Reliability Planning & Engineering Department	
Near-Term Goals (1-2 years)	
Area of Focus	**Major Goals**
Local Supply Integration and Reliability	1. Build and calibrate the hydraulic model. Continue to examine water quality issues associated with MET supplies
	Hydraulic Model is available for use for South OC area in December 2020. Entire model calibration will be complete by the end of January 2021. Received proposal from Black & Veatch for modeling of AMP to determine the current and future flow capacities. Working with SMWD and B&V to develop a scope of work to model future scenarios for SMWD as they look to change operations with new projects and the merging of the San Juan Capistrano system.
Office Remodel	2. Substantial completion of office remodel & seismic upgrade
	Notice to Proceed issued Nov 4, 2020. Phase 1 demolition is complete. Electrical, framing, & seismic reinforcement in progress for Phase 1. Anticipate substantial completion in September 2021.
MET Shutdown Planning	3. Continue to coordinate an expected above average number of shutdowns this year due to PCCP related issues.
	<u>Completed:</u> 2nd Lower Feeder 2,900 LF Emergency Repairs– Aug 21-29, 2020 2nd Lower Feeder Remove Bulkhead – Sept 14-22, 2020 West OC Feeder & OC-25 underdrain repair - Sept 28-30, 2020 Yorba Linda Feeder PCCP Inspection - Oct 10-25, 2020 Irvine Cross Feeder PCCP Inspection – Nov 2-4, 2020 <u>Pending:</u> Santiago Lateral – Lake Mathews – March 1-14, 2021 AMP - 37 Days Emergency Repairs – April 3, 2021 – May 9, 2021. Significant coordination with SCWD and SMWD on their shutdowns to avoid overlap OC Feeder – MET deferred to Sept 15, 2021 – June 15, 2022 due to budget issues OC Feeder Extension – June 15, 2022 – July 10, 2022

Local Supply Integration and Reliability	4. Continue exploration of how MWDOC might help South Coast WD, Santa Margarita WD, and SOC move forward with the Doheny Desalination and the San Juan Watershed Projects
	Currently participating in geotechnical workshops to help determine if desalination plant slant well pumping will impact inland groundwater levels, and if so, by how much. Preliminary results indicate some separation within the basin/underground stream. Preliminary results anticipated in Feb 2021.
OC-70 Issues	5. Bring the OC-70 issues to a completion a. Meter Validation Testing at Utah State Water Labs and on-site b. Work with MET on evaluation of results c. Calculate a metering cost analysis d. Seek approval from the MET Board e. Transfer the facility to EOCWD
	MET, MWDOC, & EOCWD agreed on an alternative methodology to measuring billing meter accuracy against a known reference following the inability of the current methodology to provide results. Anticipate new field testing in February/March 2021 Anticipate metering deviation analysis completion in April 2021 Seek approval from the MET Board for repayments exceeding the 6-month duration limit specified in the MET Admin Code Draft Emergency Generator Operating Bulletin comments under review by MET. Currently using draft as interim guidance. EOCWD continues work on a Portable Pump Test Plan following input from MET on the draft plan. MET working on request to purchase a 3rd pump for OC-70 to be paid for by EOCWD.
Area of Focus	**Additional Goals**
Reliability Study and Demand Forecast Update	1. Consider an update to the Reliability Study based on outcomes of MET's IRP. This process may be advanced through Economic Studies on the quantification of project benefits.
	CDM Smith currently modeling updated water demands forecasts as part of a reliability study update and for Member Agency Urban Water Management Plans. Preliminary results in mid-January 2021. Currently working with the Brattle Group and Wallace Walrod on economic studies using CDM Smith modeling data to quantify

	estimates of the impact of water supply reductions from drought and earthquake scenarios for both residents and businesses. Staff to provide coordination with member agencies on input to business survey.
Emergency Use of East OC Feeder #2	2. Begin discussion with MET regarding preparatory work to establish terms and conditions consistent with MET policies; MWDOC has volunteered to be the first 'test case' for the recent policy to allow emergency use of MET pipelines. a. Incorporate the MNWD Storage Study results into the process. b. Conduct a meeting with the EOCF#2 Pipeline owners to discuss the Joint Powers Agreement and what it means for water quality associated with different supplies to be conveyed in the pipeline; seek a validation lawsuit if needed.
	BB&K is currently working on a legal opinion to be shared at a meeting in 2021 with the EOCF #2 JPA agencies, who can also bring their attorneys. IRWD communicated it believes a single JPA member has veto power over putting any water into the pipeline. Held initial discussion with Brent Yamasaki at MET. Discussed budget for this issue with Ed Means, who will provide support on this issue.
Regional Reliability	3. South County Pipeline Maintenance Obligations. Work with Santa Margarita WD to secure MET's acceptance of their long-term maintenance obligations for the South County Pipeline.
	Letter sent by SMWD to MET on June 22, 2020. Staff continuing to work with both MET & SMWD. MET has agreed to technical discussions in January 2021 with MWDOC and SMWD. Any further discussions are waiting consultations between MET Operations and MET legal counsel.
Regional Reliability	4. Conversion of IRWD Constant Speed Pumps to Variable Speed Pumps in IRWD's Zone 1 Pump Station to provide increased ability to supply water to SOC during emergencies.
	Need to obtain SOC agencies approval to pay for and move forward with design. Agency feedback was to look at wrapping this into a larger regional discussion in 2021 to scope out future planning scenarios incorporating the multiple projects and operational changes under consideration by the SOC agencies. The initial focus would be on modeling water aging in the various pipelines under future operating scenarios in addition to determining future additional emergency supplies.

