CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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ORDER R5-2016-0025
NPDES NO. CA0081400

WASTE DISCHARGE REQUIREMENTS FOR THE SIERRA PACIFIC INDUSTRIES SHASTA LAKE DIVISION SHASTA COUNTY

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger	Sierra Pacific Industries
Name of Facility	Shasta Lake Division
Facility Address	3735 El Cajon Avenue
	Shasta Lake, CA 96019
	Shasta County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
002	Log Deck Process Wastewater and Storm Water Runoff	40° 40' 36"	122° 23' 16"	Unnamed tributary to Churn Creek

Table 3. Administrative Information

This Order was adopted on:	**21 April 2016**
This Order shall become effective on:	**1 June 2016**
This Order shall expire on:	**31 May 2021**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**2 December 2020**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	Minor

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **21 April 2016**.

Original Signed By

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

Information describing the Sierra Pacific Industries, Shasta Lake Division (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

E. Notification of Interested Parties. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

F. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2010-0034 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. Discharge except when a minimum of 10:1 (receiving water to effluent) flow dilution is achieved between the upstream receiving water (Monitoring Location RSW-001) and the effluent is prohibited.

E. The direct discharge of recycled water from log sprinkling and discharge of log deck recycle pond water to surface waters or surface water drainage courses is prohibited.

F. The direct discharge of reclaimed (municipal-recycled) water to surface waters or surface water drainage courses is prohibited.

G. Discharge of boiler blowdown and other process water, designated for discharge to the sanitary sewer, to surface water drainage courses is prohibited.

H. The discharge of ash, bark, sawdust, wood, or any waste recognized as originating from the Facility to surface waters or surface water drainage courses is prohibited.

I. The discharge of debris (as defined in Attachment A) recognized as originating from the Facility to surface waters or surface water drainage courses is prohibited.

J. The discharge of process wastewater from barking, sawmill, and planing operations, as defined in 40 C.F.R. part 429, is prohibited.

K. The direct discharge of hazardous or toxic substances, including water treatment chemicals, solvents, or petroleum products (i.e., oil, grease, gasoline, and diesel) to surface waters or groundwater is prohibited.

L. Discharge of waste classified as "hazardous" as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), section 2510, et seq., or "designated", as defined in section 13173 of the Water Code, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 002

1. Final Effluent Limitations – Discharge Point 002

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0
Total Suspended Solids	mg/L	--	100	--	--
Priority Pollutants					
Copper, Total Recoverable	µg/L	2.5	5.1	--	--
Zinc, Total Recoverable	µg/L	7.0	14	--	--
Non-Conventional Pollutants					
Settleable Solids	ml/L	0.1	0.2	--	--

b. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.

C. Recycling Specifications - Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the unnamed tributary to Churn Creek:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.

2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
    a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
    b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
    c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
9. **Pesticides:**
    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
    c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer;
    d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 C.F.R. 131.12.);
    e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
    f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's) set forth in CCR, Title 22, division 4, chapter 15; nor
    g. Thiobencarb to be present in excess of 1.0 µg/L.
10. **Radioactivity:**
    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
    b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.
11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

15. **Temperature.** The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity:**

    a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;

    b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;

    c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;

    d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor

    e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Facility discharges, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than existing background water quality or the Basin Plan water quality objectives, whichever is greater (as determined by required studies approved by the Executive Officer).

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

    a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.

    b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

        i. violation of any term or condition contained in this Order;

        ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

i. *New regulations.* New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

ii. *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

iii. *Change in sludge use or disposal practice.* Under 40 C.F.R. section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

   i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

   ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

   iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

   The technical report shall:

   i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

   ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

   iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to

minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. For publicly owned treatment works, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a permanent decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code section 1211).

o. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

p. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and an effluent limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the need for a mercury offset program for the Discharger.

d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a numeric or narrative chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent

limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper and zinc. If the Discharger performs studies to determine site-specific WER's and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

f. **Groundwater Limitations.** Once the results of groundwater monitoring required by this Order are submitted, this Order may be reopened to modify the Groundwater Limitations in section V.B of this Order as appropriate.

g. **Municipal Recycled Water Use.** This Order may be reopened to add or modify findings, specifications, limits, or other conditions as appropriate, as a result of the use of recycled water at the Facility.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Evaluation Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in MRP section V. Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the numeric toxicity monitoring trigger specified in section VI.C.2.a.ii, the Discharger is required to either commence accelerated monitoring or a Toxicity Evaluation Study. If the discharge exceeds the numeric toxicity monitoring trigger during the accelerated monitoring established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TRE's are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes procedures for conducting accelerated chronic toxicity monitoring and TRE initiation, or for conducting a Toxicity Evaluation Study.

i. **Accelerated Monitoring and TRE or Toxicity Evaluation Study Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall either initiate accelerated monitoring as required in the Accelerated Monitoring Specifications in section VI.C.2.a.iii or conduct a Toxicity Evaluation Study in accordance with section VI.C.2.a.iv. If the Discharger pursues conducting accelerated monitoring, then the Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

ii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger is >1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin

accelerated monitoring, and initiate a TRE if required, or conduct a Toxicity Evaluation Study.

iii. **Accelerated Monitoring Specifications.** If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall initiate accelerated monitoring within 14-days of notification by the laboratory of the exceedance or submit a Toxicity Evaluation Study Work Plan. Accelerated monitoring shall consist of four chronic toxicity tests conducted once every two weeks using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of four consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of any test result exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

(1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

(2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(3) A schedule for these actions.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Central Valley Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with U.S. EPA guidance[1].

iv. **Toxicity Evaluation Study.** In lieu of conducting accelerated monitoring and a TRE, the Discharger may choose to perform a site-specific Toxicity Evaluation Study to identify and eliminate chronic toxicity in discharges from the Facility. The Discharger may perform the Toxicity Evaluation Study individually or as part of a coordinated group effort with other dischargers with similar discharges from sawmill log deck operations. If the numeric toxicity monitoring trigger is

[1] See the Fact Sheet (Attachment F section VII.B.2.a.) for a list of U.S. EPA guidance documents that must be considered in development of the TRE Work Plan.

exceeded during regular chronic toxicity testing, the Discharger shall submit a Toxicity Evaluation Study Work Plan within 14 days of notification by the laboratory of the exceedance for Executive Officer approval. The Toxicity Evaluation Study Work Plan shall include plans and a timeline for identifying toxicants and completing any necessary measures to reduce toxicity in the effluent. As part of the Toxicity Evaluation Study, the Discharger may choose to conduct a TRE and/or a Toxicity Identification Evaluation (TIE). A final report detailing the results of the Toxicity Evaluation Study shall be submitted to the Central Valley Water Board pursuant to the timeline identified in the Work Plan, as approved by the Executive Officer.

b. **Groundwater Monitoring Well Network Installation and Characterization.** To determine compliance with Groundwater Limitations V.B, and in accordance with requirements set forth section VI.C.2.c, the Discharger shall expand its groundwater monitoring network, perform monitoring, and complete water quality analyses for characterization. The Discharger must ensure there are one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. **Within 6 months following the effective date of this Order**, the Discharger shall submit a Groundwater Monitoring Well Installation Work Plan prepared in accordance with, and including the items listed in, the MRP: "*Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports*". All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to Water Code section 13801. Well installation shall be complete **no later than 12 months** following Work Plan approval by the Executive Officer. The Discharger may request to include existing wells associated with the landfill as part of the monitoring network provided that sufficient justification is provided in the Work Plan.

