

## RESPONSE TO COMMENTS

### CALIFORNIA DEPARTMENT OF WATER RESOURCES WILLIAM E. WARNE POWER PLANT TENTATIVE ORDER R4-2016-XXXX NPDES PERMIT NO. CA0058188, CI NO. 6610

This Table (matrix) summarizes the significant comments received on the draft permit that were timely raised during the public written comment period. Each comment presented has a corresponding Regional Water Board response and corresponding action taken, if any.  
(For permit language, additions are underlined, and deletions are lined over.)

Commenter	No.	Comment	Response	Action Taken
<b>Letter dated May 23, 2016 from California Department of Water Resources (Discharger)</b>				
Discharger	0.1	<p><b>Discharger has the following concerns with new requirements with which consistent compliance is uncertain (a detailed discussion follows):</b></p> <ul style="list-style-type: none"> <li>The WEWPP cannot consistently comply with the proposed dissolved oxygen effluent limitation of 6 mg/L.</li> <li>While effluent data is not available, compliance with the proposed chloride limit is uncertain based on upstream State Water Project chloride data.</li> <li>It is impractical to apply all of the Santa Clara River TMDLs to the WEWPP discharge.</li> <li>A numeric toxicity limit based on the Test of Significant Toxicity (TST) and an Instream Waste Concentration (IWC) of 100% effluent is not warranted.</li> <li>Reasonable potential for bis (2-ethylhexyl) phthalate is based on a single data point from 2011 that appears to be an outlier.</li> <li>Additional corrections and clarifications</li> </ul>	<p>Please refer to Response to Comment No. 1 below.</p> <p>Please refer to Response to Comment No. 2 below.</p> <p>Please refer to Response to Comment No. 3 below.</p> <p>Please refer to Response to Comment No. 4 below.</p> <p>Please refer to Response to Comment No. 5 below.</p> <p>Please refer to Response to Comment Nos. 6 to 10 below.</p>	If necessary and appropriate, actions have been addressed per the responses below.
Discharger	1	<p><b>Dissolved Oxygen Effluent Limit should be removed because the receiving water limit provides adequate protection of beneficial uses</b></p> <p>The current permit contains an effluent limit for dissolved oxygen (DO) of a minimum value of 5.0 mg/L. In the Tentative Order, this minimum value has been increased to 6.0 mg/L. This limit is based on the Basin Plan's water quality objective for protection of the COLD beneficial use of 6.0 mg/L. Monitoring data indicate the WEWPP effluent can</p>	<p>Regional Board staff agrees, in part, with the comment. The locations of the WEWPP discharge points are approximately 8 feet above the receiving water's surface. The effluents are likely to be aerated prior to entering the receiving water. Since the sampling of effluents occurs inside the Facility, the effluent monitoring data for DO may not adequately reflect the effect of aeration prior to the effluents entering the receiving water. The DO monitoring data of the receiving water during the last permit term were consistently above the DO water quality</p>	DO effluent limitations have been changed to 5 mg/L as a minimum value throughout the permit.

