

2022 Position Analysis

December 1, 2021



Model

- CalSim Position Analysis (sim of 2022 hydrology)
 - 81 scenarios of possible hydrology (1922 – 2002)
 - Differs from typical sequential planning run
 - Each scenario assumes end of 2021 storage projections as the starting condition
 - Runs the system based on current regulatory rules



Model

- CAM module within CALSIM
 - Simulates SWP allocation process (beginning Jan)
 - Utilizes simulated forecasts for each month at a 90% hydrologic exceedance to determine SWP allocations
 - Updated monthly with “actual conditions” (each of the 81 hydrologic years) and simulated forecasts



Updates from October 2021

- Antecedent Conditions
 - Starting Storages
 - Fall hydrology for B120 simulator
- Demand Patterns
- Estimated COA Debt repayment



2021 Antecedent Conditions

- 2021 antecedent conditions reflected in hydrologic inputs for 2022
 - Water Year Indices for 2022 updated to reflect dry conditions from 2021
 - Fall 2021 precipitation and runoff conditions (B120 Simulator)
 - October actual
 - November/December based on 90% hydrology



Starting Conditions

| End of 2021 Storage | Dry Fall | Average Fall |
|----------------------|----------|--------------|
| Oroville (TAF) | 1063 | 1180 |
| SWP San Luis (TAF) | 386 | 386 |
| Total San Luis (TAF) | 484 | 540 |

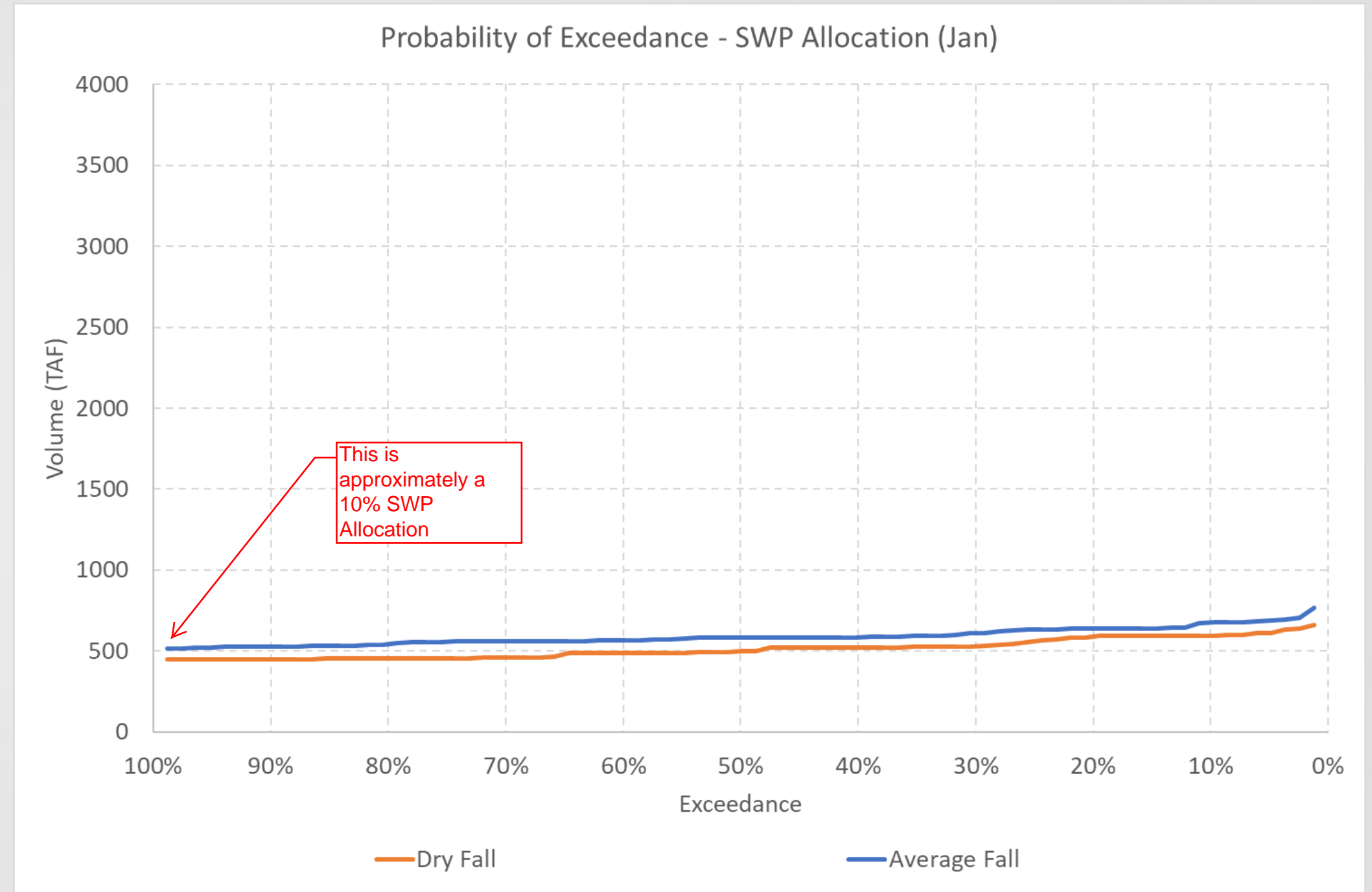
Anticipated Carryover = 221 TAF

Demand Patterns = 2022 Initial Requests (30, 50, 100)