The Discharger shall conduct groundwater monitoring for each groundwater monitoring parameter/constituent identified in the MRP, Attachment E of this Order, upon completion of well installation. After 2 years of monitoring and **within 42 months of the approval of the well installation work plan**, the Discharger shall submit a groundwater quality characterization technical report presenting, at a minimum, a summary of monitoring data, calculation of the concentration of each monitored parameter/constituent in background monitoring wells, and a comparison of background groundwater quality to that in wells used to monitor the Facility for each monitored parameter/constituent. Determinations presented in the technical report shall be made in accordance with requirements set forth in section VI.C.2.c and based on data from at least eight consecutive quarterly (or more frequent) groundwater monitoring events. The groundwater characterization shall also include an analysis of the hydrogeological interaction of groundwater beneath the site with surface water in the unnamed tributary. A work plan for the technical report shall be submitted for approval by the Executive Officer **within 6 months following the effective date of this Order**.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. The technical report shall

be prepared by or under the direction of appropriately qualified professional(s) and shall bear the professional's signature and stamp.

c. **Antidegradation Reevaluation.** As part of an iterative evaluation of compliance with State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (*State Anti-Degradation Policy*), the Discharger shall submit an Antidegradation Reevaluation with its Report of Waste Discharge. The Antidegradation Reevaluation must use information obtained from the expanded groundwater monitoring and characterization required in section VI.C.2.b, in addition to results of the land discharge and groundwater monitoring, to confirm that any groundwater degradation that has occurred as a result of Facility operations has not resulted in any exceedances of applicable groundwater water quality objectives or in any impacts to beneficial uses.

If the data indicate that exceedances of applicable groundwater water quality objectives or impacts to beneficial uses have occurred, the Discharger shall include a work plan (with an implementation schedule) to implement additional treatment or control measures to further limit any impacts from the ponds. Determination of background groundwater quality for use in the analysis shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10) or other method approved by the Executive Officer.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall implement a salinity evaluation and minimization plan that identifies and addresses sources of salinity discharged from the Facility. The Discharger shall evaluate the effectiveness of the salinity evaluation and minimization plan and provide a summary with the Report of Waste Discharge, due **180 days** prior to the permit expiration date.

4. Construction, Operation and Maintenance Specifications

a. **Retention Pond and Log Deck Recycle Pond Operating Requirements**

i. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes a violation of the Groundwater Limitations of this Order.

ii. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

iii. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

iv. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

v. Ponds shall be managed to prevent breeding of mosquitos. In particular,

(a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface;

(b) Weeds shall be minimized; and

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

vi. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

vii. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the wastewater pond areas (or property owned by the Discharger).

viii. As a means of discerning compliance with item vii above, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

ix. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.

x. The discharge shall not cause degradation of any water supply.

xi. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

xii. The discharge of waste classified as “hazardous”, as defined in the California Code of Regulations (CCR), title 23, section 2510 et seq., to the ponds is prohibited.

5. Special Provisions for Municipal Facilities (POTW’s Only) – Not Applicable

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Management**

i. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer and consistent with the Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq.

ii. **Ash Management Plan. Within 90 days of the permit effective date**, the Discharger shall submit an ash management plan to the Central Valley Water Board. The plan shall describe at a minimum:

(a) Sources and amount of ash generated annually.

(b) Location(s) of on-site storage and description of containment area.

(c) Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill and the name and location of the landfill.

iii. Any proposed change in sludge or ash use or disposal practice shall be reported to the Executive Officer at least 30 days in advance of the change.

iv. Non-hazardous fly ash removed from the Facility shall be:

(a) Beneficially reused, such as for soil amendment;

(b) Disposed in a dedicated unit consistent with Title 27, Section 20200(b); or

(c) Disposed in a Class III landfill consistent with Title 27, Section 20200(d).

Any other use shall require approval by the Executive Officer.

v. This Order does not authorize storage, transportation, or disposal of ash or other wastes characterized as hazardous wastes. Appropriate separate regulatory coverage must be secured for such activities.

vi. Management of wood fuel stockpiles and ash stockpiles shall not adversely affect groundwater quality.

b. **Municipal Recycled Water Use.** The use of recycled water at the Facility shall be in accordance with requirements set forth in California Code of Regulations (CCR) Title 22, Chapter 3.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case

the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall not be deemed out of compliance.

B. Dissolved Oxygen Receiving Water Limitation (Section V.A.5.a-c). Weekly receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this Order. Weekly receiving water monitoring data, measured at Monitoring Locations RSW-001 and RSW-002, will be used to determine compliance with part “c” of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the unnamed tributary to Churn Creek to be reduced below 7.0 mg/L at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with parts “a” and “b”.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Debris
Debris is defined as woody material such as bark, twigs, branches, heartwood or sapwood that will not pass through a 2.54 cm (1.0 in) diameter round opening and is present in the discharge from a wet storage facility.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

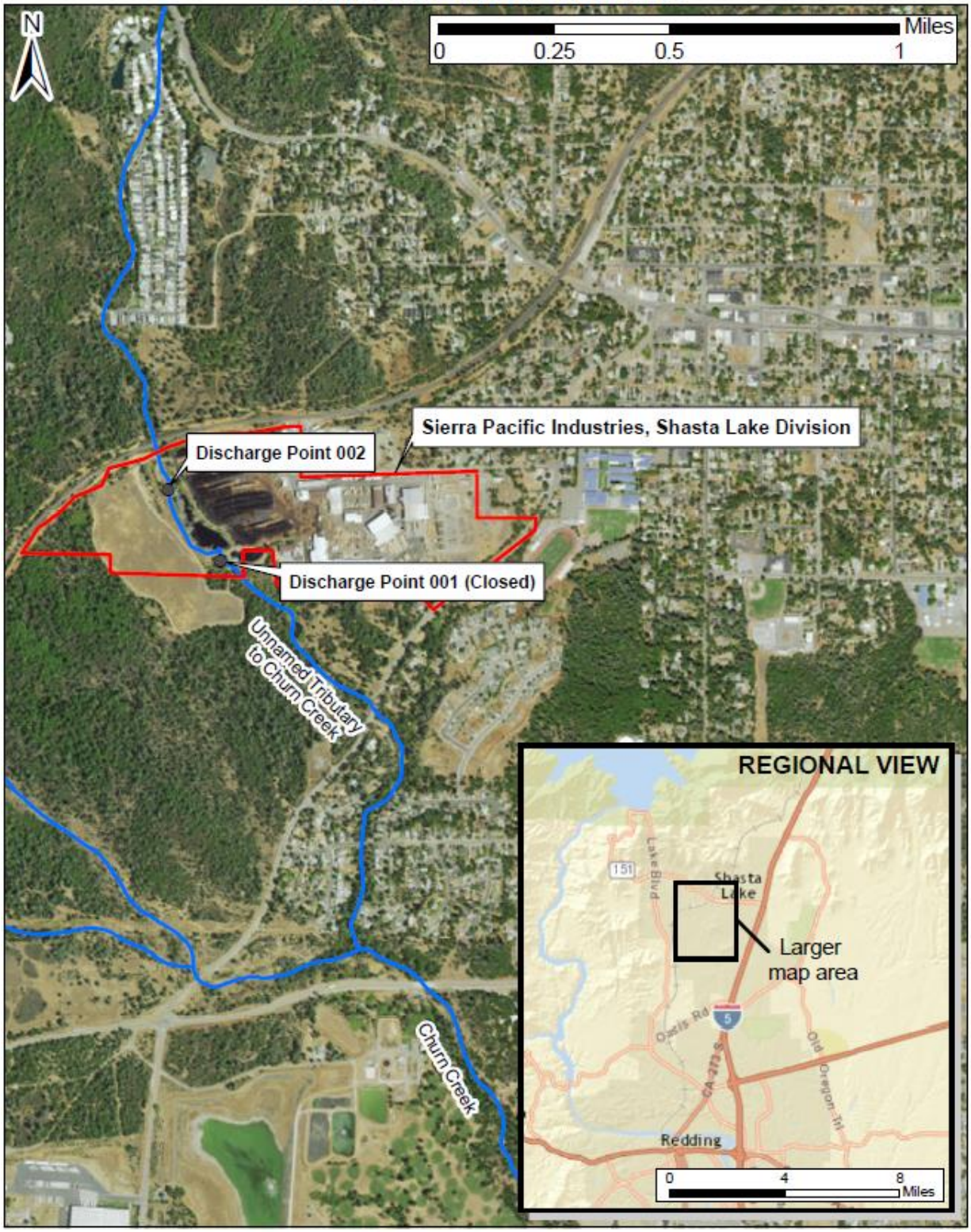
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

