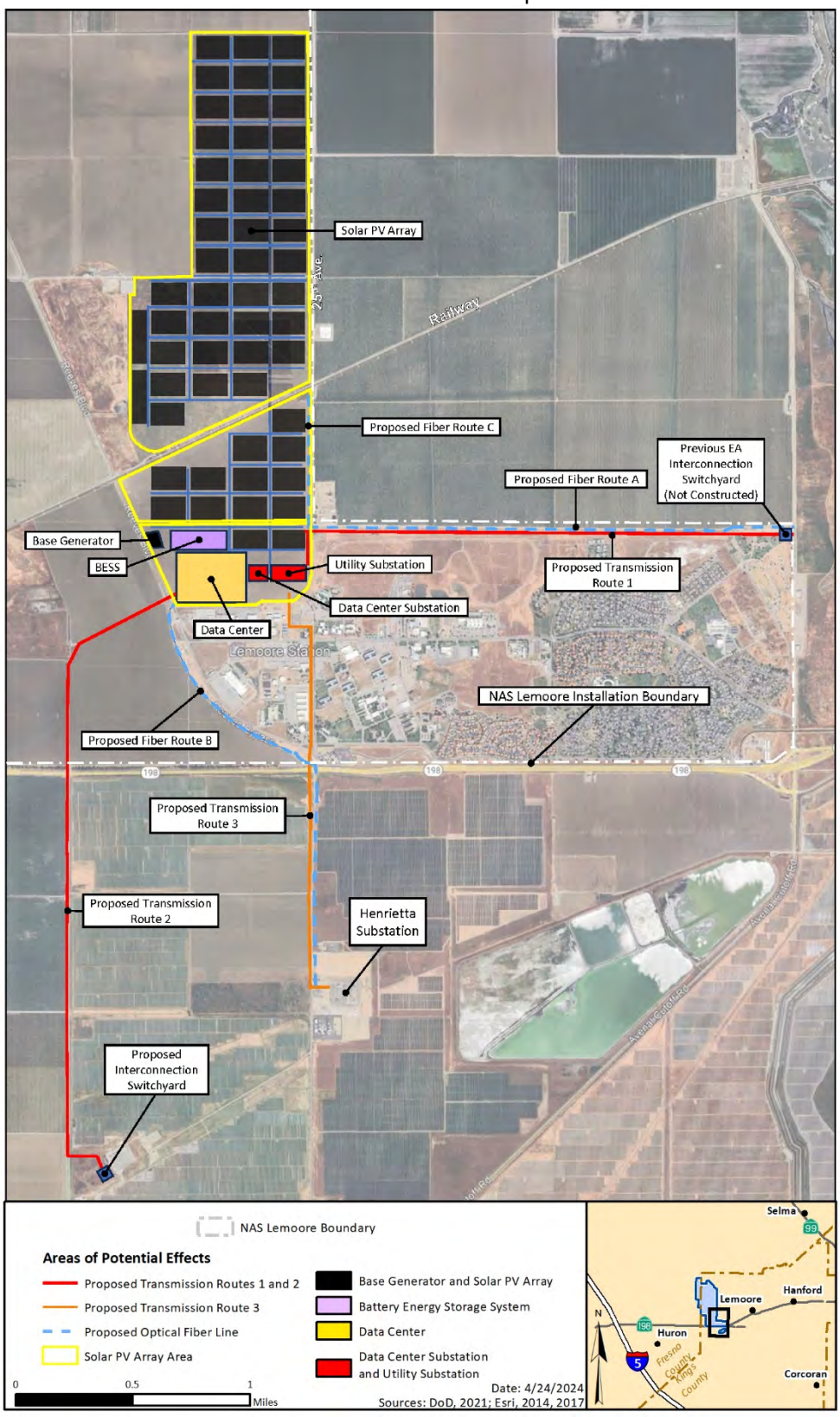


TABLE MOUNTAIN RANCHERIA
TRIBAL GOVERNMENT OFFICE

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Tribal Chairperson

Richard L. Jones
Tribal Vice-Chairperson

Jenna Gosselaar
Tribal Secretary/Treasurer

Samantha Toles-Rodriguez
Tribal Council Member-At-Large

Mark Martinez
Tribal Council Member-At-Large

June 18, 2024

Laura Stevens,
Department of the Navy
Naval Air Station Lemoore
700 Avenger Ave
Lemoore, CA 93246

RE: Amended Photovoltaic System

To: Laura Stevens,

This is in response to your letter dated, May 17, 2024, regarding, Amended Photovoltaic System in the Naval Air Station in Lemoore, California.

We appreciate receiving notice; however, this project site is beyond our area of interest.

Sincerely,

Robert Pennell
Cultural Resources Director

23736
Sky Harbour Road
Post Office
Box 410
Friant
California
93626
(559) 822-2587
Fax
(559) 822-2693

From:	Stella Acuna
To:	Stella Acuna
Subject:	FW: Conclusion of Section 106 Consultation: AMENDED PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION LEMOORE
Date:	Monday, July 29, 2024 3:44:56 PM

From: Castello, Dane O CIV (USA) <dane.o.castello.civ@us.navy.mil>
Sent: Monday, July 29, 2024 3:25 PM
To: CALSHPO.OHP@parks.ca.gov; Tristan.Tozer@parks.ca.gov
Cc: Stevens, Laura M CIV USN COMNAVFACSYSCOM (USA) <laura.m.stevens15.civ@us.navy.mil>; Curry, Michael A II CIV USN NAS LEMOORE CA (USA) <michael.a.curry8.civ@us.navy.mil>
Subject: Conclusion of Section 106 Consultation: AMENDED PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION LEMOORE

Dear Ms. Polanco,

This email concludes consultation on the referenced Undertaking, AMENDED PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION LEMOORE, with your office in accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470s). The purpose of this email is to notify your Office that the Navy intends to move forward with the subject undertaking based on completion its Section 106 responsibilities regarding the definition of the Area of Potential Effects (APE) and identification of historic properties, of which there are “no adverse effect” for this undertaking. Consistent with 36 CFR 800.3(a), regulations implementing Section 106 of the National Historic Preservation Act of 1966 (16 USC 470f), Navy initiated consultation on the proposed Undertaking in a letter sent May 29, 2024. In that letter, the Navy determined the APE for the Undertaking and documented that there were no historic properties within the APE. As a result, the Navy presented a finding of “no adverse effect.”

Under the implementing regulations 36 CFR 800.5(B), the process is established that if the SHPO/THPO fails to respond within 60 days of receipt of a request for review of a finding or determination, the agency official may proceed to the next step in the process. In addition, if the SHPO/THPO, or the Council if it has entered the section 106 process, does not object within 60 days of receipt of an adequately documented finding, the agency official's responsibilities under Section 106 are fulfilled, per 36 CFR 800.4(d)(1)(i). The Navy has yet to receive an objection from your office or any consulting party after receipt of consultation documentation. The Navy now considers its Section 106 responsibilities complete for the subject undertaking. Thank you for your support.

Dane Castello

Pesticides & Cultural Resources Program Manager.

NEPA Compliance/Development

Bldg. 44, Skytrain Ave.

Naval Air Station Lemoore

dane.o.castello.civ@us.navy.mil

Office: 559-998-4146

EV Cross Functional Sharepoint Portal

Appendix C
Public Involvement Documentation

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NATION & WORLD

THE SENTINEL

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Biden's family tells him to stay in the presidential race and keep fighting



EVAN VUCCI

President Joe Biden, left, and first lady Jill Biden arrive on Marine One at East Hampton Airport, Saturday, June 29, 2024, in East Hampton, N.Y.

WASHINGTON (AP) — President Joe Biden's family used a gathering at Camp David to urge him to stay in the race and keep fighting despite his dreadful debate performance, and some members criticized how his staff prepared him for the faceoff, according to four people familiar with the discussions.

Biden spent Sunday sequestered with first lady Jill Biden, his children and his grandchildren. It was a previously scheduled trip to the presidential retreat in Maryland for a photo shoot with Annie Leibovitz for the upcoming Democratic National Convention.

But the gathering was also an exercise in trying to figure out how to quell Democratic anxiety that has exploded following Thursday's performance.

While his family was aware of how poorly he performed against Donald Trump, they also continue to think he's the best person to beat the Republican presumptive nominee. They also believe he is capable of doing the job of president for another four years, according to the people who were not authorized to speak publicly about internal discussions and spoke to The Associated Press on condition of anonymity.

Among the most vocal: Jill Biden and son Hunter, whom the president has long gone to for counsel and advice. Both believe the president shouldn't bow out when he's down, and believe that he can come back from what they see as one subpar performance. The family questioned how he was prepared for the debate by staff and wondered if they could have done something better, the people said.

Biden's campaign has spent the days since the debate — where he appeared raspy, trailed off, and at times gave convoluted answers — working to keep donors and surrogates on board as Democrats increasingly questioned whether he should stay in the race.