Allocation (Jan)

- Early Season Allocation (January) likely very low (~500 TAF)
- All simulated years assume 90% exceedance hydrology
- Dependent on initial storage assumptions

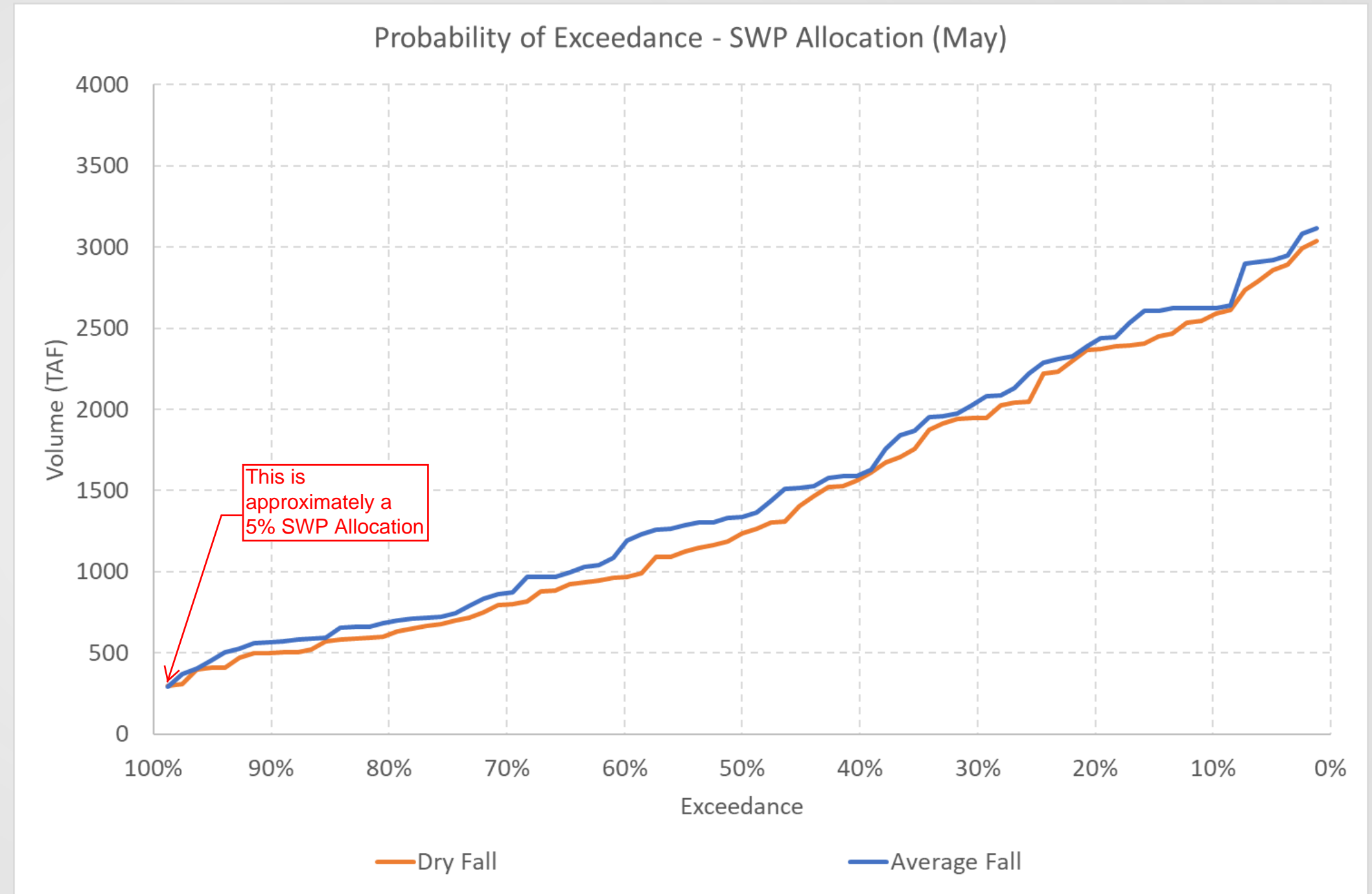


* SWP Allocation assumes 90% exceedance hydrology of future runoff



Allocation (May)

- Late Season Allocation (May)
- Increased probability that hydrologic conditions will improve
- However, ~35% to ~40% chance allocation less than 1 MAF
- All simulated years assume 90% exceedance hydrology of future runoff



