



CENTRAL MARIN SANITATION AGENCY

Direct Potable Reuse Regulatory Update



Direct Potable Reuse Regulatory Update Memorandum

DRAFT / April 2024





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This document is released for the purpose of information exchange review and planning only under the authority of Andrew Thomas Salveson, March 26, 2024, California C-56902.

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Abbreviations

AOP	advanced oxidation process
AWTO	Advanced Water Treatment Operator
BAC	biologically activated carbon
CMSA	Central Marin Sanitation Agency
DiPRRA	Direct Potable Reuse Responsible Agency
DPR	Direct Potable Reuse
EBCT	empty bed contact time
IAP	Independent Advisory Panel
mg/L	milligrams per liter
SWRCB	State Water Resources Control Board
TOC	total organic carbon
TWA	treated water augmentation

SECTION 1 BACKGROUND AND SUMMARY

When the Regulatory Chapter (Chapter 2) of Central Marin Sanitation Agency (CMSA) and Marin Municipal Water District Direct Potable Reuse (DPR) Evaluation Feasibility Study (FS) was written (May 2022), Direct Potable Reuse (DPR) regulations were in the second draft format (published Addendum version 8-17-2021 – A Framework for Direct Potable Reuse¹). In December 2023, the State Water Resources Control Board (SWRCB or State Board) adopted the Direct Potable Reuse Regulations with approval from the Office of Administrative Law expected in Spring of 2024. Therefore, this memorandum examines the 2023 approved DPR regulations to compare and identify any discrepancies, missing, or additional information based on what was written in the FS Chapter 2 – Regulatory Summary. In addition, the significance of addressing these changes is summarized at the end of each section. Appendix A includes the most up to date DPR Regulations dated October 2023.

Overall, while there are changes to the regulations that must be incorporated into a future DPR project, there is no significant impact to the projected costs. Several changes are worth noting here:

- 1) Increased reporting and analytical monitoring will increase costs.
- 2) Increased operations certification requirements will increase costs.
- 3) After 12 months, staffing can be reduced from 24/7 to a lower value. This will decrease costs.

SECTION 2 PROJECT STRUCTURE AND INTERAGENCY COORDINATION

The 2023 DPR Regulations include updates to definitions and requirements as part of the DPR project structure and interagency coordination.

As such, the definition of the Direct Potable Reuse Responsible Agency (DiPRRA) and partner agency have been updated to the following:

- DiPRRA – public water agency responsible for compliance with the regulations for a DPR project. The DiPRRA could be a single agency or a multi-agency Joint Powers Authority.
- Partner Agency – an entity included in a DPR project, other than a DiPRRA, such as a wastewater management or collection agency, public water system, or other entity responsible for water treatment, conveyance, and storage.

As part of a DPR project, the DiPRRA must prepare a permit application. Additions to the permit application that were not included in the original CMSA Chapter 2 – Regulatory Summary are highlighted in blue.

¹ SWRCB (2021). A Proposed Framework for Regulating Direct Potable Reuse in California, 2nd Edition Addendum: Early Draft of Anticipated Criteria. March 22, 2021.

- Engineering Report.
- Joint Plan.
- Demonstration of technical, managerial, and financial capacity for a project.
- [Operations Plan](#).
- [Monitoring Plan](#).
- Initial or amended permit for a public water system.

In addition to the DiPPRA requirement to acquire a domestic water supply permit or amended domestic supply permit, the 2023 DPR Regulations state that the SWRCB may also elect to require a partner agency to obtain a domestic water supply permit.

Significance in Addressing Changes

The Operations Plan and Monitoring Plan regulatory requirements will require a significant amount of time and effort caused by increased staff time and increased analytical chemistry costs.

SECTION 3 WASTEWATER SOURCE CONTROL

The 2023 Regulations include updates to terminology and more specific/detailed requirements as part of the Wastewater Source Control section.

The terminology used in the second draft DPR Regulations (2021) mentions requirements for a "source control program;" this language has been updated in the 2023 DPR Regulations to an "*industrial pretreatment and pollutant source control program*."

The mention of a quantitative risk assessment of each contaminant documented in the source control program as part of the second draft DPR Regulations (2021) was given more detail in the 2023 DPR Regulations. In the 2023 DPR Regulations, risk assessment is mentioned in the Water Safety Plan Section and Engineering Report Section. A Water Safety Plan, as part of the Engineering Report, shall address risk assessment and risk management and include a comprehensive hazard analysis that considers all steps in a drinking water supply chain from the municipal wastewater source to the consumer. The Engineering Report section addresses risk assessments of chemicals without MCLs, action levels, or notification levels and requires an evaluation to compare the maximum concentration of the chemical in DPR feed water to human health protective levels for drinking water.

Significance in Addressing Changes

The wastewater source control changes will not cause significant changes in effort or cost.

SECTION 4 FEED WATER MONITORING

Under both the 2021 DPR Regulations and the 2023 DPR Regulations, prior to operation the DPR project must monitor the feed water monthly for 24 months. In addition to the feed monitoring requirements

included in the second draft DPR Regulations (2021), the 2023 DPR Regulations build upon monitoring requirements to include:

- Chemicals associated with businesses and household sources of hazardous substances, pharmaceuticals, and personal care products.
- Chemicals specified by the State Board.

Significance in Addressing Changes

The additional chemical monitoring required for 24 months prior to operation will not require a significant additional effort or cost.

SECTION 5 PATHOGEN CONTROL REQUIREMENTS

Adjustments to pathogen control requirements from the 2021 DPR Regulations to the 2023 DPR regulations revolve around log reduction requirements, alternative treatment mechanisms, and validation study and protocol requirements. The differences for these pathogen control sub-categories are detailed below.

5.1 Log Reduction Requirements

The second draft DPR Regulations (2021) require treatment to be operated to continuously achieved 20 log virus, 14 log Giardia, and 15 log Cryptosporidium reduction. If treatment drops below 20 log virus, 14 log Giardia, and 15 log Cryptosporidium but not below 16 log virus, 10 log Giardia, and 11 log Cryptosporidium the DPR project must restore 20 log virus, 14 log Giardia, and 15 log Cryptosporidium within 24 hours or discontinue delivery of the finished water. The 2023 DPR Regulations adjusted the requirement for the treatment train to be continuously operated to achieve 16 log virus, 10 log Giardia, and 11 log Cryptosporidium reduction *at all times* and require the treatment train to be operated to achieve 20 log virus, 14 log Giardia, and 15 log Cryptosporidium *no less than 90 percent of the time the treatment train produces water in a calendar month*.

The second draft DPR Regulations (2021) state that the DiPRRA *shall discontinue delivery* of DPR project water if the minimum number of treatment processes (required to have at least 4 separate treatment processes) and the minimum number of treatment mechanisms (required to have at least 3 mechanisms) for virus, Giardia, and Cryptosporidium are not functional. The wording in the 2023 DPR Regulations is adjusted to state that the DiPRRA *shall take immediate action* pursuant to the operations plan to *restore functionality* of a treatment mechanism if a treatment mechanism (required to have at least 3 mechanisms) for virus, Giardia, and Cryptosporidium is not functional.

A new section was added to the Pathogen Control requirements in the 2023 DPR Regulations focused on obtaining log reduction credit requirements (20/14/15 or 16/10/11) by implementing continuous blending with an extracted groundwater or surface water drinking source, continuous reservoir mixing, or recharge/storage of DPR project water into a groundwater basin. In no case shall a combination of these options be credited with more than 2 log pathogen reduction credits.

Significance in Addressing Changes

The log reduction requirements do not impact the current treatment train proposed as part of the CMSA project; this change will not have any significant impact to the project cost. Since the CMSA proposed to use DPR via treated water augmentation (TWA), the 2023 DPR Regulation changes surrounding continuous blending, mixing, or recharge/storage of DPR project water in a groundwater basin is not relevant.

5.2 Alternative Treatment for Pathogen Control

The second draft DPR Regulations (2021) have a separate section (Section 64669.115) detailing Alternatives to all outlined DPR requirements. As a part of this section, treatment train alternatives as it pertains to Chemical Control are outlined. However, there is no clearly defined mention of a treatment train alternative for Pathogen Control. The 2023 DPR Regulations include requirements for an alternative treatment mechanism within the Pathogen Control section. The alternative treatment mechanism in the 2023 DPR Regulations may be approved if the following is met:

- The three treatment train mechanisms include physical separation and inactivation.
- The alternative shall assure equivalent or better level of protection to public health with respect to treatment technique diversity and treatment train robustness.
- The alternatives shall be reviewed by an Independent Advisory Panel (IAP).

Significance in Addressing Changes

The CMSA project is currently not pursuing an alternative treatment train. Therefore, there is no impact of this change.

5.3 Validation Study and Protocol for Pathogen Control

In both sets of regulations, the treatment processes (of which 4 are required) must be validated by a study. While the validation study protocol details overlap, the following additions were made to the 2023 DPR Regulations:

- Specific to the validation study:
 - » Validation of granular media filters may be conducted using a pilot plant with verification based on turbidity and period particle count monitoring.
 - » The validation methodology used to demonstrate pathogen removal capability must involve a challenge test² to quantify the reduction of the target pathogen or appropriate surrogate while concurrently monitoring the operational parameters to determine an operating envelope³.

² "Challenge test" is defined as a study comparing pathogen, surrogate parameter, or indicator compound concentration between the influent and effluent of a treatment process to determine the removal capacity of the treatment process. The influence concentration must be high enough to ensure that a measurable concentration is detected in the effluent.

³ "Operating envelope" is defined as the specified range of a set of continuously monitored parameters, including those with critical limits, of a treatment process within which an operation is consistent with validation conditions.

Significance in Addressing Changes

The CMSA project is currently not pursuing the use of granular activated media filters as part of the advanced treatment train. The additional validation requirements surrounding challenge testing have no impact.

SECTION 6 WASTEWATER TREATMENT REQUIREMENTS

No updates or changes for this section between the second draft DPR Regulations (2021) and the 2023 DPR Regulations.

SECTION 7 TREATMENT TRAIN REQUIREMENTS

Treatment train alternative requirements were added to the 2023 DPR Regulations in the Pathogen Control and Chemical Control sections.

SECTION 8 CHEMICAL CONTROL REQUIREMENTS

Chemical Control requirement changes from the second draft DPR Regulations (2021) to the 2023 DPR Regulations focus on Ozone/biologically activated carbon (BAC) treatment, total organic carbon (TOC) concentrations, and alternative treatment sequences. The changes for these sub-categories are summarized below.

8.1 Ozone/BAC

Additional details and requirements for the Ozone/BAC process in the 2023 DPR Regulations are highlighted in blue and consist of:

- A continuous blending process that provides a municipal wastewater contribution less than or equal to 0.10 may be used to substitute for Ozone/BAC. For a continuous blending process with an approved municipal wastewater contribution of more than 0.10, a percentage of the wastewater will still need to be treated using Ozone/BAC.
- The ozone process shall provide no less than 1 log reduction of carbamazepine and sulfamethoxazole.
- The ozonation process shall be designed to provide a ratio of the applied ozone dose to design feed water TOC to be greater than 1. A different ratio can be used if it meets the needed reduction of carbamazepine and sulfamethoxazole at a pilot scale.
- The BAC process shall provide no less than 1 log reduction of formaldehyde and acetone.
- BAC shall be designed for an empty bed contact time (EBCT) of 15 minutes. A different EBCT can be used if it can demonstrate the achieved reduction of formaldehyde and acetone at a pilot scale.

Significance in Addressing Changes

The CMSA will implement Ozone/BAC for the entire treated flow with no plan to substitute wastewater contribution for this treatment process. Ozone can readily obtain 1 log reduction of carbamazepine and sulfamethoxazole; this change will have no impact to the project. As part of the CMSA Feasibility Study, 10 mg/L of TOC was assumed as a high value. For conservatism and to ensure the ozone: TOC ratio is met, an applied ozone dose of 20 mg/L was used as part of the design criteria. To better ensure the ozone: TOC ratio is met, more detailed TOC data should be collected. BAC can readily obtain 1 log reduction of formaldehyde and acetone; and thus, this regulatory change has no impact to the project. The CMSA report provided an EBCT of at least 15 minutes for each alternative flow rate; no significant change is needed regarding this regulatory requirement.

8.2 Total Organic Carbon

Adjusted and additional TOC requirements in the 2023 DPR Regulations focus on continuous monitoring requirements and allowed TOC concentrations.

Similar to the second draft DPR Regulations (2021), TOC shall be monitored continuously. However, the 2023 DPR Regulations changed the recording frequency of the TOC monitoring from no less than once every 5 minutes (2021 DPR Regulations) to *no less than once every 15 minutes*.

Requirements for TOC concentrations (0.5 milligrams per liter [mg/L] in the advanced treated water prior to distribution) were amended in the 2023 DPR Regulations to include considerations for when TOC is blended prior to distribution. When DPR project water is blended, TOC concentrations in the advanced treated water shall not exceed a TOC limit of 0.5 mg/L divided by the municipal wastewater contribution. In addition, an elevated TOC concentration may be attenuated by a reservoir located downstream of advanced treatment. This is allowed for a limited duration based on hydrodynamic modeling and tracer testing to demonstrate the TOC is no more than 0.5 mg/L in the water entering the distribution system. The proposed alternative TOC limit through hydrodynamic modeling and tracer testing must be reviewed by an IAP. If the TOC concentration exceeds the proposed limits of 0.5 mg/L or 0.5 mg/L divided by the wastewater contribution (for the blending scenario), the DiPRRA shall take action to discontinue the delivery of non-compliant DPR water. In addition, if the blended TOC or the TOC diluted with a reservoir exceeds one-half the TOC limit continuously for more than 60 minutes, the DiPRRA shall take actions to investigate the treatment system and source.

Significance in Addressing Changes

The change in the frequency of TOC monitoring will not have a significant impact to the project. In addition, the CMSA project is focused on TWA; therefore, the requirements for blending are not applicable and no significant impact is expected.

8.3 Alternative Treatment Sequence

Similar to the Pathogen Control section, the 2023 DPR Regulations mention the potential for alternative treatment sequences that must:

- Demonstrate to the State Board that the proposed alternative provides an equivalent or better performance with respect to the efficacy and reliability of the reduction of contaminants that pose a

risk to public health and assures an equivalent or better level of protection to public health. The demonstration shall be reviewed by an IAP.

- Identify chemical control points and the surrogate and/or operational parameters and establish critical limits for the surrogate and/or operational parameters.
- Receive written approval from the State Board prior to implementation of the alternative.