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		<p>comply with the current limit but would have difficulty consistently complying with the effluent limit of 6.0 mg/L that is proposed in the Tentative Order.</p> <p>Because of the configuration of the WEWPP discharge, it is not necessary for the Basin Plan Objective to be met in the effluent in order to ensure that DO in the receiving water is not impacted. Specifically, after the point where the effluent is sampled for DO (for safety reasons, sampling occurs inside the building), the WEWPP effluent discharges approximately 8 feet above the water's surface resulting in significant aeration of the discharge before it reaches the water. Therefore, the discharge should be saturated with DO by the time it reaches the receiving water and will not adversely impact the receiving water DO levels.</p> <p>Based on influent (i.e., upstream) and downstream receiving water data (RSW-001), effluent DO levels are not adversely impacting receiving water DO levels with DO levels consistently above the objective of 6 mg/L. In fact, very often the downstream DO (RSW-001) is higher than the upstream DO. Therefore, the current effluent limit of 5 mg/L is protective of beneficial uses.</p> <p>Because the discharge at Discharge Points EFF - 001A&amp;B and EFF-002 are well-aerated prior to entering the receiving water and are not adversely impacting receiving water DO levels, and to remain consistent with other Region 4 permits, DWR requests that the effluent limit be removed from the permit.</p> <p>While it appears that a receiving water limit alone is adequate to ensure protection of beneficial uses, if it is determined that an effluent limit is needed, DWR requests that the current effluent limit for DO of 5 mg/L be retained for both discharge points.</p>	<p>objective of 6 mg/L with the DO value in the effluent consistently complying with the 5 mg/L minimum limitation as prescribed in the existing permit. The DO effluent limitation of 5 mg/L as a minimum value in the existing permit is adequate to ensure the protection of COLD beneficial uses in the receiving water. Therefore, Regional Board staff has changed the effluent minimum DO value from 6 mg/L to 5 mg/L in the tentative permit, which is the limit included in the existing permit for both discharge points.</p> <p>The Regional Board disagrees that the DO effluent limit should be removed from the permit entirely. Inclusion of an effluent limit for DO is appropriate and necessary to ensure the protection of the COLD beneficial use in the receiving water and is consistent with the Basin Plan.</p>	
Discharger	2	<p><b>Effluent limits for Chloride are unlikely to result in improvements to water quality</b></p> <p>A chloride effluent limit of 100 mg/L is included in the Tentative Order based on the Waste Load Allocation (WLA)</p>	<p>The Facility's discharge to Pyramid Lake is subject to the WLA in the Santa Clara River Chloride TMDL because the TMDL assigns the WLA to "other NPDES discharges", which is intended to include all NPDES</p>	<p>Intake water credit and monthly influent,</p>

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		<p>in the Chloride TMDL for the Santa Clara River (Resolution No. R14-010). However, Pyramid Lake is not mentioned in either the Order or the Staff Report for this TMDL. As discussed in more detail below, there is substantial dilution available and the fully mixed, diluted discharge travels in excess of 25-30 miles downstream before reaching the Santa Clara River. In addition to not being mentioned in the TMDL, Pyramid Lake is not impaired for chloride</p> <p>As noted in Section II.B. on p. F-5 of the fact sheet, releases from Pyramid Lake primarily travel through the Elderberry Forebay, Castaic Lake, Castaic Lagoon, Castaic Creek before reaching the Santa Clara River at Reach 5. Water from Pyramid Lake is released to Piru Creek during the summer months to support flows in the creek. Therefore, the WLA for Reach 5 (i.e., 150 mg/L) should be applied during those times that water is not being released to Piru Creek.</p> <p>There is no data available for the WEWPP effluent because monitoring for chloride has not been required previously. It is difficult to assess whether the effluent is a potential source of chloride or to determine if consistent compliance with the proposed limit is even possible.</p> <p>Chloride data was reviewed for a point in the State Water Project approximately 15 miles upstream of the WEWPP (i.e., Check 41, located just before the bifurcation of the CA Aqueduct into the East and West branches). While this is a significant distance upstream, if the chloride were to persist over this distance, it is likely that the WEWPP would have difficulty complying with the proposed effluent limitation of 100 mg/L.</p> <p>Imposing effluent limits for chloride is unlikely to result in any measurable change or improvement in water quality while increasing the regulatory burden and resulting in violations with penalties for the discharger. Therefore, DWR requests that effluent limits for chloride be removed from the permit.</p> <p>Alternatively, DWR requests that one or more of the following be incorporated into the effluent limit:</p>	<p>permits in the Upper Santa Clara River Watershed, including discharges to impaired reaches and tributaries to impaired reaches. Therefore, the chloride effluent limitation of 100 mg/L as a 3-month rolling average in the tentative permit shall be retained.</p> <p>Regional Board staff acknowledges the variability in the chloride concentration in the State Water Project waters. The staff report (Upper Santa Clara River Chloride TMDL Reconsideration, August 2006) states that during dryer than normal conditions, the Sacramento-San Joaquin Delta is highly influenced by seawater and brackish water intrusion. This may result in the chloride concentration exceeding 100 mg/L in the State Water Project water. Chloride data at a point in the State Water Project conveyance approximately 15 miles upstream of the Facility exceeded the chloride effluent limitation of 100 mg/L. The William E. Warne Power Plant moves the water from the State Water Project pipeline into Pyramid Lake, where the water would end up if not used to turn the turbine for power generation and once-through cooling in the Facility. Therefore, an intake water credit for chloride has been included in the tentative permit.</p> <p>To implement the intake water credit for chloride, monthly monitoring for chloride in the influent has been added to the tentative permit for the evaluation of the chloride concentration in the influent. The monthly monitoring requirement for chloride in the effluent will provide data to determine the discharge concentrations for chloride.</p> <p>The tentative permit also requires monthly monitoring for chloride in the receiving water to evaluate the compliance with the chloride water quality objective of 100 mg/L, measured as a 3-month rolling average.</p>	<p>effluent and receiving water monitoring for chloride included.</p>