* SWP Allocation assumes 90% exceedance hydrology of future runoff



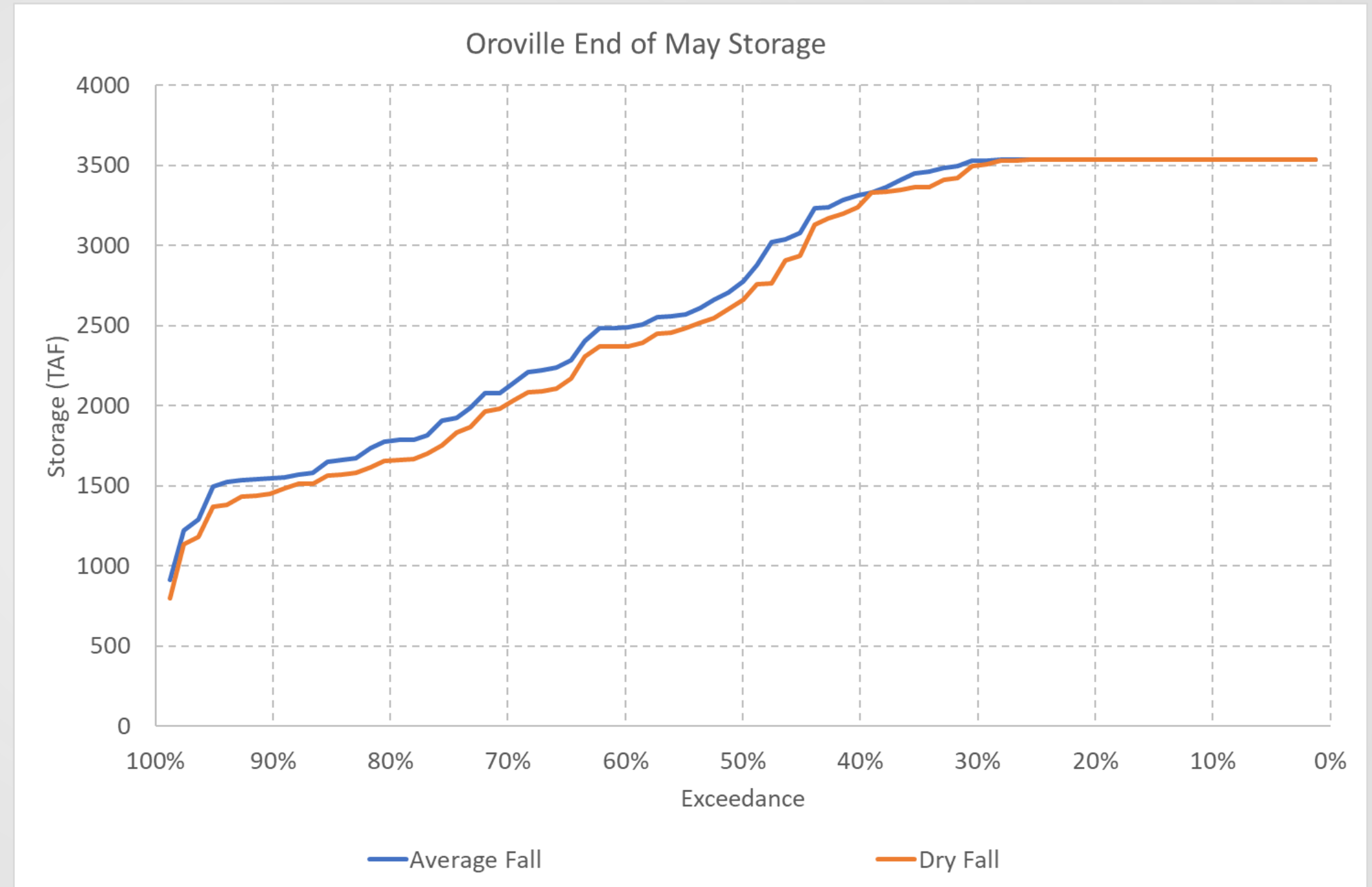
Adjustments to CalSim Output

- Exports / Releases
 - Ensure exports limited when storage is low
 - Export reductions backed into upstream storage
 - Export reductions reduce San Luis and deliveries
- Depletion
 - Additional depletion added based on recent observed data



Oroville Storage (May 2022)

- May storage reflects varied spring hydrology
- 30% of time filling
- 15% to 20% of time starting summer below 1,600 TAF

