



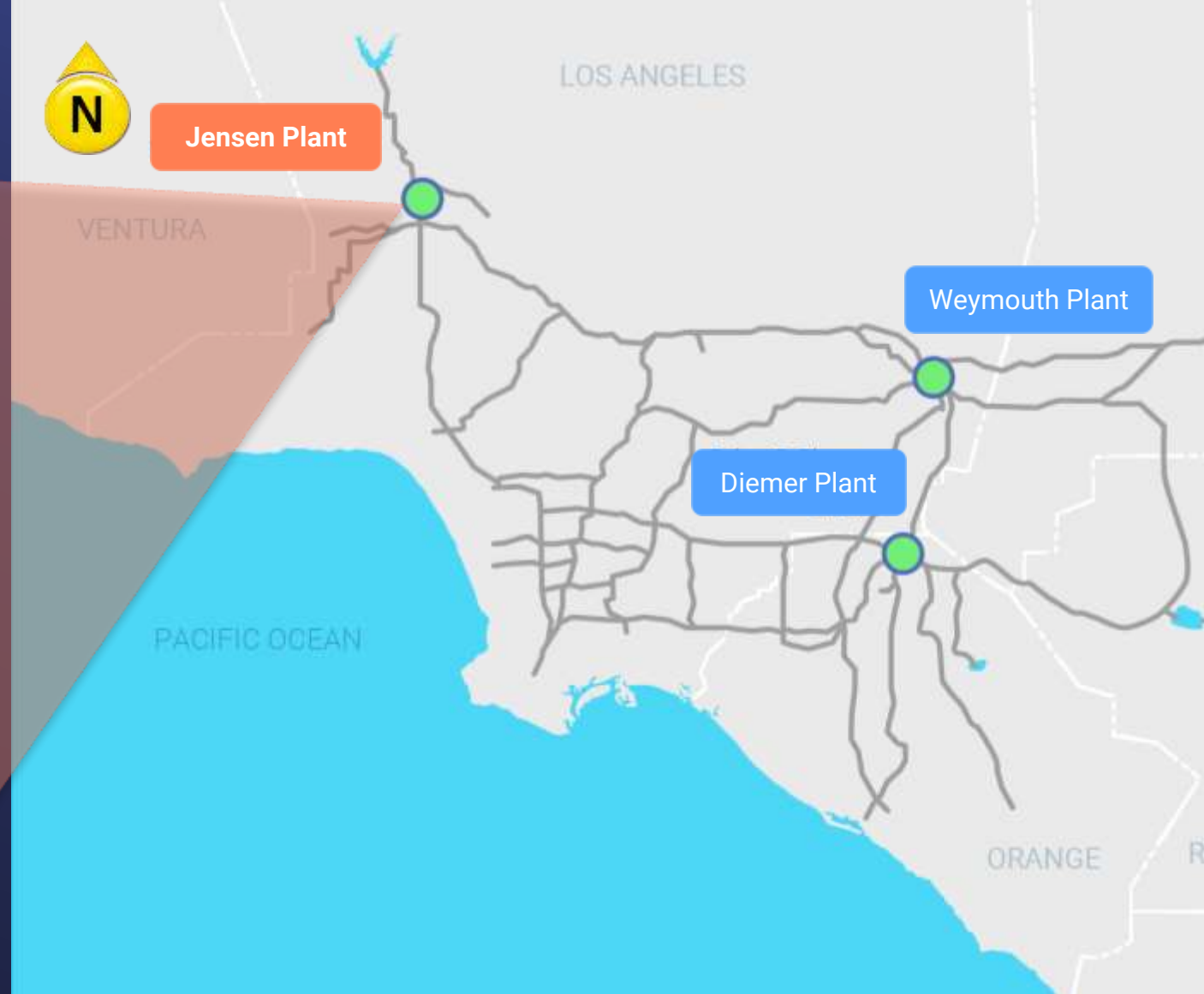
Engineering, Operations, & Technology Committee