At this point in the delegate process, Biden would likely have to decide to drop out for there to be a new nominee. And the people he listens to most in the world — his wife and son — are telling him to stay in.

Even before the debate, the age of the 81-year-old Democratic president had been a liability with voters, and the prime-time faceoff appeared to reinforce the public's deep-seated concerns before perhaps the largest audience he will have in the four months until Election Day. CNN said more than 51 million people watched the debate.

While the president was huddled with his family, prominent Democrats rallied to deliver a public show of support for his campaign on Sunday.

"I do not believe that Joe Biden has a problem leading for the next four years," said one close ally, Democratic Rep. James Clyburn of South Carolina. "Joe Biden should continue to run on his record."

Sen. Raphael Warnock, a Georgia Democrat and Baptist minister, said there had been "more than a few Sundays when I wish I had preached a better sermon," relating the experience to Biden's debate performance.

"But after the sermon was over, it was my job to embody the message, to show up for the people that I serve. And that's what Joe Biden has been doing his entire life," Warnock said. It was an echo of the message from other supporters that Biden had a bad debate, but a lifetime of good governance.

Warnock, like Clyburn and others, pivoted to Trump's many falsehoods during the debate — lapses that Biden and the debate moderators often failed to fact check from the stage — including about the Jan. 6, 2021, attack on the Capitol by Trump supporters, immigration and the outcome of the 2020 election.

"Whenever his mouth was moving, he was lying," Warnock said of Trump.

But concern simmered among some Democrats that Biden's campaign and the Democratic National Committee were not taking seriously enough the impact of the debate.

Former Iowa Sen. Tom Harkin, who served for more than two decades with Biden in the Senate, called the debate "a disaster from which Biden cannot recover."

Harkin suggested that Democratic senators in pivotal races and "maybe all incumbent Democratic Senators should pen a letter to Biden asking him to release his delegates and step aside so the convention can choose a new candidate," according to an email to supporters that was obtained by The Associated Press. It was first referenced in Iowa journalist Julie Gammack's column on Saturday, Iowa Potluck.

"This is a perilous time, and is more important than the ego or desires of Joe Biden to stay as President," Harkin concluded.

Rep. Jamie Raskin, D-Md., described "very honest, serious and rigorous conversations taking place at every level of our party ... about what to do."

Beryl makes landfall as Category 4 hurricane on Caribbean island

SAN JUAN, Puerto Rico (AP) — A dangerous and extremely powerful Hurricane Beryl made landfall Monday on the Caribbean island of Carriacou after becoming the earliest storm of Category 4 strength to form in the Atlantic, fueled by record warm waters.

Winds up to 150 mph (240 kph), just shy of a Category 5 storm, blew off roofs, uprooted trees and caused other damage on Carriacou, one of the islands of Grenada, and elsewhere in the southeast Caribbean.

"This is an extremely dangerous and life-threatening situation," the U.S. National Hurricane Center said.

Hurricane warnings remained in effect for Grenada and St. Vincent and the Grenadines as thousands of people hunkered down in homes and shelters. The last strong hurricane to hit the southeast Caribbean was Hurricane Ivan 20 years ago, which killed dozens of people in Grenada.

NBC Radio in St. Vincent and the Grenadines said it received reports of roofs being torn off churches and schools as communications began collapsing across the southeast Caribbean.

"Jesus Christ!" a woman yells in a video that shows tin roofs flying through the air.

In nearby Grenada, officials received "reports of devastation" from Carriacou and surrounding islands, said Terence Walters, Grenada's national disaster coordinator. Prime Minister Dickon Mitchell said he would travel to Carriacou as soon as it's safe, noting that there's been an "extensive" storm surge.

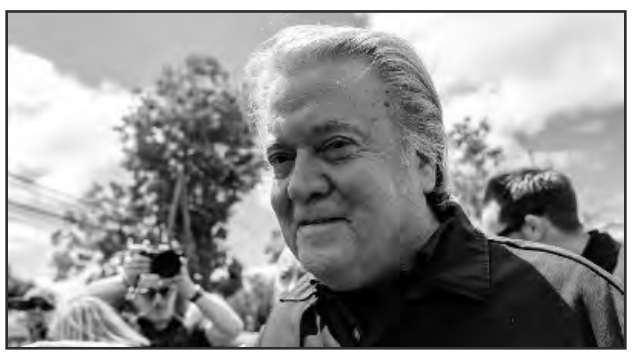
Grenada officials had to evacuate patients to a lower floor after hospital roof was damaged, he said.

"There is the likelihood of even greater damage," he told reporters. "We have no choice but to continue to pray."

On Monday afternoon, Beryl was about 65 miles (105 kilometers) northwest of the island of Grenada, moving west-northwest at 20 mph (31 kph).

In Barbados, officials received more than a dozen reports of roof damage, fallen trees and downed electric posts across the island, said Kerry Hinds, emergency management director. Wilfred Abrahams, minister of home affairs and information, said drones — which are faster than crews fanning across the island — would assess damage once Beryl passes.

Bannon surrenders to federal prison



JULIA NIKHINSON

Steve Bannon arrives to speak outside Danbury Federal Correctional Institution, Monday, July 1, 2024, in Danbury, Conn. Bannon was taken into custody after surrendering at the federal prison to begin a four-month sentence on contempt charges for defying a subpoena in the congressional investigation into the U.S. Capitol attack.

DANBURY, Conn. (AP) — Longtime Trump ally Steve Bannon was taken into custody Monday after surrendering at a federal prison to begin a four-month sentence on contempt charges for defying a subpoena in the congressional investigation into the U.S. Capitol attack.

Bannon arrived at the Federal Correctional Institution in Danbury, Connecticut, around noon and was formally taken into federal custody, the Bureau of Prisons said.

Speaking to reporters, Bannon called himself a "political prisoner," said former President Donald Trump was "very supportive" of him and slammed Democrats, including Attorney General Merrick Garland.

"I am proud of going to prison," Bannon said, adding he was "standing up to the Garland corrupt DOJ."

Shortly before he arrived to surrender, a small group of supporters gathered on the side of the road outside the prison. They cheered as Bannon and GOP Rep. Marjorie Taylor Greene of Georgia spoke during a news conference, holding up flags and signs supporting Bannon as a small group of protesters shouted, "Lock him up!" and "traitor!"

The crowd was rowdy, often breaking into chants of, "USA!" A supporter of President Joe Biden taunted Bannon by yelling "traitor" while Trump supporters tried to shout her down. Police had to stop traffic to allow the black SUV that Bannon was riding in to pull out of a church parking lot where Bannon's supporters had gathered.

A judge had allowed Bannon to stay free for nearly two years while he appealed but ordered him to report to prison Monday after an appeals court panel upheld his contempt of Congress convictions. The Supreme Court on Friday rejected his last-minute appeal to stave off his sentence.

A jury found Bannon guilty of two counts of contempt of Congress: one for refusing to sit for a deposition with the Jan. 6 House Committee and a second for refusing to provide documents related to his involvement in the Republican ex-president's efforts to overturn his 2020 election loss to Biden.

Defense attorneys have argued the case raises issues that should be examined by the Supreme Court, including Bannon's previous lawyer's belief that the subpoena was invalid because Trump had asserted executive privilege. Prosecutors, though, say Bannon had left the White House years before and Trump had never invoked executive privilege in front of the committee.

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY
NOTICE OF AVAILABILITY OF A SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER AT NAVAL AIR STATION LEMOORE, CALIFORNIA.

The U.S. Department of the Navy (Navy) invites the public to review and comment on the Draft Supplemental Environmental Assessment (SEA) prepared for proposed construction, operation, and decommissioning of a solar photovoltaic system, along with additional resilient energy systems, a data center, and other on- and off-base infrastructure improvements, at Naval Air Station Lemoore, California.

Under the Proposed Action, the Navy would modify an existing Enhanced Use Lease to allow the lessee to construct and operate additional resilient energy systems and a data center within the Project Site. The resilient energy systems would include additional solar PV systems, battery energy storage systems, electric vehicle charging stations, backup generation/microgrid, and other infrastructure improvements on and off-base.

The Draft SEA is available on the NAS Lemoore website at: **https://cnrsw.cnic.navy.mil/Installations/NAS-Lemoore/Operations-and-Management/Program-Links/Environmental-Support/** and at local libraries: Kings County Library (401 North Douty St., Hanford, CA 93230), Lemoore Branch Library (457 C St., Lemoore, CA 93245), and Riverdale Branch Library (20975 Malsbary St., Riverdale, CA 93656).

The Navy is accepting written comments on the Draft SEA during the 15-day public comment period from June 28, 2024, through July 13, 2024. Comments may be submitted electronically, via email to: **NASL_EUL_PM@Stantecgs.com** and in writing, by mail to: NASL EUL PM c/o Stantec, 514 Via De La Valle, Suite 308, Solana Beach, CA 92075.

All comments must be received or postmarked by July 13, 2024, to be considered in the Final SEA.