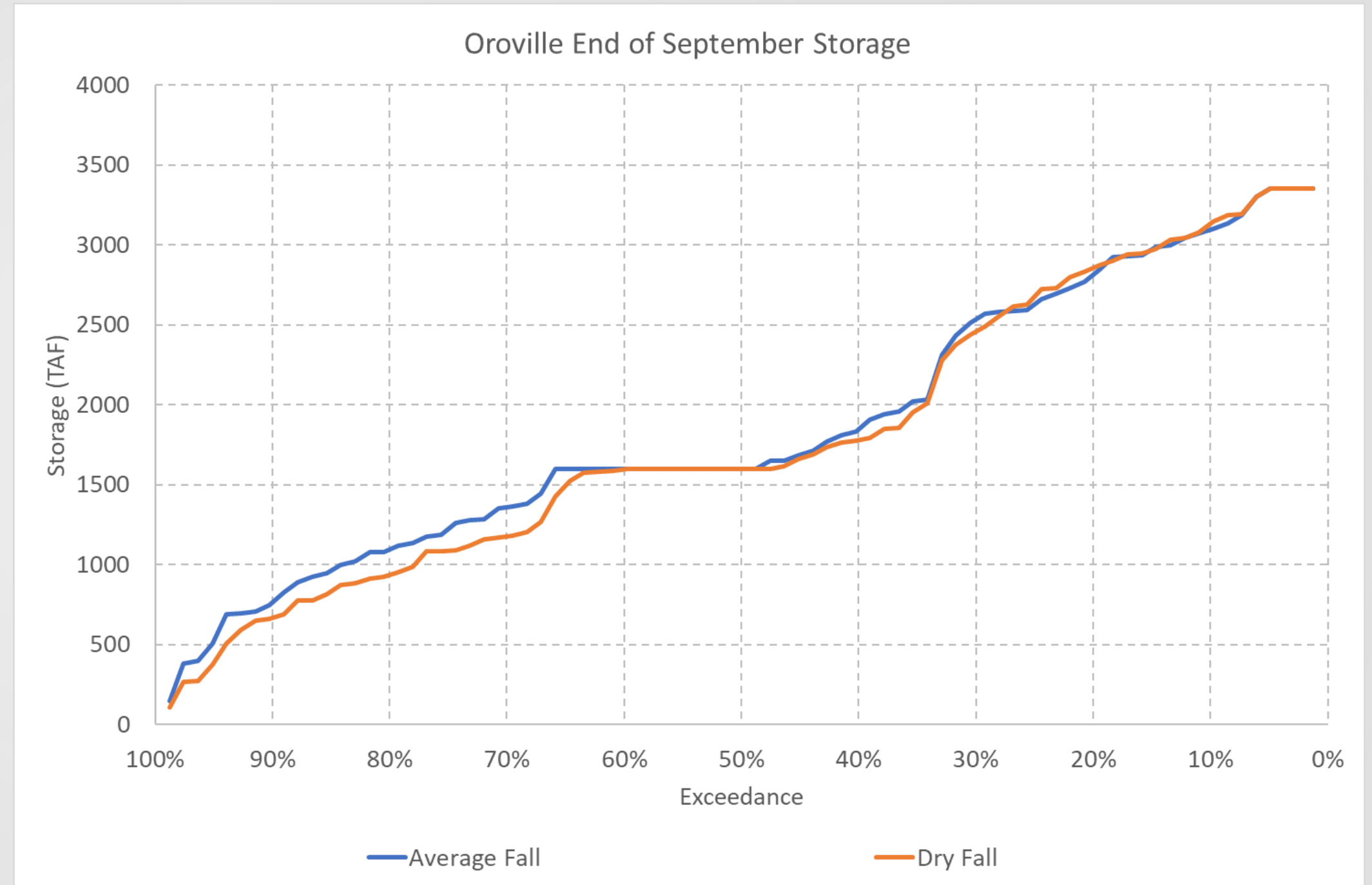


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Oroville Storage (Sept 2022)

- 35% to 40% chance of ending water year below 1,600 TAF
- 10% to 15% chance dropping below 850 TAF

