



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

August 31, 2016

Jeff Sims, Administrator
Western Riverside County
Regional Wastewater Authority
14205 Meridian Parkway
Riverside, CA 92518-3045

FINAL SETTLEMENT: STIPULATED ORDER NO. R8-2016-0032

Dear Mr. Sims:

Enclosed is a signed copy of Stipulated Order No. R8-2016-0032, which represents the settlement agreement between Western Riverside County Regional Wastewater Authority (the Discharger) and the Santa Ana Regional Water Quality Control Board ("Regional Board"). The Stipulated Order is a settlement agreement and stipulations for the draft administrative civil liability complaint issued for violations of California Water Code section 13385.

The Discharger has accepted the Stipulated Order as presented, waived its right to a hearing, and has agreed to pay the Administrative Civil Liability of \$430,092.

Please provide payment of \$430,092 by September 30, 2016 and make the check payable to the *State Water Resources Control Board Cleanup and Abatement Account* (Order No. R8-2016-0032 should be referenced on the check) to the following address:

State Water Resources Control Board Accounting Office
Attn: ACL Payment
P.O. Box 1888
Sacramento, CA 95812-1888

If you have any questions about this letter or the Order, please contact Kirk Larkin of our staff at (951) 320-2182 (Kirk.Larkin@waterboards.ca.gov).

Sincerely,

A handwritten signature in black ink that reads "Kurt V. Berchtold".

Kurt V. Berchtold
Executive Officer

Enclosures: Stipulated Order No. R8-2016-0032 and Attachments

cc: w\enclosures (by electronic mail only):

Board Members

Regional Water Quality Control Board – Kurt Berchtold, Executive Officer

State Water Resources Control Board, Office of Chief Counsel – David Rice

State Water Resources Control Board, Office of Enforcement – Naomi Kaplowitz

Discharge and Producer/User Reclamation Requirements for the WWTP. Order No. R8-2015-0013 supersedes and rescinds Order No. R8-2008-0005.

3. The WWTP is a tertiary treatment facility capable of providing reclamation water for reuse, or for discharge through an outfall to the Santa Ana River. The facility is designed for an average dry-weather flow rate of 8 million gallons per day (MGD), and receives an average daily flow rate of approximately 6.9 MGD.
4. The facility operates a medium-pressure ultraviolet light system to disinfect tertiary treated effluent. The disinfection system is designed for a peak flow of 8.2 MGD and consists of four UV lamp banks installed in a single concrete channel.
5. Treated wastewater from the WRCRWA WWTP discharges to a diversion channel along the Santa Ana River that directs a portion of the flow of the river to the Prado Constructed Wetlands (PCW) located in the Prado Basin Management Zone. Flow that has passed through the PCW is directed back to Reach 3 of the Santa Ana River, in the Prado Basin. During the non-storm water season, the Santa Ana River consists primarily of tertiary-treated wastewater.
6. To improve water quality in the Santa Ana River, the Orange County Water District (OCWD) constructed the PCW. The PCW is a system of treatment ponds designed to reduce nitrate concentrations in the Santa Ana River. The PCW is a network of levees, weirs, and conveyance piping that controls water flow through the ponds where it undergoes sedimentation, assimilation, adsorption, and denitrification treatment processes. The PCW is managed and operated by OCWD.

Violation 1:

7. On July 30, 2013, at approximately 2230 hours an on-call WWTP operator for WMWD received a pager notification of an alarm that had been triggered at the treatment facility. The notification informed the operator of a general alarm that had been initiated by the UV disinfection system.
8. Shortly after the operator received the notification, the operator remotely accessed the supervisory control and data acquisition (SCADA) system using the Operator's on-call laptop. The SCADA system displayed three of the four UV disinfection banks as operational. The operator assumed the disinfection system was still functional and that the alarm may have been initiated by the loss of a UV lamp or ballast. Based on the operators understanding that only three of the four UV banks were required to adequately disinfect the wastewater at the current flow rate, the operator made a decision to follow up on the alarm the following day, during the normal working hours.

9. The following day, the WMWD WWTP Operators realized that the UV disinfection system had malfunctioned and stopped working. The Operators physically checked all the UV banks, and discovered that all the banks were off.
10. The failure of the UV disinfection system was not discovered by the WMWD personnel until the morning of July 31, 2013, at approximately 0715 hours. Upon discovery of the failure, immediate action was taken to stop all discharges from the facility. At approximately 0715 hours on July 31, 2013, a valve was closed at the facility to stop discharging undisinfecting effluent to the Santa Ana River.
11. The Discharger reported to the Regional Water Board that the incident occurred when an isolation transformer powering two of the UV Banks (Banks A and B) experienced a catastrophic failure. WMWD staff determined that the equipment failure also caused the loss of power to the other UV Banks (Banks C and D). The failure of the UV disinfection system resulted in the loss of power to the UV Banks from July 30, 2013 at approximately 2230 hours to July 31, 2013 at approximately 0715 hours.
12. Following the incident, the Discharger reported that the isolation transformer that supplies power to UV Banks A and B was recently replaced by an electrical contractor on July 17, 2013. The existing transformer had been in service at the facility since the UV disinfection system was constructed in 1997.
13. When the new transformer failed on July 30, 2013 the failure caused the main breaker in the UV systems power panel switchboard (PP-UV) to trip open, resulting in the loss of electrical power to the isolation transformers that provide power to UV Banks A and B as well as UV Banks C and D.
14. WRCRWA contracted with an engineering and consulting firm that specializes in information technology (IT) and SCADA engineering to assist with investigating the circumstances that caused the catastrophic failure of the new isolation transformer. The consultant reported to WRCRWA stating that UV disinfection systems are equipped with high-frequency electronic ballast units that power the UV Banks and the transformers must be designed and built to withstand the high frequency currents, otherwise the transformers will overheat. Upon review of the facilities electrical design documents, the consultant reported that the electrical design drawings that were approved for construction of the UV disinfection system specified that the transformers shall have a K-4 rating (Single Line Diagram E-3, dated January 13, 1997). The consultant reported that both of the transformers that were originally installed when the UV disinfection system was first constructed were 300kVA K-4 rated isolation transformers. The transformer installed by the electrical contractor on July 17, 2013 had a larger rated capacity than the original unit, 350kVA vs. 300kVA, but the transformer was not K-Rated and was not capable of withstanding the high harmonic currents present in the electrical load for the UV system.

15. On September 26, 2013, an electrical and engineering contractor installed a new 350kVA K-20 rated isolation transformer to supply power to UV Banks A and B.
16. On December 5, 2013, contractors who specialized in engineering, programming and commissioning, program logic controllers (PLCs), human machine interfaces (HMIs), SCADA and IT systems assisted WRCRWA with field testing the UV disinfection system. One of the tests simulated a sudden power failure similar to the July 30th incident. The objective of the test was to determine if the UV control system and SCADA system would continue to provide accurate reporting and alarm notifications when power to the UV banks were suddenly disconnected. Results of the tests identified major inaccuracies in how the UV control system reported the on and off power status and alarm status for each UV bank when power to the UV banks were disconnected. The tests revealed that if power from the isolation transformers were lost to UV Banks B, C or D, the individual bank failure alarms would not display appropriately in SCADA. For example, when the individual bank failure test was performed on UV Bank B, by disengaging the isolation transformer breaker for Bank B only, the Common Major Alarm for the UV System displayed an alarm on Bank A only. Further, the SCADA HMI graphic for Bank B continued to display as green, indicating that the Bank B was still on. Also, the SCADA HMI graphic displayed an alarm for UV Bank A.
17. After the contractors and WRCRA staff completed the December 5, 2013 field tests on the UV disinfection system, and upon further review of the As-built drawings (As-built loop drawings for PLC-T) for the system, it was discovered that the UV Common Major Alarm was only assigned to the input for UV Bank A. The Discharger reported that the original design and drawings for the UV disinfection system (PLC Input and Output List and Drawings for PLC-T) called for individual bank failure alarms.
18. The inaccuracies in how the UV bank power and alarms were reported and displayed in the UV disinfection and SCADA systems resulted in a delay in the response time by the WWTP Operators. The incident resulted in the release of approximately 2.47 million gallons of undisinfected effluent from the facility to the Santa Ana River and PCW. None of the undisinfected effluent was contained or recovered.