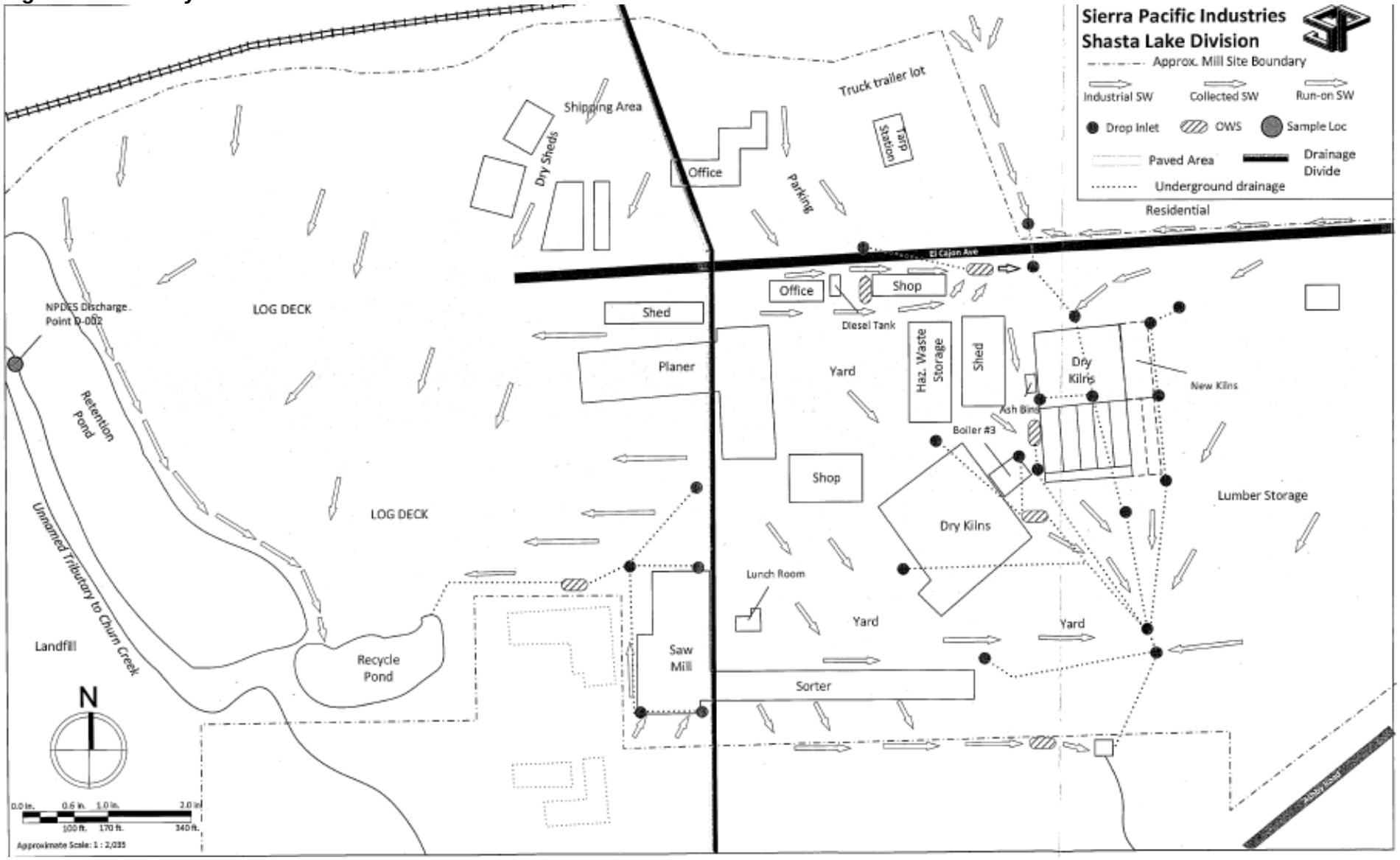
ATTACHMENT B – MAP

Map of Sierra Pacific Industries, Shasta Lake Division



ATTACHMENT C – FLOW SCHEMATIC

Figure C-1. Facility Site Plan



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, § 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, § 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. § 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State

Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Central Valley Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Central Valley Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):

    a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

    b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory certified for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratories analyzing monitoring samples shall be certified by DDW, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
002	EFF-002	A location where a representative sample of wastewater from the retention pond can be obtained prior to discharge to the receiving water. Latitude: 40° 40' 30" and Longitude 122° 23' 05"
--	RSW-001	In the unnamed tributary to Churn Creek, approximately 100 feet upstream of Monitoring Location EFF-002.
--	RSW-002	In the unnamed tributary to Churn Creek, approximately 50 feet downstream of Monitoring Location EFF-002.
--	GW-001 through GW-0XX[1]	Groundwater Monitoring Wells
--	PND-001	Retention Pond
--	PND-002	Log Deck Recycle Pond

[1] To be established after well installation in accordance with Special Provision VI.C.2.b.

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-002

1. The Discharger shall monitor the outfall from the retention pond at Monitoring Location EFF-002 as follows when discharges to the unnamed tributary to Churn Creek occur. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency[1,7]	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Oil and Grease	mg/L	Grab	2/Year	[2]
pH	standard units	Grab	1/Week[3]	[2]
Total Suspended Solids	mg/L	Grab	1/Week	[2]
Priority Pollutants				
Bis (2-ethylhexyl) phthalate	µg/L	Grab	1/Month	[2,4,5]
Copper, Total Recoverable	µg/L	Grab	1/Month	[2,4]

Parameter	Units	Sample Type	Minimum Sampling Frequency[1,7]	Required Analytical Test Method
Lead, Total Recoverable	µg/L	Grab	1/Month	[2,4]
Zinc, Total Recoverable	µg/L	Grab	1/Month	[2,4]
Non-Conventional Pollutants				
Alkalinity	mg/L	Grab	1/Month	[2]
Aluminum, Total Recoverable	µg/L	Grab	1/Year	[2]
Chemical Oxygen Demand	mg/L	Grab	1/Month	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month[6]	[2]
Iron, Total Recoverable	µg/L	Grab	1/Month	[2]
Manganese, Total Recoverable	µg/L	Grab	1/Month	[2]
Settleable Solids	mL/L	Grab	1/Week	[2]
Tannins and Lignins	mg/L	Grab	1/Month	[2]
Total Dissolved Solids	mg/L	Grab	1/Week	[2]
Turbidity	NTU	Grab	1/Week	[2]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season and according to the sampling frequency in Table E-2 thereafter. If the discharge is intermittent rather than continuous, then the first day of each intermittent discharge shall be monitored, but not more than twice the frequency noted for the weekly and monthly parameters.