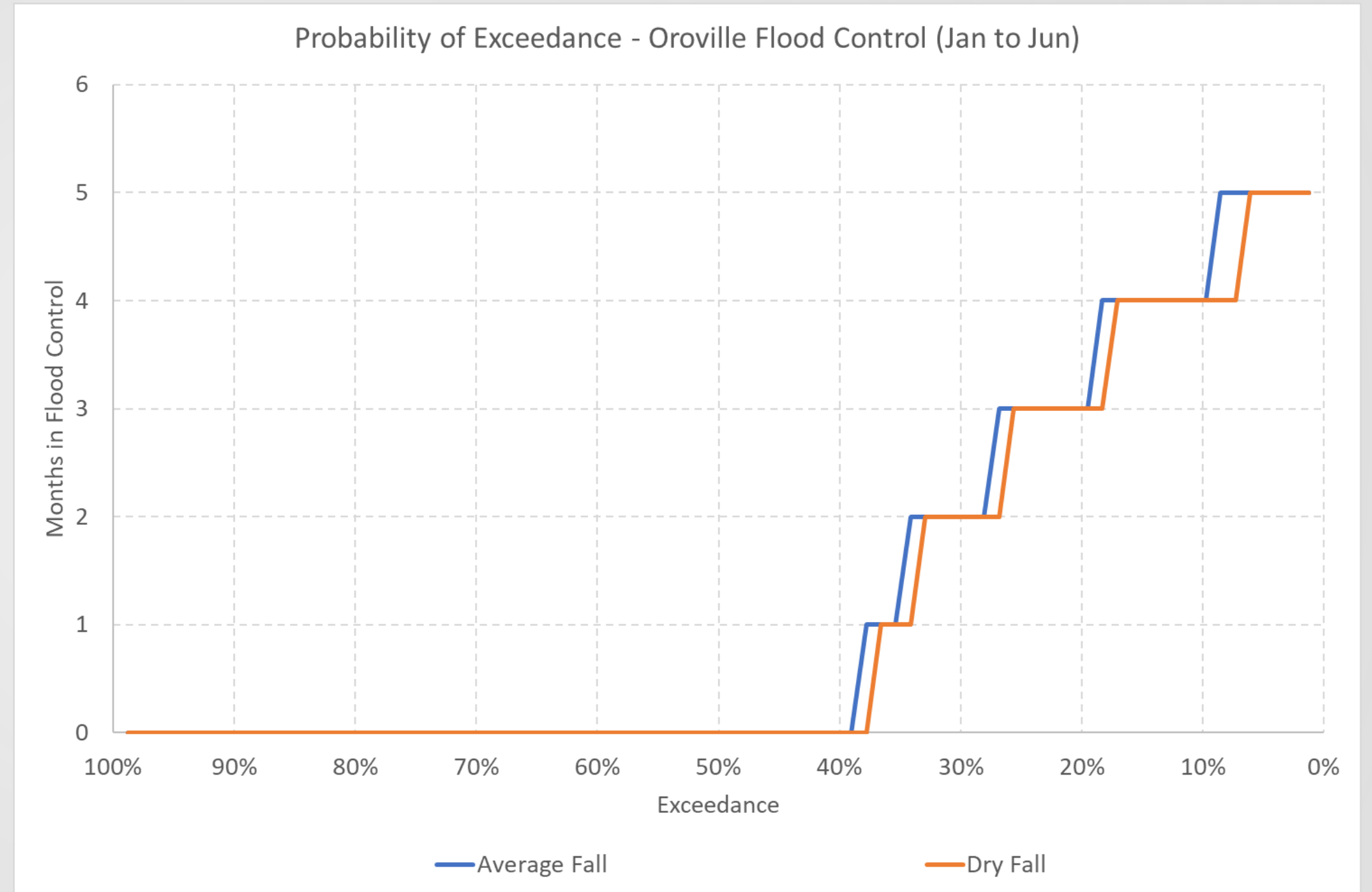


* SWP Allocation assumes 90% exceedance hydrology of future runoff



Oroville Flood Control

- Fairly low chance of flood control operations
- 35% to 40% probability of going into flood control prior to June

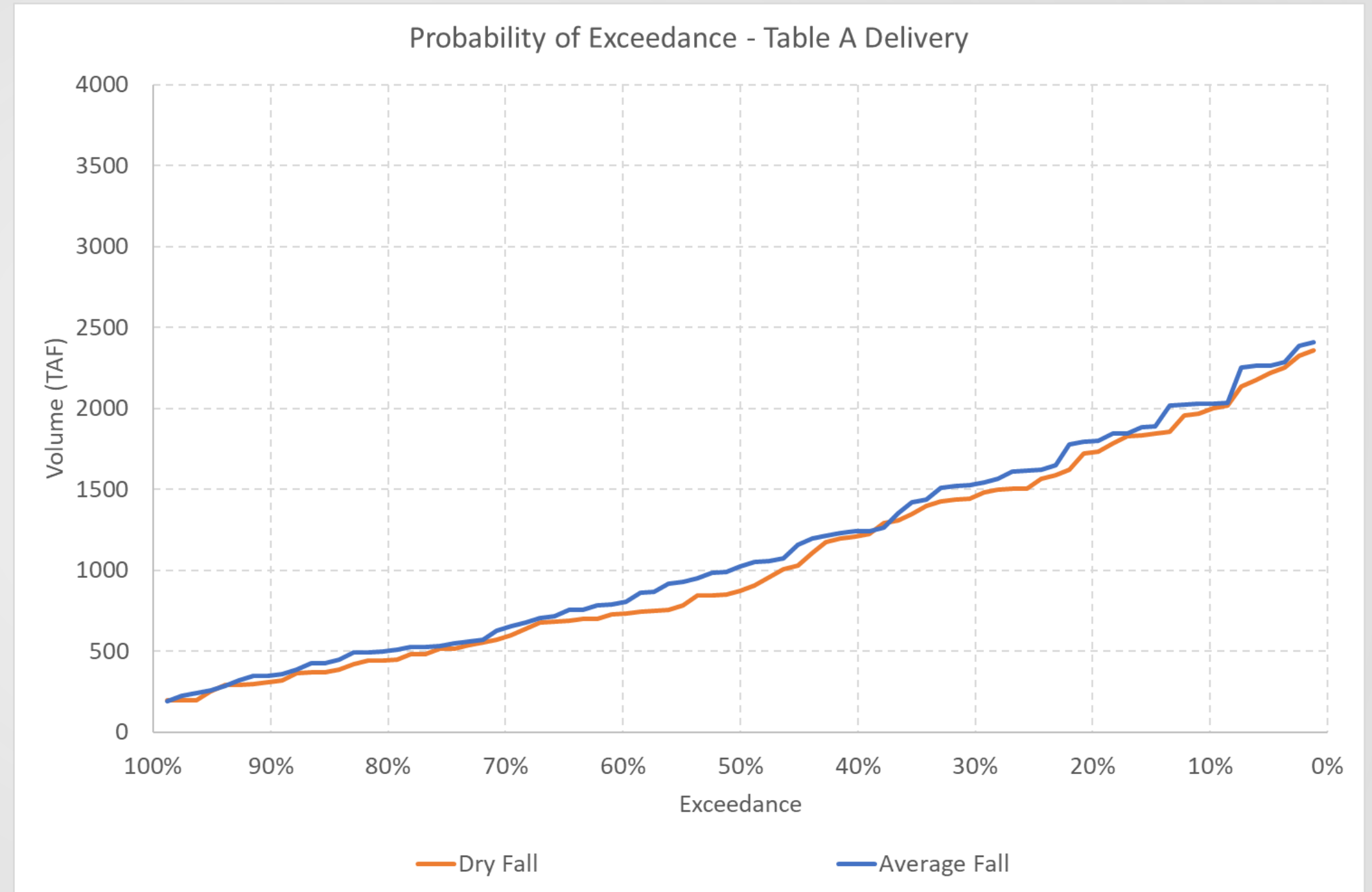


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2022 Table A Delivery

- Generally mirrors the allocation minus anticipated carryover for 2023
- Includes adjustment for export reduction