Significance in Addressing Changes

The CMSA project is currently not pursuing an alternative treatment train. Therefore, impacts from this change are not significant.

SECTION 9 ADDITIONAL MONITORING REQUIREMENTS

Additional Monitoring in the second draft DPR Regulations (2021) changed to Additional *Chemical* Monitoring in the 2023 DPR Regulations.

The difference between the 2021 and the 2023 DPR Regulations for Additional Monitoring focus on the sampling locations, requirement for chemical sampling, and monitoring frequency. These differences are summarized below.

9.1 Sampling Locations

The 2023 DPR regulations add on to the second draft DPR Regulations (2021) regarding the sampling location that feeds the DPR project stating that samples for the DPR project feed water may be collected in the municipal wastewater after secondary wastewater treatment or *at an alternate location approved by the State Board*.

The 2023 DPR Regulations permit the monitoring conducted in the finished water to satisfy the requirement for the location immediately after advanced oxidation process (AOP) if the DiPRRA demonstrates to the State Board that the two locations have the same or substantially similar water.

The State Board may also require monitoring at additional locations based on review of the engineering report.

Significance in Addressing Changes

The 2023 DPR Regulatory changes to the sampling location requirements will not have a significant impact on the CMSA project.

9.2 Chemicals to Sample

The 2023 DPR Regulations build upon the chemicals listed in the second draft DPR Regulations (2021) that must be monitored in the feed water, immediately after AOP, and in the finished water by requiring samples of *chemicals associated with businesses or household sources of hazardous substances, pharmaceuticals, and personal care products, based on published or otherwise available results of analyses of wastewater and environmental waters sampled from nearby watersheds and urban areas*. In addition, the State Board may require sampling of *any other chemicals that may pose a human health risk*.

In both the 2021 and 2023 DPR Regulations, each year the DiPRRA is to identify an additional set of chemicals to be monitored in the feed water, immediately after AOP, and in the finished water for no less than 2 years. The 2021 DPR Regulations specifically mention chemicals that are known to cause cancer and reproductive toxicity, while the 2023 DPR Regulations state chemicals that pose a human health risk. Therefore, the 2023 DPR Regulations will likely require monitoring of chemicals beyond what is known to cause cancer and reproductive toxicity. The remaining chemical categories that are required for monitoring were the same in both the 2021 and 2023 DPR Regulations.

Significance in Addressing Changes

The 2023 DPR Regulatory changes for chemical sampling requirements may lead to a broader range of sampling required. While this is not a significant addition, it has potential to increase overall project costs.

9.3 Detected Chemicals

Details regarding detected samples and confirmation sampling in the feed water, immediately after AOP, and the finished water differ slightly between the 2021 and the 2023 DPR Regulations. The differences are summarized below.

- 2021 Regulations require confirmation sampling if a contaminant with a notification level is detected immediately after AOP or in finished water.
 - » If detected in the finished water, the DiPRRA must notify the State Board and increase monitoring of the contaminant weekly for 2 weeks. Results shall be written in a consumer confidence report unless the DiPRRA discontinues service (in which the State Board shall be notified).
 - » If detected immediately after AOP or in the finished water the DiPRRA must:
 - Take a confirmation sample, investigate the source, notify the State Board and partner agencies. Results shall be written in a consumer confidence report unless the DiPRRA discontinues service (in which the State Board shall be notified).
- 2023 Regulations require confirmation sampling if a contaminant with a notification level is detected in the feed, immediately after AOP, or in the finished water.
 - » The DiPRRA shall increase monitoring of the contaminant to weekly. A report evaluating the treatment and source control and request from the State Board will allow the DiPRRA to resume monthly sampling.
 - » The 2023 Regulations allow for a waiver of the confirmation sampling if a detection is found in the feed water pending the DiPRRA has detected the chemical in the last 2 years and the detection is within the known concentration range of the chemical and the source of the chemical has been identified.

Significance in Addressing Changes

The detected chemical sampling changes have the potential to increase project costs; however, it is expected the change will not be significant.

9.4 Monitoring Frequency

The 2021 and 2023 DPR Regulations both allow for a decrease in monthly sampling to quarterly following State Board approval based on no less than 2 years of analytical results showing the chemical has not been detected. The 2023 DPR Regulations add on to this by stating *that monitoring frequency may be decreased from quarterly to annually following State Board approval based on no less than 3 years of analytical results showing the chemical has not been detected.*

Significance in Addressing Changes

The monitoring frequency changes has the potential for costs savings. Overall, the change will not cause significant impacts to the existing CMSA project.

SECTION 10 OPERATIONS REQUIREMENTS

The differences between the operator requirements for the second draft DPR Regulations (2021) and the 2023 DPR Regulations are summarized in Table 1 below.

Table 1 Differences in the Second Draft DPR Regulations (2021) and 2023 DPR Regulations Operator Requirements

Second Draft DPR Regulations (2021)	2023 DPR Regulations
<ul style="list-style-type: none"> ▪ At least one chief operator has a grade 5 AWTO certification. ▪ At least one shift operator has a grade 5 AWTO certification. 	<ul style="list-style-type: none"> ▪ At least one chief operator has a grade 5 AWTO certification. ▪ At least one shift operator has a grade 3 AWTO certification.
<ul style="list-style-type: none"> ▪ A chief operator or shift operator shall be on site at all times, with no mention or reduced on-site operations. 	<ul style="list-style-type: none"> ▪ A chief operator or shift operator shall be on site at all times. <ul style="list-style-type: none"> » After 12 months of operation the DiPRRA may apply to the State Board to waive the requirement for being on site at all times pending the DiPRRA demonstrates an equivalent degree of operational oversight with the ability to exert physical control over the water treatment plant within a period specified in the Operations Plan or one hour (whichever is shorter).

Notes:

AWTO - Advanced Water Treatment Operator.

Significance in Addressing Changes

The changes to operational requirements have both positive and negative impacts on the originally projected cost. The requirement for higher AWTO certification will increase the costs while the ability to drop down to less than 24/7 operation will reduce cost. Overall, the expectation is a reduced level of cost.

SECTION 11 PLANS AND REPORTING

There is significant overlap in the plans and reporting required for the 2021 and the 2023 DPR Regulations. Additional plans not mentioned in Chapter 2 – Regulatory that are required based on the 2023 DPR Regulations are listed below.

- **Engineering Report:** Details the design criteria for the DPR project as well as facilities, staffing, and support services required to continuously produce safe drinking water. The report must also include a third-party review of the DPR project design. The report must be reviewed and approved by the State Board and updated every five years to account for any design changes.
- **Consumer Confidence Report:** identifies the wastewater delivered to the DPR project and includes information on the wastewater source control and the treatment train. A table and summary of chemicals detected in the finished water and any violations from the sampling conducted the previous calendar year must be presented. A consumer confidence report is mentioned in both the second draft DPR Regulations (2021) and the 2023 DPR Regulations. However, the need for this report was not mentioned in the CMSA feasibility study.
- **Additional Reporting:** Requires an annual, publicly available report detailing the DPR project's response to climate change. The report includes identified climate change threats and steps taken relative to the DPR project to adapt to these threats as well as mitigate greenhouse gas contributions to the atmosphere.

Significance in Addressing Changes

The 2023 DPR Regulatory requirements for an Engineering Report and Consumer Confidence Report will lead to a project cost increase. The impact to the project is not expected to be significant.

Additional Reporting for climate change requirements may lead to significant long-term adjustments and costs. These changes are harder to predict, will likely be dynamic, and will change with legislation.

SECTION 12 REFERENCES

SWRCB (2021). A Proposed Framework Regulating Direct Potable Reuse in California, Addendum, 2nd Edition Addendum: Early Draft of Anticipated Criteria. March 22, 2021.

SWRCB (2023). Title 22, California Code of Regulations, Division 4, Chapter 17, Article 10. Direct Potable Reuse. October 4, 2023.

APPENDIX A

DIRECT POTABLE REUSE OCTOBER 2023 REGULATION CHANGES

Description of Method for Indicating Changes to SBDDW-23-001, the Proposed Regulations for Direct Potable Reuse

Changes made to the proposed regulations SBDDW-23-001 are indicated as follows:

- Additional regulation text is indicated by a double underline (double underline).
- Deleted regulation text is indicated by a double strikethrough (~~double strikethrough~~).
- Regulation text changes are also highlighted in yellow.

TITLE 22, CALIFORNIA CODE OF REGULATIONS

Division 4. Environmental Health
Chapter 17. Surface Water Treatment
Article 10. Direct Potable Reuse

Adopt Section 64669.00 as follows:

§ 64669.00. Application.

In addition to meeting the requirements of this Chapter, a public water system that uses municipal wastewater to produce water to augment a source of supply for a public water system's drinking water treatment plant or placed into a public water system's drinking water distribution system shall meet the requirements of this Article.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13560, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116525, 116527, 116530, 116535, 116540, 116545, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.05 as follows:

§ 64669.05. Definitions.

(a) For the purposes of this Article, the following definitions shall apply:

(1) "Acute exposure threat" means the increased imminent risk of adverse health effects, including infectious disease and toxic effects from short-term exposures to contaminants in water.

(2) "Advanced treated water" means municipal wastewater that has undergone treatment for chemical control pursuant to section 64669.50.

(3) "AWTO™" means the Advanced Water Treatment Operator certification program of the California-Nevada Section of the American Water Works Association and the California Water Environment Association.

(4) "AWT5™" means a specific advanced water treatment certificate issued by the AWTO™ certification program.

(5) "BAC" means biologically activated carbon.

(6) "Challenge test" means a study comparing a pathogen, surrogate parameter, or indicator compound concentration between the influent and effluent of a treatment process to determine the removal capacity of the treatment process. The influent concentration must be high enough to ensure that a measurable concentration is detected in the effluent.

(7) "Chemical control point" means an activity, procedure, or process that is applied and is essential for preventing, reducing or eliminating a chemical **hazard threat**.

(8) "Chronic exposure threat" means the increased risk of adverse health effects including cancer or other longer-term effects or disease from continued exposures to contaminants in water.

(9) "Critical limit" means a maximum and/or minimum value of a continuously monitored parameter that indicates that a treatment process or an operation is effectively controlling the pathogen or chemical risk.

(10) "Direct potable reuse project" or "DPR project" means a project involving the planned introduction of recycled water that meets the requirements of this Article either directly into a public water system or into a raw water supply immediately upstream of a water treatment plant.

(11) "DPR project water" means municipal wastewater used by a DPR project that has undergone partial or complete treatment as set forth in this Article.

(12) "Direct potable reuse responsible agency (DiPRRA)" means the public water system responsible for compliance with this Article for a DPR project.

(13) "Finished water" has the same meaning set forth in section 64400.41, Article 1, Chapter 15, Division 4, Title 22.

(14) “Indicator compound” or “indicator” means a chemical in municipal wastewater that represents the physical, chemical, and/or biodegradation characteristics of a specific family of trace organic compounds and that is present in concentrations that may be used to monitor the efficacy of trace organic compound reduction by a treatment process, and/or that provides an indication of treatment process failure.

(15) “Local limits” means restrictions on the discharge of pollutants established by an industrial pretreatment and pollutant source control program to protect a wastewater treatment plant’s operations and the receiving water provided to a DPR project.

(16) “Log reduction” means the logarithm base 10 of the ratio of the levels of a pathogenic organism or other contaminant before and after treatment.

(17) “Log reduction value” or “LRV” means the measure of the ability of a treatment train or a treatment process to remove or inactivate microorganisms such as bacteria, protozoa and viruses. LRV is the log reduction validated or credited for a treatment process or treatment train.

(18) “Maximum contaminant level” or “MCL” has the same meaning set forth in section 116275(f) of the Health and Safety Code. MCLs are specified in Chapters 15 and 15.5, Division 4, Title 22.

(19) “Municipal wastewater” means wastewater that includes mostly domestic waste and may include commercial and industrial waste. For the purposes of this Article, municipal wastewater is considered a surface water.

(20) “Notification level” has the same meaning set forth in section 116455(c)(3) of the Health and Safety Code.

(21) “Operating envelope” means the specified range of a set of continuously monitored parameters, including those with critical limits, of a treatment process within which an operation is consistent with validation conditions.

(22) “Operational parameter” means a measurable property used to characterize or partially characterize the operation of a treatment process.

(23) “Ozone/BAC” means an ozonation process immediately followed by biologically activated carbon.

(24) “Partner agency” means an entity included in a DPR project other than a DiPRRA, such as a wastewater management agency, wastewater collection agency, public water system, or other entity responsible for water treatment, water conveyance, or storage.

(25) “Pathogen control point” means an activity, procedure, or process that may be applied to remove or reduce the pathogen **hazard threat**.

(26) “Regional monitoring consortium” means a group of DPR projects that cooperate in developing and implementing monitoring plans that comply with the monitoring requirements set forth in this Article.

(27) “Response level” has the same meaning set forth in section 116455(c)(4) of the Health and Safety Code.

(28) “SCADA system” means a supervisory control and data acquisition system.

(29) “Surrogate parameter” or “surrogate” means a measurable chemical or physical property, microorganism, or chemical that has been demonstrated to provide a direct correlation with the concentration of an indicator compound or pathogen; that may be used to monitor the efficacy of trace organic compound or pathogen reduction by a treatment process; and/or that provides an indication of a treatment process failure.

(30) “TOC” means total organic carbon, which is the concentration of organic carbon present in water.

(31) “Treatment mechanism” means a physical, biological, or chemical action that reduces the concentration of a pathogen or chemical contaminant.

(32) “Treatment train” means a group or assemblage of physical, chemical, and biological treatment processes that conditions or treats water to achieve a specific water quality objective.

(33) “UV” means ultraviolet light.

(34) “Validation” means a demonstration of the pathogen or chemical contaminant reduction capacity of a treatment process.

(35) “Verification” means monitoring to demonstrate the effectiveness of a treatment process for compliance determination.

(36) “Wastewater contribution” or “WWC” means the fraction equal to the quantity of municipal wastewater divided by the sum of the quantities of raw or treated municipal wastewater and a dilution water that is either an untreated source of drinking water that has received permit approval from the State Board in accordance with sections 116525 through 116550 of the Health and Safety Code, or a finished water that has received permit approval from the State Board in accordance with sections 116525 through 116550 of the Health and Safety Code. The municipal wastewater used in the WWC calculation can be either raw or treated municipal wastewater.

(37) “Water treatment plant” has the same meaning set forth in Health and Safety Code section 116275(w).