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[4] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[5] In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

[6] Hardness samples shall be collected concurrently with metals samples.

[7] All parameters with minimum sampling frequency of 1/month to be sampled concurrently with those parameters with a minimum sampling frequency of 1/week one time per month.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform twice per year acute toxicity testing.

2. *Sample Types* – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-002.

3. *Test Species* – Test species shall be rainbow trout (*Oncorhynchus mykiss*).

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency –* The Discharger shall perform annual three species chronic toxicity testing.

2. *Sample Types* – The Discharger may use static renewal or static non-renewal testing. Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-002. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);

   b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

   c. The green alga, *Selenastrum capricornutum* (growth test).

5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002.

6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For routine and accelerated chronic toxicity monitoring, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and one control. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-3, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-3. Chronic Toxicity Testing Dilution Series

Sample	Dilutions[a] (%)					Control
	100	75	50	25	12.5	
% Effluent	100	75	50	25	12.5	0
% Control Water	0	25	50	75	87.5	100

[a] Receiving water control or laboratory water control may be used as the diluent.

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in the Special Provision at section VI. 2.a.iii. of the Order.)

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the monthly self-monitoring report, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity monitoring trigger.

   Additionally, the monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or Toxicity Reduction Evaluation (TRE).

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE or Toxicity Evaluation Study Reporting.** Reports for TRE's or Toxicity Evaluation Studies shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Monitoring Locations PND-001 and PND-002

1. The Discharger shall monitor the retention pond and the log deck recycle pond at Monitoring Locations PND-001 and PND-002 as follows:

Table E-4. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[3]	Required Analytical Test Method
Freeboard	feet, inches	Observation	1/Week	--
Dissolved Oxygen	mg/L	Grab	1/Month	[1]
pH	standard units	Grab	1/Month	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[1]
Sulfate	mg/L	Grab	1/Quarter	[1]
Chemical Oxygen Demand	mg/L	Grab	1/Quarter	[1]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[1]
Copper, Total Recoverable	µg/L	Grab	1/Quarter	[1]
Zinc, Total Recoverable	µg/L	Grab	1/Quarter	[1]
Iron, Total Recoverable	µg/L	Grab	1/Quarter	[1]
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	[1]
Settled Matter Depth	Feet, inches	Visual	1/Year[2]	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
[2] Prior to wet-season.
[3] Retention pond monitoring is not required during periods of extremely low pond level when access to pond water presents a safety issue.

2. The Discharger shall inspect the retention pond and the log deck recycle pond on a regular basis to check for failure and/or leakage.

3. In conducting pond monitoring, a log shall be kept of the pond conditions. Attention shall be given to the presence or absence of:

   a. Visible films, sheens, or coatings;
   b. Odor;
   c. Fungi, slimes, or objectionable growths;
   d. Floating or suspended matter; and
   e. Discoloration.

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor the unnamed tributary to Churn Creek at Monitoring Location RSW-001 as follows when discharges to the unnamed tributary to Churn Creek occur.

Table E-5. Receiving Water Monitoring Requirements – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow	MGD	Gauge	1/Day	--
Conventional Pollutants				
pH	standard units	Grab	1/Week	[2]
Priority Pollutants				
Copper, Total Recoverable	µg/L	Grab	1/Month	[2,3]
Lead, Total Recoverable	µg/L	Grab	1/Month	[2,3]
Zinc, Total Recoverable	µg/L	Grab	1/Month	[2,3]
Non-Conventional Pollutants				
Dissolved Oxygen	mg/L	Grab	1/Week	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[2]
Temperature	°F	Grab	1/Week	[2]
Turbidity	NTU	Grab	1/Week	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month[4]	[2]
Iron, Total Recoverable	µg/L	Grab	1/Month	[2]
Manganese, Total Recoverable	µg/L	Grab	1/Month	[2]
Tannins and Lignins	mg/L	Grab	1/Month	[2]
Aluminum, Total Recoverable	µg/L	Grab	1/Year	[2]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season and according to the sampling frequency in Table E-5 thereafter. Receiving water sampling shall be concurrent with effluent sampling. If the effluent discharge is intermittent rather than continuous, then on the first day of each intermittent discharge, receiving water shall be monitored for the weekly parameters, but not more than twice the frequency noted for the weekly receiving water parameters.

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] For priority pollutant constituents the reporting level shall be consistent with Sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (See Attachment E, section IX.D).

[4] Hardness samples shall be collected concurrently with metals samples. If no discharges to surface water occur within the first 3 years following the permit effective date, the Discharger shall collect quarterly samples for hardness at Monitoring Location RSW-001 during the fourth year of the permit term.

2. The Discharger shall monitor the unnamed tributary to Churn Creek at Monitoring Location RSW-002 as follows when discharges to the unnamed tributary to Churn Creek occur.

Table E-6. Receiving Water Monitoring Requirements – Monitoring Location RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Conventional Pollutants				
pH	standard units	Grab	1/Week	[1]
Non-Conventional Pollutants				
Dissolved Oxygen	mg/L	Grab	1/Week	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	[2]
Temperature	°F	Grab	1/Week	[2]
Turbidity	NTU	Grab	1/Week	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month[3]	[2]
Tannins and Lignins	mg/L	Grab	1/Month	[2]

[1] Samples shall be collected during the first 24 hours from the first discharge after the dry season and according to the sampling frequency in Table E-5 thereafter. Receiving water sampling shall be concurrent with effluent sampling. If the effluent discharge is intermittent rather than continuous, then on the first day of each intermittent discharge, receiving water shall be monitored for the weekly parameters, but not more than twice the frequency noted for the weekly receiving water parameters.

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] Hardness samples shall be collected concurrently with metals samples.

3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

   a. Floating or suspended matter;
   b. Discoloration;
   c. Bottom deposits;
   d. Aquatic life;
   e. Visible films, sheens, or coatings;
   f. Fungi, slimes, or objectionable growths; and
   g. Potential nuisance conditions.

   Notes on receiving water conditions shall be summarized in the SMR.

B. Monitoring Locations GW-001 through GW-0XX

1. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved U.S. EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

3. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Month	--
Groundwater Elevation[1]	±0.01 feet	Calculated	1/Month	--
Separation from pond bottom	feet	Calculated	1/Month	
Gradient	feet/feet	Calculated	1/Month	--
Gradient Direction	degrees	Calculated	1/Month	--
Temperature	°F	Grab	1/Quarter	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]
Fixed Dissolved Solids	mg/L	Grab	1/Quarter	[2]
pH	standard units	Grab	1/Quarter	[2]
Arsenic, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Iron, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Standard Minerals[3]	µg/L	Grab	1/Year	[2]

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[3] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

IX. OTHER MONITORING REQUIREMENTS

A. Precipitation Monitoring

1. Precipitation information shall be collected as follows and reported in the monthly SMR:

Table E-8. Precipitation Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Precipitation	inches	Gauge	1/Day	--

B. Ash Monitoring

1. Wood ash information shall be collected and reported in the SMRs in accordance with the table below.

Table E-9. Ash Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ash Volume Generated	Dry-tons[1]	Continuous	1/Month	--

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ash Volume Stored at Facility	Dry-tons[1]	Continuous	1/Month	--
Ash Volume Removed from Facility	Dry-tons[1]	Continuous	1/Month	--
Ash Liming Capacity	Equiv % $CaCO_3$	Composite	2/Year	UC Davis Method 440 or AOAC 955.01[2]
Ash Total Phosphorus	mg/kg	Composite	2/Year	[3]
Moisture Content	% Moisture	Composite	2/Year	[3]
pH	standard units	Composite	2/Year	[3]
CAM 17 Metals[4]	mg/kg	Composite	2/Year	[3,5]
TCDD-Equivalents[6]	pg/g	Composite	1/Year[7]	EPA Method 1613

[1] Units may be reported in volume or weight measurement.
[2] A&L Western Agricultural Laboratories Neutralizing value of liming materials (or percent calcium carbonate equivalency-CCE).
[3] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Board.
[4] California Administrative Manual (i.e. CAM) metals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.
[5] In accordance with CCR Title 22 testing procedures.
[6] Dioxin equivalents, also known as the TEQ, is a calculated value that reflects the combined effect of dioxin and furan compounds (congeners). Results for dioxin TEQ shall include all congeners.
[7] Upon Executive Officer approval, sampling frequency may be reduced after two consecutive years of data has been submitted.