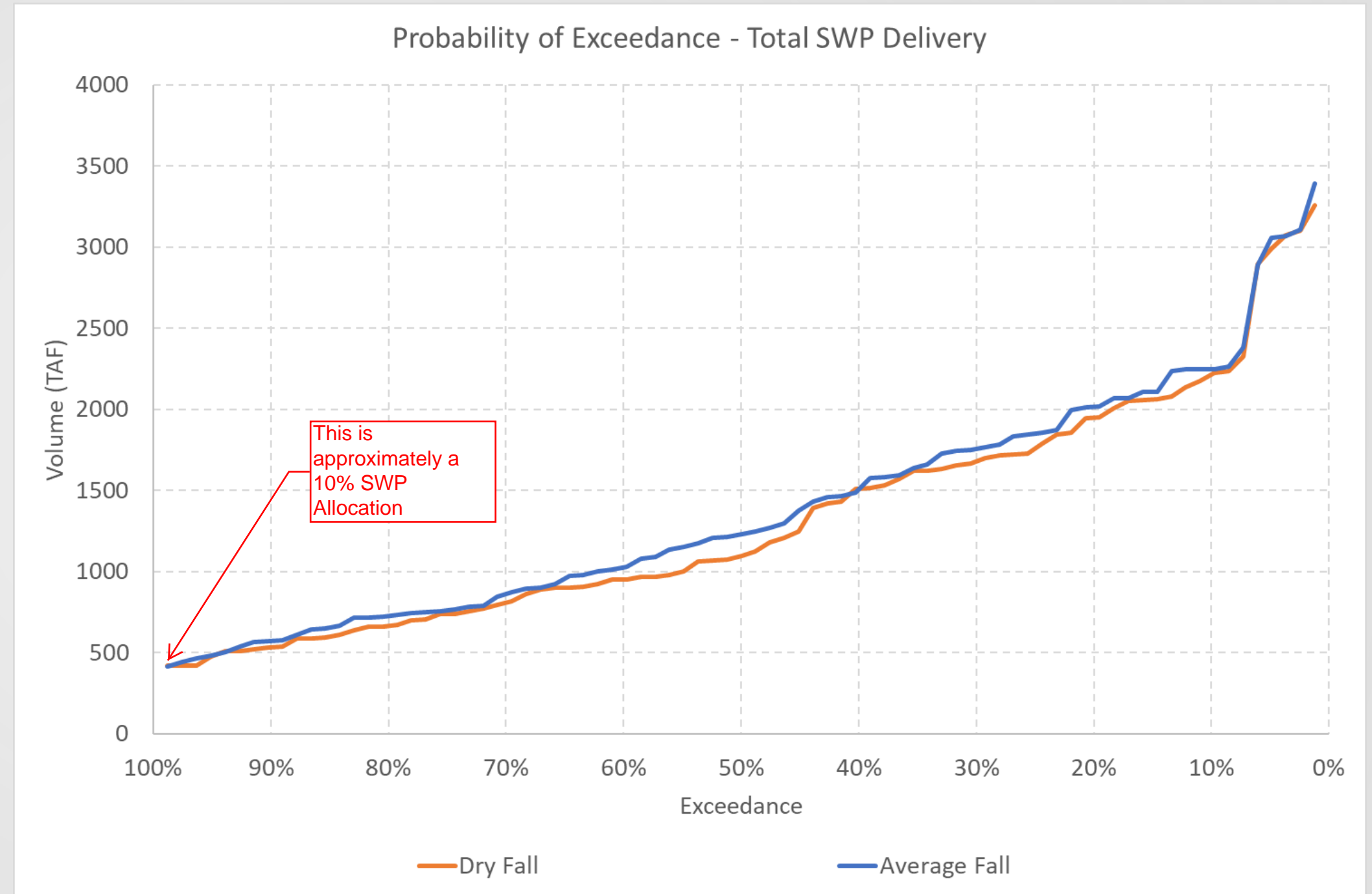


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2022 Total Delivery

- Includes
 - Table A
 - Article 56
 - Article 21
- Includes adjustment for export reduction