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116455, 116525, 116527, 116530, 116535, 116540, 116545, 116550 and 116655, Health and Safety Code.

Adopt Section 64669.10 as follows:

§ 64669.10. General Requirements.

- (a) The source water for a DPR project shall be municipal wastewater.
- (b) There shall be no bypass constructed around required treatment processes for municipal wastewater from the DPR project to the distribution system.
- (c) A DiPRRA shall enable and facilitate the inspection by the State Board at any time of all facilities, operations, and records used to comply with the requirements in this Article as described in the engineering report including facilities and operations related to:
 - (1) Source(s) and treatment;
 - (2) Wastewater source control pursuant to section 64669.40;
 - (3) Cross-connection control pursuant to section 64669.105;

(4) Technical, managerial, and financial capacity demonstration pursuant to section 64669.30; and

(5) Operations plan, monitoring plan, and water safety plan pursuant to sections 64669.80, 64669.90, and 64669.55, respectively.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13522.5, 13524, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116555, 116555.5, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.15 as follows:

§ 64669.15. Permit.

(a) A DiPRRA shall be the entity responsible for complying with the requirements of this Article. Only one DiPRRA shall be designated for a DPR project.

(b) A DiPRRA shall submit a permit application for the DPR project, pursuant to section 64001, Article 1, Chapter 14, Division 4, Title 22. The permit application shall include the following:

(1) An engineering report prepared pursuant to section 64669.75;

(2) A joint plan prepared pursuant to section 64669.20;

(3) A demonstration of technical, managerial, and financial capacity pursuant to section 64669.30;

(4) An operations plan prepared pursuant to section 64669.80;

(5) A monitoring plan prepared pursuant to section 64669.90;

(6) For an initial permit for a public water system, the requirements pursuant to section 64552, Article 2, Chapter 16, Division 4, Title 22; and

(7) For an amended permit for a public water system, the requirements pursuant to section 64556, Article 2, Chapter 16, Division 4, Title 22.

(c) A DiPRRA shall obtain a domestic water supply permit or amended domestic water supply permit prior to the operation of a DPR project.

(d) A DiPRRA shall comply at all times with its domestic water supply permit. The State Board may conduct enforcement for a violation of a permit condition by the DiPRRA pursuant to the authorities set forth in Articles 8, 9, and 11 of Chapter 4, Part 12, Division 104 of the Health and Safety Code.

(e) The State Board may elect to require a partner agency to obtain a domestic water supply permit when, in the judgment of the State Board, a partner agency is treating water in such a manner or to such an extent as to meet the definition of a public water system set forth in section 116275(h) of the Health and Safety Code.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116545, 116550, 116551, 116555, 116655, 116725, 116730, 116735 and 116750, Health and Safety Code.

Adopt Section 64669.20 as follows:

§ 64669.20. Joint Plan.

(a) A DiPRRA shall develop a joint plan that describes partner agency coordination procedures and includes the following:

(1) Identification of each partner agency, the roles and responsibilities of each partner agency, the legal authority of each partner agency to fulfill its role and responsibilities, and the overall organizational structure involved in implementing the joint plan over a 20-year life cycle planning horizon;

(2) Procedures to ensure that operations are conducted in accordance with an approved operations plan pursuant to section 64669.80;

(3) Procedures to ensure that the DiPRRA will have knowledge of the current status of treatment for the entire DPR project at all times;

(4) A description of corrective actions to be taken to protect public health if water delivered from a water treatment plant fails to meet the requirements of this Article;

(5) Procedures to ensure that monitoring is conducted in accordance with an approved monitoring plan pursuant to section 64669.90;

(6) Procedures to ensure that the DiPRRA will have knowledge of the current status of water quality monitoring pursuant to sections 64669.60 and 64669.65 and water quality monitoring results;

(7) A plan to investigate and implement wastewater treatment improvement that would enable a water treatment plant that provides treatment pursuant to this Article to reduce the level of chemicals to lowest achievable concentrations;

(8) Procedures to ensure the **wastewater** source control program complies with the requirements pursuant to section 64669.40;

(9) Procedures for providing access to all DPR project facilities, operations, and records for inspection at any time by the State Board;

(10) A plan to timely communicate water quality status and water quality monitoring results among the DiPRRA and partner agencies;

(11) Procedures the DiPRRA will implement for notifying partner agency(ies) and the State Board of:

(A) Operational changes that may adversely affect the quality of DPR project water delivered by a water treatment plant; and

(B) Treatment failure incidents and the corresponding corrective actions taken;

(12) Procedures for notifying customers pursuant to sections 64669.25, 64669.60, and 64669.125, and the procedures for receiving customer water quality complaints and reports of gastrointestinal illness pursuant to section 64669.95;

(13) Procedures to implement cross-connection control requirements pursuant to section 64669.105;

(14) Procedures to optimize corrosion control to reduce lead and copper levels in the distribution system; and

(15) The steps the DiPRRA and partner agency(ies) will take to provide an alternative source of domestic water supply or drinking water in the event that the DPR project is unable to supply water.

(b) Entities that collect the municipal wastewater, provide the municipal wastewater to the DPR project, provide wastewater source control, provide treatment pursuant to the requirements of this Article, or use DPR project water as a source of supply for a water treatment plant that delivers water to a water distribution system of a public water system shall participate in the joint plan as a partner agency; notwithstanding that, if an entity pursuant to section 64669.40(a) is the designated authority over wastewater connections and the industrial pretreatment and pollutant source control program for associated upstream entities that collect the municipal wastewater, then the associated upstream entities that collect the municipal wastewater are not required to participate in the Joint Plan as partner agencies.

(c) A joint plan shall be signed by a DiPRRA and each partner agency. The DiPRRA shall require that each partner agency implements the action(s) designated in the joint plan.

(d) The joint plan shall include copies of all agreements, such as Joint Powers Authority or bilateral agreements, that were executed to facilitate the operation of the DPR project.

(e) A DiPRRA shall submit an updated joint plan under the following circumstances: when there is a change in organization, responsibility, authority to fulfill a role, operation, or ownership of the DiPRRA or partner agency, including the addition of any partner agency; or when there is a change in the information provided pursuant to subsection (a). Updates to the joint plan shall be submitted to the State Board not less than sixty (60) days prior to the effective date of any change required by this subsection.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116545, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.25 as follows:

§ 64669.25. Public Meeting.

(a) A DiPRRA shall facilitate, and provide information for, at least one public meeting held by the State Board. The public meeting(s) shall be held before a permit or permit amendment can be issued for the DPR project.

(b) In coordination with partner agency(ies), a DiPRRA shall develop information to be provided to the public for each public meeting. The information shall include at minimum:

(1) a description of the DPR project;
(2) identification of the municipal wastewater source(s) for the DPR project;
(3) a description of the treatment processes, monitoring, and contingency plans to be used by the DPR project;

(4) the anticipated State Board permit provisions as provided by the State Board;

(5) the anticipated start date for operations of the DPR project and delivery of DPR project water to customers;

(6) the name, business address, and phone number for the public water system contact designated by the DiPRRA that the public may contact for additional information about the DPR project; and

(7) other information required by the State Board on a project-specific basis.

(c) A DiPRRA shall provide the information developed pursuant to subsections (b) and (e)(1) to the State Board prior to holding a public meeting pursuant to subsection (a).

(d) At least 30 days prior to a public meeting, a DiPRRA shall place the State Board-approved information to be presented at the public meeting in a publicly accessible repository (such as a local public library), on the DiPRRA internet website, on the internet website(s) of all public water system(s) that would receive DPR project water, and on all partner agency internet websites. The DiPRRA shall make the information available to the public upon request.

(e) At least 30 days prior to a public meeting, a DiPRRA shall provide notification of the public meeting and of the availability of information approved pursuant to subsection (c) in the following manner:

(1) At minimum, the public notice shall contain the following information:

(A) the nature and purpose of the meeting,

(B) the location and hours of operation of the public repository where the project information is available pursuant to subsection (d),

(C) the Internet website address(es) where the project information may be viewed,

(D) the manner in which the public can provide comments, and

(E) the date, time, and location of the public meeting.

(2) Public notification of the meeting shall be designed to reach all persons to be served by the proposed DPR project. The DiPRRA shall coordinate with public water systems on the public notification. The DiPRRA shall:

(A) Provide public notification by mail or direct delivery to each customer receiving a bill from the DiPRRA or any other public water systems that will deliver DPR project water under the proposed DPR project, including those that provide their drinking water to others (for example, schools, apartment buildings, offices), and

(B) Use of one or more of the following methods to reach persons not likely to be reached by mailing or direct delivery:

1. Local newspaper,

2. Local television, radio and/or social media,

3. Posting in conspicuous public places, or

4. Delivery to community organizations.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116525, 116527, 116530, 116535, 116540, 116545, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.30 as follows:

§ 64669.30. Technical, Managerial, and Financial Capacity.

(a) A DiPRRA shall demonstrate that it and all partner agencies possess technical, managerial, and financial capacity sufficient to comply with the joint plan and with this Article. The demonstration shall include the following:

(1) Identification of those project elements in the engineering report prepared pursuant to section 64669.75 that have associated ongoing costs. Ongoing costs shall include operation and maintenance costs, capital replacement costs, energy costs, personnel costs, and all 20-year life cycle costs of equipment;

(2) Identification of reliable and continuing funding sources to cover the costs identified in subsection (a)(1);

(3) A description of the available financial, physical, and personnel resources to be made available when and where needed, as well as a description of how any reasonably foreseeable supply chain issue would be resolved; and

(4) A description of tools and processes that are used for management and accounting, including a strategic asset management plan and a computerized maintenance management system.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.35 as follows:

§ 64669.35. Operator Certification.

(a) Any facility that provides treatment pursuant to section 64669.45, 64669.50, or 64669.110 is a water treatment plant pursuant to Health and Safety Code section 116275(w) and is subject to operator certification requirements contained in Title 22,

Division 4, Chapter 13, in addition to any other operator certification requirements required by law.

(b) A DiPRRA shall designate at least one chief operator who holds a valid grade T5 water treatment operator certification pursuant to Title 22, Division 4, Chapter 13 to oversee the operations of the entire treatment train used to comply with the requirements in this Article. The DiPRRA shall designate at least one shift operator who holds at least a valid grade T3 water treatment operator certification pursuant to Title 22, Division 4, Chapter 13 to oversee the operations of the entire treatment train used to comply with the requirements in this Article for each operating shift.

(c) A DiPRRA shall require that the chief operator(s) for each water treatment plant that provides treatment pursuant to section 64669.50 each holds a valid Advanced Water Treatment Operator (AWTO™) grade AWT5™ certificate issued by the California-Nevada Section of the American Water Works Association and the California Water Environment Association. A DiPRRA shall require that the shift operator(s) for each water treatment plant that provides treatment pursuant to section 64669.50 each holds at least a valid grade AWT3™ certificate. If the AWTO™ program is not available, a certificate issued by an equivalent training and certification program approved by the State Board that assures the same operator knowledge, skills, and abilities may be used to meet the requirement of this subsection.

(d) A designated chief operator or shift operator shall be on-site at all times when a water treatment plant that provides treatment pursuant to section 64669.45 and/or section 64669.50 is operating.

(e) After 12 months of operation pursuant to subsection (d), a DiPRRA may apply to the State Board to waive the requirement in subsection (d) if an operations plan or amended operations plan, submitted to the State Board pursuant to section 64669.80, demonstrates an equivalent degree of operational oversight and treatment reliability with either unmanned operation or operation under reduced operator oversight. If the State Board issues such a waiver, the chief operator or shift operator is not required to be on-site at all times but shall be able to monitor operations and exert physical control

over the water treatment plant within the period specified in the operations plan, or one hour, whichever is shorter.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 106875, 106876, 106885, 116270, 116275, 116350, 116360, 116365, 116375, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.40 as follows:

§ 64669.40. Wastewater Source Control.

(a) The municipal wastewater used to supply a DPR project shall be from an entity that:

(1) Is in compliance with waste discharge requirements issued pursuant to Article 4, Chapter 4, Division 7 of the Water Code;

(2) Has the legal authority to implement an industrial pretreatment and pollutant source control program, including authority for oversight and inspection, to control industrial and commercial waste discharges into the wastewater collection system;

(3) Administers an industrial pretreatment and pollutant source control program that:

(A) identifies and limits contaminants in wastewater, through the use of local limits, local ordinances, or other discharge control methods;

(B) assesses the fate of chemicals specified by the State Board in the wastewater treatment system prior to treatment pursuant to section 64669.50;

(C) investigates chemical sources and chemicals detected in monitoring pursuant to sections 64669.50, 64669.60 and 64669.65;

(D) operates an outreach program to industrial, commercial, and residential communities that discharge into a wastewater collection system that serves as the source for the DPR project, for the purpose of managing and minimizing the discharge of chemicals at the source;

(E) maintains a current inventory of chemicals identified pursuant to this section, including new chemicals resulting from new sources or changes to existing sources, that may be discharged into the wastewater collection system; and

(F) is audited at least every five years by an independent party to assess the effectiveness of the industrial pretreatment and pollutant source control program in controlling the discharge of contaminants.

(b) Documentation that establishes the local limits and other discharge control methods used by the wastewater provider(s) for the DPR project shall be submitted to the State Board, and a summary shall be included in the Annual Report prepared pursuant to section 64669.100.

(c) A DiPRRA shall implement a program to receive early warning of a potential occurrence that could interfere with the operation of a treatment process at a water treatment plant that provides treatment pursuant to this Article; reduce the reliability or effectiveness of a water treatment process at the water treatment plant; or result in an increase in contaminant levels in the advanced treated water. The early warning program shall include, at a minimum, the following:

(1) Online monitoring instrumentation that measures indicator compound(s) or surrogate parameter(s) and that indicates an increase in chemical contamination that may adversely impact the operations of the DPR project treatment or cause contamination of the advanced treated water;

(2) A process for notification by the industrial pretreatment and pollutant source control program(s) to the DiPRRA of any discharge that can potentially result in the release of contaminants above limits established pursuant to subsection (a)(3)(A);

(3) Tracking the results of local county public health departments' disease surveillance programs and community raw wastewater surveillance monitoring programs to identify whether and when community outbreaks of disease occur; and

(4) Other early warning measures required by the State Board, which are necessary to protect the operations of the DPR project treatment or prevent contamination of the advanced treated water, based on a review of the DPR project

engineering report submitted pursuant to section 64669.75 and on the availability of such measures.