Violation 2:

19. On November 26, 2014, at 1947 hours, the Operations Supervisor for the WRCRWA WWTP logged into WRCRWA's SCADA system to check on the status of the treatment plant operations. The Operator noticed that only two of the four UV banks were being called for to disinfect the tertiary treated effluent and the UV disinfection system had a low UV dose rate. WRCRWA reported that no alarms for the UV disinfection system were reported in the SCADA system.

20. On November 26, 2014, at 2110 hours, the Operations Supervisor arrived at the WWTP to investigate the cause of the low UV dose. The operator switched all of the UV banks to hand operation, which resulted in all of the banks running at 100% output. Upon further investigation, the operator discovered that the UV design dose set point had been manually set to zero by one of the WWTP operators. The UV disinfection system is designed to operate with a minimum UV dose of $145 \text{ mW}\cdot\text{s}/\text{cm}^2$. The Operations Supervisor subsequently reset the UV design dose set point back to $145 \text{ mW}\cdot\text{s}/\text{cm}^2$. Later that evening, at 2155 hours, the UV disinfection system had been switched back into auto mode and was operating normally.
21. On November 26, 2014, WRCRWA reported to the Regional Board that the UV disinfection system had operated with the UV dose set to zero $\text{mW}\cdot\text{s}/\text{cm}^2$ from 1440 hours to 2110 hours.
22. On November 27, 2014, at 0923 hours, WRCRWA notified the California Office of Emergency Services (Cal OES) of the discharge of partially disinfected tertiary treated effluent to the Santa Ana River. Cal OES recorded the information provided by WRCRWA in Cal OES Control No. 14-6767. WRCRWA reported to Cal OES that "... an outfall at the treatment plant discharged approximately 2 million gallons of fully treated tertiary water that was only partially disinfected due to a UV system malfunction. This is part of the normal operation of the plant, however, the release was not fully disinfected. [WRCRWA] states that the outfall discharges into the Prado Basin. [WRCRWA] states that the issue has been corrected and the plant is fully operational."
23. Following the incident, WRCRWA identified corrective actions to enhance the system and prevent similar incidents from occurring again. To prevent accidentally changing the UV dose set point to a value outside the appropriate range, the UV dose set point was changed to only allow the dose to be set between the ranges of 145 to $200 \text{ mW}\cdot\text{s}/\text{cm}^2$. In addition, the trigger point for the UV dose alarm was changed from a percentage of the dose to a fixed value.
24. On December 3, 2014, WRCRWA reported that the discharge of partially disinfected tertiary treated effluent occurred when a WWTP Operator inadvertently set the UV dose set point to zero $\text{mW}\cdot\text{s}/\text{cm}^2$. Since the UV disinfection system was operating within the set points established by the operators, the UV disinfection and SCADA systems did not trigger any alarms.
25. On December 3, 2014, WRCRWA also reported to the Regional Board that when the UV dose set point is at zero $\text{mW}\cdot\text{s}/\text{cm}^2$, two UV banks remain powered with a 53% output, resulting in approximately 38 percent of the required dose for peak flow disinfection.
26. The incident resulted in the release of approximately 2.45 million gallons of partially disinfected tertiary treated effluent to the Santa Ana River and PCW.

None of the partially disinfected tertiary treated effluent was contained or recovered.

Legal Authority:

27. The Federal Clean Water Act (33 U.S.C Section 1311) and California Water Code (Water Code) Section 13376 prohibit the discharge of pollutants to waters of the United States, unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit.
28. The discharge of undisinfected or partially disinfected effluent to the Santa Ana River, and to the PCW in the PBMZ, is not authorized by the facilities NPDES Permit, NPDES No. CA8000316. The discharge of undisinfected or partially disinfected effluent in July 2013 and November 2014 resulted in the unauthorized discharge of pollutants, such as bacteria, viruses, and other potential pathogens, to waters of the United States. These discharges were in violation of the facilities NPDES Permit.
29. The unauthorized discharge of pollutants to waters of the United States is subject to the imposition of civil liability administratively in accordance with Water Code Section 13385.
30. Water Code section 13385 authorizes the Regional Water Board to impose administrative civil liability of up to \$10,000 per day of violation, and additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.
31. The Parties have engaged in settlement negotiations and agree to settle the matter without administrative or civil litigation by presenting this Stipulated Order and Settlement Agreement to the Regional Water Board, or its delegee, for adoption as an order by settlement pursuant to Government Code section 11415.60. To resolve the alleged violations by consent and without further administrative proceedings, the Parties have agreed to the imposition of \$430,092 in liability upon the Discharger, based upon use of the penalty methodology in the State Water Resources Control Board (State Water Board) Water Quality Enforcement Policy. The \$430,092 in liability represents \$351,714 for Violation 1, of which \$31,500 are investigation costs associated with that violation. The remaining liability amount is associated with Violation 2. Attachment A, which describes the penalty methodology, is incorporated herein.
32. The Regional Water Board Prosecution Team believes that the resolution of the alleged violation is fair and reasonable and fulfills its enforcement objectives, that no further action is warranted concerning the violation except as provided in this Settlement Agreement, and that this Settlement Agreement is in the best interest of the public.

STIPULATIONS

The Parties stipulate to the following:

1. **Administrative Civil Liability:** The Discharger hereby agrees to the imposition of an administrative civil liability totaling FOUR HUNDRED THIRTY THOUSAND AND NINETY-TWO DOLLARS (\$430,092) to resolve the violations alleged herein.

Within thirty (30) days of issuance of the Stipulated Order, the Discharger agrees to remit, by check, FOUR HUNDRED THIRTY THOUSAND AND NINETY-TWO DOLLARS (\$430,092) payable to the *State Water Resources Control Board Cleanup and Abatement Account*, and shall indicate on the check the number of this Order. The Discharger shall send the original signed check to the State Water Resources Control Board Accounting Office, Attn: ACL Payment, P.O. Box 1888, Sacramento, CA 95812-1888. A Copy of the check shall be sent to the Santa Ana Regional Water Quality Control Board, Attn: Kirk Larkin, 3737 Main Street, Suite 500, Riverside, CA 92501.

2. **Compliance with Applicable Laws:** The Discharger understands that payment of administrative civil liability in accordance with the terms of this Stipulated Order and/or compliance with the terms of this Stipulated Order is not a substitute for compliance with applicable laws, and that other violations of the type alleged herein may subject it to further enforcement, including additional administrative civil liability.
3. **Attorney's Fees and Costs:** Except as otherwise provided herein, each Party shall bear all attorneys' fees and costs arising from the Party's own counsel in connection with the matters set forth herein.
4. **Matters Addressed by Stipulation:** Upon adoption by the Regional Water Board, or its delegee, this Stipulated Order represents a final and binding resolution and settlement of all claims, violations or causes of action alleged herein or which could have been asserted based on the specific facts alleged herein as of the effective date of this Stipulated Order ("Covered Matters"). The provisions of this Stipulation are expressly conditioned on Dischargers' payment of the administrative civil liability by the deadline specified in Stipulation 1.
5. **Public Notice:** The Parties acknowledge that the Settlement Agreement, as signed by the Parties, must be noticed for a 30-day public comment period prior to being presented to the Regional Water Board, or its delegee, for adoption in the Order. In the event objections are raised during the public review and comment period, the Regional Water Board, or its delegee, may, under certain circumstances, require a public hearing regarding the Settlement Agreement. In that event, the Parties agree to meet and confer concerning any such objections, and may mutually agree to revise or adjust the proposed Settlement Agreement.