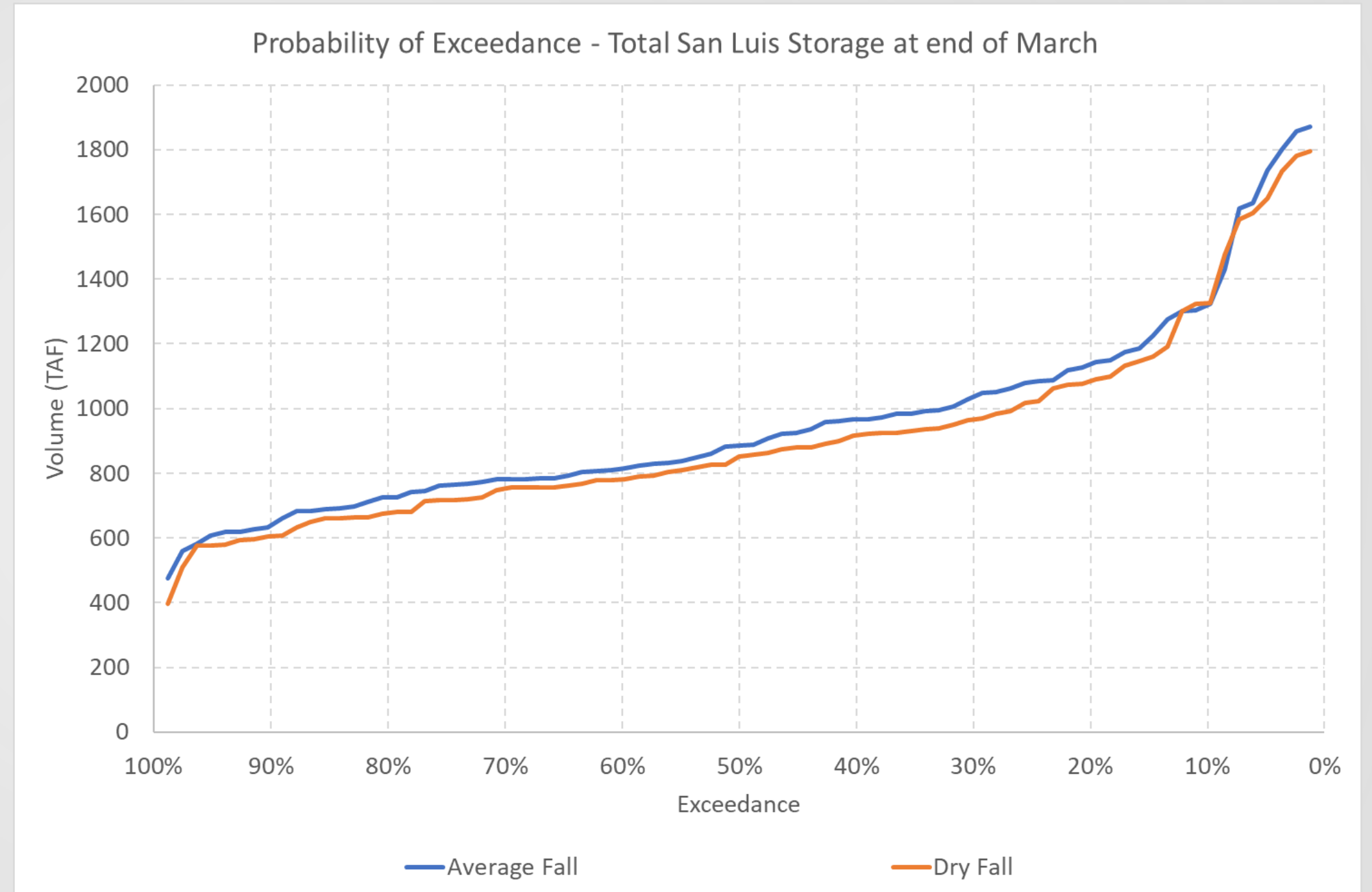


* SWP Allocation assumes 90% exceedance hydrology of future runoff



Total San Luis (Mar 2022)

- With low starting conditions in San Luis
- Very small chance of filling San Luis by March
- 25% to 30% of chance reaching 1 MAF