Jensen Operating Capacity Analysis

Item 7b

April 10, 2023

Jensen Water Treatment Plant

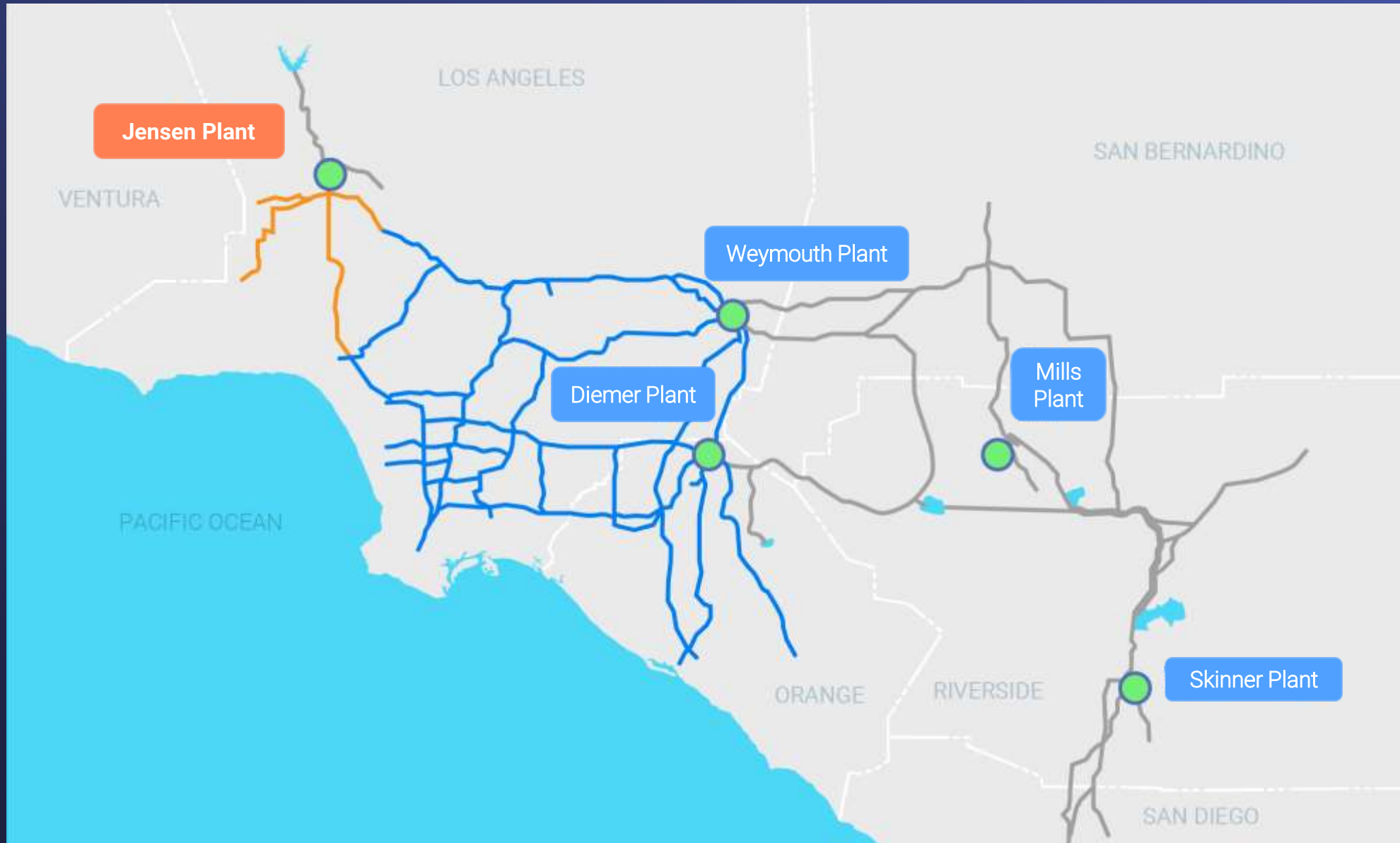


Jensen WTP Operating Capacity Study

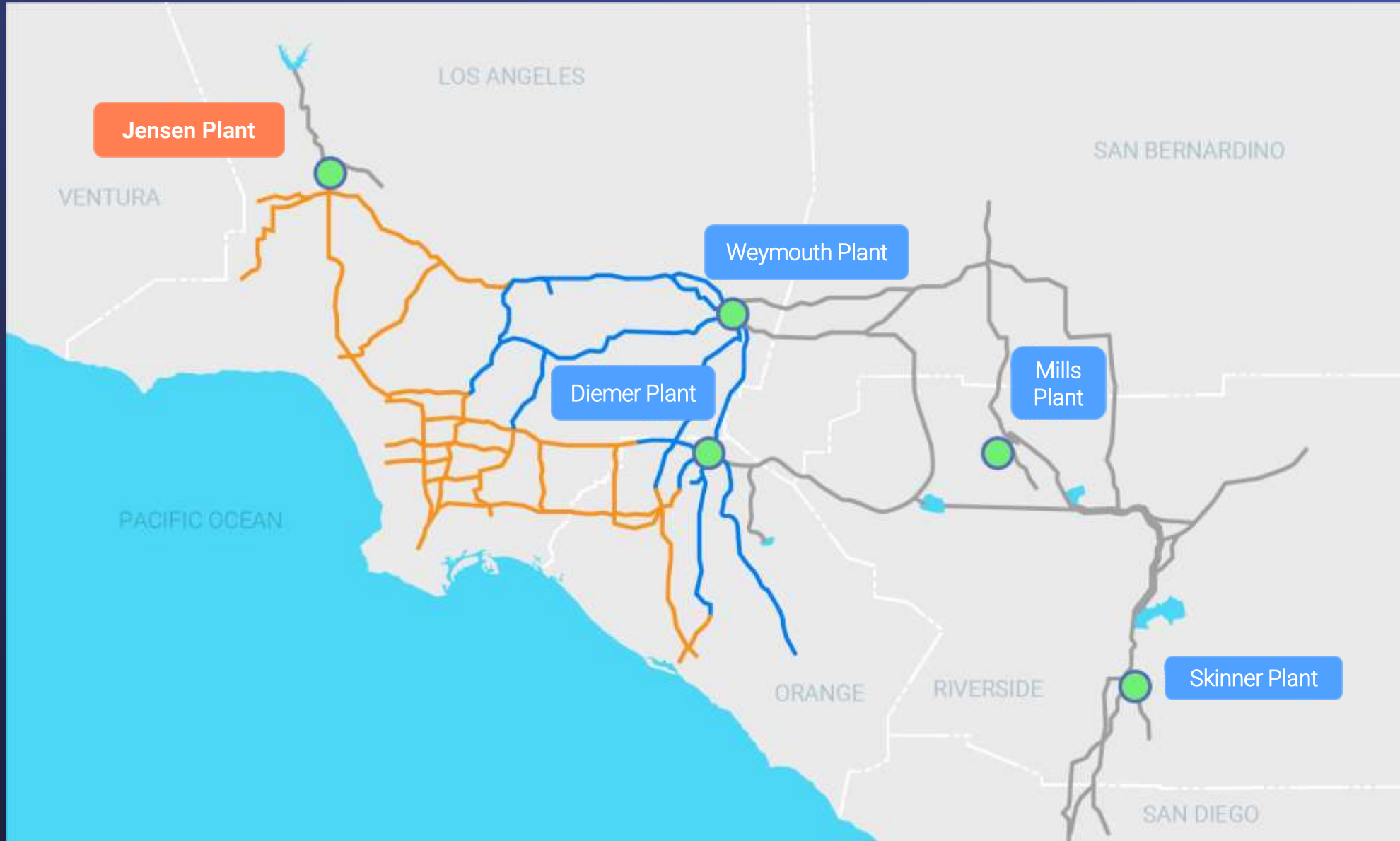
Background

- Board policy to decommission unneeded treatment infrastructure and minimize future O&M & capital expenditures (April 2017)
- Capacity reduced at Mills Plant (late 1990s) and Skinner Plant (2017)
- Jensen Plant has experienced reduced flows and treatment capacity exists above peak demands
- Reduction in flow results from:
 - Conservation
 - Availability of State Water Project supplies