(d) A DiPRRA shall form and maintain a source control committee that includes representatives from each partner agency that supplies municipal wastewater to the DPR project or that owns and/or operates a water treatment plant that provides treatment pursuant to this Article, as well as representatives from key industrial users and others that discharge to the wastewater collection system chemicals that may pose a risk to public health.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13522.5, 13524, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.45 as follows:

§ 64669.45. Pathogen Control.

Municipal wastewater used in a DPR project shall receive continuous treatment pursuant to this section prior to entering a water distribution system of a public water system.

(a) The DPR project treatment train shall be designed and constructed to comply with the following:

(1) The sum of the treatment process validated pathogen log reductions for the treatment train shall be at least 20 log for enteric virus, 14 log for *Giardia lamblia* cyst, and 15 log for *Cryptosporidium* oocyst.

(2) The treatment train shall consist of no less than four separate treatment processes for each of the following pathogens: enteric virus, *Giardia lamblia* cyst, and *Cryptosporidium* oocyst. Four treatment processes for each pathogen shall each be credited with no less than 1.0 log reduction, and no single process may be credited with

more than 6 log reduction. A single treatment process may receive pathogen log reduction credits for one or more pathogens.

(3) The treatment train shall consist of no less than three diverse treatment mechanisms each for enteric virus, *Giardia lamblia* cyst, and *Cryptosporidium* oocyst. The three treatment mechanisms shall include one membrane physical separation mechanism, one chemical inactivation mechanism, and one UV inactivation mechanism, with each treatment mechanism validated for no less than 1.0 log reduction for each of the three pathogens, enteric virus, *Giardia lamblia* cyst, and *Cryptosporidium* oocyst. Additional treatment mechanisms may be used.

(A) An alternative mechanism to a treatment mechanism identified in subsection (3) may be approved as long as the three treatment train mechanisms include physical separation and inactivation. Use of the alternative shall assure an equivalent or better level of protection of public health with respect to treatment technique diversity and treatment train robustness.

(B) The proposed alternative shall be reviewed by an independent advisory panel pursuant to section 64669.120.

(4) Each treatment process used to meet the requirements in this subsection shall have the pathogen log reduction validated. The DiPRRA may use:

(A) A validation study report previously approved by the State Board conducted using an approved protocol with elements described in subsection (a)(5)(C).

(B) A pathogen log inactivation table pursuant to Chapter 17, or

(C) A validation study pursuant to subsection (a)(5).

(5) A validation study is subject to the following requirements.

(A) Prior to conducting a validation study, the DiPRRA shall submit a validation study protocol to the State Board.

(B) The validation study protocol shall be prepared by an engineer licensed in California with at least five years of experience, as a licensed engineer, in drinking water or wastewater treatment evaluating treatment processes for pathogen control in a public water supply. The validation study protocol may rely on validation study protocol(s) previously approved by the State Board for use in validating water treatment

technologies for pathogen control. Validation of granular media filters may be conducted using a pilot plant with verification based on turbidity and periodic particle count monitoring.

(C) The validation study protocol shall:

1. Identify the treatment mechanism(s) of pathogen reduction by the treatment process.

2. Identify the pathogen(s) being addressed by the treatment, or appropriate surrogate(s) for the pathogen(s), that are used in the validation study. The pathogen(s) and surrogate(s) selected for the validation study shall be one(s) most resistant to the treatment mechanism(s).

3. Ensure that the pathogen(s) or surrogate(s) for the pathogen(s) are present in the test water in concentrations sufficient to demonstrate a pathogen log reduction.

4. Identify the factors that influence the pathogen reduction efficiency for the treatment mechanism(s). Influencing factors include feed water characteristics such as temperature and pH, hydraulic loading, deterioration of components, and integrity failure.

5. Identify the surrogate and/or operational parameters that can be measured continuously and that will correlate with the reduction of the pathogen(s) or surrogate(s) for the pathogen(s).

6. Identify the validation methodology to demonstrate the pathogen log removal capability of the treatment process. The validation methodology shall involve a challenge test to quantify the reduction of the target pathogen or appropriate surrogate while concurrently monitoring the operational parameters to determine an operating envelope.

7. Describe the method to collect and analyze data to formulate evidence-based conclusions.

8. Describe the method to determine the critical limit(s) and the operational monitoring and control strategy.

9. Describe the method to be used to calculate the LRV for the treatment process for each pathogen. The validated LRV shall not exceed that achieved by 95 percent of the challenge test results when the treatment process is operating in compliance with the critical limit(s).

10. Identify the circumstances that would require a re-validation or additional on-site validation (for example, when conditions are inconsistent with the previous validation study conditions).

(D) A validation study report documenting the validation study methodology and results shall be submitted to the State Board as part of the submittal of the engineering report prepared pursuant to section 64669.75. The validation study report shall be prepared by an engineer licensed in California with at least five years of experience, as a licensed engineer, in drinking water or wastewater treatment evaluating treatment processes for pathogen control in a public water supply. The validation study report shall identify the LRV demonstrated by each treatment process for each pathogen pursuant to subsection (a)(5)(C)(9.), the operating envelope, and the critical limit(s) for each validated treatment process. When a previous validation study pursuant to subsection (a)(4)(A) is used, the test protocol and report of the previous validation study shall be included in the engineering report prepared pursuant to section 64669.75 and shall be reviewed by the engineer preparing the engineering report.

(6) The treatment train LRV for enteric virus, *Giardia lamblia* cyst, and *Cryptosporidium* oocyst is the sum of the treatment process LRVs for each pathogen.

(7) The treatment train shall include UV disinfection with a dose of at least 300 mJ per cm².

(b) The DPR project treatment train shall be operated to comply with the following:

(1) To determine compliance with the pathogen log reductions pursuant to this subsection, treatment train LRVs shall be tracked continuously with a SCADA system utilizing online monitoring of surrogates and/or operational parameters for each treatment process that was credited for pathogen reduction based on the validation study report prepared pursuant to subsection (a)(5).

(2) The treatment train shall be continuously operated to achieve 16 log reduction of enteric virus, 10 log reduction of *Giardia lamblia* cyst, and 11 log reduction of *Cryptosporidium* oocyst using validated treatment LRVs and available options in subsection (d) at all times while conforming to the operations plan prepared pursuant to section 64669.80.

(3) The treatment train shall be operated to achieve 20 log reduction of enteric virus, 14 log reduction of *Giardia lamblia* cyst, and 15 log reduction of *Cryptosporidium* oocyst no less than 90 percent of the time the treatment train produces water in a calendar month while conforming to the operations plan prepared pursuant to section 64669.80.

(4) If the treatment train achieves 20 log reduction for enteric virus, 14 log reduction for *Giardia lamblia* cyst, or 15 log reduction for *Cryptosporidium* oocyst less than 90 percent of the time the treatment train produced water in a calendar month for two consecutive months, a DiPRRA shall:

(A) Evaluate the cause(s) of the failure to achieve the 20 log reduction for enteric virus, 14 log reduction for *Giardia lamblia* cyst, or 15 log reduction for *Cryptosporidium* oocyst;

(B) Take corrective action; and

(C) Summarize the evaluation and corrective actions taken in the monthly compliance report submitted pursuant to section 64669.95.

(5) The DiPRRA shall take action to immediately discontinue delivery of DPR project water to any distribution system if 16 log reduction for enteric virus, 10 log reduction for *Giardia lamblia* cyst, or 11 log reduction for *Cryptosporidium* oocyst are not met, with compliance determined based on subsection (b)(1).

(6) The DiPRRA shall take immediate action pursuant to the operations plan to restore functionality of a treatment process if the minimum number of treatment processes identified in subsection (a)(2) for any pathogen listed in subsection (a)(1) are not functional. The DiPRRA shall notify the State Board within 24 hours of determination that the number of pathogen treatment processes used in an operating treatment train is fewer than four.

(7) The DiPRRA shall take immediate action pursuant to the operations plan to restore functionality of a treatment mechanism if a treatment mechanism identified in subsection (a)(3) for any pathogen listed in subsection (a)(1) is not functional. The DiPRRA shall notify the State Board within 24 hours of determination that the number of treatment mechanisms used in an operating treatment train is fewer than three or does not include those specified in subsection (a)(3).

(8) The DiPRRA shall notify the State Board and each public water system receiving finished water directly from the DPR project within 60 minutes of knowledge of a failure that necessitates discontinuing delivery of DPR project water to any distribution system pursuant to subsection (b)(5).

(9) The DiPRRA shall notify the State Board before commencing delivery of finished water to a distribution system after an incident pursuant to subsection (b)(5) occurs and restart the DPR plant in accordance with a protocol in an approved operations plan prepared pursuant to section 964669.80. The DiPRRA shall submit an incident report, including corrective actions taken, to the State Board with the monthly compliance report submitted pursuant to section 64669.95.

(c) The SCADA system shall ~~be designed to~~ identify a failure of a process to meet its critical limit(s) and shall ~~be able to~~ automatically discontinue delivery of DPR project water to any distribution system if the treatment train does not meet the 16 log reduction for enteric virus, 10 log reduction for *Giardia lamblia* cyst, or 11 log reduction for *Cryptosporidium* oocyst. The SCADA system shall ~~be able to~~ discontinue delivery of DPR project water to any distribution system within the time provided by the flow path determined in section 64669.85(b)(3). The SCADA system shall have associated alarms that indicate when a process is not operating as designed.

(d) A DiPRRA may propose to use subsections (d)(1), (d)(2), and (d)(3) to receive credit for a portion of the pathogen log reduction criteria in subsections (a)(1), (b)(2), and (b)(3). In no case shall a combination of options in subsections (d)(1), (d)(2) or (d)(3) be credited with more than two logs of the pathogen log reduction criteria in subsections (a)(1), (b)(2), and (b)(3). The proposal shall be included in the engineering report prepared pursuant to section 64669.75.

(1) Continuous blending of DPR project water with an extracted ground water source or a surface water source of drinking water has received permit approval from the State Board in accordance with sections 116525 through 116550 of the Health and Safety Code, or a finished water that has received permit approval from the State Board in accordance with sections 116525 through 116550 of the Health and Safety Code, such that the blended water is demonstrated to be completely blended and credit for the blended water is no more than the result of the calculation: the negative log of the WWC. Continuous blending may be credited with no more than two logs of the pathogen log reduction criteria in subsections (a)(1), (b)(2), and (b)(3).

(2) Continuous mixing of DPR project water in a reservoir such that the elevated pathogen density in a one-hour discharge of inadequately treated water is attenuated by a factor commensurate with the credit in the water withdrawn from the reservoir as demonstrated with hydrodynamic modeling and tracer testing that is reviewed by an independent advisory panel pursuant to section 64669.120. The treatment train upstream of mixing pursuant to this subsection shall be designed and constructed to provide at least 16 log for enteric virus, 10 log for *Giardia lamblia* cyst, and 11 log for *Cryptosporidium* oocyst. Continuous mixing may be credited with no more than two logs of the pathogen log reduction criteria in subsections (a)(1) and (b)(3). The credit pursuant to this subsection may only be used to meet the requirements of subsection (b)(2) for up to 60 minutes in any 24-hour period.

(3) Recharge or storage of DPR project water into a groundwater basin such that the virus credit is no more than the result of the calculation: 0.033 log per day times the retention time (days) of DPR project water in groundwater basin. The retention time must be demonstrated with groundwater modeling and tracer testing that is reviewed by an independent advisory panel pursuant to section 64669.120. Groundwater recharge or storage may be credited with no more than two logs of the pathogen log reduction criteria in subsections (a)(1), (b)(2), and (b)(3).

(e) A proposal pursuant to subsection (d) shall:

(1) identify the pathogen control point(s) and the operational parameter(s) and establish critical limit(s) that indicate whether the operation demonstrates the credit; and

(2) identify the circumstances that would require a re-evaluation of an approved credit, such as when conditions are inconsistent with the previous demonstration test conditions.

(f) The DiPRRA may propose an alternative to the two log limitation and for the virus reduction rate pursuant to subsection (d)(3). The proposal shall:

(1) demonstrate that the proposed alternative credit provides pathogen control at least as health protective as a treatment process validated to the same log reduction pursuant to subsection (a)(5)(C); and

(2) be reviewed by an independent advisory panel pursuant to section 64669.120(b);

(g) Water delivered to a water distribution system of a public water system shall meet the disinfection performance standards pursuant to section 64654(b).

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.50 as follows:

§ 64669.50. Chemical Control.

Municipal wastewater used in a DPR project shall receive continuous treatment pursuant to this section prior to entering a water distribution system of a public water system.

(a) A treatment train shall consist of no less than three separate treatment processes, using no less than three diverse treatment mechanisms, for chemical reduction. The treatment train shall include the following treatment processes:

(1) An ozonation process immediately followed by biologically activated carbon (ozone/BAC), unless exempted pursuant to subsection (c), that meets the criteria set forth in this section;

(2) A reverse osmosis membrane process that meets the criteria set forth in this section; and

(3) An advanced oxidation process that meets the criteria set forth in this section.

(b) The sequence of processes required by subsection (a) in the treatment train shall be ozone/BAC followed by reverse osmosis membrane followed by advanced oxidation.

(c) A continuous blending process that provides a municipal wastewater contribution (WWC) less than or equal to 0.10, may be used to substitute for the treatment in subsection (a)(1). For a continuous blending process with an approved WWC greater than 0.10, a DiPRRA shall provide treatment pursuant to subsection (a)(1) for a percentage of the municipal wastewater flow equal to or greater than:

$$100 - \frac{\left(\frac{1}{WWC} - 1\right)}{0.09}$$

(d) An ozone/BAC process shall be designed to provide no less than 1.0 log reduction of each of the following indicators: formaldehyde, acetone, carbamazepine, and sulfamethoxazole.

(1) The ozonation process shall be designed to provide a ratio of the applied ozone dose to the design feed water total organic carbon (TOC) concentration greater than 1.0. A different design ratio may be used if it can be demonstrated that the ratio will achieve the reduction of the indicators ~~set forth in subsection (d)~~ carbamazepine and sulfamethoxazole at a pilot scale as part of the design of the ozonation process.

(2) The BAC shall be designed with an empty bed contact time of at least 15 minutes. A different empty-bed contact time may be used if it can be demonstrated to achieve the reduction of the indicators ~~set forth in subsection (d)~~ formaldehyde and acetone at a pilot scale as part of the design of the BAC process.