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Driver killed in crash west of Fresno identified

BY JIM GUY
jguy@fresnobee.com

The Fresno County Coroner has identified a man killed early Wednesday morning in a head-on collision west of Fresno.

He was Pregat Singh, 20, of Fresno.

According to the California Highway Patrol, the collision took place about 4 a.m. on Shaw Avenue near Chateau Fresno. Singh, driving a passenger car westbound on Shaw, veered into eastbound traffic and crashed head-on with a pickup truck. He died at the scene.

The pickup driver was taken to the hospital but was expected to survive.

The CHP did not report whether alcohol or drugs were a factor in the collision.

Jim Guy: 559-441-6339



AIZAR RALDES AFP via Getty Images/TNS

Military forces were briefly deployed outside the Quemado Palace at Plaza Murillo in the Bolivian capital, La Paz, on Wednesday. Bolivian President Luis Arce denounced the unauthorized gathering of soldiers and tanks, saying "democracy must be respected." The coup attempt failed.

After failed coup, Bolivia's leader swears in new army chief

BY ANTONIO MARIA DELGADO
Miami Herald

Bolivia President Luis Arce late Wednesday swore in a new army commander general after troops led by his predecessor stormed the presidential palace Wednesday in an attempted coup.

Arce installed commander general Jose Wilson Sanchez to take over as the country's new military chief, who promptly ordered the military to retreat and the troops appeared to be obeying. Wilson Sanchez takes the place of army general commander Juan Jose Zuniga who led the uprising, had entered the presidential palace but then exited shortly thereafter and left the plaza adjoining the palace.

By late afternoon in La Paz, however, there were myriad signs that the government was reasserting control. Arce walked through in the main square that was taken over by military, and greeted his own supporters before re-entering the palace.

Hours earlier, Bolivian troops led by Zuniga had stormed the presidential palace as socialist President Luis Arce denounced a coup attempt and called on his supporters to take to the streets to defend democracy.

Military personnel had already taken over the capital's main square when they crashed a tank into the palace, then used tear gas to try to repel chanting crowds, according to images broadcast on local TV.

"We need for the Bolivian people to organize and mobilize against the coup d'etat and in favor of democracy," Arce said in a nationwide address flanked by his cabinet. He said he was located at Casa Grande, an annex that is next door to the presidential palace that was stormed.

Arce said on social media earlier that some military units were conducting "irregular" operations. TV images showed general commander Zuniga entering the palace after the armored vehicle hit it. He then quickly left the building.

Zuniga was fired earlier this week after saying he would prevent former President Evo Morales from running again for the presidency, El Pais reported. Arce and Morales have a thorny relationship but used to be close political allies in the left-wing MAS party.

Arce's socialist government, which was elected in 2020, has recently struggled with an economic crisis amid dwindling natural gas exports, a shortage of dollars and a currency peg that has effectively collapsed.

Bolivia is among the world's most politically turbulent nations, having had nearly 200 coups and revolutions since it won independence from Spain two centuries ago. Morales was ousted by the army as recently as 2019 after a disputed election.

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ERIK MCGREGOR Sipa USA

In August 2021, demonstrators at U.S. Bankruptcy Court in White Plains, N.Y., decry the justice system for allowing the billionaire Sackler family to walk away relatively unscathed from the opioid crisis. On Thursday, the U.S. Supreme Court rejected a $10 billion mass settlement.

Supreme Court scraps opioid settlement that shields Sacklers

BY DAVID G. SAVAGE
Los Angeles Times

The Supreme Court on Thursday rejected a mass settlement related to the nation's opioid crisis that would have paid an estimated $10 billion to victims, hospitals, states and others, and shielded the Sackler family from further liability.

By a 5-4 vote, the justices ruled that a bankruptcy judge does not have broad power to arrange a mass settlement of thousands of claims that includes protections for people who are not bankrupt.

The justices were split in an unusual way. Justice Neil M. Gorsuch spoke for the majority, while Chief Justice John G. Roberts Jr. and Justices Sonia Sotomayor, Elena Kagan and Brett M. Kavanaugh dissented.

"We hold only that the bankruptcy code does not authorize a release and injunction that, as part of a plan of reorganization under Chapter 11, effectively seeks to discharge claims against a nondebtor without the consent of affected claimants," Gorsuch said.

"Today's decision is wrong on the law and devastating for more than 100,000 opioid victims and their families," Kavanaugh said in dissent. "The court's decision rewrites the text of the U.S. Bankruptcy Code and restricts the long-established authority of bankruptcy courts to fashion fair and equitable relief for mass-tort victims."

The Sacklers, owners of the Purdue Pharma company, had denied wrongdoing but agreed to contribute $6 billion to the settlement fund if they would be protected from future lawsuits.

The case has been closely followed not just because of the opioid settlement but also because of the use of bankruptcy laws to settle other mass lawsuits involving the Boy Scouts of America and some Catholic dioceses.

Purdue Pharma filed for bankruptcy in 2019 facing thousands of lawsuits alleging its marketing of OxyContin as a nonaddictive pain relief pill had triggered an opioid epidemic that led to more than a half-million deaths since the mid-1990s. In the decade prior to the bankruptcy, the company had distributed about $11 billion to members of the Sackler family and their offshore accounts.

Their lawyers maintained that more than half of this amount was paid in taxes.

But the scale of the damage and the liability for OxyContin was extraordinary. A bankruptcy court later put a hold on new lawsuits, while the pending claims against Purdue Pharma and the Sacklers were estimated to seek in total more than $40 trillion.

A coalition of creditors, including victims, hospitals, local and state governments and tribal nations, negotiated a settlement that was that expected to pay out about $10 billion. Most of the funding – about $6 billion – came from the Sacklers.

In 2021, a bankruptcy judge approved the settlement and described it as the "only reasonably conceivable" way to fairly resolve the mass of lawsuits. Without the money from the Sacklers, he said the company would be liquidated, leaving most of the creditors with nothing.

While more than 95% of the creditors said they approved the deal, including all 50 states, the Biden administration's bankruptcy trustee opposed it. He did so because the settlement shielded the Sacklers from any further or future liability.

In Harrington vs. Purdue Pharma, the trustee argued that the Sacklers were not bankrupt and therefore, cannot take advantage of the shield provided by a bankruptcy settlement.

Last year, the Supreme Court put the settlement on hold to consider that argument.

PAID ADVERTISEMENT

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY
NOTICE OF AVAILABILITY OF A SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER AT NAVAL AIR STATION LEMOORE, CALIFORNIA

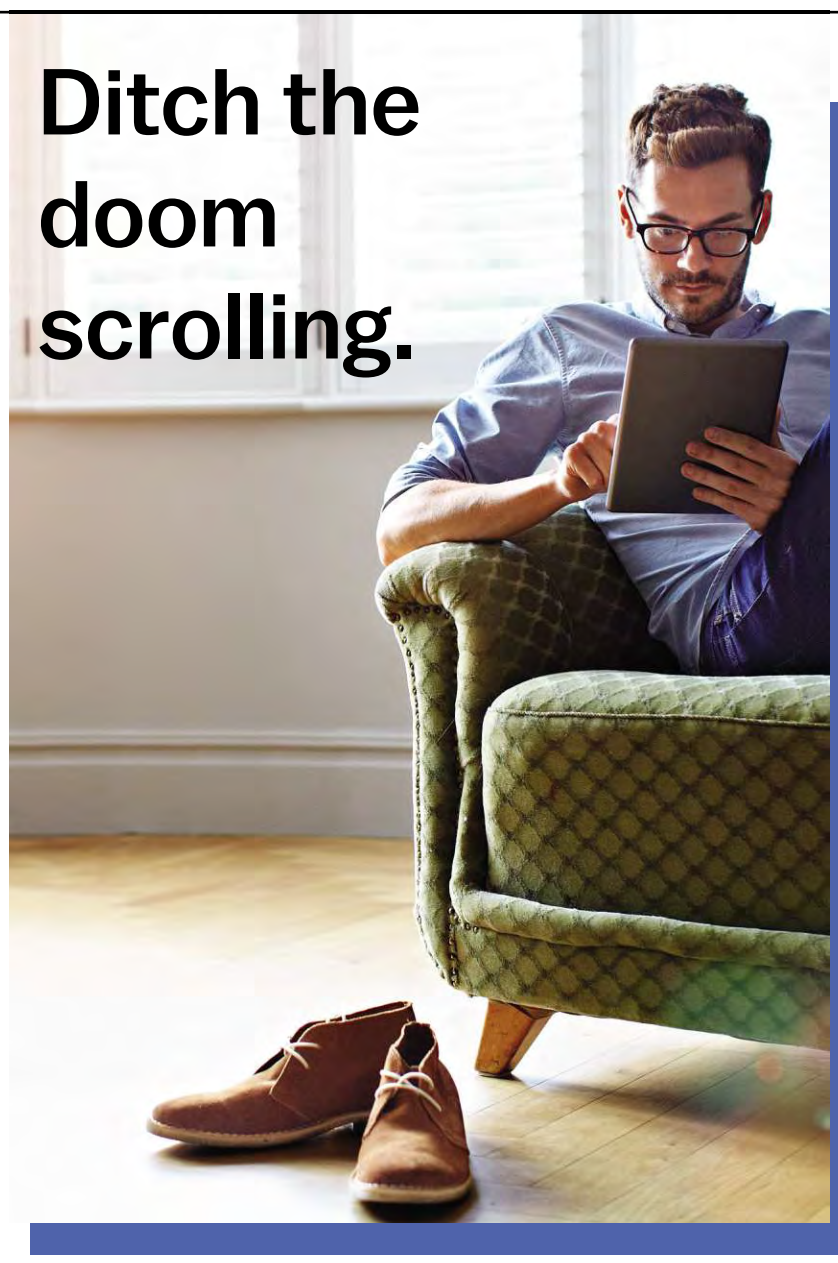
The U.S. Department of the Navy (Navy) invites the public to review and comment on the Draft Supplemental Environmental Assessment (SEA) prepared for proposed construction, operation, and decommissioning of a solar photovoltaic system, along with additional resilient energy systems, a data center, and other on- and off-base infrastructure improvements, at Naval Air Station Lemoore, California.