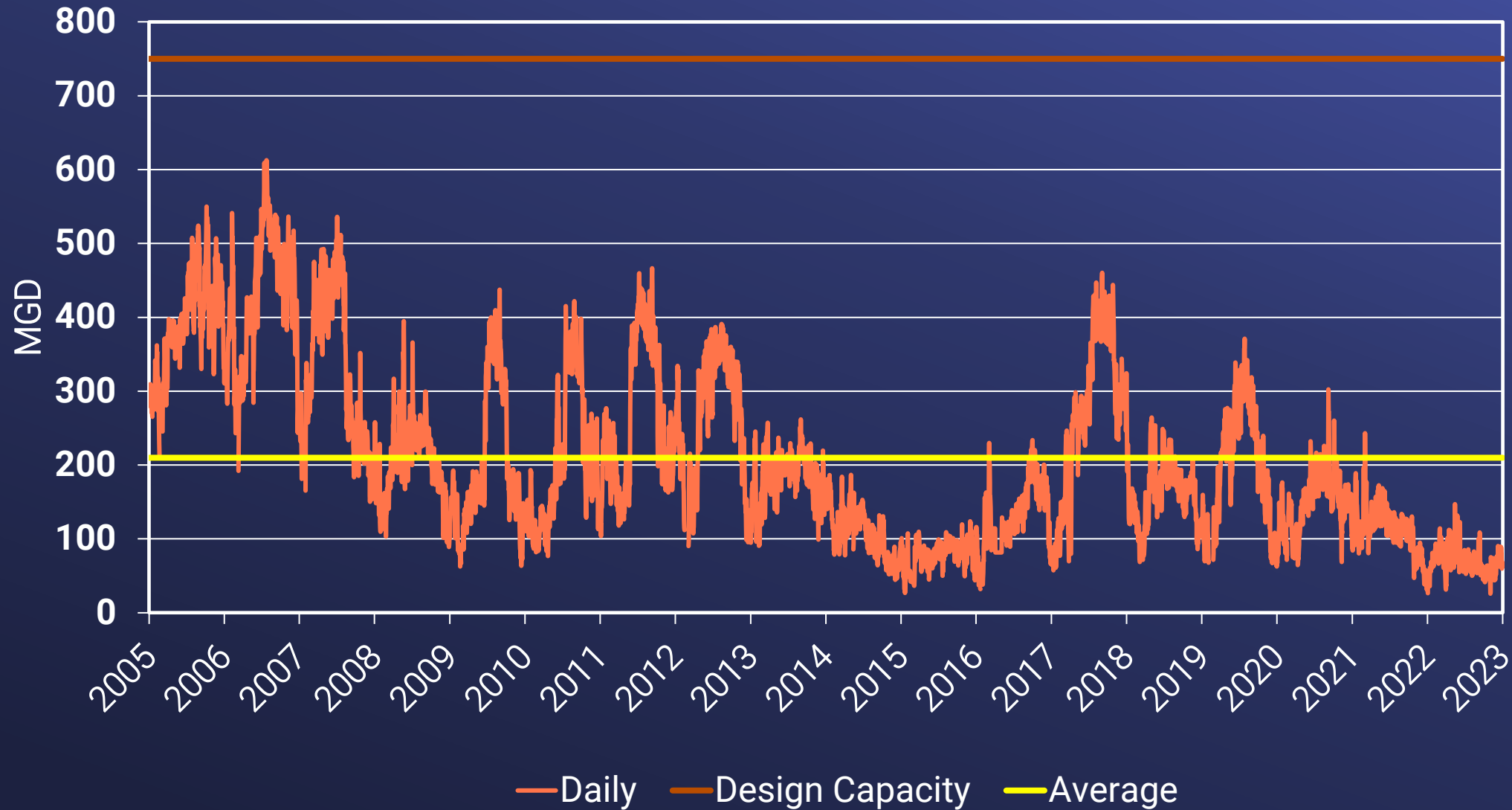
Jensen WTP – Service Area Minimized



Jensen WTP – Service Area Maximized

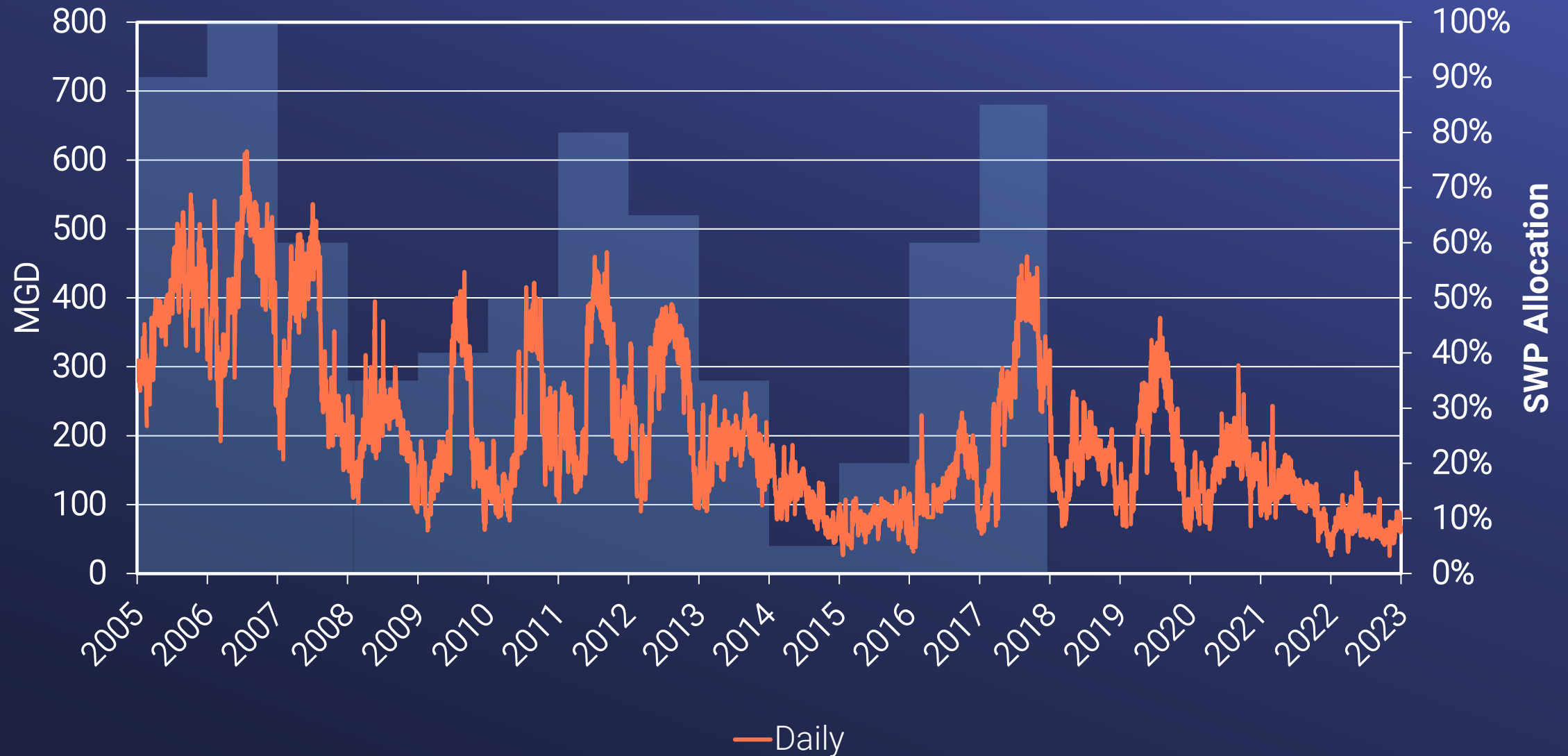


Historical Jensen Daily Flows (MGD)



Historical Jensen Daily Flows (MGD)