2. The Discharger shall record on a monthly basis the following information about wood ash removed from the Facility and submit in an annual SMR no later than 1 April of each year:

   a. Final end user name and disposal location or soil amendment application area address (except as described in item c. below for intermediate producers),

   b. Volume and/or weight of ash for each location/area, and

   c. The name, address, and volume and/or weight of ash sold or supplied to an intermediate producer for use in the manufacture of commercial soil amendment products. (Note: Final application area information for end users purchasing commercial soil amendment products is not required.)

C. Aboveground Petroleum Storage Monitoring Requirements

The Discharger shall visually inspect the aboveground petroleum storage tanks, as required by the Facility's Spill Prevention Control and Countermeasure (SPCC) Plan. In the event of a petroleum release of greater than 42 gallons that meets the reporting requirements of the SPCC Plan, a report shall be submitted describing the corrective action that was taken to remediate and dispose of the contaminated area. The results shall be submitted with the monthly self-monitoring report.

D. Effluent and Receiving Water Characterization

1. **Monitoring.** Samples shall be collected from the effluent and upstream receiving water (Monitoring Locations EFF-002 and RSW-001) twice during the term of the permit and analyzed for the constituents listed in Table E-10, below. Monitoring shall be conducted during the first discharge event after the dry season and shall occur in the first and

second years of the permit (i.e., once per year), or in subsequent years if there is no effluent discharge in the first two years. The results of such monitoring shall be submitted to the Central Valley Water Board with the monthly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water. If no discharges to surface water occur during the term of the permit, the Discharger shall conduct upstream receiving water sampling prior to filing a ROWD for permit renewal purposes. Results of the analyses shall be submitted with the ROWD.

2. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

3. **Sample Type.** All effluent and receiving water samples shall be taken as grab samples.

Table E-10. Effluent and Receiving Water Characterization Monitoring

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
2- Chloroethyl vinyl ether	µg/L	Grab	1
Acrolein	µg/L	Grab	2
Acrylonitrile	µg/L	Grab	2
Benzene	µg/L	Grab	0.5
Bromoform	µg/L	Grab	0.5
Carbon Tetrachloride	µg/L	Grab	0.5
Chlorobenzene	µg/L	Grab	0.5
Chloroethane	µg/L	Grab	0.5
Chloroform	µg/L	Grab	2
Chloromethane	µg/L	Grab	2
Dibromochloromethane	µg/L	Grab	0.5
Dichlorobromomethane	µg/L	Grab	0.5
Dichloromethane	µg/L	Grab	2
Ethylbenzene	µg/L	Grab	2
Hexachlorobenzene	µg/L	Grab	1
Hexachlorobutadiene	µg/L	Grab	1
Hexachloroethane	µg/L	Grab	1
Methyl bromide (Bromomethane)	µg/L	Grab	1
Naphthalene	µg/L	Grab	10
3-Methyl-4-Chlorophenol	µg/L	Grab	--
Tetrachloroethene	µg/L	Grab	0.5
Toluene	µg/L	Grab	2
trans-1,2-Dichloroethylene	µg/L	Grab	1
Trichloroethene	µg/L	Grab	2
Vinyl chloride	µg/L	Grab	0.5
Methyl-tert-butyl ether (MTBE)	µg/L	Grab	--
Trichlorofluoromethane	µg/L	Grab	--
1,1,1-Trichloroethane	µg/L	Grab	0.5
1,1,2- Trichloroethane	µg/L	Grab	0.5
1,1-dichloroethane	µg/L	Grab	0.5
1,1-dichloroethylene	µg/L	Grab	0.5
1,2-dichloropropane	µg/L	Grab	0.5
1,3-dichloropropylene	µg/L	Grab	0.5
1,1,2,2-tetrachloroethane	µg/L	Grab	0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	Grab	0.5
1,2,4-trichlorobenzene	µg/L	Grab	1

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
1,2-dichloroethane	µg/L	Grab	0.5
1,2-dichlorobenzene	µg/L	Grab	0.5
1,3-dichlorobenzene	µg/L	Grab	0.5
1,4-dichlorobenzene	µg/L	Grab	0.5
Styrene	µg/L	Grab	--
Xylenes	µg/L	Grab	--
1,2-Benzanthracene	µg/L	Grab	5
1,2-Diphenylhydrazine	µg/L	Grab	1
2-Chlorophenol	µg/L	Grab	5
2,4-Dichlorophenol	µg/L	Grab	5
2,4-Dimethylphenol	µg/L	Grab	2
2,4-Dinitrophenol	µg/L	Grab	5
2,4-Dinitrotoluene	µg/L	Grab	5
2,4,6-Trichlorophenol	µg/L	Grab	10
2,6-Dinitrotoluene	µg/L	Grab	5
2-Nitrophenol	µg/L	Grab	10
2-Chloronaphthalene	µg/L	Grab	10
3,3'-Dichlorobenzidine	µg/L	Grab	5
3,4-Benzofluoranthene	µg/L	Grab	10
4-Chloro-3-methylphenol	µg/L	Grab	5
4,6-Dinitro-2-methylphenol	µg/L	Grab	10
4-Nitrophenol	µg/L	Grab	10
4-Bromophenyl phenyl ether	µg/L	Grab	10
4-Chlorophenyl phenyl ether	µg/L	Grab	5
Acenaphthene	µg/L	Grab	1
Acenaphthylene	µg/L	Grab	10
Anthracene	µg/L	Grab	10
Benzidine	µg/L	Grab	5
Benzo(a)pyrene (3,4-Benzopyrene)	µg/L	Grab	2
Benzo(g,h,i)perylene	µg/L	Grab	5
Benzo(k)fluoranthene	µg/L	Grab	2
Bis(2-chloroethoxy) methane	µg/L	Grab	5
Bis(2-chloroethyl) ether	µg/L	Grab	1
Bis(2-chloroisopropyl) ether	µg/L	Grab	10
Bis(2-ethylhexyl) phthalate[2]	µg/L	Grab[3]	5
Butyl benzyl phthalate	µg/L	Grab	10
Chrysene	µg/L	Grab	5
Di-n-butylphthalate	µg/L	Grab	10
Di-n-octylphthalate	µg/L	Grab	10
Dibenzo(a,h)-anthracene	µg/L	Grab	0.1
Diethyl phthalate	µg/L	Grab	10
Dimethyl phthalate	µg/L	Grab	10
Fluoranthene	µg/L	Grab	10
Fluorene	µg/L	Grab	10
Hexachlorocyclopentadiene	µg/L	Grab	5
Indeno(1,2,3-c,d)pyrene	µg/L	Grab	0.05
Isophorone	µg/L	Grab	1
N-Nitrosodiphenylamine	µg/L	Grab	1
N-Nitrosodimethylamine	µg/L	Grab	5
N-Nitrosodi-n-propylamine	µg/L	Grab	5

