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Correction and Amplification – MWDOC Presentation for the May 15, 2020 Workshop on Poseidon

Dear Ms. Smythe:

During the May 15, 2020 Workshop on the Poseidon Project, Municipal Water District of Orange County (MWDOC) presented information and conclusions from both the 2016 and 2018 Orange County Water Reliability Studies that have been conducted by MWDOC. Both of these studies modeled the reliability of different geographic areas of Orange County using an approach known as scenario planning with specifically designed assumptions. These scenarios include assumptions on variants of water demand, climate change, and water supply capital project investments. The primary intent of these two planning studies was to outline a number of scenarios to facilitate increased understanding of the implications of various assumptions on future gaps between water supply and water demand. These studies developed plausible scenarios of possible future outcomes and not a specific forecast of any particular outcome. The intent is to quantify variation between scenarios and the impact of differing assumptions. The results of the scenario approach support informed planning under a variety of variable conditions.

The methodology and output of the studies tend to be both technical and complex in nature and easily misstated. MWDOC has taken considerable effort to ensure that the conclusions of the two studies are accurate and plainly stated for public consumption. We believe we did so successfully at the Poseidon workshop.

MWDOC Primary Input at the May 15 Workshop

To amplify the main points by MWDOC at the May 15 workshop, we summarize them here:

1. When considering the “need” for a new local project to be implemented, the following considerations must be weighed:
 - a. Reliability, and the need for projects to improve reliability in Southern California, must be considered in the context of Metropolitan Water District of Southern California’s (MET’s) Integrated Resources Program (IRP) and what investments will be made by MET, the MET member agencies, and other local agencies.

- b. Under MET’s IRP, all agencies are either fully reliability together or have a shortage together because MET’s Water Supply Allocation Plan (WSAP), which is MET’s implementation plan for allocating imported supplies to member agencies in case of shortages, imposes MET service area wide imported water demand curtailments in the event water supplies run short in any year.
 - c. Under the statements in 1.a. and 1b. above, implementation of a new local project will have almost the same impacts on local and regional reliability irrespective of whether a local agency implements a new local project or MET implements the new local project. The cost burden of the project, however, will be spread quite differently under these two scenarios. This supports one of our observations that the Poseidon Project would be more equitably cost-shared over a larger area if the project were to be implemented by MET.
 - d. MWDOC does not believe it is valid to assume that any specific project that does not come to fruition (such as the California WaterFix [now called Delta Conveyance]) will not be replaced by another project or projects to make-up the water supply difference. An important aspect of both the 2016 and 2018 Reliability studies was the conclusion that there are many paths to water reliability.
 - e. MWDOC’s study did identify three situations under which the Poseidon Project would be implemented:
 - i. MET implements it as a regional project.
 - ii. Climate change is more extreme than anticipated and locally Orange County decides the project is needed.
 - iii. Orange County decides locally that we want a higher degree of reliability, albeit at a higher cost. Local control and local decisions are critically important in bringing projects to fruition and are critical in the decision-making process.
2. There are a number of different ways to define whether a water supply project is “needed”. MWDOC believes that whether or not a project is included in an Urban Water Management Plan is not a controlling or relevant factor. Projects turn into reality through detailed feasibility work and a Go/No-Go decision by the governing water agencies who participate to fund a project. Water agencies are responsible for water supply reliability to consumers and clearly have the authority for such a final determination as to whether a project “needs” to be implemented.
3. MWDOC did not rank the Poseidon Project within the OC Basin. Orange County Water District (OCWD) requested MWDOC not rank projects within the OC Basin and we complied. The portion of the Poseidon Project assumed delivered to South Orange County was ranked against other supplies for South Orange County. Neither the Reliability Study nor OCWD have studied alternatives to the Poseidon Project for the OC

Basin area. Our modeling did indicate that purchasing MET water or Carson water were less expensive than the Poseidon project, even when considering the high cost of MET penalties for purchases above the MET WSAP allocations during shortages.