(e) The ozonation process and the BAC shall be individually validated to ensure that an ozone/BAC process designed pursuant to subsection (d) can reliably achieve the reductions of indicators at full scale operation as follows.

(1) The validation study shall demonstrate whether:

(A) An ozonation process will provide no less than 1.0 log reduction measured across the ozonation process for each of the following indicators: carbamazepine and sulfamethoxazole; and

(B) A BAC will provide no less than 1.0 log reduction measured across the BAC for each of the following indicators: formaldehyde and acetone.

(2) A DiPRRA shall submit a validation study protocol for the ozone/BAC process that complies with this subsection to the State Board for review and written approval prior to conducting the validation study. The validation study protocol shall include challenge tests, using formaldehyde, acetone, carbamazepine, and sulfamethoxazole, to demonstrate that the proposed ozone/BAC process will reliably achieve the minimum 1.0 log reduction of each indicator under the proposed normal full-scale operating conditions of the ozone/BAC process. The validation study protocol shall include proposed surrogate and/or operational parameters to be used in the validation study. The ozone/BAC process shall be re-validated when the full-scale operating conditions or control strategy are inconsistent with the previous validation study conditions.

(3) The DiPRRA shall submit a validation study report, including all results generated by the validation study, to the State Board as part of the engineering report prepared pursuant to section 64669.75. The validation study report shall identify the chemical control point(s) and the surrogate and/or operational parameter(s) and establish the critical limit(s) for the surrogate(s) and/or operational parameter(s) that indicate whether:

(A) For the ozonation process, the minimum 1.0 log carbamazepine and sulfamethoxazole reduction design criteria are being met during full-scale operation. At least one surrogate or operational parameter shall be capable of being monitored continuously and recorded and have associated alarms that indicate when the ozonation process is not operating as designed.

(B) For the BAC, the minimum 1.0 log formaldehyde and acetone reduction design criteria are being met during full-scale operation. At least one surrogate or

operational parameter shall be capable of being monitored continuously and recorded and have associated alarms that indicate when the BAC is not operating as designed.

(f) During full-scale operation of an ozone/BAC process designed pursuant to subsection (d) and validated pursuant to subsection (e), a DiPRRA shall continuously monitor and record the surrogate and/or operational parameters, record when the critical limits established pursuant to subsection (e)(34) are exceeded, and continuously monitor the ozonation process feedwater for nitrite, according to an approved operations plan pursuant to section 64669.80.

(g) A reverse osmosis membrane selected for use shall meet the following requirements:

(1) Each membrane element has achieved a minimum rejection of sodium chloride of no less than 99.0 percent and an average (nominal) rejection of sodium chloride of no less than 99.2 percent, as demonstrated through Method A of ASTM International's method D4194-23 Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices (2023), using the following substitute test conditions:

(A) A recovery of permeate of no less than 15 percent,

(B) Sodium chloride rejection is based on three or more successive measurements, after flushing and following at least 30 minutes of operation having demonstrated that rejection has stabilized,

(C) An influent pH no less than 6.5 and no greater than 8.0,

(D) An influent sodium chloride concentration of no greater than 2,000 mg/L, to be confirmed prior to the start of testing, and

(E) An applied pressure no greater than 225 pounds per square inch (psi);

and

(2) During the first twenty weeks of full-scale operation, the membrane produces a permeate with no more than five percent of the sample results having TOC concentrations greater than 0.25 mg/L (or an alternative surrogate parameter and corresponding limit approved by the State Board), as confirmed through monitoring no less frequent than weekly.

(h) For the reverse osmosis treatment process, a DiPRRA shall propose as part of the engineering report prepared pursuant to section 64669.75 ongoing performance monitoring using at least one surrogate and/or operational parameter that is capable of being monitored continuously and recorded and have associated alarms that indicate when the integrity of the reverse osmosis membrane has been compromised. The proposal shall identify the chemical control point and the surrogate(s) and/or operational parameter(s) and establish the critical limit(s) for the surrogate(s) and/or operational parameter(s) that indicate when the integrity has been compromised.

(i) During full-scale operation of the reverse osmosis treatment process, a DiPRRA shall continuously monitor and record the surrogate and/or operational parameter(s) that indicate when the integrity of the process has been compromised and record when the critical limits established pursuant to subsection (h) are exceeded, according to an approved operations plan pursuant to section 64669.80.

(j) A DiPRRA shall track the TOC performance of the reverse osmosis membranes pursuant to subsections (j)(1) and (j)(2) and report findings to the State Board in the monthly compliance report prepared pursuant to section 64669.95.

(1) If the combined reverse osmosis permeate TOC concentration exceeds 0.15 mg/L continuously for more than 120 hours, a DiPRRA shall investigate the integrity of the reverse osmosis treatment, perform a conductivity profile to identify the underperforming reverse osmosis vessel or reverse osmosis element, and take corrective action.

(2) If the combined reverse osmosis permeate TOC concentration exceeds 0.1 mg/L continuously for more than 24 hours, a DiPRRA shall collect a grab sample of the reverse osmosis permeate and perform a 5-day total trihalomethane formation potential study.

(k) An advanced oxidation process shall be designed to provide no less than 0.5 log reduction of the indicator 1,4-dioxane. The advanced oxidation process shall be validated to demonstrate that the advanced oxidation process can reliably achieve no less than 0.5 log reduction of the indicator 1,4-dioxane.

(1) The DiPRRA shall submit a validation study protocol that complies with this subsection to the State Board for review and written approval prior to conducting the validation study. The validation study protocol shall include challenge tests, using 1,4-dioxane, to demonstrate that the proposed advanced oxidation process will reliably achieve the minimum 0.5 log reduction under the proposed normal full-scale operating conditions of the advanced oxidation process. The validation study protocol shall include proposed surrogate and/or operational parameters to be used in the validation study. The advanced oxidation process shall be re-validated when the full-scale operating conditions or control strategy are inconsistent with the previous validation study conditions.

(2) The DiPRRA shall submit a validation study report, including all results generated by the validation study, to the State Board as part of the submittal of the engineering report prepared pursuant to section 64669.75. The validation study report shall identify the chemical control point(s) and the surrogate(s) and/or operational parameter(s) and establish the critical limit(s) for the surrogate(s) and/or operational parameter(s) that indicate whether the minimum 0.5 log 1,4-dioxane reduction design criterion is being met. At least one surrogate and/or operational parameter shall be capable of being monitored continuously and recorded and have associated alarms that indicate when the advanced oxidation process is not operating as designed.

(l) During full-scale operation of the advanced oxidation process designed and validated pursuant to subsection (k), the DiPRRA shall continuously monitor and record the surrogate and/or operational parameter(s) established pursuant to subsection (k)(2) and record when the critical limits established pursuant to subsection (k)(2) are exceeded, according to an approved operations plan pursuant to section 64669.80.

(m) The design and operation of the entire treatment train used to comply with the requirements in this Article and connected facilities such as storage tanks, detention basins, **reservoirs**, related pipelines, and water conveyance shall provide continuous mixing of the flow along the path of flow between the terminus of the wastewater collection system and the entry point to the drinking water distribution system sufficient to attenuate a one-hour elevated concentration of a contaminant in the municipal

wastewater by a factor of ten. Mixing that occurs between the wastewater treatment plant inlet chamber and the DPR project finished water may be used to meet this requirement.

(n) The DiPRRA shall establish a TOC chemical control point and a control point monitoring location that provides representative sampling of the advanced treated water prior to distribution. To determine compliance with subsections (n)(1) through (n)(43), TOC shall be monitored continuously and the TOC concentration shall be recorded no less than once every fifteen minutes. TOC of wastewater origin in excess of 0.5 mg/L shall be prevented from entering the distribution system. The TOC concentration at the TOC chemical control point shall not exceed the TOC critical limit as follows: the TOC concentration shall not exceed a TOC critical limit equal to 0.5 mg/L in the advanced treated water prior to distribution, unless adjusted pursuant to subsections (n)(1) and/or (n)(2).

(1) The TOC concentration at the TOC chemical control point shall not exceed the TOC critical limit as follows. When DPR project water is being blended prior to distribution with an untreated source of water previously approved by the State Board or a finished water previously approved by the State Board in accordance with sections 116525 through 116550 of the Health and Safety Code, the TOC concentration in the advanced treated water prior to blending distribution shall not exceed a TOC critical limit equal to 0.5 mg/L divided by the WWC. When DPR project water is not blended and the WWC equals 1, the TOC concentration shall not exceed a TOC critical limit equal to 0.5 mg/L in the advanced treated water prior to distribution. The TOC critical limit must always be based on the current WWC.

(2) Attenuation of elevated TOC concentration of limited duration with mixing in a reservoir downstream of the advanced treatment may be used to temporarily increase the TOC critical limit in section (n) and/or subsection (n)(1). The magnitude and duration of proposed alternative TOC critical limit must be justified by hydrodynamic modeling, tracer testing, and the diluent capacity of the reservoir, to demonstrate that the TOC of wastewater origin is no more than 0.5 mg/L in the water entering the distribution system.

The proposed alternative TOC critical limit, hydrodynamic modeling, and tracer testing must be reviewed by an independent advisory panel pursuant to section 64669.120.

(32) If the TOC critical limit pursuant to section (n), subsection (n)(1) or subsection (n)(2) is not met, the DiPRRA shall take action to immediately discontinue delivery of non-compliant DPR project water to any distribution system. The DiPRRA shall notify the State Board and each public water system directly receiving DPR project water within 24 hours of knowledge of a failure to meet the TOC critical limit.

(43) If the TOC concentration exceeds one half the TOC critical limit pursuant to section (n), subsection (n)(1), or subsection (n)(2) continuously for more than 60 minutes, a DiPRRA shall conduct an evaluation of the treatment system, initiate a source control investigation pursuant to the approved joint plan, collect samples for laboratory analysis to investigate the cause(s) of the elevated concentration, and include the results in the monthly compliance report submitted pursuant to section 64669.95.

(o) If for more than 10 percent of the time the treatment train was producing water in a calendar month there is any treatment process pursuant to subsections (a) and (b) that is not operating in compliance with its associated critical limits pursuant to subsections (e), (h), or (k), a DiPRRA shall:

(1) Evaluate the cause(s) of the failure to achieve the critical limit(s) pursuant to this subsection;

(2) Take corrective action; and

(3) Summarize the evaluation and corrective actions taken in the monthly compliance report submitted pursuant to section 64669.95.

(p) Within sixty (60) days after the first 12 months of full-scale operation, the DiPRRA shall submit a report to the State Board that complies with this subsection.

(1) For the reverse osmosis process, the report shall describe the effectiveness of the treatment, process failures that occurred, and actions taken when membrane integrity monitoring conducted pursuant to subsection (i) indicated that process integrity was compromised; and

(2) For the ozone/BAC and the advanced oxidation processes, the report shall include:

(A) Results of surrogate and/or operational parameter monitoring conducted pursuant to subsections (f) and (l);

(B) A description of the efficacy of the surrogate and operational parameters to reflect the reduction criteria for carbamazepine and sulfamethoxazole for the ozonation process, formaldehyde and acetone for the BAC, and 1,4-dioxane for the advanced oxidation process; and

(C) A description of actions taken, or yet to be taken, if the ozone/BAC process or advanced oxidation process were not operating in accordance with the operations plan pursuant to section 64669.80 during the first 12 months of operation.

(q) A DiPRRA shall evaluate data collected on treatment byproduct precursors and treatment byproducts pursuant to sections 64669.60(b), 64669.65(b), and 64669.75(c)(2), and options for optimizing operation to minimize production of treatment byproducts. The DiPRRA shall include a plan for optimization operation to minimize production of treatment byproducts in the operations plan prepared pursuant to section 64669.80.

(r) A DiPRRA may use an alternative to a treatment or treatment sequence requirement in subsections (a) through (l) and (o) if the DiPRRA:

(1) Demonstrates to the State Board that the proposed alternative provides an equivalent or better level of performance with respect to the efficacy and reliability of the reduction of contaminants that pose a risk to public health, and assures an equivalent or better level of protection to public health;

(2) Identifies the chemical control point(s) and the surrogate and/or operational parameter(s) and establish the critical limit(s) for the surrogate(s) and/or operational parameter(s); and

(3) Receives written approval from the State Board prior to implementation of the alternative, with approval based on compliance with this subsection.

(s) A demonstration pursuant to subsection (r)(1) shall include a review of the proposed alternative by an independent advisory panel pursuant to section 64669.120.

The panel shall consider:

(1) whether the level of public health protection being provided by an alternative to a treatment or treatment sequence is equivalent to or better than the public health protection from the required treatment or treatment sequence;

(2) how the level of treatment performance and reliability for the proposed alternative will be measured;

(3) how the alternative affects downstream treatment process(es) and distribution system water quality;

(4) how the alternative affects the fate of wastewater contaminants and treatment byproducts through the treatment train; and

(5) how the alternative affects treatment train reliability.

(t) An alternative to a requirement in section (a) shall comply with the following: the treatment train with the alternative shall consist of no less than three separate treatment processes, using no less than three diverse treatment mechanisms, for chemical reduction.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.55 as follows:

§ 64669.55. Water Safety Plan.

(a) A DiPRRA shall develop a water safety plan as part of the engineering report prepared pursuant to section 64669.75 to determine whether all hazards from contaminants in the municipal wastewater source have been considered by the DiPRRA. The plan shall address risk assessment and risk management and shall:

(1) Include a comprehensive hazard analysis that considers all steps in a drinking water supply chain from the municipal wastewater source to a consumer; and

(2) Identify and describe the risk management control(s) in addition to the requirements in sections 64669.40, 64669.45, and 64669.50. The description of the risk management control(s) shall include treatment effectiveness, critical limits, monitoring, corrective action in case of a lapse of control, and an operations plan for the control(s).

(b) A DiPRRA shall update the water safety plan at least every 5 years as part of the engineering report updates pursuant to section 64669.75. In water safety plan updates, the DiPRRA shall identify any new or additional hazard(s) and the proposed risk management control(s) pursuant to subsection (a)(2) to address the hazard(s). A DiPRRA shall submit the updated plan for review by an independent advisory panel established pursuant to section 64669.120. The DiPRRA shall consider the recommendations of the independent advisory panel in the revisions prior to finalization of the updated water safety plan.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.60 as follows:

§ 64669.60. Regulated Chemicals and Physical Characteristics Control and Monitoring.