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Nitrobenzene	µg/L	Grab	10
Pentachlorophenol	µg/L	Grab	1
Phenanthrene	µg/L	Grab	5
Phenol	µg/L	Grab	1
Pyrene	µg/L	Grab	10
Aluminum[2]	µg/L	Grab	--
Antimony	µg/L	Grab	5
Arsenic	µg/L	Grab	10
Asbestos	MFL	Grab	--
Barium	µg/L	Grab	--
Beryllium	µg/L	Grab	2
Cadmium	µg/L	Grab	0.5
Chromium (Total)	µg/L	Grab	50
Chromium (VI)	µg/L	Grab	10
Copper[2]	µg/L	Grab	2
Cyanide	µg/L	Grab	5
Fluoride	µg/L	Grab	--
Iron[2]	µg/L	Grab	--
Lead[2]	µg/L	Grab	0.5
Mercury	µg/L	Grab	0.5
Manganese[2]	µg/L	Grab	--
Molybdenum	µg/L	Grab	--
Nickel	µg/L	Grab	20
Selenium	µg/L	Grab	5
Silver	µg/L	Grab	0.25
Thallium	µg/L	Grab	1
Tributyltin	µg/L	Grab	--
Zinc[2]	µg/L	Grab	10
4,4'-DDD	µg/L	Grab	0.05
4,4'-DDE	µg/L	Grab	0.05
4,4'-DDT	µg/L	Grab	0.01
alpha-Endosulfan	µg/L	Grab	0.02
alpha-Hexachlorocyclohexane (BHC)	µg/L	Grab	0.01
Alachlor	µg/L	Grab	--
Aldrin	µg/L	Grab	0.005
beta-Endosulfan	µg/L	Grab	0.01
beta-Hexachlorocyclohexane	µg/L	Grab	0.005
Chlordane	µg/L	Grab	0.1
delta-Hexachlorocyclohexane	µg/L	Grab	0.005
Dieldrin	µg/L	Grab	0.01
Endosulfan sulfate	µg/L	Grab	0.01
Endrin	µg/L	Grab	0.01
Endrin Aldehyde	µg/L	Grab	0.01
Heptachlor	µg/L	Grab	0.01
Heptachlor Epoxide	µg/L	Grab	0.02
Lindane (gamma-Hexachlorocyclohexane)	µg/L	Grab	0.5
PCB-1016	µg/L	Grab	0.5
PCB-1221	µg/L	Grab	0.5
PCB-1232	µg/L	Grab	0.5

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
PCB-1242	µg/L	Grab	0.5
PCB-1248	µg/L	Grab	0.5
PCB-1254	µg/L	Grab	0.5
PCB-1260	µg/L	Grab	0.5
Toxaphene	µg/L	Grab	--
Atrazine	µg/L	Grab	--
Bentazon	µg/L	Grab	--
Carbofuran	µg/L	Grab	--
2,4-D	µg/L	Grab	--
Dalapon	µg/L	Grab	--
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	Grab	--
Di(2-ethylhexyl)adipate	µg/L	Grab	--
Dinoseb	µg/L	Grab	--
Diquat	µg/L	Grab	--
Endothal	µg/L	Grab	--
Ethylene Dibromide	µg/L	Grab	--
Methoxychlor	µg/L	Grab	--
Molinate (Ordram)	µg/L	Grab	--
Oxamyl	µg/L	Grab	--
Picloram	µg/L	Grab	--
Simazine (Princep)	µg/L	Grab	--
Thiobencarb	µg/L	Grab	--
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	--
2,4,5-TP (Silvex)	µg/L	Grab	--
Diazinon	µg/L	Grab	--
Chlorpyrifos	µg/L	Grab	--
Ammonia (as N)	mg/L	Grab	--
Boron	µg/L	Grab	--
Chloride[2]	mg/L	Grab	--
Flow[2]	MGD	Meter	--
Hardness (as $CaCO_3$)[2]	mg/L	Grab	--
Foaming Agents (MBAS)	µg/L	Grab	--
Mercury, Methyl	ng/L	Grab	--
Nitrate (as N)	mg/L	Grab	--
Nitrite (as N)	mg/L	Grab	--
pH[1]	Std Units	Grab	--
Phosphorus, Total (as P)	mg/L	Grab	--
Specific conductance (EC)[2]	µmhos/cm	Grab	--
Sulfate[2]	mg/L	Grab	--
Sulfide (as S)	mg/L	Grab	--
Sulfite (as SO_3)	mg/L	Grab	--
Temperature	^oC	Grab	--
Total Dissolved Solids (TDS)[2]	mg/L	Grab	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab	--
Chemical Oxygen Demand[2]	mg/L	Grab	--
Oil and Grease[2]	mg/L	Grab	--
Phenols, Total	µg/L	Grab	--
Tannins and Lignins[2]	mg/L	Grab	--
Total Organic Carbon	mg/L	Grab	--

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Total Suspended Solids[2]	mg/L	Grab	--
Turbidity[2]	NTU	Grab	--

[1] The reporting levels required in this table for priority pollutant constituents are established based on Section 2.4.2 and Appendix 4 of the SIP.
[2] The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-2, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.
[3] In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "*Emergency Planning and Community Right to Know Act*" of 1986.

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMR's are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

    a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

    b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The Discharger shall submit SMRs in accordance with the following requirements:

    a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

    b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDR's; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

    c. The Discharger shall attach all laboratory analysis sheets, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.

7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:

    a. **Turbidity Receiving Water Limitations**. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e of the Limitations and Discharge Requirements.

    b. **Temperature Receiving Water Limitations**. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002.

    c. **Log Deck Sprinkling**. The Discharger shall report the dates in which log deck sprinkling occurred in the monthly SMR.

    d. **Groundwater Monitoring Reports**. The reports shall be prepared by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities, and shall bear the professional's signature and stamp. Each report shall contain:

i. Results of the monitoring of the groundwater in tabular format;

ii. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with this Order. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

iii. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;

iv. Summary data tables of historical and current groundwater elevations;

v. Copies of laboratory analytical report(s) for groundwater monitoring.

e. **Receiving Water to Effluent Discharge Prohibition**. The Discharger shall calculate and report the flow dilution based on the upstream receiving water flow to effluent discharge. The receiving water gauge is located downstream of the discharge, therefore measured receiving water flow must be adjusted accordingly so that effluent flow is not included in the receiving water flow rate used for compliance determination of Discharge Prohibition III.D.

C. Discharge Monitoring Reports (DMR's)

Dischargers operating a "minor" facility, if so designated in the Fact Sheet, are excepted from submitting DMR's under these requirements. However, at any time during the term of this permit, the State Water Board or Central Valley Water Board may notify such a discharger to electronically submit DMR's, at which time this exception will no longer apply.

D. Other Reports

1. **Special Study Reports and Progress Reports**. As specified in the Special Provisions contained in section VI of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-12. Reporting Requirements for Special Provisions Reports

Special Provision	Reporting Requirements
Groundwater Monitoring Well Installation, Work Plan (Special Provision VI.C.2.b)	**Within 6 months** of the effective date of this Order
Groundwater Characterization Technical Report, Work Plan (Special Provision VI.C.2.b)	**Within 6 months** of the effective date of this Order
Groundwater Quality Characterization and Technical Report, Final Report (Special Provision VI.C.2.b)	**Within 42 months** of the of the date of well installation work plan approval
Antidegradation Reevaluation, Final Report (Special Provision VI.C.2.c)	**Within 180 days** of the expiration date of this Order
Salinity Evaluation and Minimization Plan, Summary Report (Special Provision VI.C.3.a)	**Within 180 days** of the expiration date of this Order (with Report of Waste Discharge)

Special Provision	Reporting Requirements
Ash Management Plan (Special Provision VI.C.6.a)	**Within 90 days** of the effective date of this Order

2. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

3. Within 60 days of permit adoption, the Discharger shall submit a report outlining reporting levels (RL's), method detection limits (MDL's), and analytical methods for the constituents listed in tables E-2, E-4, E-5, E-6, E-7, and E-9. In addition, no less than 6 months prior to conducting the effluent and receiving water characterization monitoring required in Section IX.D, the Discharger shall submit a report outlining RL's, MDL's, and analytical methods for the constituents listed in Table E-10. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (ML's) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RL's, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table E-10 provides required maximum reporting levels in accordance with the SIP.