Under the Proposed Action, the Navy would modify an existing Enhanced Use Lease to allow the lessee to construct and operate additional resilient energy systems and a data center within the Project Site. The resilient energy systems would include additional solar PV systems, battery energy storage systems, electric vehicle charging stations, backup generation/microgrid, and other infrastructure improvements on and off-base.

The Draft SEA is available on the NAS Lemoore website at: https://cnrsw.cnic.navy.mil/Installations/NAS-Lemoore/Operations-and-Management/Program-Links/Environmental-Support/, and at local libraries: Kings County Library (401 North Douty St., Hanford, CA 93230), Lemoore Branch Library (457 C St., Lemoore, CA 93245), and Riverdale Branch Library (20975 Malsbary St., Riverdale, CA 93656).

The Navy is accepting written comments on the Draft SEA during the 15-day public comment period from June 28, 2024, through July 13, 2024. Comments may be submitted electronically, via email to: NASL_EUL_PM@Stantecgs.com and in writing, by mail to: NASL EUL PM c/o Stantec, 514 Via De La Valle, Suite 308, Solana Beach, CA 92075.

All comments must be received or postmarked by July 13, 2024, to be considered in the Final SEA.



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ENVIRONMENTAL SUPPORT

(Draft) Supplemental Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System, other Resilient Energy Systems, and a Data Center at Naval Air Station Lemoore, California

F-35 Homebasing Information:

Environmental Assessment for Strike Fighter Realignment at Naval Air Station Lemoore, California

Environmental Impact Statement Record Of Decision (EIS ROD)

FEIS F-35C West Coast Homebasing Vol.1

FEIS F-35C West Coast Homebasing Vol. 2

The Navy's ability to accomplish its mission requires daily operations in the land, sea, and air environments. The Navy is committed to operating in a manner compatible with the environment. National defense and environmental protection are and must continue to be compatible goals. Therefore, an important part of the Navy's mission is to prevent pollution, protect the environment, and protect natural, historic, and cultural resources. In order to accomplish this mission element, all personnel must be aware of the environmental and natural resources laws and regulations which have been established by Federal, State, and Local governments.

The number of environmental regulations has increased significantly in recent years, and these regulations are in a continuous state of change. All NAS Lemoore and Navy contracted personnel must ensure they are aware of, understand, and comply with all environmental requirements imposed upon them by Federal, State and local governments.

Policy Statement

The Clean Air Act

(CAA) established national ambient air quality standards (NAAQS) in order to protect the health and general welfare of the public. In California achieving these standards is the responsibility of the California Air Resources Board (CARB) and the local San Joaquin Valley Air Pollution Control District which must develop State Implementation Plans (SIPs) that outline to the Environmental Protection Agency (EPA) how the State and Region will achieve and maintain the NAAQS. SIPs implement pollution control programs such as new source performance standards (NSPS), new source review (NSR), and national emission standards for hazardous air pollutants (NESHAPS) at the State and local level. California generally requires pollution control and prevention measures which are more stringent than those mandated by the EPA, and most other States. Naval Air Station Lemoore must comply with the requirements of Federal, State, and the San Joaquin Valley Air Pollution Control District regulations governing stationary and mobile source air emissions .

Natural Resources

Present land use at NAS Lemoore can be divided into six major categories: (1) Air Operations; (2) Administration; (3) Family Housing; (4) Recreational; (5) Wildlife; and (6) Agricultural.

There are five designated wildlife areas on the station. Agricultural activities, natural grass and brush areas, and approximately 400 acres of wastewater treatment ponds at NAS Lemoore attract and support more than 124 species of animals including 3 reptiles, 3 amphibians, 12 mammals and 106 birds. Include in this list are several federally protected species.

Nearly three-quarters of the land area of NAS Lemoore (approximately 11,500 acres) is leased out to local farmers for agricultural purpose. The primary crops grown on the soils are cotton, wheat, and sugar beets. The agricultural out lease land is divided into 60 parcels which are leased to individuals for five year periods. The out lease program produces between $900,000 and $1.2 million dollars in rents annually, more than any other individual out lease program under the direction of the Navy.

Pollution Prevention Planning

Pollution prevention (P2) encompasses the methods and programs designed to reduce or eliminate pollution at the source instead of trying to control or mitigate the effects. Pollution prevention is the preferred means of complying with or reducing regulatory requirements. P2 is an important tool for the Navy to manage its resources more efficiently and cost effectively. All Navy shore installations are required to develop, implement and update P2 Plans to achieve these objectives.

The primary drivers for pollution prevention programs at Navy installations are Executive Orders (EOs) 12856 and 13101. In particular, EO 12856 directs all federal agencies to comply with the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and the Pollution Prevention Act of 1990 (PPA). This executive order emphasizes that the Federal Government must demonstrate pollution prevention leadership by improving facility management, incorporating environmental principles in acquisition practices, establishing comprehensive P2 Plans, and developing innovative technologies.
The PPA establishes an environmental management hierarchy as national policy. This hierarchy, also incorporated into EO 12856, calls for the following:

Pollution is to be prevented or reduced at the source whenever possible;

Pollution that cannot be prevented is to be recycled in an environmentally safe manner whenever feasible;

Pollution that cannot be prevented or recycled is to be treated in an environmentally safe manner whenever feasible; and,

Disposal or other release into the environment is to be employed only as a last resort and conducted in an environmentally safe manner.

Water Reports can be acquired by calling Environmental at 559-998-2720. Naval Air Station Lemoore is required to distribute to its water drinking customers an annual report on the quality of water provided during the previous calendar year.

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SB-38 Battery energy storage facilities: emergency response and emergency action plans. (2023-2024)

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Date Published: 10/09/2023 09:00 PM

Senate Bill No. 38

CHAPTER 377

An act to amend Section 761.3 of the Public Utilities Code, relating to energy.

[Approved by Governor October 07, 2023. Filed with Secretary of State October 07, 2023.]

LEGISLATIVE COUNSEL'S DIGEST

SB 38, Laird. Battery energy storage facilities: emergency response and emergency action plans.

Existing law vests the Public Utilities Commission with regulatory authority over public utilities, including electrical corporations. Existing law requires the commission to implement and enforce standards for the maintenance and operation of facilities for the generation and storage of electricity owned by an electrical corporation or located in the state to ensure their reliable operation.

This bill would require each battery energy storage facility located in the state and subject to the requirement described above to have an emergency response and emergency action plan that covers the premises of the battery energy storage facility, as specified. The bill would require the owner or operator of the facility, in developing the plan, to coordinate with local emergency management agencies, unified program agencies, and local first response agencies. To the extent the bill would impose new duties on local government agencies, the bill would create a state-mandated local program. The bill would require the owner or operator of the facility to submit the plan to the county and, if applicable, the city where the facility is located.

Under existing law, a violation of the Public Utilities Act or any order, decision, rule, direction, demand, or requirement of the commission is a crime.

Because the above provisions would be part of the act and a violation of a commission action implementing this bill's requirements would be a crime, the bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that with regard to certain mandates no reimbursement is required by this act for a specified reason.

With regard to any other mandates, this bill would provide that, if the Commission on State Mandates determines that the bill contains costs so mandated by the state, reimbursement for those costs shall be made pursuant to the statutory provisions noted above.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: yes

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 761.3 of the Public Utilities Code is amended to read:

761.3. (a) Notwithstanding subdivision (g) of Section 216 and subdivision (c) of Section 218.5, the commission shall implement and enforce standards for the maintenance and operation of facilities for the generation and storage of

electricity owned by an electrical corporation or located in the state to ensure their reliable operation. The commission shall enforce the protocols for the scheduling of powerplant outages of the Independent System Operator.

(b) This section does not authorize the commission to establish rates for wholesale sales in interstate commerce from those facilities, or to approve the sale or transfer of control of facilities if an exempt wholesale generator, as defined in the federal Public Utility Holding Company Act of 2005 (42 U.S.C. Sec. 16451(6)).