In Relation to SWP Allocation



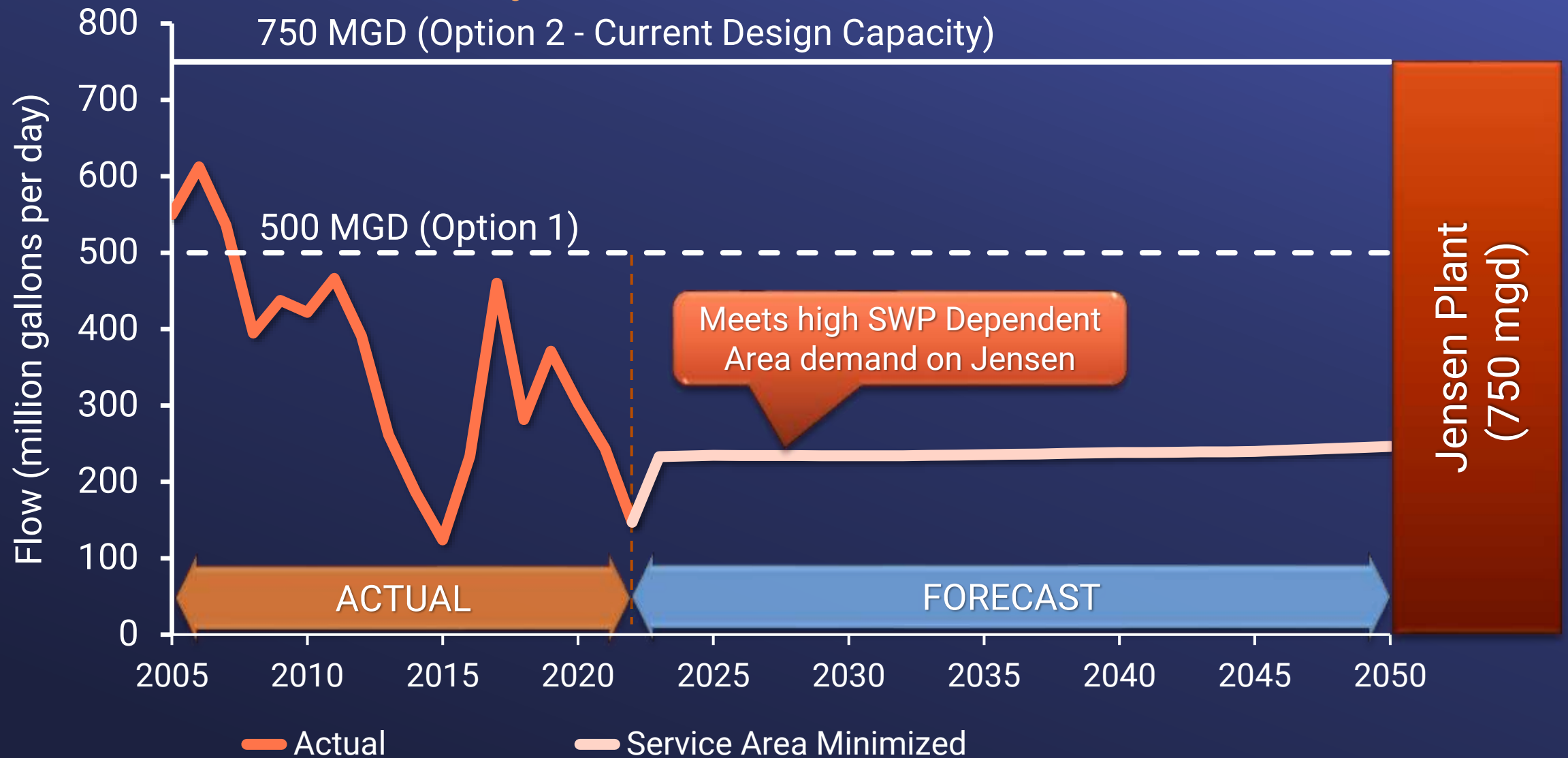
Jensen WTP Operating Capacity Study

Two Options Under Consideration

- Option 1
 - Reduce capacity to 500 MGD
- Option 2
 - Keep current rated capacity at 750 MGD