4. **Annual Operations Report.** By 1 February of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

   e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5A452015002
CIWQS Facility Place ID	256966
Discharger	Sierra Pacific Industries
Name of Facility	Shasta Lake Division
Facility Address	3735 El Cajon Avenue
	Shasta Lake, CA 96019
	Shasta County
Facility Contact, Title and Phone	John Phillips, Division Manager, (530) 275-8851
Authorized Person to Sign and Submit Reports	John Phillips, Division Manager, (530) 275-8851
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Standard Industrial Classification (SIC) Code 2421 – Sawmill and Planing Mill
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	Effluent flow limited to 10:1 (receiving water: effluent) conditions.
Facility Design Flow	Not Applicable
Watershed	Sacramento-Lower Cow-Lower Clear
Receiving Water	Unnamed tributary to Churn Creek
Receiving Water Type	Inland surface water

A. Sierra Pacific Industries (hereinafter Discharger) is the owner and operator of Shasta Lake Division (hereinafter Facility), a sawmill facility.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges comingled process water and storm water to an unnamed tributary to Churn Creek, a water of the United States, tributary to the Sacramento River via Churn Creek within the Sacramento-Lower Cow-Lower Clear watershed. The Discharger was previously regulated by Order R5-2010-0034 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0081400 adopted on 18 March 2010 and expired on 1 March 2015. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR's) and NPDES permit on 18 September 2014. A site visit was conducted on 22 June 2015 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The Facility is a sawmill with a wood-burning boiler that generates steam for kiln heating located in Shasta Lake, CA. The Facility consists of a 12.8-acre paved log deck, a sawmill, a sorter/stacker, a boiler, a planer, drying kilns, a shipping area, various storage sheds, a bone yard, a maintenance shop, and an office. The Facility produces approximately 100 million board feet of lumber per year.

A. Description of Wastewater and Biosolids Treatment and Controls

The western portion of the Facility is 26.6 acres and contains the 12.8-acre log deck, sawmill, planer, shipping area, and some sheds. This Order regulates the discharge of commingled process wastewater and storm water generated from precipitation events on the western portion of the property after cessation of log deck sprinkling.

The Discharger uses reclaimed treated municipal wastewater from the City of Shasta Lake Wastewater Treatment Facility (WWTF) for log sprinkling and dust suppression on the property. The recycled water is piped directly from the City of Shasta Lake WWTF to a 3.5-million gallon (MG; 10.8 acre-feet) log deck recycle pond. The Discharger receives an average of 0.17 million gallons per day (MGD) of reclaimed water during the summer months, and various amounts, as needed, during the remainder of the year. For sprinkling activities, water is drawn from the log deck recycle pond to wet the logs and the pond receives return flow from sprinkling runoff via a return ditch. Log sprinkling is conducted year-round at the Facility.

The Discharger also utilizes a 12.7 MG (39 acre-feet) retention pond to manage waste flows generated by storm events on the western portion of the property, after the Discharger ceases sprinkling operations on the log deck. Storm water runoff from the log deck is routed through the return ditch and discharges to the retention pond via a valve located near the southeast corner of the pond. When the retention pond reaches maximum storage capacity, the Discharger discharges from the retention pond to the unnamed tributary to Churn Creek at Discharge Point 002 located at the northwestern end of the retention pond. Discharge from the retention pond does not occur in some years, depending on the annual rainfall amount and pattern. A previous discharge location (Discharge Point 001) has been sealed and discharge from this location is prohibited.

Domestic sewage, discharge from an oil/water separator in the covered maintenance shop, and approximately 5,000 gallons per day of boiler blowdown are discharged via sewer to the City of Shasta Lake WWTF.

Surface drainage from the eastern portion of the Facility discharges to a second intermittent unnamed tributary to Churn Creek that generally flows along the easterly side of the facility under the State Water Resources Control Board (State Water Board) Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities (General Industrial Storm Water Permit). This Order does not regulate discharges of general industrial storm water from the eastern portion of the facility.

Storm water runoff from the Sierra Pacific Industries, Inc. closed Class III landfill located west of the sawmill facility enters the western unnamed Churn Creek tributary below the previous Discharge Point 001 and downstream of receiving water monitoring point 002. The landfill is regulated by the Central Valley Water Board pursuant to Order R5-2003-0081.

The Facility includes a spray box and closed loop misting system to apply chemical compounds to control blue stain, mold, and decay on freshly cut Douglas Fir lumber. The Discharger has submitted manufacturer's information for the system, and chemicals, including material safety data sheets (MSDS's). Spraying is conducted inside the planer building on green wood (dry wood is not treated). Treated wood is stored outside (uncovered) near the northwest corner of the planer building. Air conditioner cooling water from the sawmill equipment is continuously discharged onto the paved log deck. Cooling water is no longer used within the sawmill building.

Wood waste from the sawmill is utilized for boiler fuel in the lumber drying kilns. Wood ash generated by the boiler is temporarily stored onsite prior to disposal for agricultural purposes as a soil amendment. Approximately 616 tons of ash was generated in 2015. A commercial Fertilizing Materials License has been obtained from the State of California Department of Food and Agriculture. The Discharger has submitted a list of the chemicals utilized in the boiler.

The Facility has one 1,000-gallon gasoline Convault aboveground storage tank (AST), one 10,000-gallon diesel AST, one 4,000-gallon diesel AST, three 450-gallon hydraulic oil AST's, one 1,000-gallon waste oil AST, and two lubrication oil ASTs (550-gallons and 275-gallons). All AST's are located within secondary containment. Other oils and chemicals are stored at various facility locations and are protected by cover and secondary containment. A Spill Prevention Control and Countermeasure (SPCC) Plan has been certified by a professional engineer licensed in California. Former gasoline and diesel underground storage tanks have been removed.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 36, T33N, R5W, MDB&M, as shown in Attachment B, a part of this Order.
2. Commingled log deck process wastewater and storm water runoff is discharged at Discharge Point 002 to an unnamed tributary to Churn Creek, a water of the United States at a point latitude 40° 40' 30" N and longitude 122° 23' 05" W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2010-0034 for discharges from Discharge Point 002 (Monitoring Location EFF-002) and representative monitoring data from the term of Order R5-2010-0034 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (28 March 2011[1])		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
pH	standard units	--	--	6.0 – 9.0[1]	--	--	7.18
Settleable Solids	ml/L	0.1	--	0.2	<0.1	--	<0.1
Total Suspended Solids	mg/L	--	--	100	--	--	8
Copper, Total Recoverable	µg/L	1.82	--	3.64	2.1	--	2.1
Lead, Total Recoverable	µg/L	0.32	--	0.63	<0.1	--	<0.1
Zinc, Total Recoverable	µg/L	5.33	--	10.69	10.8	--	10.8
Acute Toxicity	% Survival	--	--	70[2]/90[3]	--	--	100[4]

1 Except for discharges associated with a 10 year, 24-hour rainfall event, or greater.
2 Minimum for any one bioassay.
3 Median for any three or more consecutive bioassays.
4 Represents the minimum observed percent survival.