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		<ul style="list-style-type: none"> <li>Modify the effluent limit to 150 mg/L based on the TMDL target for Reach 5 of the Santa Clara River.</li> <li>Allow consideration of an intake credit because it is most likely that exceedances will be associated with chloride levels in the State Water Project (SWP).</li> <li>Allow consideration of a dilution credit of 8.2 based on the mixing zone study that was approved by the Regional Board.</li> </ul>		
Discharger	3	<p><b>Effluent Limits based on Upper Santa Clara River TMDLs should not be applicable to the WEWPP discharge</b></p> <p>The nitrate plus nitrite and E. coli limits included in the Tentative Order are new and are based on the WLAs established in the Nitrogen Compounds TMDL (Resolution No. 03- 011) and the Indicator Bacteria TMDL (Resolution No. R10-006). These WLAs apply to sources of nitrogen to Reach 5 and bacteria to Reaches 3-7 of the Santa Clara River. DWR believes that these TMDLs and associated effluent limits are not applicable to the WEWPP discharge for the following reasons:</p> <ul style="list-style-type: none"> <li>The WEWPP discharges far upstream of the Santa Clara River and the impacts from the discharge are immeasurable by the time the discharge reaches the Santa Clara River.</li> <li>Power plant operations do not use or generate nitrogen or bacteria and they are not considered sources of these compounds.</li> <li>Pyramid Lake to which the WEWPP discharges is not mentioned in the Basin Plan Amendment or the Staff Report for the Indicator Bacteria TMDL.</li> <li>The Nitrogen TMDL targets are currently being met in the Santa Clara River without these effluent limits being imposed.</li> </ul> <p>As noted on p. F-5-6, the WEWPP discharges to Pyramid Lake and Piru Creek. It should be noted that the discharge first enters Canada de los Alamos Creek at the point where the creek combines with State Water Project flows. The</p>	<p>The effluents from the Facility are mainly composed of once-through cooling waters that are basically State Water Project water. The Basin Plan amendment for the Santa Clara River Nitrogen Compounds TMDL does not explicitly address the upstream reaches of the river. It assigns WLAs to minor discharges discharging to Reach 3 and Reach 7, but does not specify if this includes both direct discharges and indirect discharges. However, the staff report evaluates the watershed as a whole, including reservoir releases. It is therefore inferred that the WLAs apply to both direct discharges to Reach 3 and Reach 7 and indirect discharges to tributaries of Reach 3 and Reach 7. The staff report states, "Minor point sources are not considered to contribute loads ammonia, nitrite, or nitrate to the Santa Clara River that would have a significant effect on achievement of numeric targets. However, because these sources can potentially have localized effects on water quality, they are allocated concentration-based wasteloads equivalent to the water quality objective. These wasteloads will be implemented through the individual NPDES permits and the Monitoring and Reporting Programs associated with those permits." Therefore, the effluent limitations for ammonia and nitrate plus nitrite based on the Nitrogen Compounds TMDL's WLAs remain in the tentative permit.</p> <p>As to the bacteria effluent limitations, although the Bacteria TMDL identifies urban stormwater runoff as a significant source, all sources, including all individual NPDES permits, are considered potential sources and assigned allocations accordingly. The TMDL applies to</p>	None.