(c) (1) (A) Except as otherwise provided in this subdivision, this section does not apply to nuclear powered generating facilities that are federally regulated and subject to standards developed by the Nuclear Regulatory Commission and that participate as members of the Institute of Nuclear Power Operations.

(B) The owner or operator of a nuclear powered generating facility shall file with the commission an annual schedule of maintenance, including repairs and upgrades, updated quarterly, for each generating facility. The owner or operator of a nuclear powered generating facility shall make good faith efforts to conduct its maintenance in compliance with its filed plan and shall report to the Independent System Operator any significant variations from its filed plan.

(C) The owner or operator of a nuclear powered generating facility shall report on a monthly basis to the commission all actual planned and unplanned outages of each facility during the preceding month. The owner or operator of a nuclear powered generating facility shall report on a daily basis to the Independent System Operator the daily operational status and availability of each facility.

(2) (A) Except as otherwise provided in this subdivision, this section does not apply to a qualifying small power production facility or a qualifying cogeneration facility within the meaning of Sections 201 and 210 of Title 11 of the federal Public Utility Regulatory Policies Act of 1978 (16 U.S.C. Secs. 796(17), 796(18), and 824a-3), and the regulations adopted pursuant to those sections by the Federal Energy Regulatory Commission (18 C.F.R. Secs. 292.101 to 292.602, inclusive), nor does this section apply to other generation units installed, operated, and maintained at a customer site exclusively to serve that customer's load.

(B) An electrical corporation that has a contract with a qualifying small power production facility, or a qualifying cogeneration facility, with a name plate rating of 10 megawatts or greater, shall report to the commission maintenance schedules for each facility, including all actual planned and unplanned outages of the facility and the daily operational status and availability of the facility. Each facility with a name plate rating of 10 megawatts or greater shall be responsible for directly reporting to the Independent System Operator maintenance schedules for each facility, including all actual planned and unplanned outages of the facility and the daily operational status and availability of the facility, if that information is not provided to the electrical corporation pursuant to a contract.

(d) This section shall not result in the modification, delay, or abrogation of any deadline, standard, rule, or regulation adopted by a federal, state, or local agency for the purposes of protecting public health or the environment, including, but not limited to, any requirements imposed by the State Air Resources Board or by an air pollution control district or an air quality management district pursuant to Division 26 (commencing with Section 39000) of the Health and Safety Code. The Independent System Operator shall consult with the State Air Resources Board and the appropriate local air pollution control districts and air quality management districts to coordinate scheduled outages to provide for compliance with those retrofits.

(e) The Independent System Operator shall maintain records of generation and storage facility outages and shall provide those records to the commission on a daily basis. Each entity that owns or operates an electric generating unit in California with a rated maximum capacity of 10 megawatts or greater shall provide a monthly report to the Independent System Operator that identifies any periods during the preceding month when the unit was unavailable to produce electricity or was available only at reduced capacity. The report shall identify the reasons for any such unscheduled unavailability or reduced capacity. The Independent System Operator shall immediately transmit the information to the commission.

(f) This section does not apply to any of the following:

(1) A facility owned by a local publicly owned electric utility.

(2) A public agency that may generate electricity incidental to the provision of water or wastewater treatment.

(3) A facility owned by a city and county operating as a public utility, furnishing electric service as provided in Section 10001.

(g) (1) In order to ensure the safety of employees, emergency responders, and surrounding communities, each battery energy storage facility located in the state and subject to subdivision (a) shall have an emergency response and emergency action plan that covers the premises of the battery energy storage facility, consistent with Sections 142.3 and 6401 of the Labor Code and any related regulations, including the regulatory requirements applicable to emergency action plans pursuant to Section 3220 of Title 8 of the California Code of Regulations.

(2) The emergency response and emergency action plan shall do all of the following:

(A) Establish response procedures for an equipment malfunction or failure.

(B) Include procedures that provide for the safety of surrounding residents, neighboring properties, emergency responders, and the environment. These procedures shall be established in consultation with local emergency management agencies.

(C) Establish notification and communication procedures between the battery energy storage facility and local emergency management agencies.

(3) The emergency response and emergency action plan may do all of the following:

(A) Consider responses to potential offsite impacts, including, but not limited to, poor air quality, threats to municipal water supplies, water runoff, and threats to natural waterways.

(B) Include procedures for the local emergency response agency to establish shelter-in-place orders and road closure notifications when appropriate.

(4) In developing the emergency response and emergency action plan, the owner or operator of the battery energy storage facility shall coordinate with local emergency management agencies, unified program agencies, and local first response agencies.

(5) The owner or operator of each battery energy storage facility shall submit the emergency response and emergency action plan to the county and, if applicable, the city where the facility is located.

SEC. 2. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain costs that may be incurred by a local agency or school district because, in that regard, this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

However, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

NFPA® FACT SHEET



ENERGY STORAGE SYSTEMS SAFETY FACT SHEET

Growing concerns about the use of fossil fuels and greater demand for a cleaner, more efficient, and more resilient energy grid has led to the use of energy storage systems (ESS), and that use has increased substantially over the past decade. Renewable sources of energy such as solar and wind power are intermittent, so storage becomes a key factor in supplying reliable energy. ESS also help meet energy demands during peak times and can supply backup power during natural disasters and other emergencies. However, the rise in the number of ESS installations requires the need for a heightened understanding of the hazards involved and more extensive measures to reduce the risks.

What Is an ESS?

An ESS is a device or group of devices assembled together, capable of storing energy in order to supply electrical energy at a later time. Battery ESS are the most common type of new installation and are the focus of this fact sheet.

DID YOU KNOW?

Battery storage capacity in the United States is expected to more than double between 2022 and 2025 from 9.4 GW to 20.8 GW, according to the U.S. Energy Information Administration.

Some ESS Advantages

Supplement Renewables

Renewable energies such as solar panels or wind turbines only produce electricity when the sun is out or the wind is blowing. Supplementing these with ESS allows users to take advantage of the electricity that is generated when the renewable energy technologies are not producing electricity.

Peak Shaving

ESS allows a user to shift where their electricity comes from by drawing power from the batteries during the higher-cost daytime hours then recharging during the lower-cost nighttime hours. This practice is referred to as peak shaving.

Load Leveling

When power generation facilities ramp up and ramp down to keep up with the changing demand for electricity, it puts stress on the system. ESS can help flatten out the demand curve by charging when electrical demand is low and discharging when it is high.

Uninterruptible Power Supply

ESS can provide near instantaneous protection from power interruptions and are often used in hospitals, data centers, and homes.

Some ESS Hazards

Thermal Runaway

Thermal runaway is a term used for the rapid uncontrolled release of heat energy from a battery cell; it is a condition when a battery creates more heat than it can effectively dissipate. Thermal runaway in a single cell can result in a chain reaction that heats up neighboring cells. As this process continues, it can result in a battery fire or explosion. This can often be the ignition source for larger battery fires.

Stranded Energy

As with most electrical equipment there is a shock hazard present, but what is unique about ESS is that often, even after being involved in a fire, there is still energy within the ESS. This is difficult to discharge since the terminals are often damaged and presents a hazard to those performing overhaul after a fire. Stranded energy can also cause reignition of the fire hours, days, or even weeks later.

Toxic and Flammable Gases Generated

Most batteries create toxic and flammable gases when they undergo thermal runaway. If the gases do not ignite before the lower explosive limit is reached, it can lead to the creation of an explosive atmosphere inside of the ESS room or container.

Deep Seated Fires

ESS are usually comprised of batteries that are housed in a protective metal or plastic casing within larger cabinets. These layers of protection help prevent damage to the system but can also block water from accessing the seat of the fire. This means that it takes large amounts of water to effectively dissipate the heat generated from ESS fires since cooling the hottest part of the fire is often difficult.

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ENERGY STORAGE SYSTEMS SAFETY FACT SHEET *CONTINUED*

Failure Modes

These are ways the batteries can fail, often leading to thermal runaway and subsequent fires or explosions.

Mechanical Abuse	Thermal Abuse	Electrical Abuse	Environmental Impacts
Can happen when a battery is physically compromised by either being dropped, crushed, or penetrated.	Can occur when a battery is exposed to external heat sources.	Can happen when the battery is overcharged, charged too rapidly or at high voltage, or discharged too rapidly.	Can lead to battery failure include seismic activity, rodent damage to wiring, extreme heat, and floods.

Tips to Help Keep People and Property Safe

For the Designer/Installer

Explosion Protection/Prevention

If there are enough batteries in a room to create an explosive atmosphere, then explosion prevention systems or deflagration venting should be installed per NFPA 68, *Standard on Explosion Protection by Deflagration Venting*, and NFPA 69, *Standard on Explosion Prevention Systems*.

Fire Suppression System

Testing has shown water to be the most effective medium for cooling an ESS fire. A sprinkler system that complies with NFPA 13, *Standard for the Installation of Sprinkler Systems,* should be installed in buildings where an ESS is installed.