4. MWDOC raised the question of who should pay to make Southern California more reliable – should it be OC or should it be Southern California? OCWD’s position is that the Delta Conveyance will not happen and so the Poseidon Project is “needed”. As pointed out in 1.c. above, if implemented at the local level, the local level pays the majority of costs. If implemented by MET at the regional level, the regional level pays all of the costs and collects revenue from water sales from all parts of Southern California. The reliability under each of these alternatives is not very different. MWDOC believes that Southern California will collectively figure out an appropriate plan if the Delta Conveyance does not happen and will collectively make the necessary investments to pay for the reliability improvement. The cost difference to Orange County based on this single assumption is very large, and unfortunately, this issue is not well understood.
5. The Reliability Studies from both 2016 and 2018 included a number of plausible scenarios to help inform agencies about their future reliability. They differed in the assumptions for each study, but the outcomes of the two studies were similar for the OC basin area. Under both studies, the resulting GAP between water supply and demand for the OC Basin was relatively small and we believe will remain so either with or without the Delta Conveyance. The OC Basin has only a relatively low dependence on MET supplies and hence is in a much better reliability situation than virtually any other area in Southern California. This is because of the OCWD management of the large groundwater basin and investments like the Groundwater Replenishment System (GWRS) system and the capture of Santa Ana River storm and base flows. MWDOC believes that for large shortages to occur within the OC Basin, Southern California would have to be in a very dire situation overall. MWDOC’s opinion is that decision-making under MET’s IRP will not let that occur. At most, we may see a larger increase in the cost of imported water as additional projects are brought on line that are more costly than the Delta Conveyance project (assuming it does not move forward). This was one of the major conclusions coming out of the reliability studies. Furthermore, MWDOC believes that shortages within the OC Basin can be managed with infrequent demand reductions (somewhere on the order of a 10% reduction in demand every 20-years).
6. Given all that was laid out above, an agency may still elect to implement the Poseidon Project or any other project they deem necessary, and that should be their right. Local control and decision-making is the basis for bringing new projects on-line.

We observed during the May 15 Workshop that several less accurate statements concerning the design, results and conclusions of the MWDOC studies were made in subsequent presentations by others. The intent of the remainder of this letter is to clarify and correct those statements and conclusions.

Comments in the OCWD Presentation

Mr. Mike Markus, the General Manager from OCWD made the following comments:

Mr. Markus indicated the results of the 2016 OC Water Reliability Study showed that some level of water shortages would occur 80% of the time (comment was made at time 02:25:00 of the meeting audio), with maximum water shortages of 170,000 AF per year and average water shortages of 70,000 AF 65% of the time. He indicated MWDOC arrived at these conclusions by assuming No Delta Fix, Moderate Climate Change and Moderate Growth. He also suggested the big change between the 2016 study and the 2018 study was an assumption under all of the 2018 scenarios that the “WaterFix” would occur (02:26:00). Mr. Markus implied that the results for Orange County shortages varied vastly between the 2016 and 2018 studies to support a premise that simply changing a few assumptions presents quite a different outcome (02:29:30).

Correction of Comments in the OCWD Presentation

Unfortunately, Mr. Markus mixed up some facts from the 2016 study. The following should be noted:

- (1) The shortages it appears Mr. Markus attempted to quote from the 2016 study were under the assumption that there are “NO NEW INVESTMENTS” either at the MET level, the local level, or by any of the MET member agencies (Planned Conditions-A). It is neither a reasonable nor plausible assumption that no new investments would occur over time (i.e. that no agency would react to future conditions) in Southern California. This analysis was provided as part of the study as a “starting point to demonstrate the value of new investments”. See **Attachment 1** below, a clip from the 2016 OC Reliability Study where the graphic clearly states “NO NEW INVESTMENTS”.
- (2) Mr. Markus indicated the assumption in the 2016 Reliability Study was the “WaterFix” would not occur. Clearly, this was only one of a number of scenarios provided in the 2016 study. Scenario 2B from the 2016 Study was close to what was described by Mr. Markus – which included No “WaterFix”, Moderate Climate Change, and Moderate Growth. The shortages projected under this scenario were completely mistaken by Mr. Markus with the “NO NEW INVESTMENTS” scenario.
- (3) Mr. Markus comments were that the outcome of the 2016 study included very large shortages for the OC Basin compared to very small shortages in 2018 Study for the OC Basin area and hence that the two studies, just two years apart, had quite different outcomes. **Attachments 2 and 3** below are clips from both the 2016 study and the 2018 study showing projected shortages for the OC Basin area. Mr. Markus’s message seemed to represent that the projections were very inconsistent between the two studies, but comparison of **Attachments 2 and 3** demonstrate the similarity in the level of shortages for the OC Basin area under both studies.