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		<p>discharge becomes completely mixed before leaving the channel and entering Pyramid Lake. Pyramid Lake discharges to Elderberry Forebay via the Angeles Tunnel. The water continues to Castaic Lake, Castaic Lagoon and eventually flows south to Castaic Creek and from there to Reach 5 of the Santa Clara River. Discharges through Piru Creek reach the Santa Clara River after the creek 'meander[s] through Piru Canyon'. During the most frequently encountered discharge scenario for the plant, the mixing zone study determined that dilution ratios are typically as high as 177:1 based on the harmonic mean flow of the receiving water. As shown in the figure below, the distance from the WEWPP discharge point to Reach 5 of the Santa Clara River is approximately 25 miles through Castaic Lake and approximately 33 miles through Piru Creek. The completely mixed and diluted discharge resides in two reservoirs (Pyramid and Castaic Lakes) before it reaches the Santa Clara River. The path through Piru Creek includes a winding, circuitous path through Piru Canyon and also encounters Piru Lake. During this time and distance, there are multiple opportunities for introduction of bacteria and organic matter (i.e., nitrogen source) and the amount of either of these compounds associated with the WEWPP discharge would be immeasurable in the Santa Clara River.</p> <p>When considering the potential for WEWPP discharges to impact the Santa Clara River, it should be noted that Pyramid Lake is not impaired for bacteria or nitrogen compounds. If the WEWPP is not contributing to an impairment of its direct receiving water, it stands to reason that it has no impact on a waterbody that is 25-30 miles away.</p> <p>As described on p. F-5 of the fact sheet, the WEWPP discharge is comprised primarily of once-through cooling water (Discharge Point 001). The much smaller discharge (no more than 20,000 gal/day compared to 1-2 MGD for 001) is comprised of backwash from potable water treatment, groundwater seepage, and compressor cooling water. These waste streams are not typically associated with bacteria.</p> <p>Common sources of nitrogen compounds listed in the TMDL</p>	<p>the whole watershed draining to impaired reaches, including Pyramid Lake. In addition, the direct receiving water, Pyramid Lake, has beneficial uses of water contact (REC-1) and non-contact (REC-2) recreation. The inclusion of bacteria effluent limitations based on the WLAs in the tentative permit are appropriate.</p>	

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		<p>include municipal wastewater treatment plant discharges, agricultural runoff, storm water and groundwater discharges. It should also be noted that the recently approved Enhanced Watershed Management Program (EWMP) for the Santa Clara River Watershed does not consider Pyramid Lake to be a priority water body (Table A1-13) for either constituent. In addition, the Nitrogen TMDL is reported as being attained in the EWMP. This would indicate that significant sources have been effectively addressed.</p> <p>The most significant sources of bacteria, as determined in the TMDL for the Santa Clara River, were determined to be dry-and wet-weather urban runoff discharges from the storm water conveyance system. Non-urban discharges were determined to be less significant. Another typical source of bacteria, domestic wastewater, is not discharged through the WEWPP discharge outfalls. Domestic wastewater at the facility is discharged to the sanitary sewer. Industrial sources and specifically power plants are not identified as significant sources of either nitrogen compounds or bacteria or even mentioned in the TMDLs. In addition, Pyramid Lake was not considered or mentioned in the nitrogen or bacteria TMDL Basin Plan Amendments.</p> <p>Imposing effluent limits for the WEWPP discharge would result in additional regulatory burden for the discharger without resulting in any measurable improvement in water quality. Therefore, DWR requests that the effluent limits for nitrate plus nitrite and E. Coli be removed from the permit and that monitoring requirements be reduced to 2 samples per year for nitrate plus nitrite and 1 sampling event/year for E. Coli.</p>		
Discharger	4	<p><b>A numeric toxicity limit based on the TST is not appropriate</b></p> <p>The Tentative Order includes a numeric effluent limit for toxicity as measured by the Test of Significant Toxicity (TST). The WEWPP discharge has not been shown to have toxicity concerns using the current approach (NOEC) and, therefore, a numeric limit is not necessary for the discharge.</p>	<p>The TST statistical analysis is the superior approach for addressing statistical uncertainty when used in combination with U.S.EPA's toxicity test methods. EPA believes that the TST is superior to the existing 5 concentration approach to determine the NOEC and the TST statistical analysis is implemented in federal permits issued by U.S. EPA Region 9. The Whole Effluent</p>	None.