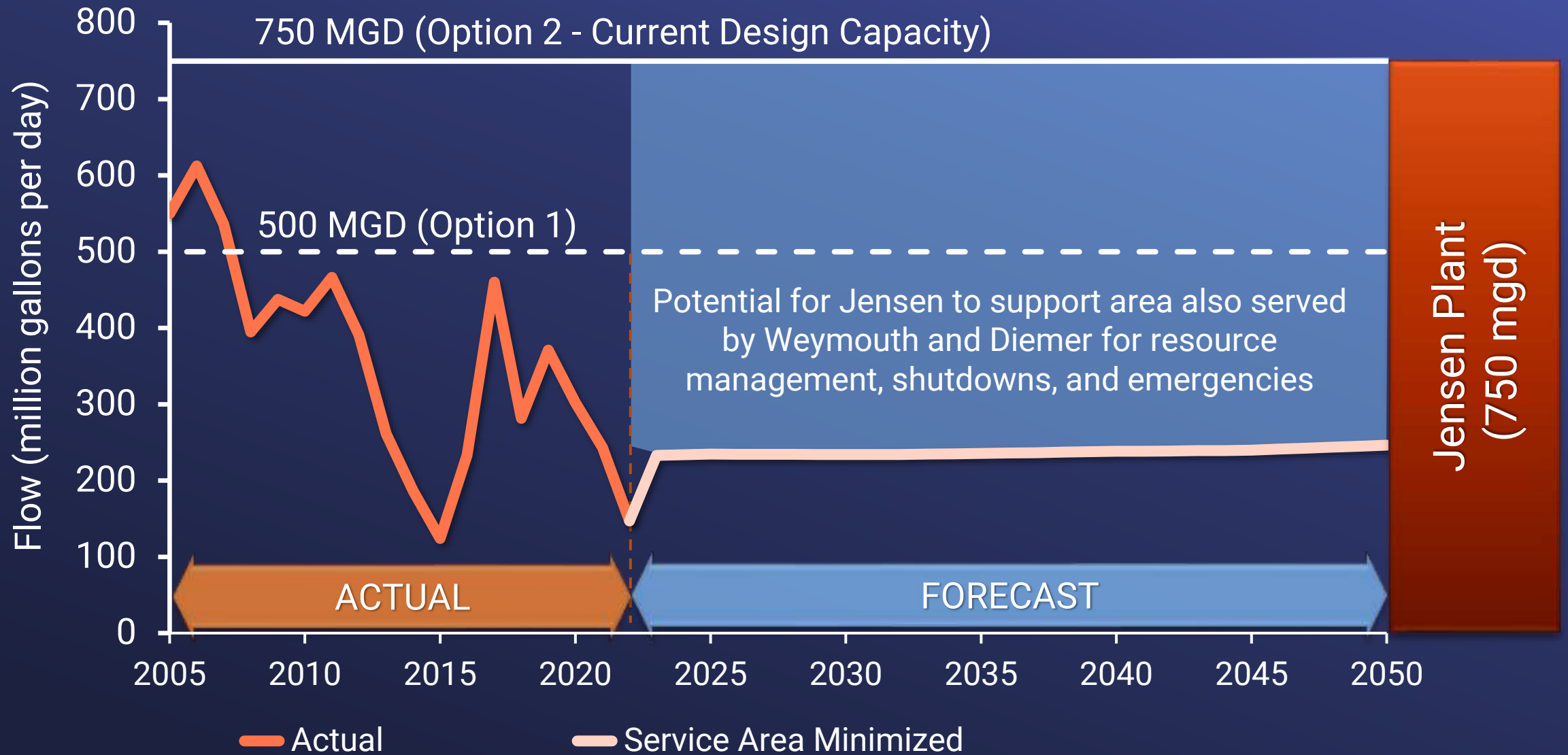
Jensen Plant Flow Forecast

(Based on Maximum Daily Plant Flows)



Jensen Plant Flow Forecast

(Based on Maximum Daily Plant Flows)



Design Capacity can be Exceeded on a Case-by-Case Basis

Capacity (MGD)	Option 1	Option 2
Design	500	750
Short-Term Maximum *	667	1,000

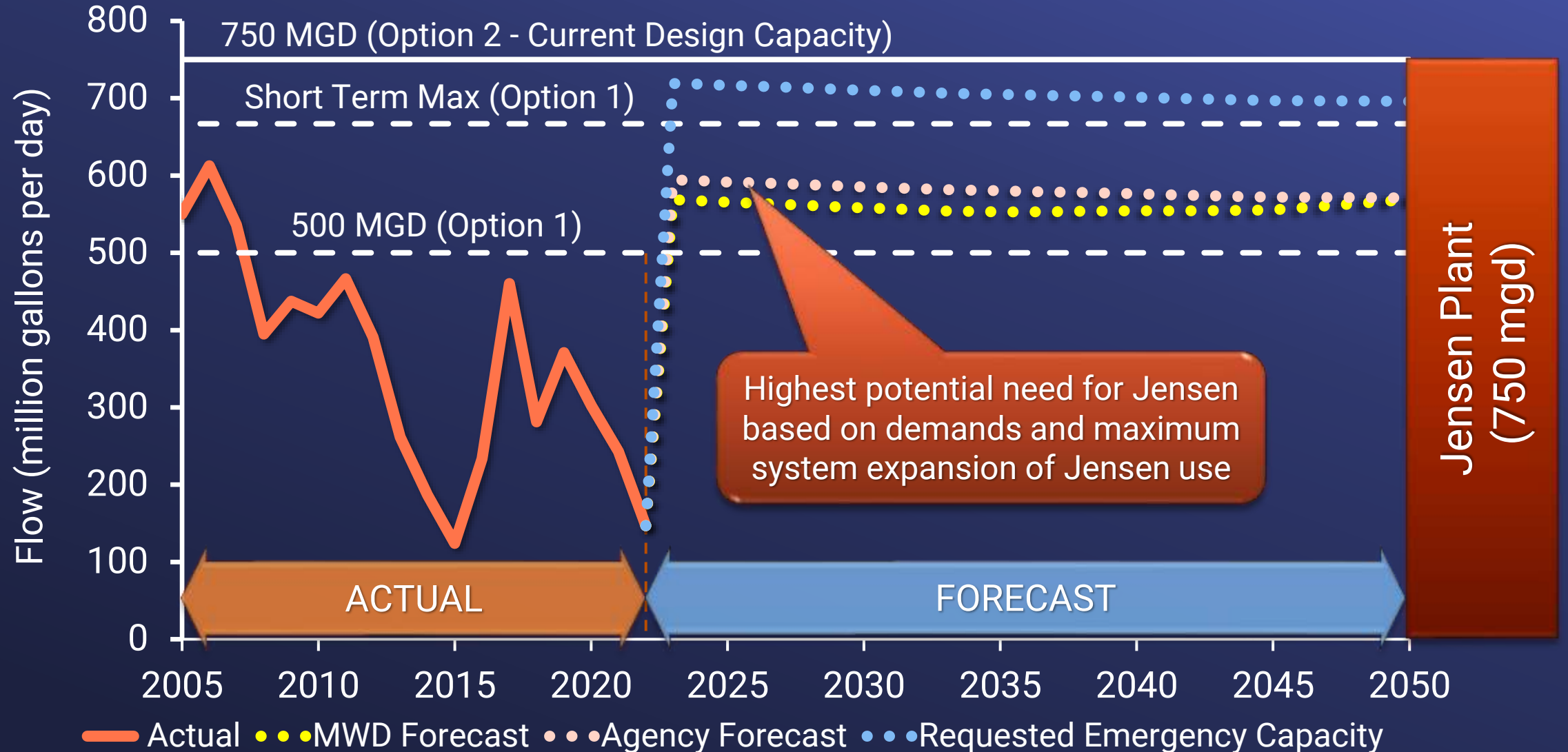
*Coordinated with DDW

- Sedimentation basins limit max. hydraulic capacity
- Less mechanical redundancy
- Requirements when operating above design
 - Favorable water quality
 - Additional monitoring
 - Slow, incremental flow changes
 - DDW notification