(4) A basic assumption asserted by Mr. Markus is that if any Project does not come to fruition, for whatever reason, it will not be replaced by another Project or Projects to make-up the difference. MWDOC does not believe this is a valid planning assumption for Southern California.

Our point in correcting the record is simply to stand behind the work completed in both the 2016 and the 2018 studies. Different approaches were taken between the 2016 and 2018 studies, but the outcomes were similar for the OC Basin. Our next update will likely consider other approaches to continue to inform our agencies, elected officials, and the public about the issues facing our water future. That is a benefit of having a working calibrated model that can be updated from time to time to be used to understand the current issues.

We appreciate your patience in understanding the nuances of the studies.

Sincerely,



On behalf of Robert J. Hunter
General Manager

cc: MWDOC Board of Directors
Karl Seckel
Charles Busslinger

Attachment 1 Clip from the 2016 OC Reliability Study – appears to be what Mr. Markus was quoting from, but note the clearly marked assumptions – “NO NEW INVESTMENTS”

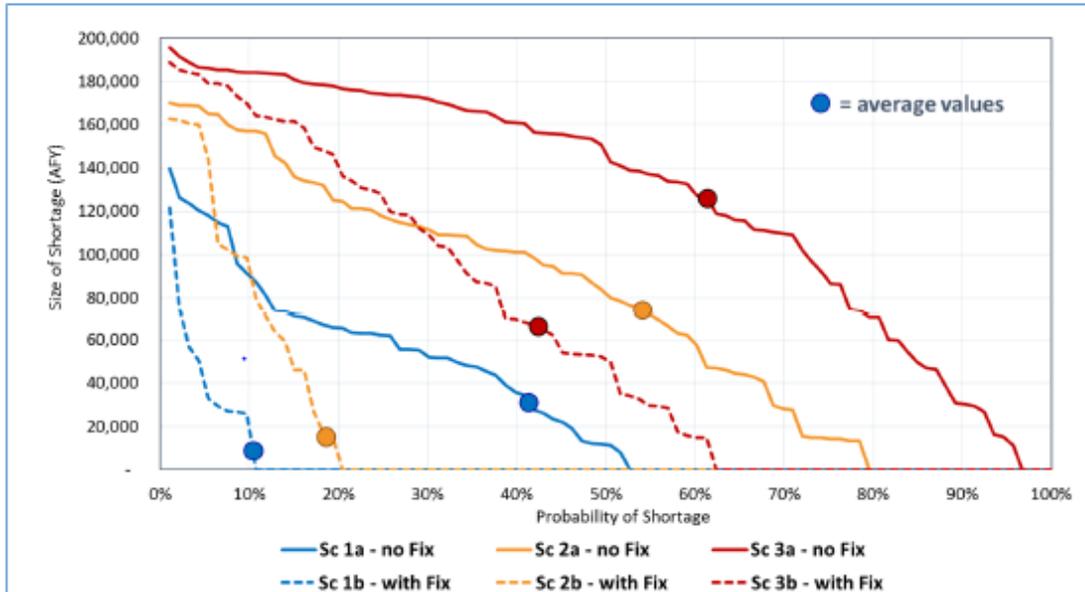


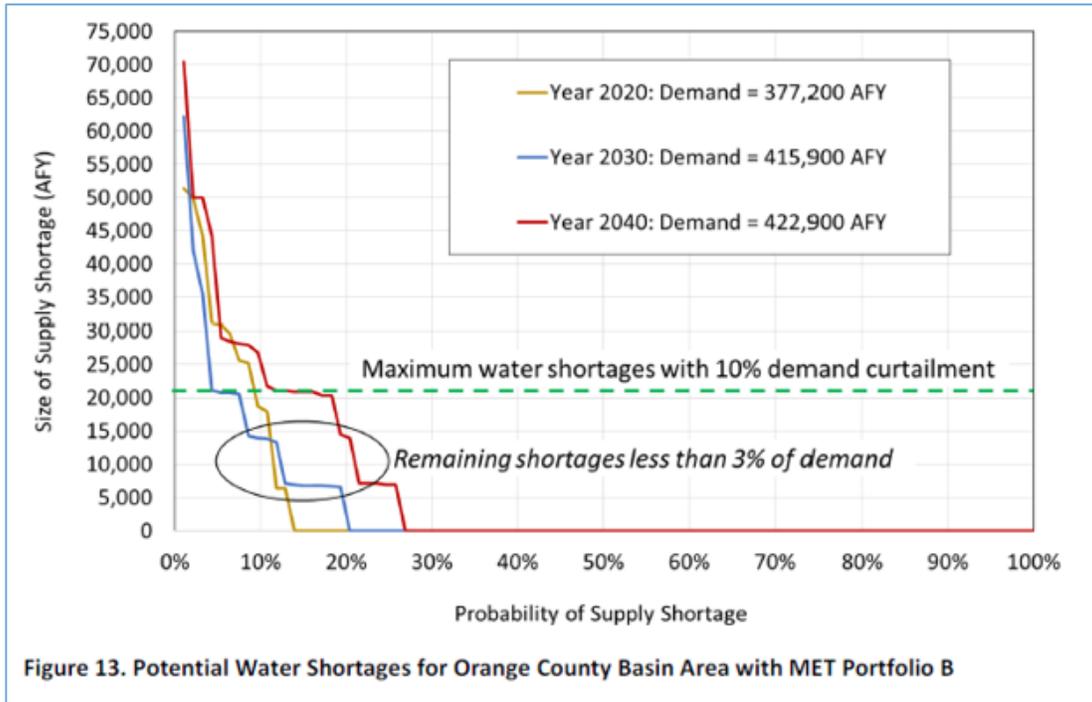