Regional Reliability	5. Help evaluate how new treatment plants can be utilized to connect into the EOCF#2 to provide emergency supplies to SOC
	OCWD did not wish to consider as part of PFAS treatment strategy. Keep bringing it up. Where those treatment plants are going to be and if EOCF#2 can help
WEROC Support	6. Provide support to WEROC for a new South EOC
	Concept report complete. Waiting for next step but it will likely take ETWD a year to align financing. This is part of the WEROC strategic review.
BOR Salinity Economic Impact Model Update	7. Work with MET and BOR to improve model to provide retail level agency benefits
	Several meetings with MET on this model. OCWD & SDCWA are also supportive and involved in discussions. MET is obtaining quotes from two companies for improvements to the model. This effort may be delayed to next fiscal year due to current MET cost containment efforts.
Regional Reliability	8. Strand Ranch or SARCCUP – Drought Protection projects. Evaluate as they become more mature
	Continuing to work through details of the SARCCUP agreements.

FY 2021-22 Department Priorities

Department: Reliability Planning & Engineering	
Near-Term (1-2 years)	
1.	**Complete the Admin Building Seismic Retrofit & Remodel**
	• Bring the retrofit & remodel to completion – current completion date is anticipated by November 2021.
2.	**Coordinate a final agreement/determination of MET's ownership and maintenance responsibilities in the South County Pipeline**
	• Work with SMWD and MET to come to a final agreement/determination of MET's ownership and maintenance responsibilities in the SCP. • This is a multi-year effort.
3.	**Complete a Pilot Project for Emergency Use of East Orange County Feeder #2 (EOCF#2)**
	• Develop the necessary protocols with MET and others to enable use of EOCF#2 to convey local water supplies to SOC during emergencies and to return the pipeline back to MET upon recovery from an emergency ○ Requires coordination and agreement with EOCF#2 JPA members on member rights. • Secure workable MET requirements for emergency use of EOCF#2. This is likely a two-year effort to complete protocols with MET. • Complete a pilot emergency use test and return of the EOCF#2 to MET.
4.	**Complete the next OC Reliability Study Update**
	• Periodic updates of the OC Water Reliability Study are anticipated as new information becomes available on changing conditions and projects. An update may be triggered as MET completes the update of its IRP. • Currently an update is anticipated in FY 2022-23.

Department: Reliability Planning & Engineering	
Mid-Term (3-5 years)	
1.	**Coordinate and complete a regional planning review of future regional pipeline system operations in SOC**
	• There are number of pending changes in SOC which will impact regional pipeline operations. Member agencies have expressed interest in looking at the regional system as a whole and scoping out various modeling scenarios to determine future operational impacts to the system from:

	○ Changes in retail agency operations (SJC Annexation, new Service Connection for El Toro WD, increased use of recycled water) ○ Augmentation of the Emergency Services Program (installation of Variable Frequency Drives in IRWD system and/or use of EOCF#2) ○ AMP near term and future AMP flow capacity vs existing AMP flow capacity rights ○ New project impacts • Initial focus will be on use of the new OC Hydraulic Model for determination of the current and future capacity in the AMP, and identification of water aging issues as operations change. Potential for use of the OC Hydraulic model to monitor water aging on a regular basis. The value is in improved reliability and assistance to our member agencies in the prevention of unintended consequences.
2.	**Coordinate and Facilitate Extended Shutdowns of the Allen McColloch Pipeline (AMP) Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Project**
	• The AMP has approximately 9 miles of PCCP that will be relined as part of a MET-wide PCCP rehabilitation program. This will require several long duration shutdowns (up to 6 months for each event). ○ MWDOC will work with member agencies and MET to determine how best to operate the import system without the AMP, to meet the needs of the agencies during the multiple shutdowns. ○ The hydraulic model will prove useful in this effort. MWDOC will also assist with identification and negotiation of specific project modifications (i.e., pump stations, interconnections, short segments of pipeline additions) that may reduce program costs for MET and reduce the impacts of these shutdowns to MWDOC member agencies.
5.	**Enhance the Bureau of Reclamation's Salinity Economic Impact Model (SEIM)**
	• Collaborate with MET, OCWD, SDCWA, and other MET member agencies to implement enhancements to the SEIM so it can become a valuable tool for MWDOC member agencies. ○ Phase 1 improvements will provide retail agency level of detail into the model as well as the ability to analyze individual project impacts to salinity levels at the retail level. Anticipate Phase 1 completion and MWDOC staff training in FY 2021-22. ○ Phase 2 - Work with the Southern California Salinity Coalition (through MET, OCWD, and SDCWA) to have SCSC complete additional research studies to improve SEIM's existing formulas to provide a more comprehensive inclusion of salinity economic impacts in Orange County. Anticipate completion of Phase 2 in FY 2023-24.