Except in such an event, the Discharger agrees that it will not rescind or otherwise withdraw its approval of this Settlement Agreement prior to its adoption in the Order.

- 6. Procedure:** The Parties agree that the procedure that has been adopted for the approval of the settlement by the Parties and review by the public, as reflected in this Settlement Agreement, will be adequate. In the event procedural objections are raised prior to the effective date of the Order, the Parties agree to meet and confer concerning any such objections, and may mutually agree to revise or adjust the procedure as necessary or advisable under the circumstances. However, agreement to such revisions or adjustments shall not require Discharger to pay any amount in excess of that set forth in this Settlement Agreement.
- 7. No Waiver of Right to Enforce:** The failure of the Prosecution Team or Regional Water Board to enforce any provision of this Settlement Agreement shall in no way be deemed a waiver of such provision, or in any way affect the validity of this Agreement. The failure of the Prosecution Team or Regional Water Board to enforce any such provision shall not preclude it from later enforcing the same or any other provision of this Agreement. No oral advice, guidance, suggestions or comments by employees or officials of any Party regarding matters covered under this Agreement shall be construed to relieve any Party regarding matters covered in this Agreement. This Agreement relates only to the subjective matter hereof, including administrative civil liability for the violation listed herein. The Regional Water Board reserves all rights to take additional enforcement actions, including without limitation the issuance of administrative civil liability complaints or orders for violations other than those addressed by this Settlement Agreement.
- 8. Effect of Stipulated Order:** Except as expressly provided in this Settlement Agreement, nothing in the Order is intended nor shall it be construed to preclude the Prosecution Team or any state agency, department, board or entity or any local agency from exercising its authority under any law, statute, or regulation.
- 9. Interpretation:** This Settlement Agreement shall not be construed against the party preparing it, but shall be construed as if the Parties jointly prepared it and any uncertainty and ambiguity shall not be interpreted against any one party.
- 10. Modification:** Neither this Settlement Agreement nor the proposed Order shall be modified by any of the Parties by oral representation whether made before or after the execution of this Order. All modifications must be made in writing and approved by Discharger and the Regional Water Board or its Executive Officer.
- 11. Order not Adopted/Vacated:** In the event that this Order does not take effect because it is not adopted by the Regional Water Board's Executive Officer, or is vacated in whole or in part by the State Board or a court, the Discharger acknowledges that the Prosecution Team may proceed to a contested evidentiary hearing before the Regional Water Board to determine whether to assess administrative civil liability for the underlying alleged violations, or may continue to pursue settlement. In the event of the Order being vacated by the State Board or a court, unless waived by the Discharger in writing, the Regional Water Board shall refund to the Discharger, within thirty (30) days of the effective date of such

vacation, the sum of four hundred thirty thousand and ninety-two dollars (\$430,092), provided that the Discharger had paid the amount as per this Settlement Agreement. The Parties agree that all oral and written statements and agreements made during the course of settlement discussions, including this Settlement Agreement and all Attachments, will not be admissible as evidence in any subsequent administrative or judicial proceeding or hearing. The Parties also agree to waive the following objections related to their efforts to settle this matter:

- a. Objections related to prejudice or bias of any of the Regional Water Board members or their advisors and any other objections to the extent that they are premised in whole or in part on the fact that the Regional Water Board members or their advisors were exposed to some of the material facts and the Parties' settlement positions, and therefore may have formed impressions or conclusions, prior to conducting any contested evidentiary hearing in this matter, except that Discharger may object to members of the Prosecution Team serving as advisors to the Regional Water Board in any such subsequent administrative or judicial proceeding or hearing; or
- b. Laches or delay or other equitable defenses based on the time period that the order or decision by settlement may be subject to administrative or judicial review.

12. Denial of Liability: Neither this Settlement Agreement (including all Attachments), nor any payment made pursuant to the Order, shall constitute evidence of, or be construed as, a finding, adjudication, or acknowledgement of any fact, law, or liability, nor shall it be construed as an admission of violation of any law, rule, or regulation, by the Discharger. However, this Order and/or any actions of payment pursuant to the Order may constitute evidence in actions seeking compliance with this Order. This Order may be used as evidence of a prior enforcement action in future unrelated enforcement actions by the Regional Water Board against the Discharger.

13. Waiver of Hearing: The Discharger has been informed of the rights provided by Water Code section 13323, subdivision (b), and hereby waives its right to a hearing before the Regional Water Board prior to the adoption of the Order.

14. Appeals: Upon adoption of this Order, the Discharger waives their right to appeal this Order to the State Board, a California Superior Court and/or any California appellate level court. Nothing in this Settlement Agreement, however, shall be construed to prevent the Discharger from participating as parties or interveners in any appeal of this Order brought by a third party before any California court of law or the State Board.

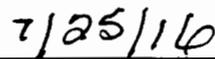
15. Covenant Not to Sue: The Discharger covenants not to sue or pursue any administrative or civil claim(s) against any State Agency or the State of California, their officers, Regional Water Board Members, employees, representatives, agents, or attorneys arising out of or relating to any Covered Matter.

- 16. Water Boards not Liable:** Neither the Regional Water Board members nor the Regional Water Board staff, attorneys, or representatives shall be liable for any injury or damage to persons or property resulting from the negligent or intentional acts or omissions by the Discharger or their respective directors, officers, employees, agents, representatives or contractors in carrying out activities pursuant to this Settlement Agreement.
- 17. Authority to Enter Stipulated Order:** Each person executing this Settlement Agreement in a representative capacity represents and warrants that he or she is authorized to execute this Settlement Agreement on behalf of and to bind the entity on whose behalf he or she executes the Settlement Agreement.
- 18. Third Party Claims.** Nothing in this Settlement Agreement shall be deemed to create any rights in favor of, or to inure to the benefit of, any third party or parties, or to waive or release any defense or limitation against third party claims.
- 19. Effective Date:** The effective date of the Order shall be the date on which it is adopted by the Executive Officer
- 20. Counterpart Signatures:** This Settlement Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one document.
- 21. Incorporated Attachments:** Attachment A, are incorporated by reference and is made fully a part of this Settlement Agreement as though set forth herein.

IT IS SO STIPULATED¹:



Hope A. Smythe, Division Chief
For the Santa Ana Regional Water Quality Control
Board Prosecution Team



Date



Jeff Sims, Administrator
For Western Riverside County
Regional Wastewater Authority



Date

¹ The final version of this document may include more than one page with the same page number to accommodate the various executing signatures.

ORDER

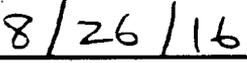
HAVING CONSIDERED THE PARTIES' STIPULATIONS, AS SET FORTH IN THE ATTACHED SETTLEMENT AGREEMENT, THE SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD, BY AND THROUGH ITS EXECUTIVE OFFICER, FINDS THAT:

1. In adopting this Order, the Santa Ana Regional Water Quality Control Board or its Delegee has assessed a penalty in accordance with Water Code section 13385(c) and the Enforcement Policy.
2. The Settlement Agreement resolves an action brought to enforce the laws and regulations administered by the Santa Ana Regional Water Quality Control Board. The Santa Ana Regional Water Quality Control Board, acting through its Executive Officer, finds that issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21000 et seq.), in accordance with sections 15061(b)(3) and 15321(a)(2), of Title 14 of the California Code of Regulations.
3. The terms of the foregoing Stipulation are fully incorporated herein and made part of this Order of the Santa Ana Regional Water Quality Control Board.

PURSUANT TO SECTION 13385 OF THE CALIFORNIA WATER CODE AND SECTION 11415.60 OF THE CALIFORNIA GOVERNMENT CODE, THE EXECUTIVE OFFICER HEREBY ADOPTS THIS ORDER.