Figure 9. Probability and Size of Water Supply Shortages for Orange County in Year 2040 – NO NEW INVESTMENTS

Table 5. Average Water Shortages for OC Study Areas (AFY) – NO NEW INVESTMENTS

Area	Scenario 1		Scenario 2		Scenario 3	
	a – no Fix	b – with Fix	a – no Fix	b – with Fix	a – no Fix	b – with Fix
Brea / La Habra						
2020	110 (1%)	110 (1%)	160 (1%)	160 (1%)	250 (1%)	250 (1%)
2040	820 (4%)	130 (1%)	1,800 (9%)	430 (2%)	3,100 (15%)	1,600 (8%)
OC Basin						
2020	3,800 (1%)	3,800 (1%)	5,300 (1%)	5,300 (1%)	9,300 (2%)	9,300 (2%)
2040	19,000 (5%)	2,800 (1%)	49,000 (12%)	11,000 (3%)	85,000 (20%)	42,000 (10%)
South County						
2020	2,100 (2%)	2,100 (2%)	3,000 (3%)	3,000 (3%)	4,800 (4%)	4,800 (4%)
2040	12,000 (9%)	1,900 (2%)	23,000 (18%)	5,600 (4%)	38,000 (28%)	20,000 (15%)
OC Total						
2020	6,000 (1%)	6,000 (1%)	8,500 (2%)	8,500 (2%)	14,000 (3%)	14,000 (3%)
2040	32,000 (6%)	4,800 (1%)	74,000 (13%)	17,000 (3%)	126,000 (21%)	64,000 (11%)

* Numbers in parentheses () represent % of water demand.

Attachment 2 Clip from the 2016 OC Water Reliability Study showing the OC Basin Shortages under Scenario 2B



Attachment 3 Clip from the 2018 OC Water Reliability Study showing the OC Basin Shortage under Four Scenarios – Note Scenario 2A for 2040 from the 2018 study is very similar to the year 2040 scenario from the 2016 study above.