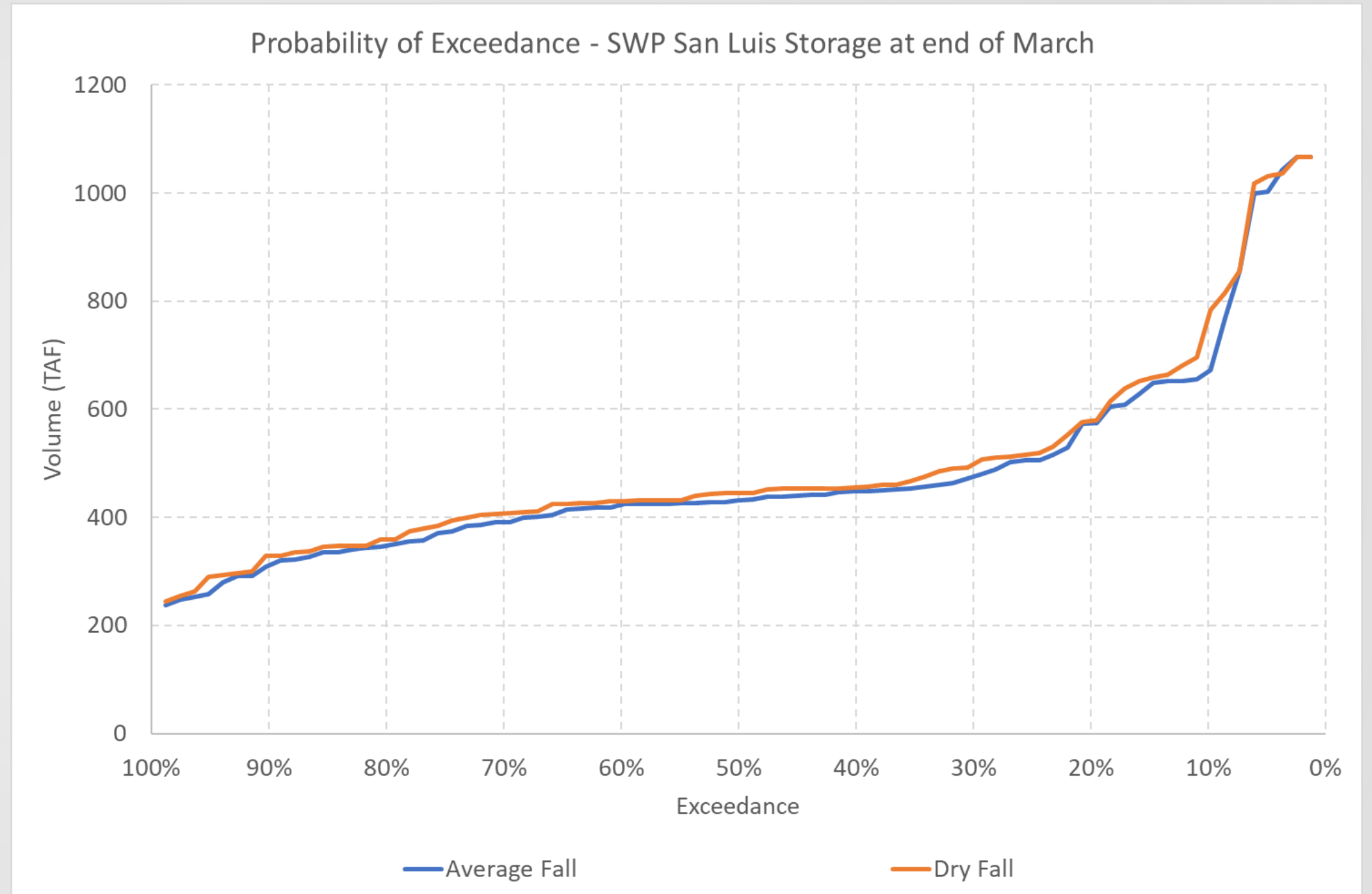


* SWP Allocation assumes 90% exceedance hydrology of future runoff



SWP San Luis (Mar 2022)

- With low starting conditions in San Luis
- Very small chance of filling San Luis by March
- 25% chance of reaching half full by end of March

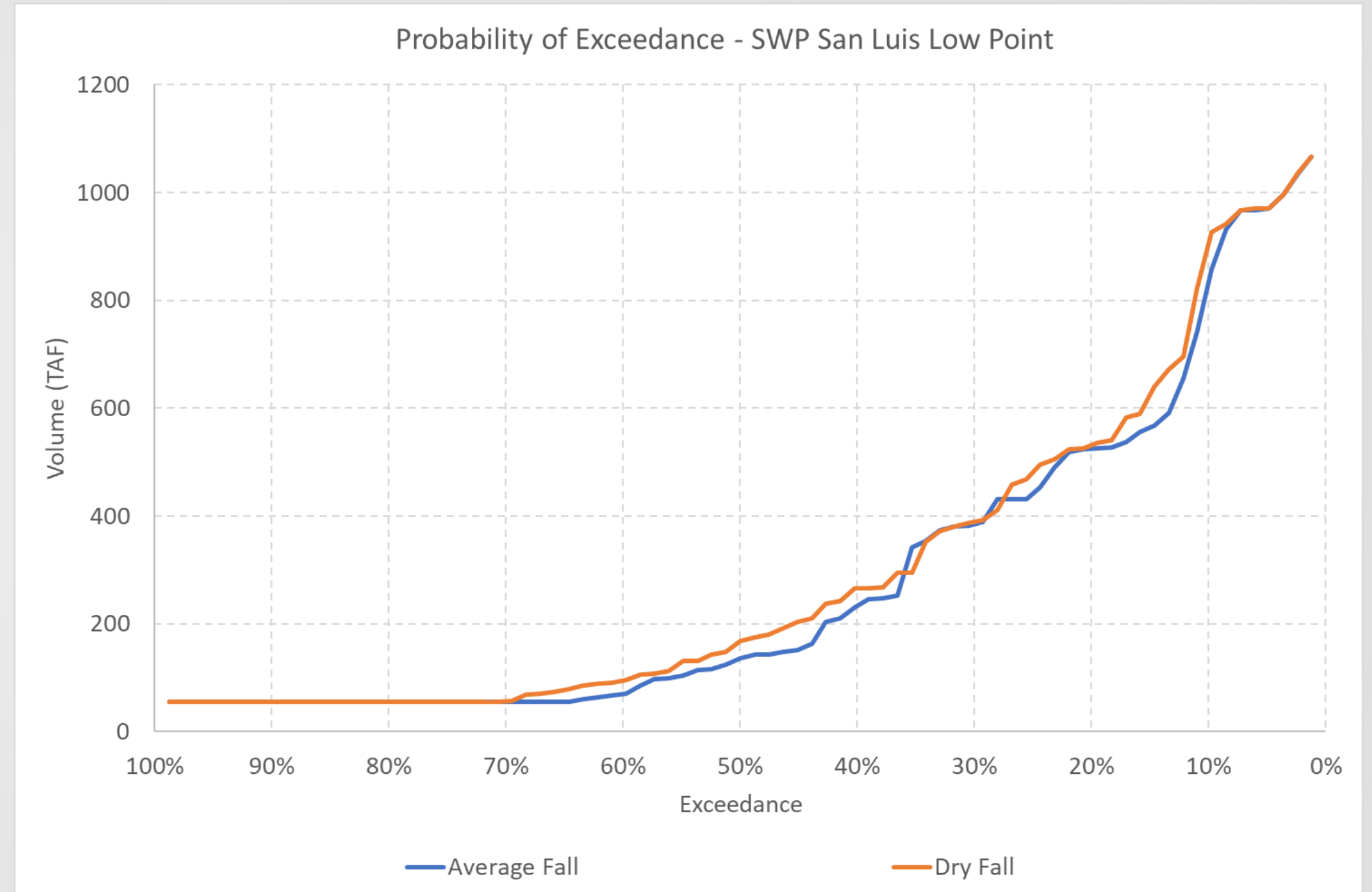


* SWP Allocation assumes 90% exceedance hydrology of future runoff



2022 SWP San Luis Low Point

- High probability of low San Luis (<200 TAF) in mid-summer
- Includes adjustment for export reduction



* SWP Allocation assumes 90% exceedance hydrology of future runoff



QUESTIONS?