Kurt V. Berchtold
Executive Officer



Date

ATTACHMENT A: PENALTY CALCULATION
Administrative Civil Liability Order No. R8-2016-0032
Western Riverside County Regional Wastewater Authority

Administrative Civil Liability Order (hereinafter "Settlement Agreement" or "Stipulated") No. R8- 2016-0032 issued to Western Riverside County Regional Wastewater Authority (hereinafter "WRCRWA" or "Discharger") proposes civil liability in the amount of \$430,092 for the unauthorized discharge of undisinfected and partially disinfected tertiary treated effluent to the Santa Ana River (SAR) and the Prado Constructed Wetlands (PCW) in the Prado Basin Management Zone (PBMZ).

California Water Code (hereinafter "Water Code") §13385(e) specifies factors the Regional Board shall consider when establishing the amount of the civil liability. These factors take into account the nature, circumstances, extent, and gravity of the violation(s); whether the discharge is susceptible to cleanup or abatement; the degree of toxicity of the discharge; and, with respect to the violator, the ability to pay; the effect on its ability to continue in business; any voluntary cleanup efforts undertaken; any prior history of violations; the degree of culpability; economic benefit or savings, if any, resulting from the violation; and other matters that justice may require.

The Water Quality Enforcement Policy (hereinafter "Enforcement Policy") adopted by the State Water Resources Control Board establishes a methodology by which the Regional Board assesses the civil liability amount. This methodology was used to calculate the civil liability amount imposed in the Stipulated Order.

A summary of the penalty calculation for each violation is provided below:

VIOLATION 1: JULY 2013 DISCHARGE

Step 1 – Potential for Harm for Discharge Violations

The initial step is to determine if the discharge caused actual or threatened impacts to the beneficial uses and to calculate a Potential for Harm score using a three factor scoring system.

Factor 1 – Harm or Potential Harm to Beneficial Uses:

This factor considers the harm or potential harm the discharge may have on the beneficial uses from direct or indirect exposure to the pollutants or contaminants in the discharge.

The Basin Plan specifies water contact and non-contact water recreation beneficial uses for Reach 3 of the Santa Ana River and for the Wetlands in the Prado Basin Management Zone. Water Contact Recreation (REC 1) designated waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These activities may include, but are not limited to, swimming, wading, and fishing. Non-Contact Water Recreation (REC 2) waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These activities may include, but are not limited to, picnicking, hiking, hunting, sightseeing and aesthetic enjoyment in conjunction with the above activities.

As noted in the Fact Sheet for WRCRWA's NPDES Permit, Board Order No. R8-2008-0005, the WRCRWA wastewater treatment plant discharges wastewater to the PCW in the PBMZ and the Santa Ana River, both of which have water contact beneficial uses. To protect the water contact recreation beneficial uses and to prevent nuisance and health risk, the Board Order established disinfection effluent limitations. At wastewater treatment plants (WWTPs), the disinfection treatment process is the primary mechanism used for the inactivation/destruction of pathogenic organisms found in domestic wastewater. Wastewater disinfection is required to prevent the spread of waterborne diseases to downstream users and the environment. Some common microorganisms found in undisinfecting domestic wastewater include *E. coli* and *Salmonella* bacteria, *Cryptosporidium* and *Giardia* parasites, and *Rotavirus*, *Enteroviruses* and *Hepatitis* viruses.

The failure of the Discharger's WWTP's disinfection system caused the release of undisinfecting tertiary treated effluent from the WWTP and resulted in the discharge of bacteria. This potentially resulted in the discharge of viruses and other pathogens to the Santa Ana River and the PCW. Contact with undisinfecting wastewater is a risk to human health. In response to discharging undisinfecting effluent to the Santa Ana River and PCW, the Discharger reported to the Regional Board that warning signs were posted along the (Santa Ana River) diversion stream going to the wetlands (Prado Constructed Wetlands). The warning signs stated that "a spill had occurred and not to go into the water". The Discharger reported that the warning signs were posted from the WWTP's effluent discharge point to the inlet to the PCW, but not beyond the inlet to PCW. The warning signs were posted to inform the public of the release in order to reduce the risk of potential exposure to the unauthorized discharge of undisinfecting tertiary treated effluent. The Discharger also contacted the Orange County Water District (OCWD) to inform the district of the spill, as the PCW are managed and operated by the district.

The PCW are assigned a REC-1 use in the Basin Plan. OCWD staff working at the PCW informed Regional Board staff that the ponds are routinely used for training by retrieving hunting dogs and their trainers.

The discharge of undisinfecting effluent to the Santa Ana River and PCW required the temporary restriction of water contact and non-contact water recreation beneficial uses for the affected areas along the Santa Ana River diversion channel and the PCW. Until water quality sampling demonstrated that the risk of exposure to the pollutants were not a risk to human health, the water contact and non-contact water recreation beneficial uses of the waterbodies were restricted. In accordance with the Enforcement Policy, the harm or potential harm to the beneficial use was assigned a score of 2 "below moderate" (on a scale from 0 to 5), as the risk of exposure to undisinfecting wastewater is a threat to human health and the discharge of undisinfecting wastewater to surface waters required temporary restrictions of the beneficial uses.

Factor 2 – Physical, Chemical, Biological, or Thermal Characteristics of the Discharge:

This factor considers the physical, chemical, biological, and/or thermal nature of the discharged, waste, fill or material involved in the violation or violations. The assigned score is based on a determination of the risk or threat the discharged material may have on potential receptors, considering human, environmental and ecosystem health exposure pathways.

The discharge of undisinfecting wastewater to the Santa Ana River and PCW increases the risk of the spread of waterborne diseases to downstream users and the environment. As noted above, undisinfecting tertiary treated effluent contains bacteria, viruses and other pathogens that can cause disease and illness to humans and animals through contact with or consumption of

contaminated water.

The Discharger reported that they coordinated with the Orange County Water District (OCWD) to determine the effects the discharge may have had on the Santa Ana River. In WRCRWA's September 30, 2013 letter to the Regional Board, the Discharger reported that:

"Data provided by OCWD shows that elevated fecal coliform counts occurred during August 2013 at the inlet and before the outlet of the Prado Wetlands on August 1 and August 20, respectively. Because the Treatment Plant discharge occurred on July 31, 2013, it is possible that the elevated fecal coliform levels at the Prado Wetlands inlet were caused by the discharge. Inlet fecal coliform counts to the Prado Wetlands were slightly elevated at the first of the month then decreased. Fecal coliform counts before the Prado Wetlands outlet rose slightly until mid-month to a maximum of August 20 then decreased. Enterococcus counts at the Prado Wetlands inlet were elevated at the first of the month with a slight increase on August 20, 2013. Because the Treatment Plant discharge occurred on July 31, 2013, it is likely the elevated fecal coliform and enterococcus levels early in August at the Prado Wetlands inlet were caused by the undisinfected discharge..."

It should be noted that the Discharger did not collect samples of the effluent during the unauthorized discharge event and did not sample the receiving water immediately following discovery of the unauthorized release. So the actual bacterial densities in the effluent and receiving water immediately following the incident are unknown.

The unauthorized discharge resulted in an increased risk to animals and wildlife. In addition to bacteria, other pathogens such as *Cryptosporidium*, *Giardia* and *Rotavirus* are commonly found in undisinfected wastewater and may have been discharged to the Santa Ana River diversion channel as well.

Reach 3 of the Santa Ana River is also listed on the Clean Water Act section 303(d) list of impaired waters due, in part to excessive levels of bacterial indicators. While the Regional Board has an established total maximum daily load (TMDL) to address the impairment, there is no specified allocation for wastewater discharges. The discharge of undisinfected effluent to the Santa Ana River contributed bacteria to the river potentially causing further degradation of the water quality in the river.