(a) Once a month, samples shall be collected at sampling locations representative of:

(1) municipal wastewater that feeds the DPR project at a location **immediately** after secondary wastewater treatment and prior to the treatment processes pursuant to section 64669.50, **or at an alternate location approved by the State Board;**

(2) advanced treated water at a location immediately after the advanced oxidation process; and

(3) finished water prior to an entry point to the distribution system.

(b) Samples collected pursuant to subsection (a) shall be analyzed for chemicals with a primary maximum contaminant level (MCL), a secondary MCL, or an action level, and for physical characteristics listed in section 64449(b)(2).

(c) Monitoring conducted at a location identified in subsection (a)(3) may be used to satisfy the monitoring requirement pursuant to subsection (a)(2) if the DiPRRA demonstrates to the State Board that the water sampled at locations identified in subsections (a)(2) and (a)(3) have the same or substantially similar water quality.

(d) The State Board may require representative monitoring at additional locations not specified in subsection (a) based on the State Board's review of the DPR project engineering report submitted pursuant to section 64669.75.

(e) The monitoring frequency specified in subsection (a) may be increased for a chemical in subsection (b) based on the State Board's review of the DPR project engineering report and evaluation of the treatment process used, the treatment effectiveness, and the concentration of the chemical found in the feed water source.

(f) A representative sample shall be collected at least once a week at the location identified in subsection (a)(3) and analyzed for nitrate, nitrite, nitrate plus nitrite, perchlorate, and lead. A monthly sample collected pursuant to section (a) at this location may be used to satisfy a weekly sampling requirement when the sample date of the monthly sample and the sample date of the weekly sample coincide.

(g) The nitrate and nitrite chemical control point shall be monitored continuously at the location identified in subsection (a)(3) or another location downstream of reverse osmosis treatment.

(1) The critical limits established for the nitrate and nitrite chemical control point shall not be greater than the respective MCLs for nitrate, nitrite, or nitrate plus nitrite.

(2) If monitoring conducted at the nitrate and nitrite chemical control point indicates that an MCL for nitrate, nitrite, or nitrate plus nitrite is exceeded, the DiPRRA shall immediately take the actions pursuant to subsection (i)(2)(A).

(h) If a result of the monitoring at the location identified in subsection (a)(1) indicates a concentration of a chemical exceeding a primary MCL or action level, a confirmation sample shall be collected within 24 hours of notification of the result and analyzed for the chemical to confirm the initial result.

(1) If the average of the initial and confirmation sample exceeds the chemical's primary MCL or action level or if no confirmation sample is collected and analyzed pursuant to this subsection the DiPRRA shall notify the State Board within 24 hours of notification of the result, increase the monitoring frequency of the chemical to weekly at all locations identified in subsection (a), initiate an investigation of the source of the chemical, cause of the exceedance, and the efficacy of the treatment process to reduce the concentration of the chemical to below the MCL. The DiPRRA shall submit a report to the State Board summarizing the monitoring conducted and the results of the evaluation of the treatment system and of the source of contamination. The DiPRRA may apply to the State Board for written approval to resume monthly sampling pursuant to subsection (a) after submitting the report to the State Board, with approval based on compliance with this subsection.

(2) If the initial sample or confirmation sample exceeds ten times the primary MCL or action level or a concentration that may exceed the capacity of the treatment system to reduce the concentration to below the primary MCL or action level, a DiPRRA shall take corrective action and notify the State Board within 24 hours of notification of the result.

(i) If a result of the monitoring at the locations identified in subsection (a)(2) or (a)(3) indicates a concentration of a chemical exceeding a primary MCL or an action level, a confirmation sample shall be collected within 24 hours of notification of the result and analyzed for the chemical to confirm the initial result. The DiPRRA shall notify the State Board within 24 hours of notification of the initial result. If the average of the initial and confirmation sample exceeds a chemical's primary MCL or action level, or if no confirmation sample is collected and analyzed pursuant to this subsection:

(1) for a sample collected at the location identified in subsection (a)(2), the DiPRRA shall notify the State Board within 24 hours of notification of the result, take

corrective action, increase the monitoring frequency of the chemical to weekly at all locations identified in subsection (a), initiate an investigation of the source of the chemical, cause of the exceedance, and the efficacy of the treatment process to reduce the concentration of the chemical to below the MCL. The DiPRRA shall submit a report to the State Board summarizing the monitoring conducted, corrective action(s) taken, and the results of the evaluation of the treatment system and of the source of contamination. The DiPRRA may apply to the State Board for written approval to resume monthly sampling for the chemical pursuant to subsection (a) after submitting the report to the State Board.

(2) for a sample collected at the location identified in subsection (a)(3), the DiPRRA shall:

(A) notify the State Board within 24 hours of notification of the result and take action to immediately discontinue delivery of DPR project water to any distribution system.

(B) notify partner agency(ies) in the joint plan, all public water systems that directly receive DPR project water, the DiPRRA governing body, and the governing body of any local agency whose jurisdiction includes areas served by the DPR project within 30 days of notification of the result; and

(C) provide public notification to customers who are served by the DPR project pursuant to section 64669.125. The DiPRRA shall coordinate with a public water system in the public notification of customers served by the public water system.

(j) If a result of the monitoring at locations identified in subsection (a)(2) or (a)(3) exceeds a chemical's secondary MCL in Table 64449-A or the upper limit in Table 64449-B, a DiPRRA shall conduct an evaluation of the treatment system, continue monthly monitoring, calculate the quarterly average pursuant to section 64449(c) (Secondary Maximum Contaminant Levels and Compliance), and report the exceedance in the monthly compliance report submitted pursuant to section 64669.95.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270,

116275, 116350, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.65 as follows:

§ 64669.65. Additional Chemical Monitoring.

(a) Once a month, samples shall be collected at sampling locations representative of:

(1) municipal wastewater that feeds the DPR project at a location immediately after secondary wastewater treatment and prior to the treatment processes pursuant to section 64669.50, or at an alternate location approved by the State Board;

(2) advanced treated water at a location immediately after the advanced oxidation process; and

(3) finished water prior to an entry point to the distribution system.

(b) The samples collected pursuant to subsection (a) shall be analyzed for the following chemicals not monitored pursuant to section 64669.60, including:

(1) Priority toxic pollutants (chemicals listed in 40 CFR section 131.38, dated July 1, 2003, "Establishment of numeric criteria for priority toxic pollutants for the State of California") specified by the State Board, based on a review of the engineering report;

(2) Chemicals with notification levels specified by the State Board, based on a review of the engineering report;

(3) Chemicals specified by the State Board, based on a review of the DPR project engineering report submitted pursuant to section 64669.75 or from the wastewater source control program pursuant to section 64669.40(a)(3);

(4) The following solvents: acetone; N,N-dimethylacetamide; methanol; and methyl ethyl ketone;

(5) Treatment byproduct precursors and treatment byproducts specified by the State Board, based on a review of the engineering report;

(6) Chemicals associated with business or household sources of hazardous substances, pharmaceuticals, and personal care products, based on published or otherwise available results of analyses of wastewater and environmental waters

sampled locally from nearby watersheds or within nearby urban areas with similar demographics, specified by the State Board, based on a review of the DPR project engineering report submitted pursuant to section 64669.75; and

(7) Any other chemicals specified by the State Board that may pose a human health risk, based on the State Board's review of the monitoring conducted pursuant to subsections (g) and (h) or a review of wastewater source control program pursuant to section 64669.40(a)(3).

(c) Monitoring conducted at a location identified in subsection (a)(3) may be used to satisfy the monitoring requirement pursuant to subsection (a)(2) if the DiPRRA demonstrates to the State Board that the water sampled at locations identified in subsections (a)(2) and (a)(3) have the same or substantially similar water quality.

(d) The State Board may require representative monitoring at additional locations not specified in subsection (a) based on the State Board's review of the DPR project engineering report submitted pursuant to section 64669.75.

(e) If monitoring at a location identified in subsection (a) shows that a chemical with a notification level is detected, a confirmation sample shall be collected within 24 hours of notification of the result and analyzed for the chemical to confirm the initial result. If the average of the initial and confirmation sample confirms the chemical is detected or if no confirmation sample is collected, the DiPRRA shall increase the monitoring frequency of the chemical to weekly, conduct an evaluation of the treatment system, initiate a source control investigation pursuant to the approved joint plan, and include the results in the monthly compliance report submitted pursuant to section 64669.95. The DiPRRA may submit to the State Board a request to resume monthly sampling pursuant to subsection (a) after providing a report summarizing the treatment evaluation and source control investigation to the State Board.

(1) If monitoring at the location identified in subsection (a)(1) shows a chemical with a notification level is detected and the DiPRRA has detected the chemical in the last two years of monitoring pursuant to subsection (a), the DiPRRA may submit to the State Board a request to waive the confirmation and increased sampling requirements pursuant to this subsection, if the DiPRRA demonstrates to the State Board that the

detection is within the known concentration range of the chemical and the source of the chemical has been identified in previous source control investigations.

(2) If monitoring at the location identified in subsection (a)(3) shows a chemical with a notification level is detected, the DiPRRA shall report the analytical results in the consumer confidence report prepared pursuant to section 64669.130.

(3) If monitoring at the location identified in subsection (a)(2) or (a)(3) shows a chemical exceeding the notification level, a confirmation sample shall be collected within 24 hours of notification of the result and analyzed for the chemical to confirm the initial result. The DiPRRA shall notify the State Board within 48 hours of notification of the result. If the average of the initial and confirmation sample exceeds the chemical's notification level, or if no confirmation sample is collected and analyzed pursuant to this subsection, the DiPRRA shall:

(A) Within 24 hours notify the State Board, increase the monitoring frequency of the chemical to weekly at all locations identified in subsection (a), initiate an investigation of the source of the chemical, cause of the exceedance, and the efficacy of the treatment process to reduce the concentration of the chemical to below the notification level; and

(B) Notify partner agency(ies) in the joint plan, all public water systems that directly receive DPR project water, the DiPRRA governing body, and the governing body of any local agency whose jurisdiction includes areas served by the DPR project within 24 hours of notification of the result.

(4) If the average of the initial and confirmation samples collected at a location identified in subsection (a)(3) pursuant to subsection (e)(3) exceeds a chemical's response level, or if the initial sample exceeds a chemical's response level and no confirmation sample is collected, the DiPRRA shall notify the State Board within 24 hours of notification of the result and take action to immediately discontinue delivery of DPR project water to any distribution system. When a chemical's response level is exceeded in the water delivered to the distribution system, the DiPRRA, its partner agency(ies), and all public water system(s) that directly receive DPR project water shall

comply with notification requirements in Health and Safety Code sections 116455 and 116378.

(f) A DiPRRA may apply to the State Board for written approval to decrease the monitoring frequency at a location identified in subsection (a) for a chemical in subsection (b) as follows:

(1) The monitoring frequency may be decreased from monthly to quarterly following State Board written approval, based on a review of no less than the most recent two years of monthly analytical results of the monitoring conducted pursuant to subsection (a) showing the chemical has not been detected;

(2) The monitoring frequency may be decreased from quarterly to annually following State Board written approval, based on a review of no less than the most recent three years of quarterly analytical results pursuant to subsection (e)(1) showing the chemical has not been detected;

(3) After at least three years of annual monitoring for a chemical have been completed pursuant to subsection (e)(2) showing the chemical has not been detected, the DiPRRA may apply to the State Board for a waiver from monitoring; and

(4) A waiver for a chemical pursuant to subsection (f)(3) shall be renewed automatically, unless the State Board notifies the DiPRRA in writing that the waiver has been revoked and the reason for the revocation. The DiPRRA whose waiver has been revoked may re-apply for a waiver when it again meets the requirements for decreased monitoring set forth in this subsection. The State Board may revoke its written approval for decreased monitoring for a chemical pursuant to this section when there is indication that the chemical is present in the wastewater.

(g) Each year, a DiPRRA, in consultation with the State Board, shall identify chemicals that may exceed levels at which no adverse human health effects from acute toxicity are anticipated to occur, with an adequate margin of safety, or exceed levels that do not pose any significant risk to human health from cancer or chronic disease; and that are likely to be present in wastewater used by the DPR project or likely to be produced within the DPR project treatment train and are not otherwise required to be

monitored pursuant to subsections (b)(1) through (b)(6). The identification of the chemicals shall be based on reviews of the following:

(1) The inventory of chemicals identified in section 64669.40(a)(3)(E);

(2) Results of analyses of wastewater and environmental waters sampled locally, based on available data;

(3) Reports from State Board advisory bodies or lists of chemicals that pose human health risks that have been developed by the State Board, or other California state agencies, or federal agencies;

(4) Published scientific literature associated with business and household hazardous substances, pharmaceuticals, and personal care products found in wastewater or drinking water; and

(5) Information on pharmaceuticals that are among the most often prescribed, based on readily available documentation, including results from Internet sites that track pharmaceutical use, and modified, if possible, to reflect local conditions.

(h) Each year a DiPRRA shall submit to the State Board a plan for special monitoring that includes the proposed chemicals identified pursuant to subsection (g) and proposed method(s) of analysis pursuant to section 64669.70. The special monitoring plan shall comply with the following requirements.

(1) Sampling shall be conducted from locations identified in subsection (a) on a quarterly basis for no less than two years.

(2) If a chemical is detected, a confirmation sample shall be collected within 30 days of notification of the result and analyzed for the chemical to confirm the initial result.

(3) The DiPRRA shall provide results of the monitoring to partner agency(ies) engaged in public outreach pursuant to section 64669.40(a)(3)(D) to encourage a reduction in the release of business and household hazardous substances, pharmaceuticals, personal care products and other chemicals into the wastewater collection system.

(i) Each year, a DiPRRA shall sample from the location identified in subsection (a)(2) for indicator compound(s) specified by the State Board, based on a review of the following:

- (1) The DPR project engineering report;
- (2) The information related to wastewater source control developed pursuant to section 64669.40;
- (3) Monitoring carried out pursuant to subsection (h);
- (4) An indicator compound's ability to characterize the performance of the treatment processes for removal of chemicals; and
- (5) The availability of an analytical method for a chemical to be used as an indicator compound.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.70 as follows:

§ 64669.70. Laboratory Analysis.

(a) A laboratory performing analyses to comply with a requirement in this Article shall be accredited pursuant to division 101, part 1, chapter 4, article 3 of the Health and Safety Code (commencing with section 100825), known as the Environmental Laboratory Accreditation Act.

(b) Methods used to analyze samples pursuant to this Article shall be identified and described in a monitoring plan prepared pursuant to section 64669.90.

