



# OC Water Reliability Study Overview

**MWDOC P&O Committee  
February 6, 2017**

Municipal Water District of Orange County

# Presentation Topics

- Review simple conclusions/observations from the Reliability Study
- Recommendations
  1. Additional modeling & analysis
  2. Consideration should be given to a “selective process” for future local projects to ensure the best investments possible





## What did OC learn?

4. North Orange County can manage through the level of shortages projected
5. South Orange County needs to develop NEW supplies and emergency supplies to improve reliability
6. Under MET's IRP and Water Shortage Allocation Plan (WSAP):
  - A. Local supplies and conservation improve reliability on a 1:1 basis for the MET family
  - B. However, the local agency developing a NEW project does not gain a 1:1 reliability improvement from the project
7. Adaptive Management is key



**Orange County Reliability Study, Phase 2 - MET Reliability Portfolio Development**

**Portfolios D, E & F are Fully Reliable**

	New Max Supply Yield (AFY)	OC Formulated Portfolios of MET Reliability					
		Portfolio A Low Reliability	Portfolio B Used for OC Planning	Portfolio C	Portfolio D Highly Reliable	Portfolio E Highly Reliable	Portfolio F Highly Reliable
<b>New MET/MET Agency Water Supply Projects</b>							
<b>New MET Projects</b>							
California WaterFix	440,000	-	-	-	-	-	440,000
Other SWP	150,000	-	50,000	100,000	150,000	150,000	
CRA Supplies	230,000	70,000	130,000	175,000	230,000	230,000	
Carson	168,000	65,000	100,000	100,000	168,000	168,000	
New Regional Conservation	TBD						
Regional Ocean Desalination	200,000					200,000	
		<b>Carson IPR</b>	<b>100,000 AF</b>		<b>168,000 AF</b>		
<b>MET Member Agency Projects</b>							
- Very Likely	88,000	88,000	88,000	88,000	88,000	88,000	88,000
- Full Design with Funds	23,400	23,400	23,400	23,400	23,400	23,400	23,400
- Advanced Planning w/ Environmental	51,000	-	51,000	51,000	51,000	0	0
- Feasibility (more certain)	71,500	-	-	-	71,500	0	0
- Conceptual (less certain)	65,700	-	-	-	65,700	0	0
		<b>Local Projects</b>	<b>162,000 AF</b>		<b>300,000 AF</b>		
<b>Total from above</b>	<b>1,487,600</b>	<b>246,400</b>	<b>442,400</b>	<b>537,400</b>	<b>847,600</b>	<b>859,400</b>	<b>1,031,400</b>
<b>Remaining Average Shortage</b>	<b>550,000</b>	<b>303,600</b>	<b>107,600</b>	<b>12,600</b>	<b>-297,600</b>	<b>-309,400</b>	<b>-481,400</b>
<b>Scenario 2 GAP (2040) - Maximum MET Shortage</b>	<b>1,661,000</b>	<b>Remaining Shortages</b>			<b>Supply Excess</b>		