Battery Management System (BMS)

A BMS is a critical system that should be used in an ESS to monitor, control, and optimize performance of an individual or multiple battery modules in an ESS. It can also control the disconnection of the module(s) from the system in the event of abnormal conditions.

Spacing

ESS units should be grouped into small segments limited to certain kilo-watt hours (kWh) and spaced from other segments and walls to prevent horizontal propagation. The table below, which summarizes information from a 2019 Fire Protection Research Foundation (FPRF) report, "Sprinkler Protection Guidance for Lithium-Ion Based Energy Storage Systems," demonstrates the recommended spacing for the testing for specific chemistries and arrangements.

Recommended Separation of Lithium-Ion Battery Energy Storage Systems

ESS Type & Capacity	Object Combustibility	Sprinklered ft (m)	Nonsprinklered ft (m)
LFP 31 kWh	Non Combustible	-	< 3 ft (< 0.9 m)
	Combustible	-	4 ft (1.2 m)
LFP 83kWh	Non Combustible	3 ft (0.9 m)	4 ft (1.2 m)
	Combustible	5 ft (1.5 m)	6 ft (1.8 m)
LNO/LMO 47 kWh	Non Combustible	-	4 ft (1.2 m)
	Combustible	-	6 ft (1.8 m)
LNO/LMO 125 kWh	Non Combustible	6 ft (1.8 m)	8 ft (2.4 m)
	Combustible	9 ft (2.7 m)	13 ft (4.0 m)

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ENERGY STORAGE SYSTEMS SAFETY FACT SHEET *CONTINUED*

For the AHJ

Permitting Checklist

Permits should be issued by and in accordance with the procedures of all authorities having jurisdiction (AHJ) and should bear the name and signature of each AHJ or their designated representative(s). In addition, the permit should indicate the following:

1. Purpose of the ESS for which the permit is issued
2. Type of ESS, size, weight broken down by subcomponents or subsystems, type, and amount of any hazardous materials, general arrangement of the system, and extent of work to be performed
3. Address where the ESS is to be installed and operated
4. Name and address of the permittee
5. Permit number and date of issuance
6. Period of validity of the permit
7. Inspection requirements

For the Fire Service

Pre-Incident Planning

The fire department should develop a pre-incident plan for responding to fires, explosions, and other emergency conditions associated with the ESS installation, and the pre-incident plan should include the following elements:

1. Understanding the procedures included in the facility operation and emergency response plan described
2. Identifying the types of ESS technologies present, the potential hazards associated with the systems, and methods for responding to fires and incidents associated with the particular ESS
3. Identifying the location of all electrical disconnects in the building and understanding that electrical energy stored in ESS equipment cannot always be removed or isolated
4. Understanding the procedures for shutting down and de-energizing or isolating equipment to reduce the risk of fire, electric shock, and personal injury hazards
5. Understanding the procedures for dealing with damaged ESS equipment in a post-fire incident, including the following:
   a. Recognizing that stranded electrical energy in fire-damaged storage batteries and other ESS has the potential for reignition long after initial extinguishment
   b. Contacting personnel qualified to safely remove damaged ESS equipment from the facility (This contact information is included in the facility operation and emergency response plan.)

Emergency Operations Planning

An emergency operations plan should be created and contain elements such as procedures to safely shut down the system, procedures for the removal of damaged ESS, general emergency procedures, and annual staff training.

CASE STUDY

On April 19, 2019, a thermal runaway event followed by an explosion occurred at the McMicken Battery Energy Storage System in Surprise, Arizona. A fire captain, a fire engineer, and two firefighters sustained serious injuries. The walk-in structure housed a 2.16 MWh lithium-ion battery energy storage system. This event highlighted the hazard of a non-flaming thermal runaway event and the need for deflagration prevention and protection.

FAQs

Q: Which NFPA standard covers the installation of ESS?

A: If you are installing ESS for either new construction or a renovation, you should review the requirements of NFPA 855, *Standard for the Installation of Energy Storage Systems.*

Q: What is the best extinguishing agent for a fire in a battery ESS?

A: Testing has shown that water is the most effective agent for cooling for a battery ESS. For this reason, a sprinkler system designed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems,* is required by NFPA 855, *Standard for the Installation of Energy Storage Systems.*

Learn More

- Visit nfpa.org/ess to access more FAQs and the latest ESS-related training, information, research, and reports.
- To view NFPA 855, visit nfpa.org/855, or to access the standard plus expert commentary, visit nfpa.org/LiNK.

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This material contains some basic information about energy storage systems (ESS). It identifies some of the requirements in NFPA 855, *Standard for the Installation of Energy Storage Systems,* 2023 edition as of the date of publication. This material is not the official position of any NFPA® technical committee on any referenced topic, which is represented solely by the NFPA documents on such topic in their entirety. For free access to the complete and most current version of all NFPA documents, please go to nfpa.org/docinfo. References to "Related Regulations" is not intended to be a comprehensive list. NFPA makes no warranty or guaranty of the completeness of the information in this material and disclaims liability for personal injury, property, and other damages of any nature whatsoever, from the use of or reliance on this information. In using this information, you should rely on your independent judgment and, when appropriate, consult a competent professional.

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

July 15, 2024

Jessie Martinez
Naval Facilities Engineering Systems Command Southwest
750 Pacific Highway
San Diego, CA 92131-5190

Project: Supplemental Environmental Assessment for the Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System, other Resilient Energy Systems, and a data center at Naval Air Station Lemoore, California

District CEQA Reference No: 20240780

Mr. Martinez:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Supplemental Environmental Assessment (SEA) from the U.S. Department of the Navy (Navy) for the Solar Photovoltaic System at Naval Air Station Lemoore. Per the SEA, the project assessed in this referral is the Proposed Action Alternative and the No Action Alternative which consist of the construction and operation of a 35 megawatt (MW) solar photovoltaic (PV) along with options to construct and operate additional resilient energy systems, a data center, as well as related infrastructure on 930 acres of land (Project). The Project is located on the east side of Reeves Boulevard at Naval Air Station Lemoore in Lemoore, CA.

The District offers the following comments at this time regarding the Project:

1) Project Related Emissions

Based on information provided in the SEA, Project specific annual criteria pollutant emissions from construction and operation are not expected to exceed any of the significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI): https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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1a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment.

2) Vegetative Barriers and Urban Greening

There are residential units located south of the Project. The District suggests the Navy consider the feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residential units).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.

3) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

3a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (559) 230-5888.

3b) District Rule 9510 - Indirect Source Review (ISR)

The Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 9,000 square feet of space.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please immediately submit an AIA application to the District to comply with District Rule 9510 so that proper mitigation and clean air design under ISR can be incorporated into the Project's design. One AIA application should be submitted for the entire Project.

Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview

The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/forms-and-applications/

District staff is available to provide assistance with determining if the Project and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

3c) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

The Project will be subject to District Rule 4002 since the Project will include demolition, renovation, and removal of existing structures. To protect the public from uncontrolled emissions of asbestos, this rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Any asbestos present must be handled in accordance with established work practice standards and disposal requirements.

Information on how to comply with District Rule 4002 can be found online at: https://ww2.valleyair.org/compliance/demolition-renovation/.

3d) District Rule 4601 (Architectural Coatings)

The Project will be subject to District Rule 4601 since it is expected to utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: https://ww2.valleyair.org/media/tkgjeusd/rule-4601.pdf

3e) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other

Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at: https://ww2.valleyair.org/media/fm3jrbsq/dcp-form.docx

Information about District Regulation VIII can be found online at: https://ww2.valleyair.org/dustcontrol

3f) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

4) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at Matt.Crow@valleyair.org or by phone at (559) 230-5931.