Taking into consideration that the discharge to the SAR and PCW was tertiary treated effluent, but was undisinfected effluent that contains pathogenic organisms, the score assigned for the physical, chemical, biological or thermal characteristics of the discharge was assigned a score of 2 "moderate risk" (on a scale from 0 to 4).

Factor 3 – Susceptibility to Cleanup or Abatement:

This factor considers whether the discharge was susceptible to cleanup or abatement. A score of 0 is assigned if 50% or more of the discharge is susceptible to cleanup or abatement. A score of 1 is assigned if less than 50% of the discharge is susceptible to cleanup or abatement.

A score of 1 was assigned because less than 50% of discharge was susceptible to cleanup or abatement. The unauthorized discharge of undisinfected tertiary treated effluent from WRCRWA's WWTP discharged to the Santa Ana River and PCW was unrecoverable. WRCRWA personnel reported to Regional Board staff that none of the discharge was recovered.

Final Score – Potential for Harm:

The scores for each of the factors are added to provide Potential for Harm final score for each of the violations or group of violations. The Potential for Harm final score(s) are used in the Penalty Factor Tables (Tables 1 and 2) listed in the Enforcement Policy.

The final Potential for Harm score for the unauthorized discharge of undisinfectated tertiary treated effluent to the Santa Ana River and PCW was calculated as follows:

$$\text{Factor 1 ("2")} + \text{Factor 2 ("2")} + \text{Factor 3 ("1")} = \text{Final Score ("5")}$$

The final Potential for Harm score assessed for this violation is "5".

Step 2 – Assessments for Discharge Violations

This step addresses per gallon and per day assessments for discharge violations. For large spills or releases, both per gallon and per day assessments may be considered.

Per Gallon Assessments for Discharge Violations:

For discharge violations, an initial liability amount on a per gallon basis is calculated by multiplying a Per Gallon Factor by the number of gallons subject to penalty and the per gallon penalty amount allowed under the Water Code. The Per Gallon Factor is determined using Table 1 in the Enforcement Policy. The Per Gallon Factor takes into account the final Potential for Harm score and an assessed Deviation from Requirement factor. The Deviation from Requirement factor is determined by evaluating the extent to which the violation deviates from the specific requirement that was violated. The Deviation from Requirement factor reflects whether the violation was a Minor, Moderate or Major Deviation from the specific requirement.

For this incident, a "moderate" Deviation from Requirement was selected. Although the Discharger appears to have a general intent to comply with the Waste Discharge Requirements of Order No. R8-2008-0005, the complete failure of the disinfection system resulted in the discharge of undisinfectated effluent that failed to comply with Discharge Prohibitions III.A, III.C, III.D, and Effluent Limitations IV.A.1.e. of Order No. R8-2008-0005, thus causing the disinfection requirements of the Board Order to be partially compromised.

Using a Moderate Deviation from Requirement and Potential for Harm score of "5", the Per Gallon Factor obtained from Table 1 in the Enforcement Policy is "0.100".

The Discharger reported that 2.47 million gallons of undisinfectated tertiary treated effluent discharged from the facility during this incident. In accordance with Water Code §13385(c)(2), the discharge volume used to calculate the initial liability amount based on a per gallon basis is 2.469 million gallons (2,470,000 – 1,000 = 2,469,000).

The initial liability amount on a per gallon basis is calculated as follows:

$$\left(\begin{array}{c} \text{Per Gallon} \\ \text{Factor} \end{array} \right) \left(\begin{array}{c} \text{Gallons Subject} \\ \text{to Penalty} \end{array} \right) \left(\begin{array}{c} \text{Statutory Maximum} \\ \text{Per Gallon Penalty Amount} \end{array} \right) = \left(\begin{array}{c} \text{Per Gallon} \\ \text{Assessment} \end{array} \right)$$
$$(0.100)(2.469 \text{ million gallons})(\$10.00/\text{gallon}) = \$2,469,000$$

The Per Gallon assessment is \$2,469,000.

High Volume Discharges:

For very large volume spills and releases, the use of the statutory maximum penalty amount of \$10.00 per gallon may result in a very large Per Gallon penalty assessment. The Enforcement Policy provides the Regional Board with discretion to reduce the per gallon penalty amount to less than the statutory maximum penalty amount of \$10.00 per gallon, as calculated above, provided that reducing the maximum amount does not result in an inappropriately small penalty.

The Regional Board determined that the use of a \$1.30 per gallon penalty assessment would be appropriate for the unauthorized discharge of 2.47 million gallons of undisinfectated tertiary treated effluent.

The reduced Per Gallon assessment was calculated as follows:

$$(0.100)(2.469 \text{ million gallons})(\$1.30/\text{gallon}) = \$320,970$$

Using the High Volume Discharge assessment methodology, the Per Gallon assessment for the unauthorized discharge was reduced to \$320,970.

Per Day Assessments for Discharge Violations:

For discharge violations, an initial liability amount on a per day basis is calculated by multiplying a Per Day Factor by the maximum per day amount allowed under the Water Code. The Per Day Factor is determined using Table 2 in the Enforcement Policy. The Per Day Factor takes into account the final Potential for Harm score and an assessed Deviation from Requirement factor. The Deviation from Requirement factor is determined by evaluating the extent the violation deviates from the specific requirement that was violated. The Deviation from Requirement factor reflects whether the violation was a Minor, Moderate or Major Deviation from the specific requirement.

For this incident, a "Moderate" Deviation from Requirement was selected.

Using a "Moderate" Deviation from Requirement and Potential for Harm score of "5", the Per Day Factor obtained from Table 2 in the Enforcement Policy is "0.100".

The Discharger reported that the unauthorized discharge began on the night of July 30, 2013 and continued into the morning of July 31, 2013.

The initial liability amount on a per day basis is calculated as follows:

$$\left(\begin{array}{c} \text{Per Day} \\ \text{Factor} \end{array} \right) \left(\begin{array}{c} \text{Total Days} \\ \text{of Violations} \end{array} \right) \left(\begin{array}{c} \text{Statutory Maximum} \\ \text{Per Day Amount} \end{array} \right) = \left(\begin{array}{c} \text{Per Day} \\ \text{Assessment} \end{array} \right)$$
$$(0.100)(2 \text{ Days})(\$10,000/\text{Day}) = \$2,000$$

The calculated Per Day assessment for the unauthorized discharge is \$2,000.

Step 3 – Per Day Assessments for Non-Discharge Violations

This step is not applicable as this violation is a discharge violation.

Step 4 – Adjustment Factors

Three additional factors are considered for modification of the initial liability, these include the culpability, cleanup or cooperation with regulatory authorities after the violation, and compliance history.

Culpability:

The discharge of undisinfected effluent on July 30th to July 31st, 2013, was a result of the installation and subsequent failure of an incompatible transformer for the UV system; electrical circuit breakers that tripped open in the wrong sequence causing all of the UV Banks in the disinfection system to shut off; inaccurate operation and alarm status information reported by the UV control system; insufficient process monitoring and alarm status notification relayed and displayed on the facilities SCADA system; and misrepresentation of the operation and alarm status information displayed on the facilities SCADA system that prevented the operators from accurately assessing the problem at the facility.

The Title 22 Report prepared for the facility specified that the UV system will be continuously monitored for the following parameters and conditions: flow rate; UV transmittance; effluent turbidity; effluent pH; effluent conductivity; status of each UV disinfection unit (on/off); UV intensity measured by at least one probe per UV disinfection unit; applied UV dose; and, status of UV control system communication link. These continuous monitoring devices are required to ensure the facility is operating within the process design specifications and to ensure compliance with the waste discharge requirements of the facilities NPDES permit.

In the event of equipment failure or process malfunction, alarms are required to notify appropriate facility staff of the problem. The Title 22 Report specifies that the UV system will be equipped with alarms for the following conditions: lamp failure; ballast failure; dose delivery unit low intensity; low UV dose; module failure; dose delivery unit comm. failure; low water level; and, module ground fault alarms for each module. The Title 22 Report also specifies that the UV dose will be monitored externally via a 4-20 mA signal output from the UV System Control Center (UV-SCC) to the facilities SCADA system.