**More Reliability** →

**Cal Fix 440,000 AF**

**Carson IPR 100,000 AF**

**168,000 AF**

**Local Projects 162,000 AF**

**300,000 AF**

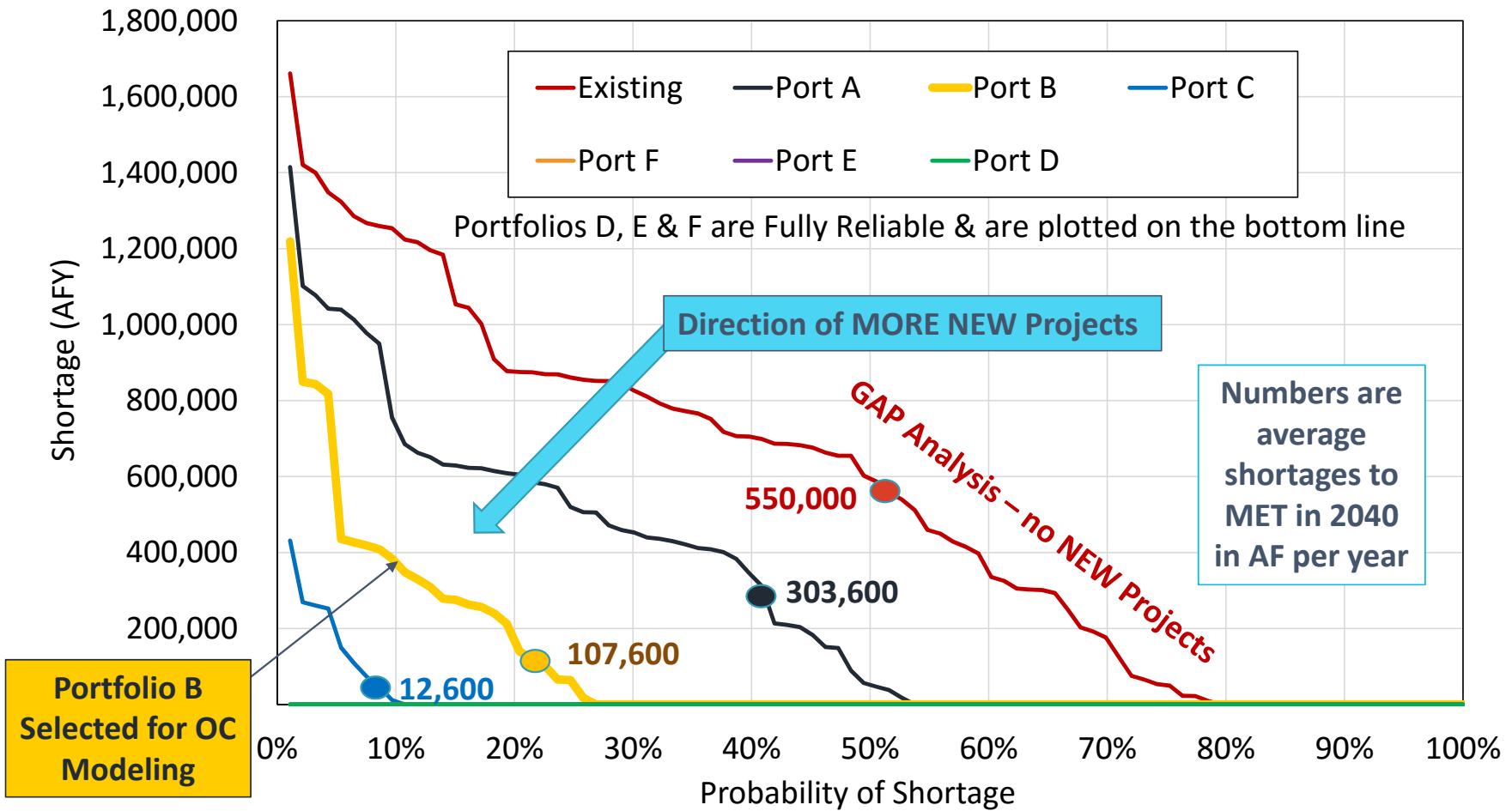
**Remaining Shortages**

**Supply Excess**

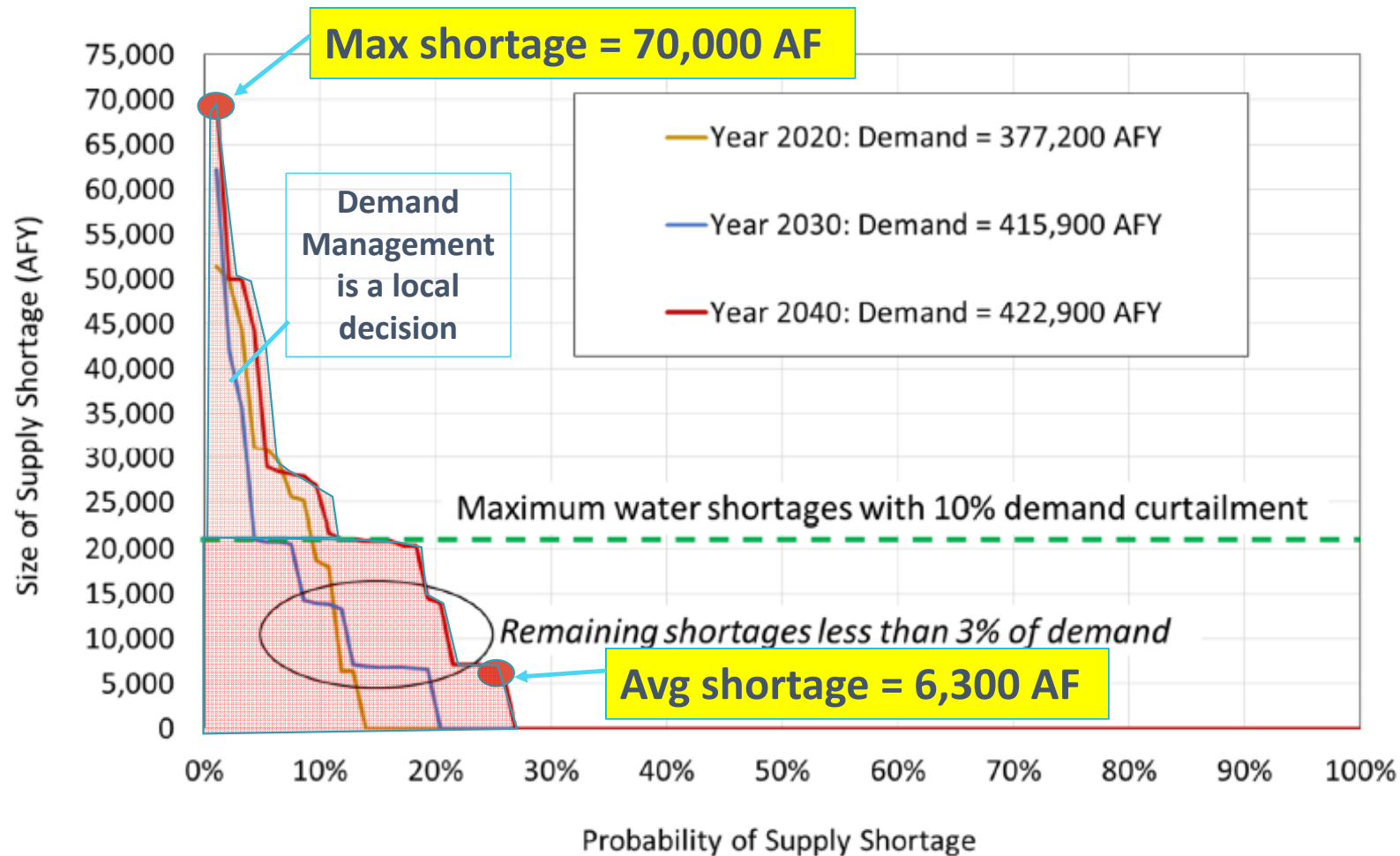