Jensen WTP
Short-term
Maximum
Flows

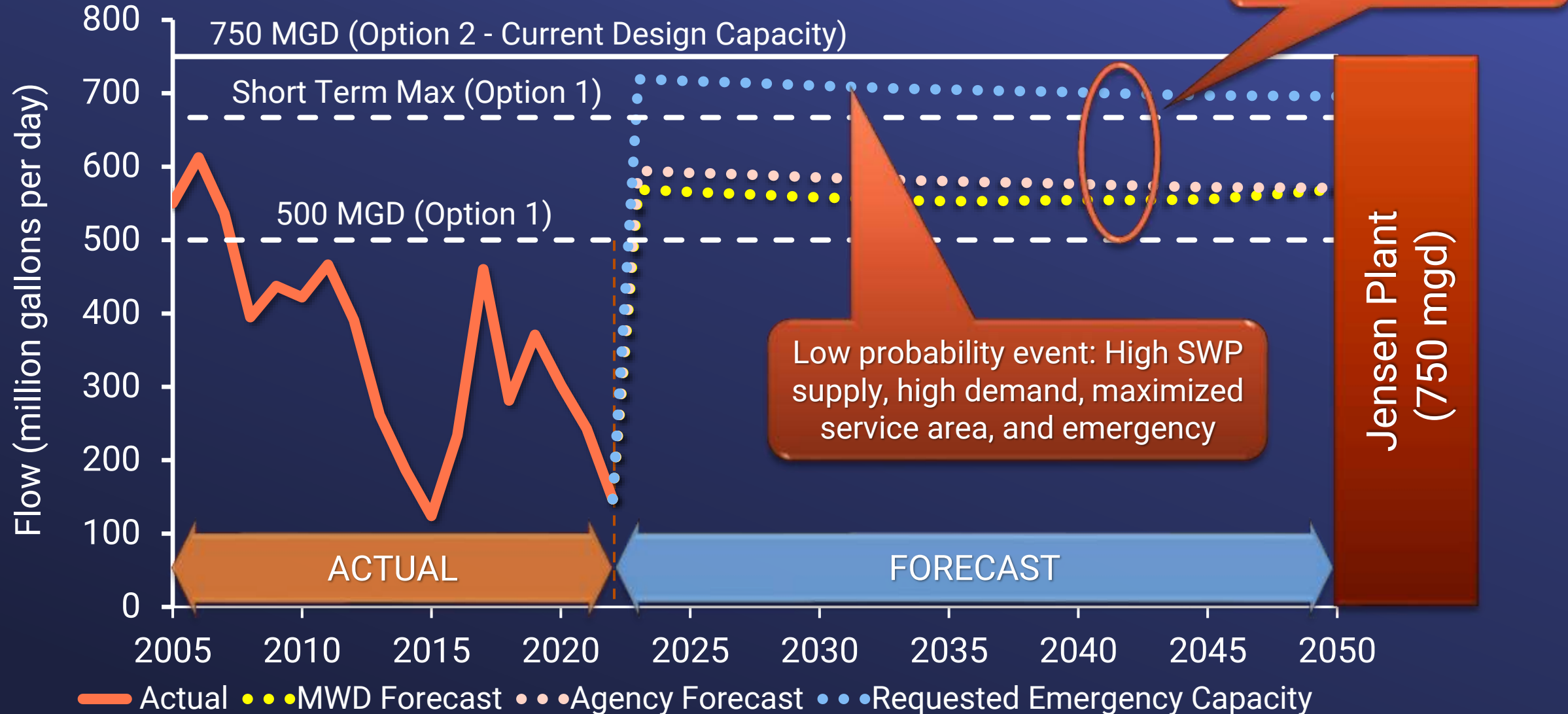
Jensen Plant Flow Forecasts

(Agency Forecast, Requested Capacity, and MWD Forecast)