Furthermore, the Title 22 Report also specifies that, "During the times the plant is not staffed, all alarms will be received on the pager of the on-call operator... Upon receipt of a page, the on-duty operator will acknowledge the alarm and determine the need to visit the plant to make any operational adjustments required. The operator may also elect to use the laptop computer to

dial into the plant to obtain a clearer indication of the nature and severity of the alarm.”

The facility's SCADA system had defects that were triggered when the transformer failed. The Discharger reported to Regional Board staff that they were unaware of these defects at the time of the event. The defects caused the SCADA system to falsely report the operational on/off status for each of the four UV banks, and whether each of the UV Banks were in failure status. It appears the Discharger did not implement additional plant reliability measures identified in the Title 22 Report which resulted in the SCADA system not receiving accurate UV dose information. When the UV system transformers lost power, the UV dose monitoring, and triggered alarms would have notified the appropriate facility staff of the failure and allow for a more timely response to the incident.

The Discharger failed to identify the deficiencies in the operating and reporting conditions of the SCADA system. The forensic UV System Individual Bank Testing completed by the consultants and WMWD identified major inaccuracies in how the UV control system reported the on/off power status and Alarm status for each of the UV banks. With inaccurate monitoring, reporting, and alarm notifications sent to the SCADA system, the on-call operator received inaccurate information from the SCADA and UV system that resulted in the operator failing to respond to the incident. If the system was configured properly, the operator would have responded to the alarm notification and the volume of undisinfected effluent discharged from the WWTP to the Santa Ana River and PCW would have been significantly reduced.

Because the Discharger failed to configure and program the SCADA system correctly and because the facility lacked additional safeguards in accord with the Title 22 plan, an adjustment factor of “1.1” was selected for the Discharger's Culpability for this violation (on a scale of 0.5 to 1.5).

Cleanup and Cooperation:

The Enforcement Policy recommends that the initial liability be adjusted based on the Discharger's voluntary cleanup and cooperation in returning to compliance and correcting any environmental damage related to the violation. The Policy provides an adjustment multiplier from 0.75 to 1.5. The lower multiplier is appropriate for situations where there is a high degree of cleanup and cooperation and a higher multiplier is appropriate for situations where these voluntary actions are minimal or absent.

As a result of this incident, the Discharger implemented a forensic audit of the UV system and SCADA system. With regard to the SCADA system, the audit identified deficiencies in how the SCADA system reported the operating and alarm conditions of the UV system. Although the Discharger has made corrections and improvements to the system, these actions were required to ensure compliance with the facilities NPDES Permit and to avoid similar violations in the future.

An adjustment factor of “0.9” was selected for the Discharger's cleanup and cooperation for this violation (on a scale of 0.75 to 1.5).

History of Violations:

The Enforcement Policy recommends that where there is a history of repeat violations, a minimum multiplier of 1.1 should be used for this factor. The Discharger has a history of violations since 2011 that relate to the failure to comply with coliform effluent limitations

established in Board Order No. R8-2008-0005.

On March 26, 2014, the Discharger entered into a Settlement Agreement and Stipulation for Entry of Mandatory Minimum Penalties (Stipulated Order), Order No. R8-2014-0021, for thirty-one (31) violations of the total coliform effluent limitations during the period of October 2011 through June 2013.

Based on the Discharger's history of violations related to noncompliance with the coliform effluent limitations established in the NPDES Permit, a multiplier of "1.1" has been selected (minimum of 1.1 for repeat violations).

Step 5 – Determination of Total Base Liability Amount

The Initial Base Liability Amount is calculated as follows:

$$\left[\left(\frac{\text{Per Gallon Assessment}}{\text{Discharge Violations}} \right) + \left(\frac{\text{Per Day Assessment}}{\text{Discharge Violations}} \right) + \left(\frac{\text{Per Day Assessment}}{\text{NonDischarge Violations}} \right) \right] = \text{Initial Base Liability}$$
$$(\$320,970) + (\$2,000) + (\$0) = \$322,970$$

The Total Base Liability Amount is then calculated as follows:

$$\left(\frac{\text{Initial Base Liability}}{\text{Liability}} \right) \times \left(\frac{\text{Culpability}}{\text{Factor}} \right) \times \left(\frac{\text{Cleanup Cooperation}}{\text{Factor}} \right) \times \left(\frac{\text{History of Violations}}{\text{Factor}} \right) = \text{Total Base Liability}$$
$$(\$322,970) \times (1.1) \times (0.9) \times (1.1) = \$351,714$$

The calculated Total Base Liability Amount for Violation 1 is \$351,714.

Steps 6 through 10 are applied to the combined total base liability amount for the sum of all violations, and are discussed following the total base liability recommendations for each violation.

VIOLATION 2: NOVEMBER 2014 DISCHARGE

Step 1 – Potential for Harm for Discharge Violations

Factor 1 – Harm or Potential Harm to Beneficial Uses:

See Violation 1 for a discussion of the beneficial uses, which applies here. On November 26, 2014, partially disinfected tertiary treated effluent was discharged from the WWTP to the SAR and the PCW. The discharge of partially disinfected effluent is an unauthorized release and may have contained elevated levels of bacteria, viruses and other pathogens. Contact with partially disinfected wastewater is a risk to human health. In response to unauthorized release, the Discharger reported to the Regional Board that warning signs were posted along the (Santa Ana River) diversion stream and along the PCW. The warning signs were posted to reduce the risk of exposure to pathogens that may have been in the unauthorized discharge.

The Discharger also contacted the Orange County Water District (OCWD) to inform the district of the spill.

A few of the factors that Regional Board staff considered when determining the appropriate potential harm to the beneficial uses factor, were as follows: the unauthorized release likely contained waterborne diseases, such as elevated levels of pathogens, such as bacteria and viruses; the discharge to the SAR and PCW was tertiary treated effluent that was partially disinfected; the unauthorized discharge to the SAR and PCW impaired the REC-1 and REC-2 Beneficial Uses, as warning signs were posted along the SAR and PCW that restricted access to the surface waters and to warn the public about potential exposure to sewage; the Discharger reported that no observed impacts were reported in the surface waters immediately following the release, however, no samples were collected from the SAR or PCW immediately following the unauthorized release to test for the presence or absence of pathogens; Since the discharge was partially disinfected wastewater and tertiary treated, the discharge likely contained fewer pathogens than that of raw sewage; pathogens that may have been present in the discharge would have reduced in concentration naturally over time, with exposure to sunlight and from predation; the unauthorized discharge to the SAR and PCW required the temporary restriction of water contact and non-contact water recreation which impaired the established beneficial uses for the SAR and PCW; Taking these factors into consideration, the harm or potential harm to the beneficial use was assigned a score of 2 "below moderate" (on a scale from 0 to 5).

Factor 2 – Physical, Chemical, Biological, or Thermal Characteristics of the Discharge:

The Discharger did not collect samples of the effluent during the unauthorized discharge event and did not sample the receiving water immediately following discovery of the unauthorized release. Since the actual bacterial densities in the effluent and receiving water immediately following the incident are unknown, it is reasonable to assume that some pathogens were present in the unauthorized release since the UV disinfection system was not operating at the designed and approved disinfection dosage rate.

The discharge of partially disinfected wastewater to the SAR and PCW increases the risk of the spread of waterborne diseases to downstream users and the environment. Waterborne diseases present in undisinfected wastewater can cause disease and illness to humans and animals through contact with or consumption of contaminated water. The unauthorized discharge resulted in an increased risk of exposure to bacteria and other pathogens, such as *Cryptosporidium*, *Giardia* and *Rotavirus*, commonly found in undisinfected wastewater.