(1) Methods proposed to be used shall be approved by the US Environmental Protection Agency for use in compliance with the Safe Drinking Water Act as prescribed in 40 Code of Federal Regulations part 141 or 143, except as provided below.

(2) For a sample collected at a location specified in subsections 64669.60(a)(1) and 64669.65(a)(1), methods proposed may be those approved by the US

Environmental Protection Agency for use in compliance with the Clean Water Act as prescribed in 40 Code of Federal Regulations part 136.

(3) For a chemical lacking a method in subsection (b)(1) or (b)(2), a DiPRRA shall propose a method in its monitoring plan pursuant to section 64669.90. Selection of a method for the chemical shall be based on the following, listed in the order of priority:

(A) A method approved for use in compliance with the Safe Drinking Water Act as prescribed in 40 Code of Federal Regulations part 141 or part 143 for the analysis of the chemical without modification to the method parameters, quality assurance, or quality control criteria, unless allowed by the method;

(B) A method for the chemical that has been developed and published by a state or federal governmental agency or by a non-governmental voluntary consensus standards body, including a method in the Standard Methods Committee's Standard Methods for the Examination of Water and Wastewater, or the standards of ASTM International. The method shall be for analysis for the chemical without modification to the method parameters, quality assurance, or quality control criteria, unless allowed by the method; or

(C) If no method pursuant to subsection (b)(3)(A) or (b)(3)(B) is available for the chemical, a method developed by a laboratory, including modifications made to a method pursuant to subsection (b)(3)(A) or (b)(3)(B), may be proposed for use following submittal to the State Board of both the laboratory's standard operating procedure and a method validation package. Prior to submittal of the method validation package, the laboratory shall submit to the State Board a method validation plan that conforms to the US Environmental Protection Agency's Protocol for the Evaluation of Alternative Test Procedures for Organic and Inorganic Analytes in Drinking Water (EPA 815-R-15-007, February 2015), or Protocol for the Evaluation of Alternate Test Procedures for Analyzing Radioactive Contaminants in Drinking Water (EPA 815-R-15-008, February 2015). A method that conforms to one of these protocols is acceptable to the State Board for use in a DPR project.

(c) Sample collection and field tests shall be performed pursuant to subsection 64415(b).

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.75 as follows:

§ 64669.75. Engineering Report.

(a) A DiPRRA shall develop an engineering report for each DPR project and submit the engineering report to the State Board with the permit application prepared pursuant to section 64669.15.

(b) The engineering report shall be prepared by an engineer licensed in California with at least five years of experience, as a licensed engineer, in drinking water and wastewater treatment evaluating treatment processes for pathogen and chemical control in a public water supply.

(c) The engineering report shall contain the following information:

(1) A description of how the DPR project intends to comply with each and every requirement in this Article and the applicable requirements in Chapter 17, including a description of all facilities, personnel, and support services necessary for the operation of the DPR project.

(2) A characterization of the quality of the municipal wastewater that will be used and treated by the DPR project to produce drinking water. The characterization shall include the following components:

(A) Analytical results from samples collected on a monthly basis for no less than 24 consecutive months from monitoring location(s) representative of the feed water(s) to the DPR project for the following chemicals. All monitoring data generated for the characterization shall include detection limit information. For chemicals with drinking water standards, the detection limit for analysis shall be at or below those specified in sections 64432, 64445.1, 64442, 64443, 64533. All data used in the characterization shall be included in the engineering report.

1. Chemicals with a primary MCL, a secondary MCL, or an action level;
2. Priority toxic pollutants (chemicals listed in 40 CFR section 131.38, “Establishment of numeric criteria for priority toxic pollutants for the State of California”);
3. Chemicals with notification levels;
4. The following solvents: acetone; N,N-dimethylacetamide; methanol; and methyl ethyl ketone;
5. Treatment byproduct precursors and treatment byproducts;
6. Chemicals specified by the State Board, based on a review of the wastewater source control program pursuant to section 64669.40(a)(3);
7. Chemicals associated with business and household sources of hazardous substances, pharmaceuticals, and personal care products, and based on published or otherwise available results of analyses of wastewater and environmental waters sampled locally from nearby watersheds or within nearby urban areas with similar demographics; and
8. Other chemicals specified by the State Board that may pose a human health risk.

(B) An evaluation of the data collected pursuant to subsection (c)(2)(A) to assess the potential human health risks from detected chemicals.

1. The evaluation shall include a comparison of the maximum concentrations of chemicals in wastewater documented in subsection (c)(2)(A) with primary MCLs, action levels, and notification levels.
2. For chemicals without primary MCLs, action levels or notification levels, the evaluation shall include a comparison of the maximum concentration of the chemical in wastewater documented in subsection (c)(2)(A) with human health protective levels for drinking water. Human health protective levels include public health goals or the results of other human health risk assessments by the state Office of Environmental Health Hazard Assessment, or similar protective levels derived from human health risk assessments performed or compiled by California state agencies, the U.S. EPA, or State Board scientific advisory bodies, or other similar public health protective levels required by the State Board.

3. The evaluation, along with the cited document(s) that are the source of information of the health protective level of a chemical in drinking water, shall be presented in tables and an accompanying narrative discussion to identify chemicals that may pose a risk to public health in the wastewater, their potential to cause exceedances of MCLs or notification levels by the proposed DPR project, and their potential to be controlled by the use of local limits and other discharge control methods.

4. The narrative discussion shall also identify detected chemicals that lack available human health risk assessments, and identify analytical methods used that do not have the necessary sensitivity for a comparison to a human health protective level in drinking water.

(3) Information regarding anticipated changes to wastewater characteristics, including anticipated effects due to climate change, and information regarding any existing or planned activities to optimize wastewater treatment operations, including influent flow and load equalization, enhancements to primary treatment, equalization and treatment of return flows, modification of biological treatment process operations, implementation of new biological treatment processes, and enhancements in process monitoring, effluent filtration, and effluent disinfection methods.

(d) Every five years from the date of the initial approval of the engineering report, a DiPRRA shall update the engineering report and submit the updated engineering report to the State Board. The update shall include:

- (1) A description of the planned upgrades to the treatment train;
- (2) A description of capital improvements to DPR project facilities;
- (3) A summary of any updates to the joint plan;
- (4) A summary of any updates to the wastewater source control program;
- (5) An evaluation of treatment process optimization and treatment efficacy;
- (6) A summary of any updates to the water safety plan;
- (7) An assessment of operations, a summary of operator training, and a description of needed improvements; and
- (8) An update of the 5-year capital replacement cost and budget forecast.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.80 as follows:

§ 64669.80. Operations Plan.

(a) A DiPRRA shall develop an operations plan for each DPR project and submit the operations plan to the State Board with the permit application prepared pursuant to section 64669.15.

(b) The DiPRRA shall operate the DPR project in accordance with an approved operations plan that complies with this section and a permit issued pursuant to section 64669.15.

(c) The operations plan shall include:

(1) A description of how each treatment process is operated within the entire treatment train used to comply with the requirements in this Article and how the reliability features of the DPR project are implemented in the operation of the entire treatment train, including the standard operating procedures to be used.

(2) A description of the treatment process performance monitoring pursuant to sections 64669.45, 64669.50, 64669.85, and 64669.110, including:

(A) Identification of each surrogate and operational parameter for each pathogen control point and chemical control point and a description of the equipment sampling and recording frequency for continuously monitored parameters;

(B) Identification of the monitoring location for each surrogate and operational parameter; and

(C) Identification of critical limit(s) associated with each surrogate and operational parameter;

(3) Information demonstrating that the personnel operating and overseeing the DPR project operations have received training in the following:

- (A) The proper operation of the treatment processes utilized;
 - (B) The California Safe Drinking Water Act and its implementing regulations, including the requirements of this Article;
 - (C) The potential adverse health effects associated with the consumption of drinking water that does not meet California drinking water standards; and
 - (D) Implementation of a wastewater source control program pursuant to section 64669.40.
- (4) A description of the type and level of operator certification for each water treatment plant that provides treatment pursuant to this Article, a continuing education program that includes the elements of the training required pursuant to subsection (c)(3), provisions for training of new personnel, and a description of the staffing level at each water treatment plant.
- (5) A description of the approach a DiPRRA will take to optimize the treatment processes to maximize reduction of the following:
- (A) microbial contaminants identified in section 64669.45;
 - (B) regulated chemicals identified in section 64669.60;
 - (C) chemicals for which monitoring is required pursuant to section 64669.65;
- and
- (D) disinfection byproduct precursors and treatment byproducts identified in section 64669.50(q).
- (6) A description of provisions to conduct re-validation or additional on-site re-evaluation whenever circumstances identified in section 64669.45(a)(4)(C)(10), section 64669.45(e)(2), section 64669.50(e)(3), and section 64669.50(k)(1) are met.
- (7) A description of the SCADA system and how the SCADA system uses the data that it gathers to determine compliance with this Article. The plan shall describe how the SCADA system:
- (A) acquires and uses monitoring data to inform operators, generate reports, and take autonomous action;
 - (B) identifies and responds to a failure of a control point to meet a critical limit and halt the flow of water if necessary;

(C) communicates and interoperates with the SCADA systems of all water treatment plants included in the DPR project that provide treatment pursuant to this Article;

(D) identifies the LRV performance status of each process for which an LRV has been credited and uses that status to determine compliance with the required pathogen log reductions pursuant to section 64669.45; and

(E) addresses the control system requirements pursuant to section 64669.85(d).

(8) A protocol to test the SCADA system to ensure the ability of the system to perform the functions identified pursuant to sections 64669.45 and section 64669.85(d) and identified in the engineering report prepared pursuant to section 64669.75, with a schedule for testing of the SCADA system.

(9) A description of the process for investigating failures, taking corrective action, and remedying the cause of a failure.

(10) A description of the protocols for diversions or shut-off and for returning to normal operation after a diversion or shutoff.

(11) A description of the treatment process equipment inspection and maintenance program, including control point monitoring equipment inspection, maintenance, and calibration.

(12) A description of the records maintained to document the operations of the DPR project pursuant to section 64662.

(13) A proposed reporting template to be used in compliance reporting pursuant to section 64669.95.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.85 as follows:

§ 64669.85. Pathogen and Chemical Control Point Monitoring and Response.

(a) Pathogen control points and chemical control points shall be used to demonstrate control of acute and chronic exposure threats as follows. A DiPRRA shall utilize a SCADA system meeting the requirements in subsection (d) to manage information generated at the pathogen and chemical control points.

(1) Pathogen and chemical control points shall be identified, and at least one critical limit shall be identified for each control point, pursuant to requirements in:

(A) subsections 64669.45(a)(5)(D) and 64669.45(e);

(B) subsections 64669.50(e)(3), 64669.50(h), 64669.50(k)(2), and 64669.50(n)(1); and

(C) subsection 64669.60(g)(1).

(2) Each pathogen and chemical control point shall be equipped with online monitoring sufficient to determine whether a critical limit is being met.

(3) If the online monitoring required in subsection (a)(2) is unable to demonstrate compliance with a critical limit, regardless of the cause, the associated critical limit(s) shall be deemed to not have been met. Any pathogen control point surrogate and/or operational parameter that is not meeting the associated critical limit means the treatment process is not credited with the associated LRV pursuant to section 64669.45(a) and (d).

(b) Water posing an acute exposure threat, as defined in subsection (b)(1), shall be prevented from entering the water distribution system of a public water system.

(1) The following are considered acute exposure threats:

(A) Failure to provide 16 log reduction of enteric virus, 10 log reduction of *Giardia lamblia* cyst, and 11 log reduction of *Cryptosporidium* oocyst pursuant to section 64669.45(b)(2);

(B) Failure to meet nitrate, nitrite, or nitrate plus nitrite MCLs, based on monitoring conducted pursuant to section 64669.60(g); and

(C) Failure to meet the TOC critical limit pursuant to section 64669.50(n).

(2) The treatment train, storage facilities, related pipelines, and water conveyance facilities shall provide a path for water to flow from each pathogen and chemical control point to a point of diversion or shutoff that allows time for the identification and diversion or shutoff of water posing an acute exposure threat. The time required for the water to travel along the path of flow from each pathogen and chemical control point to a point of diversion or shutoff shall take into account the following:

(A) The maximum time between online measurements taken at each individual pathogen control point and chemical control point monitoring location;

(B) The maximum time it takes for online measurements to be accessed by the SCADA system, and an assessment made as to whether the critical limit is being met; and

(C) The maximum time it takes for the SCADA system to:

1. determine if the 16 log reduction for enteric virus, 10 log reduction for *Giardia lamblia* cyst, and 11 log reduction for *Cryptosporidium* oocyst are being achieved; if the TOC concentration meets the TOC critical limit pursuant to subsection (n); and if the nitrate, nitrite, and nitrate plus nitrite concentrations comply with the MCLs for nitrate, nitrite, and nitrate plus nitrite, respectively;

2. actuate a diversion or shutoff valve if 16 log reduction for enteric virus, 10 log reduction for *Giardia lamblia* cyst, or 11 log reduction for *Cryptosporidium* oocyst are not achieved, if the TOC concentration exceeds the TOC critical limit pursuant to section 64669.50(n), or if the nitrate concentration exceeds the MCL; and

3. divert or shut off flow to the distribution system.

(3) The time it takes for the first ten percent of the water to flow along the flow path from each pathogen and chemical control point to the point of diversion or shutoff shall be no less than the time required for the identification and diversion or shutoff of inadequately treated water as determined in subsection (b)(2).

(c) A chronic exposure threat is deemed to occur when the following occurs for more than two consecutive months: for more than 10 percent of the time the treatment train was producing water in a calendar month there is any treatment process pursuant

to subsections (a) and (b) that is not operating in compliance with its associated critical limits pursuant to subsections (e), (h), or (k). Water posing a chronic exposure threat shall be prevented from entering the water distribution system of a public water system.

(d) The SCADA systems of all water treatment plants included in the DPR project that provide treatment pursuant to this Article shall be designed and operated with the following features and capabilities. The SCADA system shall:

(1) provide alarms that alert the operator when a pathogen or chemical control point is not operating as designed and halt the flow of water if necessary.

(2) identify trending degradation and significant excursions of water quality or surrogate and/or operational parameters that indicate a need for treatment adjustment, maintenance, or other operator intervention; and alert the operator of the trending degradation or significant excursion incident and generate a record.

(3) communicate and interoperate with the SCADA systems of all water treatment plants included in the DPR project that provide treatment pursuant to this Article.

(4) be secured and protected, both physically and electronically, from unauthorized access and cyberattack.