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		<p>In addition, while DWR understands that several permits have been issued in Region 4 specifying use of the TST, other regions have chosen to defer using this method until the finalization of the Statewide Policy. Our understanding is that only Region 4 includes numeric effluent limits for toxicity with no dilution credit and requires the TST. More importantly, POTWs using the TST have reported unexpectedly high failure rates for toxicity testing using the TST. The Sanitation Districts of Los Angeles County have recently evaluated the reliability of the method based on their experience with high failure rates. Using outside laboratories, they found that <i>half of the non-toxic blank samples</i> were identified as toxic using the TST.</p> <p>In addition, the In Stream Waste Concentration (IWC) is listed as 100% in Section V.A.1 (p. E-13) of the Monitoring and Reporting Program. A review of other recently adopted NPDES permits in Region 4 indicates that the IWC has been adjusted based on available dilution where applicable. (e.g., R4-2015-0123, R4-2015-0119, R4-2015-0172, R4-2015-0201). While all of these discharges are to the ocean, the principle of considering dilution in the determination of an IWC should still apply.</p> <p>DWR requests that numeric effluent limits for chronic toxicity be removed and that the current method for evaluating toxicity as a trigger for additional investigation using the NOEC be retained from the current permit.</p> <p>Alternatively, DWR requests that the Instream Waste Concentration be 12% effluent based on the approved dilution credit of 8.2 instead of 100% effluent as currently stated in the Tentative Order and that a reopener be included in the permit that allows for a change in the toxicity test method based on the finalization of the Statewide Policy.</p>	<p>Toxicity Testing Requirements using the TST approach has also been routinely included in recently issued permits by the Regional Water Board. The rationale for the chronic toxicity effluent limitation has been explained in Section IV.C.6. of the Fact Sheet.</p> <p>The TST statistical method as required in the tentative permit allows the Discharger to analyze the five concentration samples as specified in the Whole Effluent Toxicity (WET) test methods.. However, only the control and the instream waste concentration (IWC) will be evaluated to determine if the chronic toxicity testing using the TST approach results in a Pass or Fail result. Since no dilution credit is allowed for the chronic toxicity testing, the chronic toxicity IWCs for Discharge Points 001(A&amp;B) and 002 are 100% effluent.</p> <p>If, during the permit term, the State Water Board adopts a statewide toxicity policy, the Regional Water Board may reopen the permit to make changes, if necessary.</p> <p>The Regional Water Board's letter dated October 26, 2015, approving dilution credits, clearly states that the approved dilution credits are chemical and outfall specific and are not applicable to other pollutants in the permit. Therefore, the approved dilution credits are not applicable to chronic toxicity. Chronic toxicity testing based on an IWC of 12% effluent is therefore not appropriate.</p>	
Discharger	5	<p><b>Bis (2-ethylhexyl) phthalate.</b></p> <p>The Tentative Order includes effluent limits for bis (2-ethylhexyl) phthalate. For EFF- 002, the finding of</p>	<p>When conducting a reasonable potential analysis for a parameter, all monitoring data should be considered unless the monitoring result has been determined to be invalid. This general practice is directed and supported</p>	None.