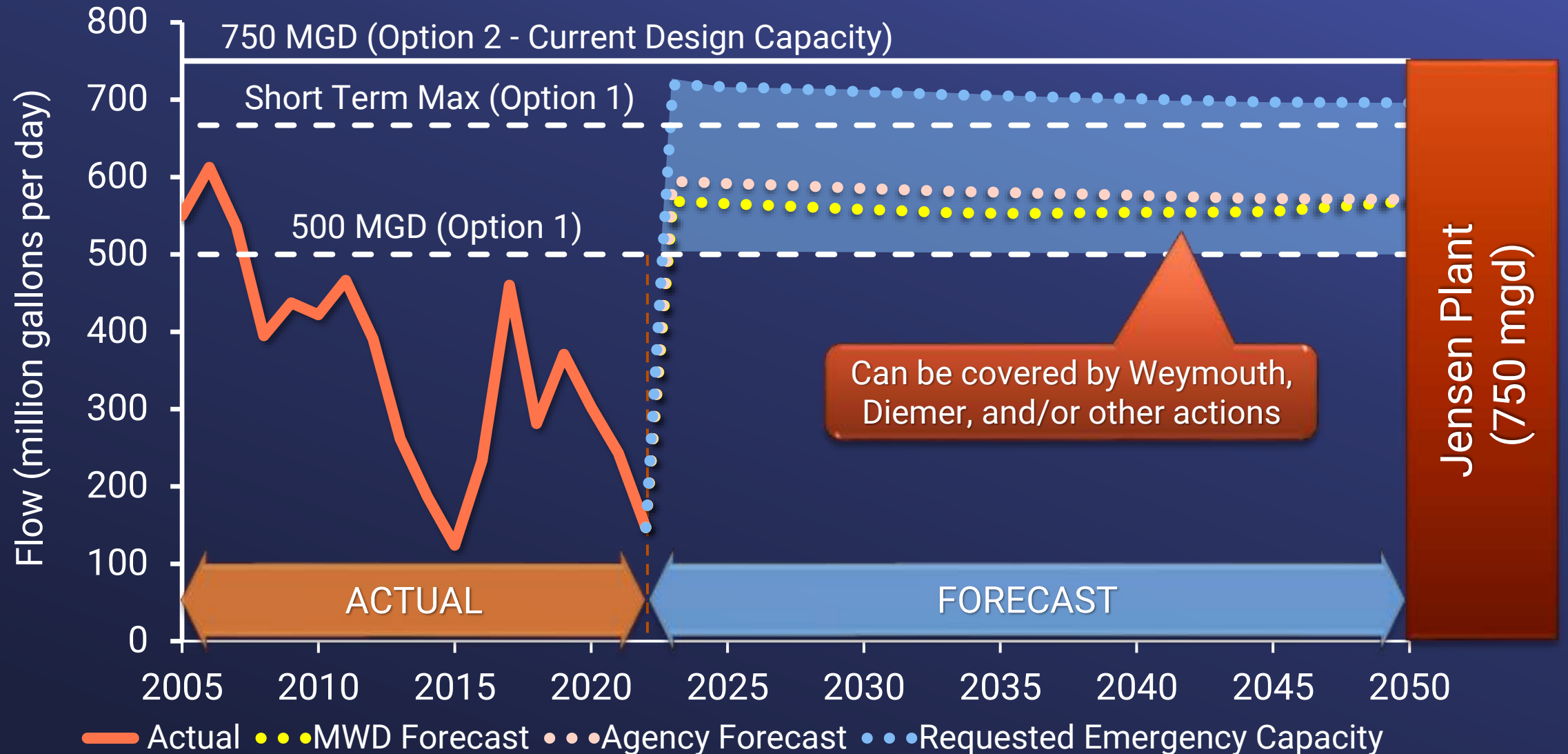
Jensen Plant Flow Forecasts

(Agency Forecast, Requested Capacity, and MWD Forecast)