Sincerely,

Tom Jordan
Director of Policy and Government Affairs



For: Mark Montelongo
Program Manager

Public Comments and Responses on the Draft Supplemental Environmental Assessment

Number	Date	Last Name	First Name	How Rec'd.	Stakeholder Organization	Comment	Navy Response to Comment
1	7/2/2024	Black	Diana	Email	Planning Commission	Point of contact name change for Judy Beard, Chair, Planning Commission. Requested change to Travis Paden, Mayor, City of Hanford, 315 North Douty Street, Hanford, CA 93230	Mailing address has been updated.
2	7/6/2024	Reese	Cedric	Email	Unknown	Email re: California Legislative Action SB 38 10 October 2023 Emergency Response and Emergency Action Plans. The BESS at NAS Lemoore may now be required to have an Emergency Response and Emergency Action Plan under recent Cal PUC law. See the attached California Senate Bill SB 38.	The SEA includes the requirement for an Emergency Response Plan and first responder training (3.1.3.2. Operations and Maintenance). Compliance with Senate Bill 38 has been added to the 2024 Proposed Action description.
3	7/9/2024	Reese	Cedric	Email	Unknown	Email re: California Legislative Action SB 38 10 October 2023 Thank you for the acknowledgement. Attached is a newly released information sheet from the NFPA on ESS that may be of interest. (Email attachment: National Fire Protection Association, Energy Storage Systems Safety Fact Sheet, dated February 2024)	As noted in the in Fact Sheet, the SEA includes compliance with NFPA 855 (3.1.2.1 Fire Hazard) and the need for an emergency response plan and first responder training (3.1.3.2 O&M). The Fact Sheet has been provided to the Project Proponent.
4	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	1) The San Joaquin Valley Air Pollution Control District (District) has reviewed the Supplemental Environmental Assessment (SEA) from the U.S. Department of the Navy (Navy) for the Solar Photovoltaic System at Naval Air Station Lemoore. Per the SEA, the project assessed in this referral is the Proposed Action Alternative and the No Action Alternative which consist of the construction and operation of a 35 megawatt (MW) solar photovoltaic (PV) along with options to construct and operate additional resilient energy systems, a data center, as well as related infrastructure on 930 acres of land (Project). The Project is located on the east side of Reeves Boulevard at Naval Air Station Lemoore in Lemoore, CA. The District offers the following comments at this time regarding the Project: Project Related Emissions Based on information provided in the SEA, Project specific annual criteria pollutant emissions from construction and operation are not expected to exceed any of the significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI): https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.	1) Thank you for your comment.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	1a) Construction Emissions The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment.	1a) Agreed. As stated in SEA Section 3.5.5.1, the project construction equipment with combustive engines would be required to meet USEPA Final Tier 4 emission standards.

Public Comments and Responses on the Draft Supplemental Environmental Assessment

Number	Date	Last Name	First Name	How Rec'd.	Stakeholder Organization	Comment	Navy Response to Comment
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	2) Vegetative Barries and Urban Greening. There are residential units located south of the Project. The District suggests the Navy consider the feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residential units). While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.	2) The Navy will consider the feasibility of incorporating vegetative barriers and urban greening as measures to reduce air pollution exposure on the administrative and residential areas to the south and southeast of the project site. For a vegetative barrier to have much effect, both the source and receptors of concern need to be fairly close to such a structure. The emergency diesel generators are about 0.5 mile away from the edge of the administrative area and a mile plus away from residences and so this measure might provide very little benefit to these receptors.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3) District Rules and Regulations The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes. The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rulesand-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.	Comment noted. SEA Section 3.3.2 has been revised to include District rules that are applicable to the project.

Public Comments and Responses on the Draft Supplemental Environmental Assessment

Number	Date	Last Name	First Name	How Rec'd.	Stakeholder Organization	Comment	Navy Response to Comment
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT). This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (559) 230-5888.	Comment noted. SEA Section 3.3.2 has been revised to include District Rules 2010 and 2201.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3b) District Rule 9510 - Indirect Source Review (ISR) The Project is subject to District Rule 9510 because it will receive a projectlevel discretionary approval from a public agency and will equal or exceed 9,000 square feet of space. The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions. Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please immediately submit an AIA application to the District to comply with District Rule 9510 so that proper mitigation and clean air design under ISR can be incorporated into the Project's design. One AIA application should be submitted for the entire Project. Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/formsand-applications/ District staff is available to provide assistance with determining if the Project and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.	Comment noted. SEA Section 3.3.2 has been revised to include District Rule 9510.

Public Comments and Responses on the Draft Supplemental Environmental Assessment

Number	Date	Last Name	First Name	How Rec'd.	Stakeholder Organization	Comment	Navy Response to Comment
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3c) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants) The Project will be subject to District Rule 4002 since the Project will include demolition, renovation, and removal of existing structures. To protect the public from uncontrolled emissions of asbestos, this rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Any asbestos present must be handled in accordance with established work practice standards and disposal requirements. Information on how to comply with District Rule 4002 can be found online at: https://ww2.valleyair.org/compliance/demolition-renovation/.	Comment noted. The proejct would not demolish any existing structures and therefore Rule 4002 does not apply to the project.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3d) District Rule 4601 (Architectural Coatings) The Project will be subject to District Rule 4601 since it is expected to utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: https://ww2.valleyair.org/media/tkgjeusd/rule-4601.pdf	Comment noted. SEA Section 3.3.2 has been revised to include District Rule 4601.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3e) District Regulation VIII (Fugitive PM10 Prohibitions) The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities. Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and OtherEarthmoving Activities). Also, should the project result in the disturbance of 5acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950. The application for both the Construction Notification and Dust Control Plan can be found online at: https://ww2.valleyair.org/media/fm3jrbsq/dcp-form.docx Information about District Regulation VIII can be found online at: https://ww2.valleyair.org/dustcontrol	Comment noted. SEA Section 3.3.2 has been revised to include District Rule 8021.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	3f) Other District Rules and Regulations The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).	Comment noted.
4 Continued	7/15/2024	Crow	Matt	Emailed Letter	San Joaquin Valley Air Pollution Control District	4) District Comment Letter The District recommends that a copy of the District's comments be provided to the Project proponent.	The SJVAPCD letter has been provided to NAS Lemoore and to Ameresco.

Appendix D
Record of Non-Applicability and Air Emissions Calculations

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RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

PROPOSED CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF A SOLAR PHOTOVOLTAIC SYSTEM, OTHER RESILIENT ENERGY SYSTEMS, AND A DATA CENTER AT NAVAL AIR STATION LEMOORE, CALIFORNIA

The Proposed Action falls under the Record of Non-Applicability (RONA) category and is documented with this RONA.

Introduction

The U.S. Environmental Protection Agency (EPA) published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*; Final Rule, in the 30 November 1993 Federal Register (FR) (40 Code of Federal Regulations [CFR] sections 6, 51, and 93). On 5 April 2010, the EPA finalized revisions to the General Conformity Rule (75 FR 17253–17279). The U.S. Department of the Navy (Navy) published Navy Guidance for Compliance with the Clean Air Act (CAA) General Conformity Rule (30 July 2013), as referenced in Chief of Naval Operations Instruction 5090.1E, Environmental Readiness Program Manual dated 3 Sept 2019 (Department of the Navy, 2019). These publications provide implementing guidance to document CAA conformity determination requirements. This RONA is provided to document compliance of the Proposed Action.

Federal regulations state that "no department, agency, or instrumentality of the federal government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity that does not conform to an applicable State Implementation Plan (SIP)." It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable SIP before the action is taken (40 CFR section 51.850[a]).

Federal actions may be exempt from conformity determinations if their emissions do not exceed designated *de minimis* levels for the criteria pollutants of nonattainment or maintenance in the areas of the federal action (40 CFR section 51.853[b]). The General Conformity Rule also allows exemptions of certain sources from analysis that are clearly *de minimis* or covered sufficiently by another program, such as sources subject to New Source Review permitting.

The Proposed Action is in Kings and Fresno Counties, California, which are encompassed by the southwest portion of the San Joaquin Valley Air Basin (SJVAB). Regarding the national ambient air quality standards (NAAQS), the EPA classifies the SJVAB as extreme nonattainment for the ozone standard, serious nonattainment for the $PM_{2.5}$ standard, and attainment for all other criteria pollutants (EPA, 2024). The SJVAB achieved attainment of the PM_{10} standard and therefore is a PM_{10} maintenance area. Table 1 presents the applicable *de minimis* thresholds for the SJVAB.

Table 1 Applicable Conformity *de minimis* Levels of Pollutants for the SJVAB

Pollutant	*Area Designation*	*De minimis Threshold (tpy)*
Ozone (VOC or NO_x)	Extreme nonattainment	10
$PM_{2.5}$ (direct emissions) SO_2 (as a precursor to $PM_{2.5}$)	Serious nonattainment	100
PM_{10}	Maintenance	100

Source: 40 CFR section 93; Navy, 2013.

Legend: NOx = nitrogen oxides; PM_{10} and $PM_{2.5}$ = particulate matter with a diameter of less than or equal to 10 microns and 2.5 microns, respectively; SO_2 = sulfur dioxide; VOC = volatile organic compound; tpy = tons per year.

Proposed Action

Action Proponent: Naval Air Station Lemoore

Location: Naval Air Station Lemoore, California

Proposed Action Name: Proposed Construction, Operation, and Decommissioning of a Solar Photovoltaic System, other Resilient Energy Systems, and a Data Center at Naval Air Station Lemoore, California

Proposed Action and Emissions Summary

The Proposed Action would allow a lessee to construct and operate up to 425 megawatts (MW) of solar photovoltaic (PV) panels and associated infrastructure on 930 acres of leased land at NAS Lemoore. The Proposed Action also includes an option to construct a data center, electric vehicle charging stations, battery energy storage systems, backup diesel-powered generation, a microgrid, and related infrastructure, as defined in the project Supplemental Environmental Assessment (SEA). The lessee would sell the power generated by the PV system to regional customers, including an onsite data center. In return, the lessee would provide in-kind consideration in the form of energy generation to the Navy that would allow NAS Lemoore to work towards meeting both Navy and Department of Defense energy resiliency objectives.