# Balancing of Issues



# MET Reliability Under Different Portfolios – 2040

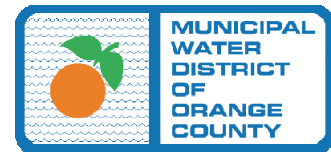
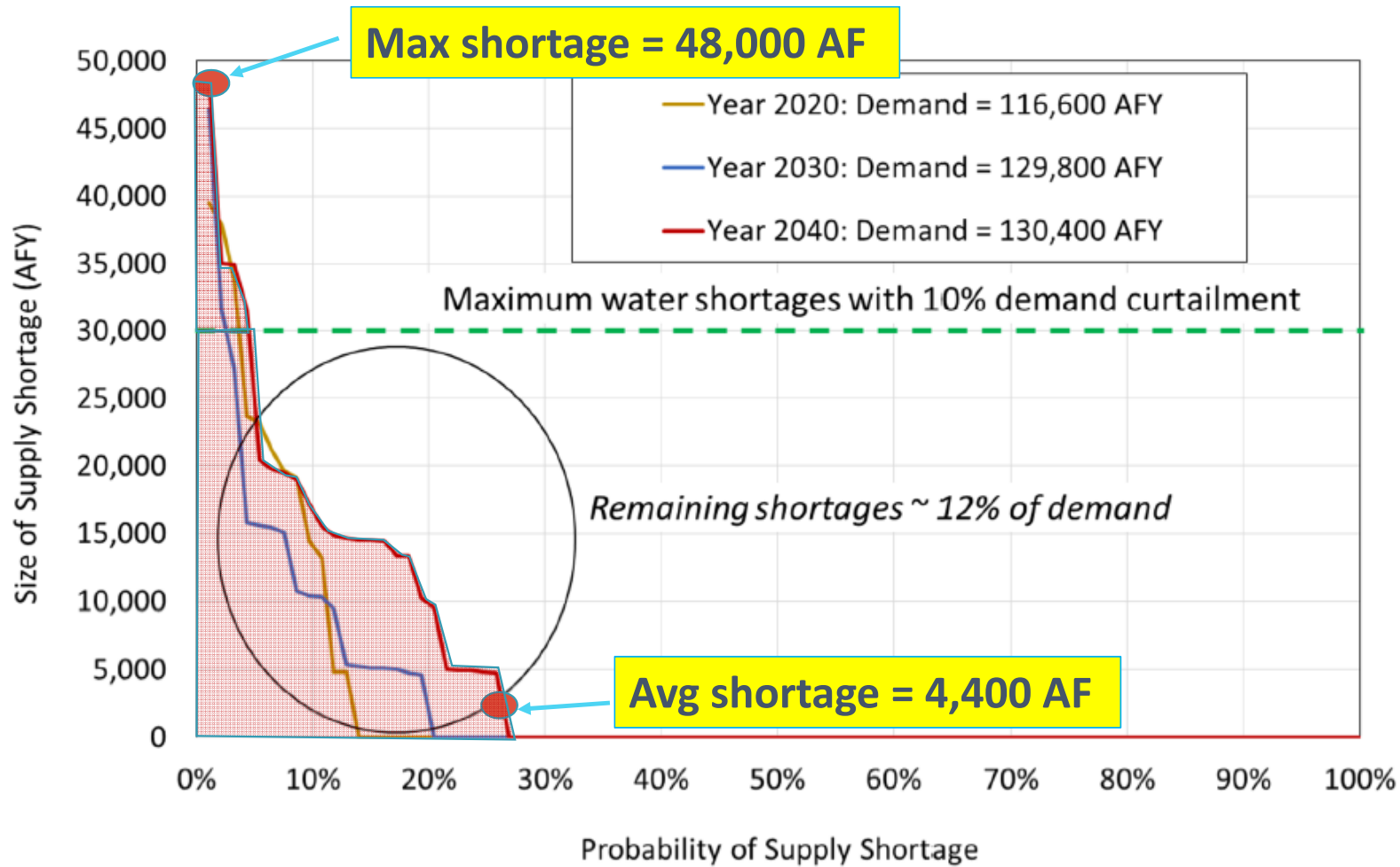