As stated above, Reach 3 of the Santa Ana River is also listed on the Clean Water Act section 303(d) list of impaired waters due, in part to excessive levels of bacterial indicators.

However, taking into account that the discharge was tertiary treated effluent and the flow may have been partially disinfected, the factor assigned for the physical, chemical, biological or thermal characteristics of the discharge was assigned a score of 1 "minor" risk (on a scale from 0 to 4).

Factor 3 – Susceptibility to Cleanup or Abatement:

A score of 1 was assigned because less than 50% of discharge was susceptible to cleanup or abatement. The unauthorized discharge of partially disinfected tertiary treated effluent from WRCRWA's WWTP discharged to the SAR and PCW was unrecoverable. WRCRWA personnel reported to Regional Board staff that none of the discharge was recovered.

Final Score – Potential for Harm:

The final Potential for Harm score for the unauthorized discharge of partially disinfected tertiary treated effluent to the SAR and PCW was calculated as follows:

$$\text{Factor 1 ("2")} + \text{Factor 2 ("1")} + \text{Factor 3 ("1")} = \text{Final Score ("4")}$$

The final Potential for Harm score assessed for this incident is "4".

Step 2 – Assessments for Discharge Violations

Per Gallon Assessments for Discharge Violations:

For this incident, a Minor Deviation from Requirement was selected. An error was made by one of the WWTP Operator at the facility which resulted in the unauthorized discharge of partially disinfected tertiary treated effluent to the SAR and PCW. The intended effectiveness of the requirements in Waste Discharge Requirements of Order No. R8-2008-0005 remains generally intact as the discharge was partially disinfected.

Using a Minor Deviation from Requirement and Potential for Harm score of "4", the Per Gallon Factor obtained from Table 1 in the Enforcement Policy is "0.011".

The Discharger reported that 2.45 million gallons of partially disinfected tertiary treated effluent discharged from the facility during this incident. In accordance with Water Code §13385(c)(2), the discharge volume used to calculate the initial liability amount based on a per gallon basis is 2.449 million gallons (2,450,000 – 1,000 = 2,449,000).

The initial liability amount on a per gallon basis is calculated as follows:

$$\left(\begin{array}{c} \text{Per Gallon} \\ \text{Factor} \end{array} \right) \left(\begin{array}{c} \text{Gallons Subject} \\ \text{to Penalty} \end{array} \right) \left(\begin{array}{c} \text{Statutory Maximum} \\ \text{Per Gallon Penalty Amount} \end{array} \right) = \left(\begin{array}{c} \text{Per Gallon} \\ \text{Assessment} \end{array} \right)$$

$$(0.011)(2.449 \text{ million gallons})(\$10.00/\text{gallon}) = \$269,390$$

High Volume Discharges:

The Prosecution Team determined that the use of a \$1.25 per gallon penalty assessment would be appropriate for the unauthorized discharge of 2.45 million gallons of partially disinfected tertiary treated effluent.

The reduced Per Gallon assessment was calculated as follows:

$$(0.011)(2.449 \text{ million gallons})(\$1.25/\text{gallon}) = \$33,674$$

Using the High Volume Discharge assessment methodology, the Per Gallon assessment for the unauthorized discharge was reduced to \$33,674.

Per Day Assessments for Discharge Violations:

For this incident, a "Minor" Deviation from Requirement was selected.

Using a "Minor" Deviation from Requirement and Potential for Harm score of "4", the Per Day Factor obtained from Table 2 in the Enforcement Policy is "0.011".

The Discharger reported that the unauthorized discharge occurred on November 26, 2014.

The initial liability amount on a per day basis is calculated as follows:

$$\left(\begin{array}{c} \text{Per Day} \\ \text{Factor} \end{array} \right) \left(\begin{array}{c} \text{Total Days} \\ \text{of Violations} \end{array} \right) \left(\begin{array}{c} \text{Statutory Maximum} \\ \text{Per Day Amount} \end{array} \right) = \left(\begin{array}{c} \text{Per Day} \\ \text{Assessment} \end{array} \right)$$

$$(0.011)(1 \text{ Day})(\$10,000/\text{Day}) = \$110$$

The calculated Per Day assessment for Violation 2 is \$110.

Step 3 – Per Day Assessments for Non-Discharge Violations

This step is not applicable as the violation is discharge violation.

Step 4 – Adjustment Factors

Three additional factors are considered for modification of the initial liability, these include the culpability, cleanup or cooperation with regulatory authorities after the violation, and compliance history.

Culpability:

The discharge of partially disinfected effluent on November 26, 2014, was a result of an operator error. This operational error resulted in the discharge of 2.45 million gallons of partially disinfected tertiary treated effluent to waters of the U.S. This negligence resulted in the Discharger failing to comply with the Waste Discharge Requirements of Order No. R8-2008-0005. The unauthorized discharge resulted in the violation of Discharge Prohibitions III.A, III.C, III.D, and Effluent Limitations IV.A.1.e. of Order No. R8-2008-0005. An adjustment factor of "1.1" was selected for the Discharger's Culpability for this violation (on a scale of 0.5 to 1.5).

Cleanup and Cooperation:

An adjustment factor of "1.0" was selected for the Discharger's cleanup and cooperation for this violation (on a scale of 0.75 to 1.5), as the Discharger immediately responded to the incident and made timely corrections to resolve the issue. However, no actions were taken, or possibly could have been taken, to recover the material that was released from the WWTP to the SAR and PCW.

History of Violations:

As described for Violation 1, a multiplier of "1.1" has been selected.

Step 5 – Determination of Total Base Liability Amount

The Initial Base Liability Amount is calculated as follows:

$$\left[\left(\frac{\text{Per Gallon Assessment}}{\text{Discharge Violations}} \right) + \left(\frac{\text{Per Day Assessment}}{\text{Discharge Violations}} \right) + \left(\frac{\text{Per Day Assessment}}{\text{NonDischarge Violations}} \right) \right] = \text{Initial Base Liability}$$
$$(\$33,674) + (\$110) + (\$0) = \$33,783$$

The Total Base Liability Amount is then calculated as follows:

$$\left(\frac{\text{Initial Base Liability}}{\text{Liability}} \right) \times \left(\frac{\text{Culpability}}{\text{Factor}} \right) \times \left(\frac{\text{Cleanup Cooperation}}{\text{Factor}} \right) \times \left(\frac{\text{History of Violations}}{\text{Factor}} \right) = \text{Total Base Liability}$$
$$(\$33,783) \times (1.1) \times (1.0) \times (1.1) = \$40,878$$

The calculated Total Base Liability Amount for Violation 2 is \$40,878.

Step 6 – Ability to Pay and Ability to Continue in Business

The Enforcement Policy provides that if the Regional Board has sufficient financial information necessary to assess the Discharger's ability to pay the Total Base Liability Amount or to assess the effect of the of Total Base Liability Amount on the Discharger's ability to continue in business, the Total Base Liability Amount may be adjusted to address the ability to pay or continue in business.

The Prosecution Team does not have any evidence that indicates that the Discharger does not have the ability to pay. An analysis of the Discharger's financial situation based on publicly available information indicates that the Discharger does have the ability to pay the proposed penalty and continue on in business.

The Discharger is a Joint Powers Authority that owns and operates the subject facility. The member agencies support the operating costs and capital costs through fixed and variable rates established by the Discharger's board of directors.¹ The Discharger's member agencies include cities that have the power to raise revenue and levy taxes. In addition, the Comprehensive Annual Financial Report for the Western Municipal Water District states that the total net position for the Discharger in the fiscal year 2015 was \$49,064,640.²

Based on the reasons discussed above, an ability to pay factor of 1 has been applied to the Combined Total Base Liability Amount. If the Discharger contends that it does not have the ability to pay the Final Liability Amount, the Discharger must provide documentation to establish its financial status and its inability to pay the Final Liability Amount.