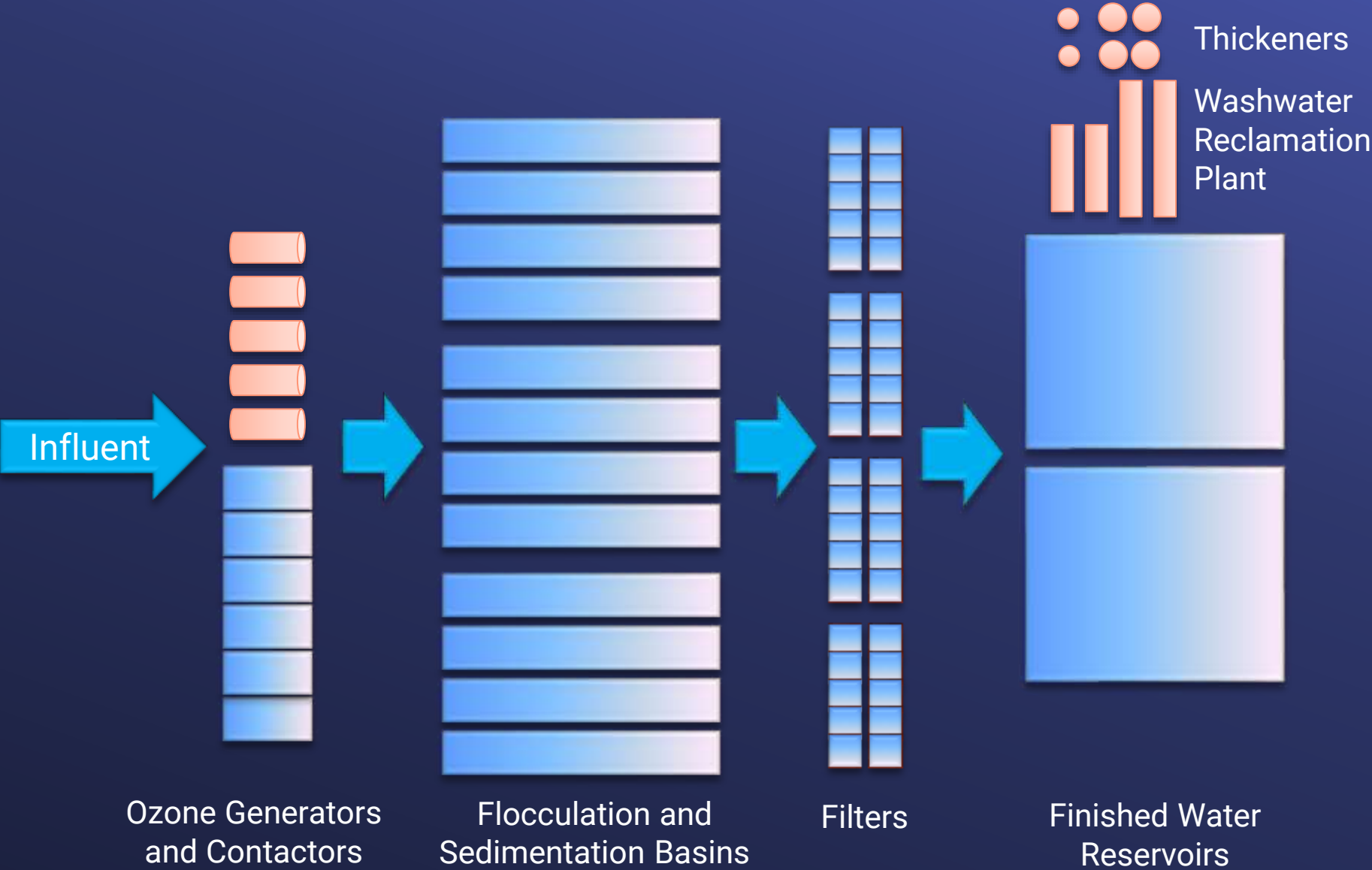


Jensen Plant Flow Forecasts

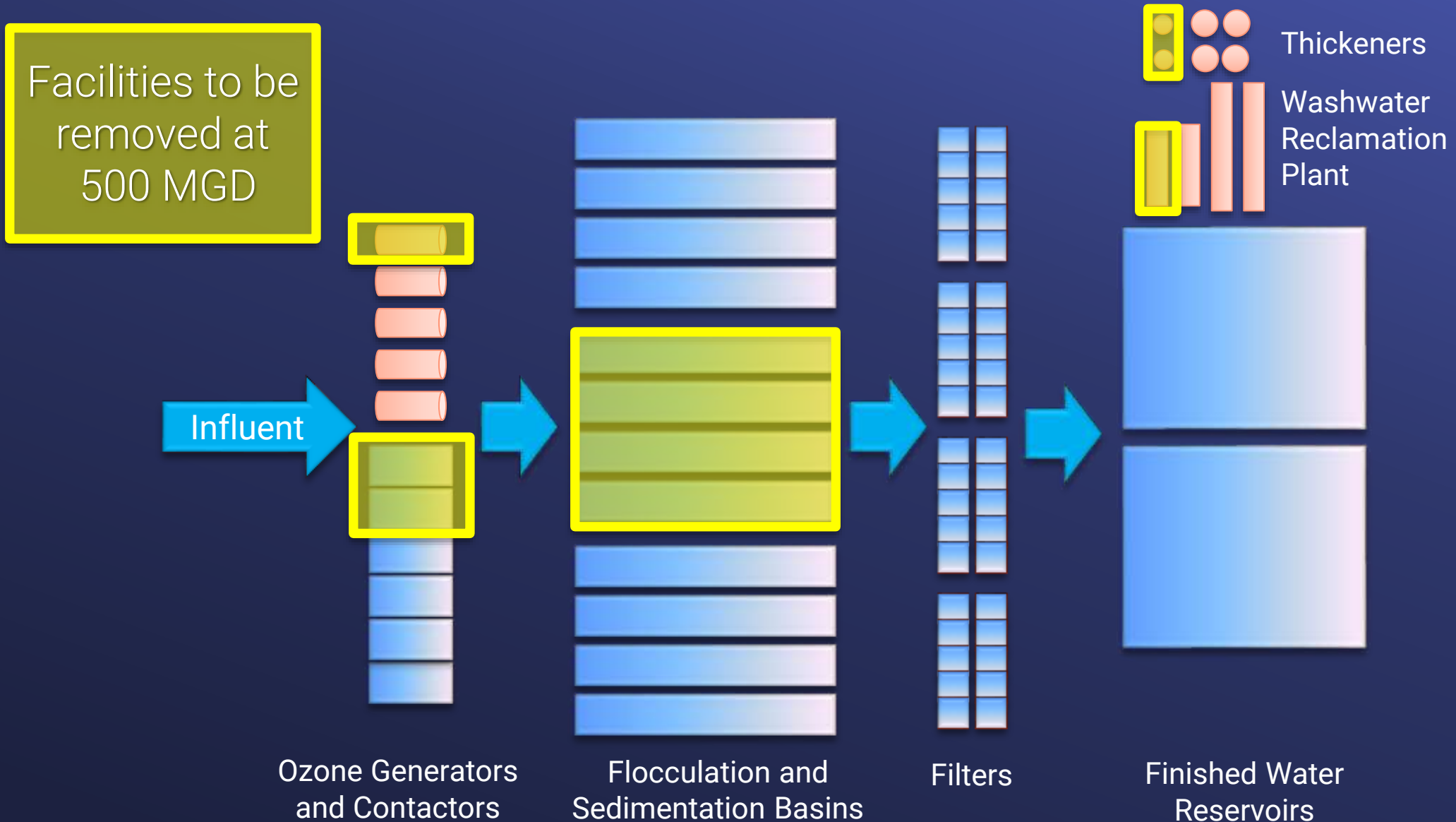
(Agency Forecast, Requested Capacity, and MWD Forecast)



Jensen Water Treatment Plant



Jensen Water Treatment Plant



Jensen WTP Operating Capacity Study

Projected CIP Savings for 500 MGD Option

- Project phases already deferred: \$32 million
 - Flocculators
 - Ozone Power Supply Units
 - Washwater Reclamation
 - Stage 2 Electrical Upgrades
- Project phases being deferred: \$95 million
 - Bromate Control Upgrade
 - Stage 3 Electrical Upgrades
 - Solids Dewatering
 - Sedimentation Basins
- Total estimated CIP savings: \$127 million

Jensen WTP Operating Capacity Study

Additional Cost Considerations for 500 MGD Option

- Reduces or eliminates O&M required for out-of-service facilities
 - Annual savings estimate: \$420,000
- One-time cost of removing facilities from service
- Additional future recommissioning costs would be anticipated

Summary

Alternatives	Advantages	Disadvantages
Option 1 – 500 MGD	<ul style="list-style-type: none">• Capital cost savings• O&M savings• Provides system flexibility and covers majority of demand scenarios	<ul style="list-style-type: none">• May not cover low-probability events<ul style="list-style-type: none">• High demand/high supply condition (short-term max operations needed)• Worst-case emergency condition
Option 2– 750 MGD (Current Design)	<ul style="list-style-type: none">• Increases system flexibility to cover low probability events<ul style="list-style-type: none">• High demand/high supply condition• Worst-case emergency condition	<ul style="list-style-type: none">• Additional capital cost• Increased O&M costs

Jensen WTP Operating Capacity Study

Additional Alternative for 500 MGD Option

- Received feedback from member agencies
- Gain additional clarity through current planning efforts
 - Climate Action Management Plan
 - Pure Water Southern California
 - SWP Dependent Area Solutions
- Continue phasing CIP projects and selectively deferring maintenance

Jensen WTP Operating Capacity Study

Options Under Consideration

- 1a. Phase CIP projects and maintenance to 500 MGD with potential future phase to 750 MGD
 - Close to maximum cost and resource savings
 - Close to maximum system flexibility
 - Easier opportunity to complete phases for 750 MGD if needed
- 1b. Officially downsize to 500 MGD
 - Maximum cost and resource savings
 - Close to maximum system flexibility
 - Difficult and costly to increase back to 750 MGD if needed
2. Proceed with CIP project phases for 750 MGD
 - Maximum system flexibility
 - No cost and resource savings

Jensen WTP Operating Capacity Study

Next Steps

- Receive feedback from EO&T Committee
- Develop actions and recommendations, as appropriate