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		reasonable potential is based on a single detected value of 79 µg/L in February 2011. In the five years since then, all other data has been below the detection limit of 2.3 µg/L. Because the detected value is more than an order of magnitude greater than any other data and it is more than 5 years old, the detected value should be considered a statistical outlier that is not representative of the effluent quality. Therefore, DWR requests that the finding of reasonable potential and the effluent limit be removed from the Tentative Order.	by U.S.EPA. The February 2011 detected value has not been determined to be invalid. Therefore, the effluent limitation for bis (2-ethylhexyl) phthalate has been retained in the tentative permit.	
Discharger	6	<b>Corrections and Clarifications</b> Table 4 on p. 4 of the Tentative Order lists the DO limit as a Maximum value. This should be changed to Minimum consistent with the Basin Plan Objective which is a value that shall not be less than a specified value at any time. Table 5, which contains the effluent limits for Discharge Point OO2, correctly lists this limit as a minimum value.	DO effluent limit in Table 4 on p.4 of the tentative permit has been changed to a "Minimum" value.	Requested change made.
Discharger	7	<b>Corrections and Clarifications</b> Table 5 on p. 6 of the Tentative Order list the AMEL and MDEL for zinc as 315 µg/L and 1006 µg/L. As discussed with your staff, there was a rounding error included in this calculation. The correct effluent limits should be 320 µg/L as an AMEL and 1023 µg/L as an MDEL.	Regional Board staff note that the calculated zinc criteria (121.84) were rounded to two significant digits (120) before they were used in the subsequent effluent limitation calculations. This is the cause for the differences in the final calculated AMELs and MDELs. The correct effluent limitations should be 320 µg/L as an AMEL and 1023 µg/L as an MDEL for zinc in Table 5 on p. 6. The tentative permit has been changed accordingly.	Requested change made.
Discharger	8	<b>Corrections and Clarifications</b> The monitoring requirement for Total Trihalomethanes should be removed from Table E-4 on p.E-9 because it is redundant and unnecessary. Monitoring is required for individual trihalomethanes and, with the removal of the Total Trihalomethanes MCL from Title 22 in 2013, there is no applicable water quality standard for this constituent.	The total trihalomethanes Maximum Contaminant Level (MCL) is listed in Title 22, California Code of Regulations, section 64533. The Monitoring and Reporting Program requires the Discharger to report the sum of bromoform, chloroform, chlorodibromomethane, and dichlorobromomethane as total trihalomethanes in order to perform future determinations of reasonable potential to exceed the MCL for total trihalomethanes, which is 0.080 mg/L. Therefore, the monitoring requirement has been retained.	None.



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Discharger	9	<b>Corrections and Clarifications</b> On p. F-5, Section II.B., - Please, modify the last sentence of the first paragraph to read 'subsequently discharged to <u>Canada de los Alamos Creek which flows</u> to Pyramid Lake, a water of the United States.'	The following changes have been made on p. F-5 of the Fact Sheet, Section II.B: "...Up to 1.97 MGD of cooling and sump water is discharged into the tailrace through Discharge Point 001(A&B) and 002, co-located at latitude 34.6850°, longitude -118.7878°; and subsequently discharged to <u>Canada de los Alamos Creek which flows</u> to Pyramid Lake, a water of the United States."	Requested change made.
Discharger	10	<b>Corrections and Clarifications</b> On p. F-20, Section IV.C.2.b. – Mixing zone/Applicable Dilution Credits. Please add that the Mixing Zone Study report was submitted to the Regional Board as required by the TSO on May 30, 2013.	The following changes have been made on p. F-20 of the Fact Sheet, Section IV.C.2.b.: "...The study demonstrated that dilution credits are applicable to the discharges. <u>A Mixing Zone Study report was submitted to the Regional Board as required by the TSO on May 30, 2013.</u> "	Requested change made.