Step 7 – Other Factors as Justice May Require

The Prosecution Team finds that it is appropriate to increase the Total Base Liability amount by \$37,500. This increase is in consideration of the costs of investigation and enforcement relative to the Total Base Liability amount and is warranted given the totality of the circumstances and is intended to serve as a sufficient general and specific deterrent against future violations.

Step 8 – Economic Benefit

Pursuant to Water Code section 13385(e), civil liability, at a minimum, must be assessed at a level that recovers the economic benefit, if any, derived from the acts that constitute a violation.

Violation 1 – July 2013 Discharge:

The violations of the Permit were due to the Discharger delaying the configuration of the UV system's continuous monitoring and alarm notifications with the SCADA system. The Discharger notified the Regional Board on May 15, 2014 that it had, since the time of the subject discharge, made the necessary improvements to the SCADA system. Those improvements totaled approximately \$107,000. The Discharger realized cost savings by not spending the \$107,000 prior to the discharge event. The Discharger should have included those improvements at the time the system began operating on June 6, 1997. However, the Discharger made improvements to the SCADA system by May 15, 2014. Therefore, the economic benefit can be calculated as the interest saved by not spending the \$107,000 initially. Water Board Senior Economist staff used the US EPA's BEN model to determine the economic benefit, as required by the Enforcement Policy. The estimated value is \$127,016.

The Enforcement Policy states (p. 21) that the total liability shall be at least 10% higher than the economic benefit, "so that liabilities are not construed as the cost of doing business and the assessed liability provides a meaningful deterrent to future violations." The economic benefit plus \$10% is \$139,717.

¹ Western Municipal Water District, "Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015" at p. 58, available at <http://www.wmwd.com/documentcenter/view/2465>

² Id.

Violation 2 – November 2014 Discharge:

The violations described in the Complaint identify avoided electrical costs that have benefited the Discharger. As a result of the upset on November 26, 2014, the Discharger realized a reduction in electrical expenses related to the UV disinfection system. Using an estimated power demand of 466 kilowatt-hours (kW-hr) for an average throughput of approximately 7.5 million gallons per day, it is assumed that the plant operated at a power deficit of approximately 78 kW-hr based on a 62% UV dose reduction for approximately 6.5 hours. This power deficit resulted in an electrical savings of approximately \$943 based on November 2014 electrical rates for industrial users.

The BEN financial model provided by the United States Environmental Protection Agency was used to compute the total economic benefit of noncompliance. For computational purposes, the penalty payment date was established as June 10, 2016. Changes to this date will affect the total economic benefit. Based on specific assumptions within the model, the total economic benefit of noncompliance was determined to be approximately \$1,015.

Step 9 – Maximum and Minimum Liability Amounts

For all violations, the Water Code sets a maximum liability amount that may be assessed for each violation. Where the amount proposed for a particular violation exceeds the statutory maximum, the amount must be reduced to the maximum liability amount.

The unauthorized discharge of undisinfected and partially disinfected effluent to waters of the United States is a violation of Water Code §13385 for which the Regional Water Board may impose administrative civil liability pursuant to Water Code §13385(c). This statute sets a maximum liability amount for each violation at ten thousand dollars (\$10,000) for each day in which the violation occurs and where there is a discharge, the liability amount shall not exceed ten dollars (\$10) multiplied by the number of gallons discharged in excess of 1,000 gallons.

In accordance with Water Code §13385(c), the maximum liability amount for the July 2013 and November 2014 discharges are \$24,710,000 and \$24,500,000, respectively. The total maximum liability amount for both discharges is \$49,210,000.

For some violations, the statute may set a minimum liability amount. If the amount proposed is less than the minimum statutory amount, the calculated liability amount must be raised to the minimum liability amount. Water Code §13385(e) requires that, at a minimum, liability shall be assessed at a level that recovers the economic benefit, if any, derived from the acts that constitute the violation(s). The Enforcement Policy also requires the adjusted Total Base Liability Amount to be at least 10 percent higher than the Economic Benefit Amount (calculated above in Step 8) so that liabilities are not construed as the cost of doing business, and, therefore, the assessed liability provides a meaningful deterrent to future violations. The proposed Final Liability Amount specified below in Step 10 is greater than the Economic Benefit calculated in Step 8 plus 10 percent, so the proposed liability amount does not require further adjustment.

ATTACHMENT A:
ACLO No. R8-2016-0032

Step 10 – Final Liability Amount

The final liability amount for the two unauthorized discharges is **four hundred thirty thousand and ninety-two dollars (\$430,092)**.

Penalty Calculation Methodology Worksheet - Version Date: 2/20/2014

Instructions

1. Select Potential Harm for Discharge Violations
2. Select Characteristics of the Discharge
3. Select Susceptibility to Cleanup or Abatement
4. Select Deviation from Standard
5. Click "Determine Harm & per Gallon/Day..."
6. Enter Values into the Yellow highlighted fields

| | |
|-------------|--|
| Select Item | 2 = Below Moderate |
| Select Item | 2 = Discharged material poses moderate risk |
| Select Item | < 50% of Discharge Susceptible to Cleanup or Abatement |
| Select Item | Moderate |

| | |
|-------------|--|
| Select Item | 2 = Below Moderate |
| Select Item | 1 = Discharged material poses minor risk |
| Select Item | < 50% of Discharge Susceptible to Cleanup or Abatement |
| Select Item | Minor |

Discharger Name/ID: **WRRCRWA**

| | | Violation 1 | | Violation 2 | | |
|----------------------------------|---|---|----------------|------------------|--------------|--------------|
| Discharge Violations | Step 1 | Potential Harm Factor (Generated from Button) | 5 | | 4 | |
| | Step 2 | Per Gallon Factor (Generated from Button) | 0.1 | | 0.011 | |
| | | Gallons | 2,469,000 | | 2,449,000 | |
| | | Statutory Maximum | 10.00 | | 10.00 | |
| | | High Volume | 1.30 | | 1.25 | |
| | | Total | | \$ 320,970 | | \$ 33,674 |
| | Per Day Factor (Generated from Button) | Per Day Factor (Generated from Button) | 0.1 | | 0.011 | |
| | | Days | 2 | | 1 | |
| | | Statutory Max per Day | \$ 10,000 | | \$ 10,000 | |
| | | Total | | \$ 2,000 | | \$ 110 |
| Non-Discharge Violations | | Step 3 | Per Day Factor | | | |
| | Total Days | | | | | |
| | Multiple Day Violation Reduction | | | | | |
| | Statutory Max per Day | | | | | |
| | Total | | \$ - | | \$ - | |
| Initial Amount of the ACL | | | \$ 322,970.00 | | \$ 33,783.75 | |
| Add'l Factors | Step 4 | Culpability | 1.1 | \$ 355,267.00 | 1.1 | \$ 37,162.13 |
| | Cleanup and Cooperation | 0.9 | \$ 319,740.30 | 1 | \$ 37,162.13 | |
| | History of Violations | 1.1 | \$ 351,714.33 | 1.1 | \$ 40,878.34 | |
| | Maximum for this Violation | \$ 24,710,000.00 | | \$ 24,500,000.00 | | |
| | Amount for this Violation | | \$ 351,714.33 | | \$ 40,878.34 | |

| | | | |
|----------------|--|------------------|---------------|
| Step 5 | Total Base Liability Amount | | \$ 392,592.67 |
| Step 6 | Ability to Pay & to Continue in Business | 1 | \$ 392,592.67 |
| Step 7 | Other Factors as Justice May Require | 1 | \$ 392,592.67 |
| | Staff Costs | \$ 37,500 | \$ 430,092.67 |
| Step 8 | Economic Benefit | \$ 140,732 | |
| Step 9 | Minimum Liability Amount | \$ 154,805.20 | |
| | Maximum Liability Amount | \$ 49,210,000.00 | |
| Step 10 | Final Liability Amount | | \$ 430,092.67 |