Project construction would occur from late 2024 through 2027. Emission estimates of proposed construction relied on the analysis of construction activities evaluated in the original project 2015 EA. This approach was taken, as it is expected that the daily and annual amounts of construction activities and resulting emissions associated with the Proposed Action would be equal to or less that those evaluated in the 2015 EA. To be consistent with the analysis performed in the 2015 EA, project construction equipment with combustive engines would be required to meet EPA Final Tier 4 emission standards. Table 2 presents the peak annual emissions that would occur during the construction period.

Project operations would begin in phases starting in 2025 and would last until the end of the proposed lease in 2051. Operation of the Proposed Action would produce air emissions from the following sources:

- On-road material delivery trucks and worker commuter vehicles.
- Equipment to maintain project infrastructure.
- Up to 185 megawatts of backup electrical power from diesel-powered emergency generators to operate during periods when the electrical grid fails to provide power to the proposed data center and NAS Lemoore. These units would comply with all San Joaquin Valley Air Pollution

Control District (SJVAPCD) permitting rules and regulations. The analysis assumes that each generator would operate 200 hours per year.

The lessee would obtain the necessary New Source Review air permits from the SJVAPCD to operate the diesel-powered emergency generators. Therefore, emissions from these engines were excluded from the conformity applicability analysis, as allowed by the General Conformity Rule (40 CFR section 51.853[d][1]). Table 2 presents the peak annual conformity-related emissions due to operation of the full buildout of the Proposed Action.

Table 2 shows that the maximum annual conformity-related emissions during proposed construction and operations would be below the conformity *de minimis* levels for the SJVAB. Therefore, emissions from the Proposed Action would show conformity under the CAA. The Attachment to this RONA presents the supporting emission calculations for the conformity applicability analysis.

Table 2 Estimated Peak Annual Conformity-Related Emissions for the NAS Lemoore Solar PV System Proposed Action within the SJVAB (tons/year)

Activity (Years)	*VOC*	*NO_x*	*SO_2*	*PM_{10}*	*$PM_{2.5}$*
Peak Annual Construction (2024-2027)	0.63	2.69	0.04	2.00	0.74
Peak Annual Operations (2025-2051)	0.002	0.02	0.001	0.000	0.000
***De Minimis* Thresholds**	**10**	**10**	**100**	**100**	**100**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**

Notes: NOx = nitrogen oxides; PM10 and PM2.5 = particulate matter with a diameter of less than or equal to 10 microns and 2.5 microns, respectively; SO_2 = sulfur dioxide; VOC = volatile organic compound.

Affected Air Basin: San Joaquin Valley Air Basin

Date RONA Prepared: May 2024

RONA Prepared by: Leidos Corporation

Proposed Action Exemption(s)

The Proposed Action is exempt from General Conformity Rule requirements, based on the determination that emissions associated with the Proposed Action are below all *de minimis* thresholds.

Attainment Area Status and Emissions Evaluation Conclusion

The Proposed Action would occur within the SJVAB. Regarding the NAAQS, the EPA currently classifies the SJVAB as extreme nonattainment for the ozone standard, serious nonattainment for the $PM_{2.5}$ standard, and in maintenance of the standard for particulate matter with a diameter of less than or equal to 10 microns (PM_{10}). The SJVAB is in attainment of the NAAQS for all other criteria pollutants. The applicable annual *de minimis* threshold levels for this region are 10 tons of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) and 100 tons for sulfur dioxide (SO_2), PM_{10}, and particulate matter with a diameter of less than or equal to 2.5 microns ($PM_{2.5}$). The Navy concludes that the conformity *de minimis* levels for applicable criteria pollutants would not be exceeded as a result of implementing the Proposed Action. Therefore, the Proposed Action is exempt from a formal conformity determination. The Navy concludes that further formal conformity determination procedures are not required, resulting in this RONA.

RONA Approval:

LEE.SAMUEL.MOSHE.1293637870 Digitally signed by LEE.SAMUEL.MOSHE.1293637870 Date: 2024.08.06 10:12:23 -07'00'

_____

SAMUEL M. LEE
CDR,CEC,USN

Table 1. Peak Annual Operational Activity Data for the Diesel Power Block Systems - Solar Photovoltaic System at NAS Lemoore

Equipment Type	*Hp Rating*	*Fuel Type*	*Ave. Daily Load Factor (1)*	*Number Active*	*Annual Hours*	*Total Annual Hp-Hrs*
Back-up Generator (1)	932	Diesel	1.00	296	200	55,174,400

Notes: (1) Equal to fraction of full engine throttle setting.

Table 2. Operational Emission Factors for the Diesel Power Block Systems - Solar Photovoltaic System at NAS Lemoore

	Fuel	*Emission Factors (Grams/Horsepower-Hour)*						
Source Type	*Type*	*VOC*	*CO*	*NOx*	*SO2*	*PM10*	*PM2.5*	*CO2*
750 to 1,206 Hp Generators - Certification Rates (1)	D	0.002	0.075	0.246	0.005	0.015	0.014	526

Source: VOC, CO, NOx, and PM factors from CARB, 2020 - Executive Order U-4-014-0187, New Off-road Compression Ignition Engines - AB Volvo Penta.

Engine Family MVPXL16.1CDC. Converted factors from kW-hr to hp-hr by dividing by 1.34.

SO2 factor are from SJVAPCD Rule 2201

CO2 factor from Table 3.4-1 of AP-42, Vol. I, Section 3.4 - Large Stationary Diesel And All Stationary Dual-fuel Engines (USEPA 1996).

Table 3. Peak Annual Emissions from Operation of the Diesel Power Block Systems - Solar Photovoltaic System at NAS Lemoore

	Tons of Air Pollutant						
Source Type	*VOC*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	*CO2*
Back-up Generator	0.14	4.54	14.98	0.30	0.91	0.84	32,001
Annual Emissions	**0.14**	**4.54**	**14.98**	**0.30**	**0.91**	**0.84**	**32,001**

Notes: (1) Large Component Replacement would occur every 15 years.

Table 4. Peak Annual On-Road Vehicle Activity Data for Operations - Solar Photovoltaic System at NAS Lemoore

Vehicle Category/Vehicle Type	*Fuel Type*	*Miles/ Round Trip (1)*	*Annual Trips*	*Annual Miles*
Heavy Duty Trucks				
Delivery Trucks	D	17.0	291	4,947
Worker Commuter Vehicles				
Personal Vehicle	G	13.5	14,600	197,100

Notes: (1) For trucks, all trips would originate from Hanford. For commuters, 50/50% of employees will come from Hanford/Lemoore.

Table 5. Operational Emission Factors for On-Road Vehicles - Solar Photovoltaic System at NAS Lemoore

	Fuel	*Emission Factors (Grams/Mile)*						
Vehicle Category	*Type*	*VOC*	*CO*	*NOx*	*SO2*	*PM10*	*PM2.5*	*CO2*
Light-Duty Auto (LDA)	G	0.006	0.671	0.032	0.003	0.001	0.001	266
Light-Duty Truck 1 (LDT1)	G	0.027	1.508	0.131	0.003	0.002	0.002	321
Light-Duty Truck 2 (LDT2)	G	0.009	0.796	0.056	0.003	0.001	0.001	324
Composite - All Light-Duty Vehicles (1)	**G**	**0.008**	**0.761**	**0.045**	**0.003**	**0.001**	**0.001**	**284**
Heavy Heavy-Duty Truck - T7 Tractor Class 8	D	0.013	0.071	1.497	0.014	0.023	0.022	1,510

Source: EMFAC2021, project year 2027.

Notes: (1) Equal to 68/7/25 percent LDA/LDT1/LDT2, which is the fleet distribution estimated by EMFAC2021 for Kings County in year 2021 (furthest year available in the future).

Table 6. Peak Annual On-Road Vehicle Emissions for Operations - Solar Photovoltaic System at NAS Lemoore

	Annual Emissions (tons/year)						
Vehicle Description	*VOC*	*CO*	*NOx*	*SO2*	*PM10*	*PM2.5*	*CO2*
Delivery Trucks	0.000	0.000	0.008	0.000	0.000	0.000	8.236
Worker Commuter Vehicles	0.002	0.165	0.010	0.001	0.000	0.000	61.725
Annual Onsite On-road Vehicle Emissions	**0.002**	**0.166**	**0.018**	**0.001**	**0.000**	**0.000**	**69.960**

Table 7. Peak Annual Conformity-Related Operations Emissions - Solar Photovoltaic System at NAS Lemoore

	Annual Emissions (tons/year)						
Vehicle Description	*VOC*	*CO*	*NOx*	*SO2*	*PM10*	*PM2.5*	*CO2*
Back-up Generators							
Delivery Trucks	0.000		0.008	0.000	0.000	0.000	
Worker Commuter Vehicles	0.002		0.010	0.001	0.000	0.000	
Annual Onsite On-road Vehicle Emissions	**0.002**		**0.02**	**0.001**	**0.000**	**0.000**	