# OCWD Reliability Under Portfolio B

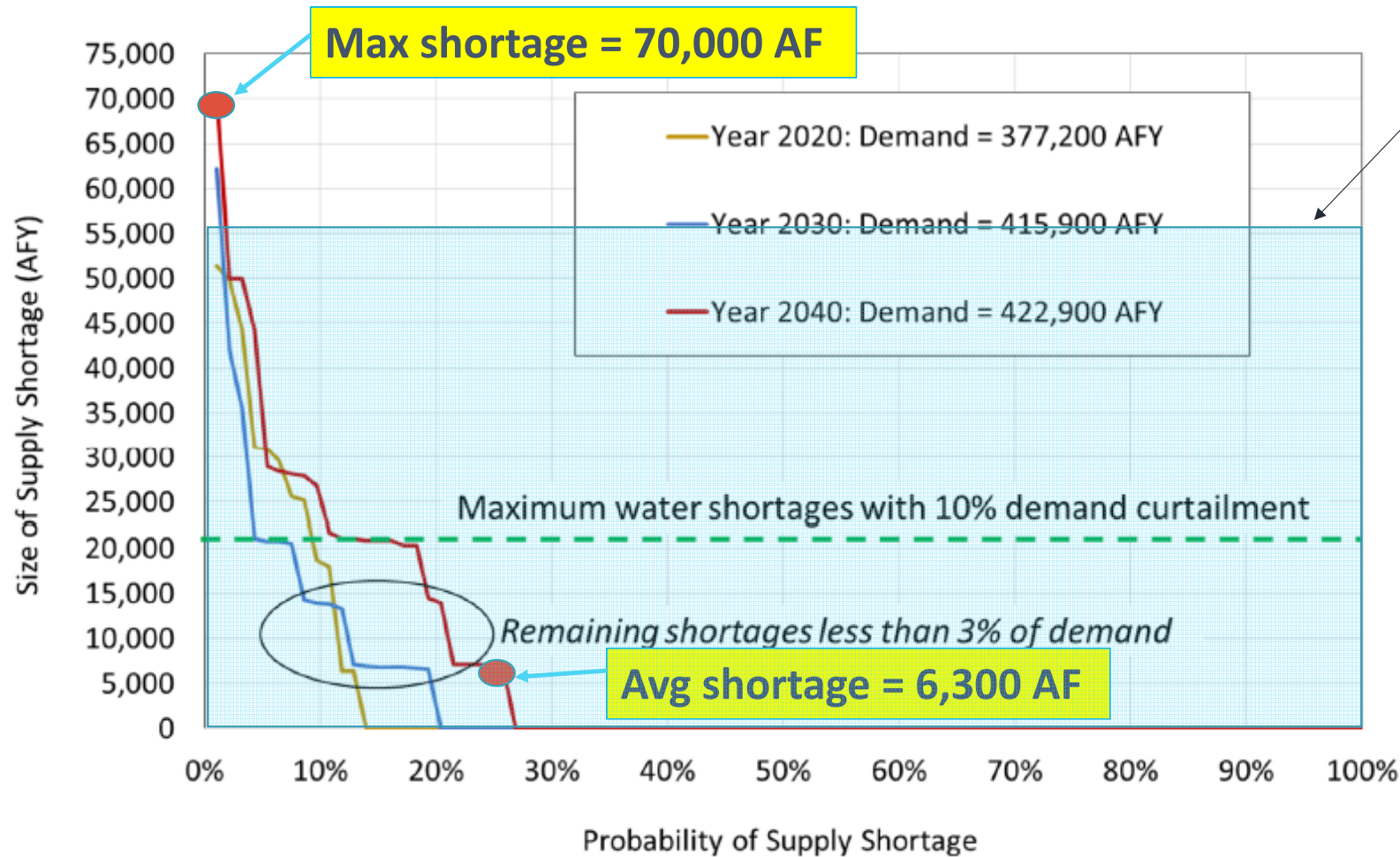




# SOC Reliability Under Portfolio B



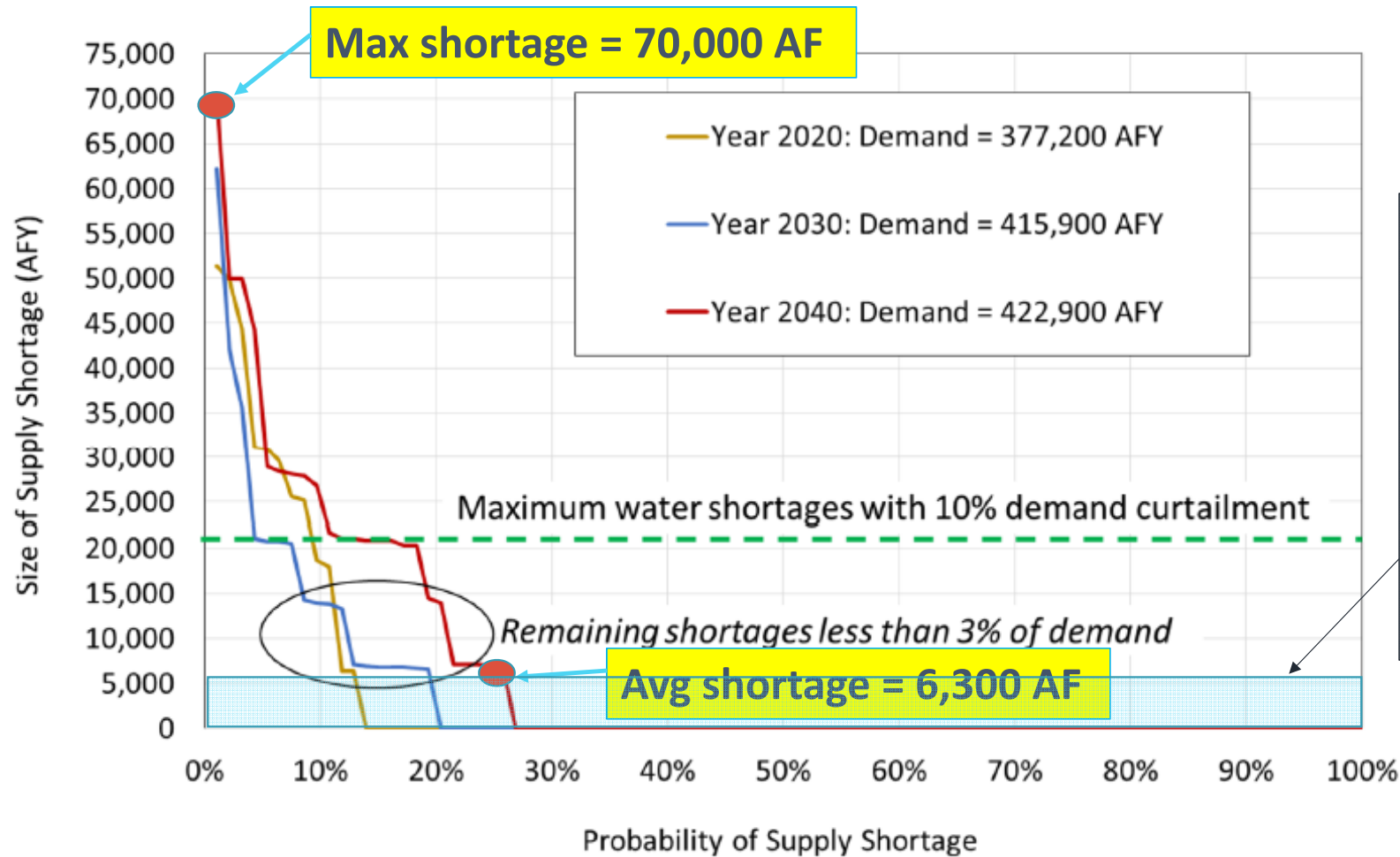
# Poseidon Yield Example for OCWD



Poseidon Yield at 56,000 AF per year would supply more water than needed in most every year



# Theoretical Local Project Example for OCWD

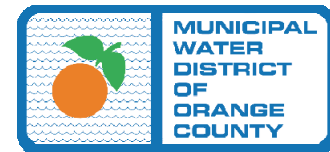


A Project with a yield of 6,300 AF per year with storage would theoretically fill the GAP



# Poseidon Project

- ✓ Not specifically included or excluded in the modeling as a project to help MET or OC reliability
- ✓ Does not mean it could not be developed for such purpose
- ✓ Staff believes the majority of benefits from this project accrue to the MET service area
- ✓ Additional analysis needed



# Carson IPR Project

- ✓ Modeling assumed the project is developed at 100,000 AF per year; if not included, 100,000 AF per year of an additional source is required
- ✓ Modeling included 65,000 AF per year from MET or Carson IPR used as groundwater replenishment for OCWD

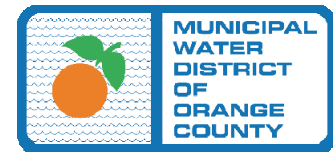
# California WaterFix

- ✓ Modeling assumed a decline in water supplies without the Fix
- ✓ A higher supply of 440,000 AF per year was included with the Fix
- ✓ This Yield may be a moving target



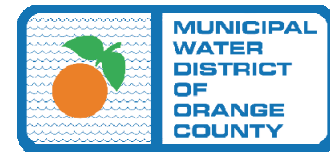
# Other Implications

- Planning should attempt to avoid unintended consequences such as low flows in pipelines that could create water quality problems
- Consideration should be given to a “selective process” for future local projects:
  - ✓ Best bang for buck
  - ✓ Critical for larger local projects, say in excess of 10,000 AF per year
  - ✓ Some projects provide additional benefits to where it is needed as opposed to just filling a “GAP”
  - ✓ May be important to differentiate between base loaded, dry year yield and projects involving storage to improve flexibility of future operations



# Recommended Work

1. Work with MET and MET member agencies to ascertain future direction of local projects
2. Examine future water quality issues from low flows
3. Work on Poseidon Project and others to better understand who pays and who benefits
4. Rank cost efficiency and attributes of projects
5. Update modeling runs
  - a. Colorado River Drought Contingency Plan
  - b. Santa Ana River Base Flows
6. Bring back work plan to next P&O





Other Questions?