(5) be tested following the protocol in an approved operations plan pursuant to section 64669.80.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13522, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.90 as follows:

§ 64669.90. Monitoring Plan.

(a) A DiPRRA shall develop a monitoring plan that describes the monitoring conducted pursuant to sections 64669.60 and 64669.65 and submit the monitoring plan

to the State Board prior to operation of a DPR project. The monitoring plan may be included in the operations plan pursuant to section 64669.80.

(b) All monitoring shall be conducted in accordance with an approved monitoring plan. Monitoring may be conducted by the DiPRRA, partner agencies under the joint plan, or a regional monitoring consortium. When monitoring is conducted by a regional monitoring consortium to meet the requirements in sections 64669.60 and 64669.65, samples shall be analyzed individually and not commingled with other samples from other projects.

(c) The monitoring plan shall include:

(1) Identification of all entities who have roles and responsibilities in the monitoring, a description of roles and responsibilities, and contact information;

(2) Monitoring locations, schedules, and procedures to track monitoring status and review of analytical results;

(3) Laboratories used and anticipated laboratory turn-around times to receive analytical results;

(4) Analytical methods used pursuant to section 64669.70 for each constituent monitored, and sample collection, handling and processing procedures;

(5) Analytical detection limits and laboratory reporting levels for each constituent monitored;

(6) A description of training and instruction provided to sample collectors, sample schedulers, sample handlers, water quality data reviewers, water quality data submitters, and other personnel associated with sampling and sample data quality assurance;

(7) A description of procedures for keeping and maintaining records;

(8) Procedures for communication and coordination among sample collectors, treatment operators, water quality data reviewers, and laboratory(ies); and

(9) A description of the follow-up actions that will be taken when a laboratory analysis identifies a concentration above an MCL, action level, or notification level.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.95 as follows:

§ 64669.95. Compliance Reporting.

(a) For each calendar month, a DiPRRA shall submit a report to the State Board by the tenth day of the following month that includes a summary and results of the month's entire treatment train performance and the month's compliance monitoring conducted pursuant to section 64669.90. The report shall be signed by the DiPRRA's chief operator. The report shall include:

- (1) A summary of overall treatment train pathogen LRV performance;
- (2) A summary of overall treatment train chemical control performance;
- (3) A summary of individual treatment process performance monitoring data;
- (4) The date, duration, and cause of each occurrence of LRV performance

below 20 log for enteric virus, 14 log for *Giardia lamblia* cyst, and 15 log for *Cryptosporidium* oocyst;

(5) A summary of control points that did not meet a critical limit established to assure proper ongoing performance of a treatment process pursuant to sections 64669.45 and 64669.50, including dates and descriptions of failures of a critical limit, duration of failure, and description of corrective actions taken;

(6) A summary of excursions of operational parameters outside approved operating envelopes;

(7) Information pursuant to section 64664;

(8) Descriptions of violation(s) of sections 64669.85(b) and (c);

(9) Calibration records for instruments that monitor pathogen or chemical control points;

(10) Dates and descriptions of major equipment and process failures and corrective actions taken;

(11) Dates and summary of testing of the treatment control and alarm system consistent with the protocol in the operations plan;

(12) Investigation or incident reports required to be prepared pursuant to sections 64669.45, 64669.50, 64669.60, and 64669.65;

(13) A summary of activities of the wastewater source control program conducted pursuant to section 64669.40;

(14) A summary of chemicals detected as a result of monitoring conducted pursuant to sections 64669.60 and 64669.65;

(15) Investigation or incident reports regarding a cross-connection; and

(16) A summary of water quality complaints and reports of gastrointestinal illness received from customers.

(b) Analytical results conducted pursuant to sections 64669.60 and 64669.65 shall be submitted to the State Board pursuant to subsections 64469(a), 64469(b), and 64469(c). If analytical results for chemicals sampled pursuant to subsections 64669.65(b) or subsection 64669.65(h) cannot be transmitted pursuant to subsection 64469(c), the DiPRRA shall require that the analytical laboratory submit the analytical results by directly to the State Board.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.100 as follows:

§ 64669.100. Annual Report.

(a) No later than six months after the end of each calendar year, a DiPRRA shall provide an annual report to the State Board and to each public water system receiving DPR project water that contains the following:

(1) A summary of the compliance status of the DPR project with the requirements of this Article and the permit issued pursuant to section 64669.15 during the previous calendar year, and a list of violation(s) and corrective action(s) taken;

(2) A summary plant shutdown(s) and diversion(s) that occurred during the previous calendar year, and the corrective action(s) taken;

(3) A description of the entire treatment train performance and operational challenges during the previous calendar year, and any proposed revisions to the operations plan;

(4) A description of the wastewater source control program performance and any challenges during the previous calendar year, and any proposed program changes;

(5) A description of the assessments and investigations and results of the assessments and investigations performed pursuant to section 64669.40(a), and a summary of local limits and other discharge control methods established pursuant to section 64669.40(b);

(6) A description of anticipated treatment change(s), along with an evaluation of the expected impact of the change(s) on subsequent treatment process(es);

(7) Any expected change(s) in quantity and quality of the municipal wastewater.

(b) The DiPRRA shall post the Annual Report on the DiPRRA internet website.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116470, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.105 as follows:

§ 64669.105. Cross-Connection Control.

(a) A cross-connection control survey and hazard assessment of the water treatment plants and other facilities included in the DPR project that treat, store, convey, or distribute DPR project water shall be conducted to protect the DPR project water and facilities from contamination or pollution from on-site hazards. The initial survey and

hazard assessment shall be completed within one year of the start of full-scale operation, and subsequent surveys and hazard assessments shall be completed annually thereafter.

(b) A DiPRRA shall compile the reports of the cross-connection control surveys and hazard assessments for each DPR project facility and make the reports available to the State Board upon request.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116555.5, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.110 as follows:

§ 64669.110. Corrosion Control and Stabilization.

(a) In addition to the requirements pursuant to lead and copper control pursuant to Chapter 17.5, a DiPRRA shall provide water that is stabilized as set forth in an approved corrosion control and stabilization plan pursuant to subsection (b).

(b) Prior to operation of a DPR project, a DiPRRA and a public water system receiving DPR project water shall jointly develop a corrosion control and stabilization plan and submit the plan to the State Board. The plan shall describe how the DPR project will be operated to:

(1) Maintain chemical and microbial stability in a drinking water distribution system receiving DPR project water; and

(2) Maintain treatment effectiveness of a water treatment plant receiving DPR project water as the source water quality changes.

(c) A DiPRRA that delivers DPR project water to more than one public water system shall submit a corrosion control and stabilization plan pursuant to subsection (b) as follows: submit an individual corrosion control and stabilization plan with each public water system; or upon consensus from all the public water systems, submit a single

combined corrosion control and stabilization plan that addresses all the public water systems and includes the minimum required information for each public water system.

(d) A DiPRRA shall include the operations described in an approved corrosion control and stabilization plan in the operations plan prepared pursuant to section 64669.80.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116385, 116390, 116400, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.120 as follows:

§ 64669.120. Independent Advisory Panel.

(a) A DiPRRA shall utilize an independent advisory panel approved by the State Board to conduct one or more of the following tasks:

(1) Reviewing a proposed alternative pursuant to sections 64669.45(a)(3)(B) or 64669.50(s);

(2) Reviewing an updated water safety plan pursuant to section 64669.55;

(3) Reviewing a hydraulic characterization of a reservoir, including tracer studies and hydraulic modeling pursuant to section 64669.45(d)(1) if a reservoir is involved, ~~or~~ section 64669.45(d)(2), or section 64669.50(n)(2);

(4) Reviewing a groundwater model and tracer test related to section 64669.45(d)(3) or reviewing a proposed alternative pursuant to section 64669.45(f) for virus reduction rate;

(5) Reviewing effectiveness of a wastewater source control program, including use of local limits and outreach efforts, pursuant to section 64669.40;

(6) Reviewing managerial and financial capacity pursuant to section 64669.30;
and

(7) Reviewing water quality data and results of water quality investigations and providing recommendations for monitoring pursuant 64669.65.

(b) A panel convened for the purpose of complying with subsection (a)(1) or (a)(2) shall include at minimum panel members with the following qualifications: a toxicologist knowledgeable about risk assessment for drinking water regulations and statutes; an engineer licensed in California with at least five years of experience as a licensed engineer in water and wastewater treatment and public drinking water supply and drinking water regulations; a microbiologist; and a chemist.

(c) A panel convened for the purpose of complying with subsection (a)(3) shall include at minimum panel members with the following qualifications: a limnologist with experience modeling the hydraulic characterization of surface water reservoirs; and a limnologist or an engineer licensed in California with at least five years of experience developing, applying, or running hydrodynamic models and conducting tracer tests of surface water reservoirs.

(d) A panel convened for the purpose of complying with subsection (a)(4) shall include at minimum panel members with the following qualifications: a registered engineering geologist or hydrogeologist with at least five years of experience in the hydraulic characterization of a groundwater basin or aquifer, developing hydraulic models of a groundwater recharge operation, and interpreting groundwater tracer study results; an engineer licensed in California with at least five years of experience in applying and running groundwater models and conducting groundwater tracer studies; and a microbiologist experienced in the fate of viruses in the environment.

(e) A panel convened for the purpose of complying with subsection (a)(5) shall include at minimum panel members with the following qualifications: a wastewater source control manager with knowledge of state and national industrial pretreatment and pollutant source control statutes and regulations and at least five years of experience in the management and operation of a wastewater source control program; an engineer licensed in California with at least five years of experience as a licensed engineer in wastewater source control, wastewater and water treatment, and public drinking water supply; and a chemist.

(f) A panel convened for the purpose of complying with subsection (a)(6) shall include at minimum panel members with the following qualifications: a manager with

public water system operations management experience and knowledge of water utility standards and best practices, and strategies and resources for managerial and financial capacity building.

(g) A panel convened for the purpose of complying with subsection (a)(7) shall include at minimum panel members with the following qualifications: a toxicologist; an engineer licensed in California with at least five years of experience, as a licensed engineer, in water and wastewater treatment and public drinking water supply; a specialist in wastewater source control and monitoring; and a chemist with experience in drinking water and wastewater analytical methods.

(h) A DiPRRA shall allow State Board representatives to observe all required independent advisory panel meetings and discussions. The DiPRRA shall provide the results of all reviews conducted by the independent advisory panel to the State Board.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13520, 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116360, 116365, 116375, 116525, 116527, 116530, 116535, 116540, 116550, 116551, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.125 as follows:

§ 64669.125. Public Notification.

(a) Public notice pursuant to section 64463.1 shall be provided when water is distributed that fails to meet:

(1) the minimum 16 log reduction for enteric virus, 10 log reduction for *Giardia lamblia* cyst, or 11 log reduction for *Cryptosporidium* oocyst pursuant to section 64669.45;

(2) the nitrate, nitrite, nitrate plus nitrite, or perchlorate MCL in section 64431, or the lead action level in section 64678(a); or

(3) the TOC critical limit pursuant to section 64669.50(n).

(b) Public notice pursuant to section 64463.4 shall be provided when water is distributed that:

(1) Fails to meet an MCL or action level for the following chemicals, except for the chemicals in subsection (a)(2):

- (A) Inorganic chemicals in section 64431,
- (B) Radionuclide chemicals in sections 64442 and 64443,
- (C) Organic chemicals in section 64444,
- (D) Disinfection byproducts in section 64533, or
- (E) Copper in section 64678;

(2) Fails to meet the requirement pursuant to section 64669.85(c); or

(3) Is not monitored pursuant to section 64669.60 or 64669.65.

(c) The public notice shall include the following health effects information required pursuant to section 64465(a)(3). For a public notice provided pursuant to:

(1) subsection (a)(1), the language from Appendix 64465-B;

(2) subsection (a)(2), the language from Appendix 64465-D;

(3) subsection (a)(3), the following language: "TOC above the TOC critical limit indicates the presence of organic compounds of wastewater origin that may contain chemicals of public health concern.";

(4) subsection (b)(1), the language from Appendix 64465-C, 64465-D, 64465-E, 64465-F, and 64465-G; and

(5) subsection (b)(2), the following language: "A failure of a chemical control treatment technique can result in the presence of chemical compounds in drinking water that may have health effects after many years of consumption."

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116450, 116451, 116455, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.

Adopt Section 64669.130 as follows:

§ 64669.130. Consumer Confidence Report.

(a) A DiPRRA shall prepare a Consumer Confidence Report pursuant to Title 22, Division 4, Chapter 15, Article 20 and Health and Safety Code section 116470 that includes the following additional information related to the DPR project:

(1) Identification of municipal wastewater as the type of water delivered and the wastewater treatment plant(s) and sewershed(s) providing the wastewater for the DPR project as the source of water pursuant to section 64481(a)(1);

(2) Information on wastewater source control to satisfy the requirement in section 64481(a)(2);

(3) A general description of the treatment train and the function of the treatment processes used in the DPR project;

(4) In addition to the requirements in sections 64481(c) and (d), a table of chemicals detected in the finished water as a result of the sampling conducted during the previous calendar year pursuant to section 64669.65. The table shall include:

(A) The average and range at which the chemical was detected;

(B) In addition to the requirements in section 64481(d)(2)(C), information indicating whether there is a notification level applicable to the detected chemical;

(C) The likely source(s) of the detected chemical;

(5) A summary of violations incurred over the previous calendar year pursuant to section 64669.85;

(6) Information on how the DPR project is addressing impacts of climate change and impacts on the DPR project's ability to provide drinking water, including steps taken or planned relative to the DPR project's ability to adapt to alterations in water quantity and quality; and information on the actions taken or planned to be taken to reduce the DPR project's release of greenhouse gases into the atmosphere; and

(7) The location of the DiPRRA Internet website where the Annual Report prepared pursuant to section 64669.100 may be viewed.

(b) Before April 1st of each year or on another date pursuant to section 64480(c), a DiPRRA shall deliver the information required in subsection (a) to all public water systems that distribute DPR project water to consumers.

(c) All public water systems that distribute DPR project water to consumers shall include the information required in subsection (a) in their consumer confidence reports.

NOTE: Authority cited: Sections 13521 and 13561.2, Water Code; and Sections 116271, 116350 and 116375, Health and Safety Code. Reference: Sections 13561, 13561.2, 13563, 13566 and 13567, Water Code; and Sections 116270, 116275, 116350, 116375, 116470, 116525, 116527, 116530, 116535, 116540, 116550, 116555, 116655 and 116735, Health and Safety Code.