D. Compliance Summary

Prior to 19 January 2016, the Facility had not discharged to the receiving water as a result of a wet weather event since April 2006. From 2007 to 2011 any discharge from the storm water retention basin was a result of collecting samples for water quality effluent characterization purposes and to access a leak at the closed Discharge Point 001. The lack of wet weather-related discharge events during the permit cycle are a reflection of the Discharger's Facility improvements conducted in 2009-2010 (e.g. increasing the storage capacity of the retention basin) and State drought conditions during the past 3 years (i.e., low rainfall), as the retention basin historically discharged routinely during "normal" water years.

The March 2011 discharge event resulted in the exceedances of effluent limitations for copper (average monthly effluent limit), zinc (maximum daily effluent limit and average monthly effluent limit). The discharge also caused an exceedance in the receiving water limitation for turbidity. Water quality data on the January 2016 event was not available at the time of drafting this Order.

Order R5-2010-0034 indicated that the log deck was operated as a closed-loop system during sprinkling (i.e., all flows from the log deck were directed to the log deck recycle pond) and that, during precipitation periods, log sprinkling ceased and log deck runoff was directed to the retention pond. However, a June 2015 Water Board inspection revealed that the Facility is utilizing both the log deck recycle pond and the retention pond for storage of log deck runoff wastewater. The two ponds are hydraulically connected, with wastewater pumped between the two ponds routinely during non-precipitation periods. As a result of this operation, the retention pond is receiving concentrated waste from the log deck recycle pond and the retention pond is being utilized for storage during non-precipitation periods when log deck

sprinkling is occurring. In order to comply with Discharge Prohibition III.F and III.G, the Discharger plans to adjust operations such that compliance with Discharge Prohibition III.F and III.G is maintained.

E. Planned Changes

The Discharger has concerns regarding its ability to consistently comply with numeric effluent limitations for its commingled process water and storm water discharge to surface water. Therefore, the Discharger is evaluating a long-term strategy to better manage process water and storm water onsite. As part of this strategy the Discharger may isolate process waste flows onsite, eliminate surface water discharge, and/or explore additional treatment options.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plans.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

   a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan, Fourth Edition (Revised June 2015), for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan.

   The Basin Plan at II-2.00 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table II-1, Section II, does not specifically identify beneficial uses for the unnamed tributary to Churn Creek, but does identify present and potential uses for the Sacramento River from Shasta Dam to the Colusa Basin Drain, to which the unnamed tributary to Churn Creek is tributary. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to the unnamed tributary to Churn Creek are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Unnamed tributary to Churn Creek	Existing: Municipal and domestic supply (MUN); agricultural supply, including irrigation and stock watering (AGR); industrial service supply (IND); hydropower generation (POW); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD); navigation (NAV).
--	Groundwater	Existing Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy. This order also requires new groundwater monitoring wells be installed and sampled during the term of

the order. As a result of this new data, the Discharger is further required to submit an Antidegradation Reevaluation that must be submitted with its ROWD that is to be provided to the Board as required by Special Provision VI.C.2.c.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from sawmills and planing mills. Sawmills and planing mills are applicable industries under the storm water program and are obligated to comply with the federal regulations. The Facility submitted its Notice of Intent (NOI) to be covered under the General Industrial Storm Water Permit on 8 June 2015 for storm water discharges from the eastern portion of the Facility. Storm water runoff from the western portion of the Facility is commingled with log deck sprinkling water in the retention pond and is therefore regulated by this Order as process wastewater.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 26 June 2015 U.S. EPA gave final approval to California's 2012 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." The listing for the Sacramento River from Keswick Dam to Cottonwood Creek includes unknown toxicity.

2. **Total Maximum Daily Loads (TMDL's).** U.S. EPA requires the Central Valley Water Board to develop TMDL's for each 303(d) listed pollutant and water body combination. Table F-4, below, identifies the 303(d) listings and the status of each TMDL.

Table F-4. 303(d) List for Sacramento River (Keswick Dam to Cottonwood Creek)

Pollutant	Potential Sources	Proposed TMDL Completion
Unknown Toxicity	Unknown	2019

3. The 303(d) listings and TMDL's have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section IV.C.3 of this Fact Sheet.

E. Other Plans, Policies and Regulations

1. **Title 27.** Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. Discharges of wastewater to land, including but not limited to evaporation ponds or percolation ponds, may be exempt from the requirements of Title 27, CCR, based on section 20090 et seq. The Facility includes the retention pond and log deck recycle pond that are exempt from Title 27 pursuant to section 20090(b), the "wastewater exemption." The wastewater exemption has the following preconditions for exemption from Title 27:

   20090(b) Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

   (1) the applicable [regional water quality control board] has issued WDRs, or waived such issuance;

   (2) the discharge is in compliance with the applicable water quality control plan; and

   (3) the wastewater does not need to be managed . . . as a hazardous waste . . .

   The exemption applies because the Central Valley Water Board has issued WDRs, the discharge is in compliance with the Basin Plan and will remain in compliance with the Basin Plan through compliance with the WDRs, and the wastewater discharge is not a hazardous waste.

2. **Wood Ash.** Pursuant to state and federal regulations, wood ash classified as non-hazardous solid waste may be beneficially reused as an agricultural soil amendment, or other appropriate use. This Order does not authorize storage, transportation, or disposal of ash or other wastes characterized as hazardous wastes. Appropriate separate regulatory coverage must be secured for such activities.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative

criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits*."

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-17.00, contains an implementation policy, "Policy for Application of Water Quality Objectives", that specifies that the Central Valley Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. § 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCL's. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at 40 C.F.R. section 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance.

4. **Prohibition III.D (No discharge without a minimum of 10:1 flow dilution).** Consistent with Order R5-2010-0034, this Order prohibits discharge except when a minimum of 10:1 (receiving water to effluent) flow dilution is achieved between the upstream receiving water and the effluent as a minimum mitigation measure to prevent the unnamed tributary to Churn Creek from becoming effluent dominated. This dilution requirement is consistent with prior requirements for the Facility, requirements for other regulated facilities in similar situations, and ensures that a minimum level of dilution is achieved at some point downstream of the discharge location. This minimum dilution requirement is not a dilution credit.

5. **Prohibition III.E (No discharge of recycled water from log deck sprinkling or log deck recycle pond water).** Consistent with Order R5-2010-0034, this Order prohibits discharges of recycled water from log sprinkling and discharge of log deck recycle pond water to surface waters or surface water drainage courses.

6. **Prohibition III.F (No direct discharge of reclaimed water).** Consistent with Order R5-2010-0034, this Order prohibits the direct discharge of reclaimed water to surface waters or surface water drainage courses.

7. **Prohibition III.G (No discharge of water designated for the sanitary sewer).** Consistent with Order R5-2010-0034, this order prohibits the discharge of boiler blowdown and other process water, designated for discharge to the sanitary sewer, to surface water drainage courses.

8. **Prohibition III.H (No discharge of ash, bark, sawdust, wood, or any waste recognized as originating from the Facility).** Consistent with Order R5-2010-0034, this Order prohibits the discharge of ash, bark, sawdust, wood, or any waste recognized as originating from the Facility to surface waters or surface water drainage courses.

9. **Prohibition III.I (No discharge of debris recognized as originating from the Facility).** Effluent limitation guidelines (ELG's) were established at 40 C.F.R. part 429, subpart I for the Wet Storage Subcategory of the Timber Products Point Source Category, which applies to discharges from the storage of logs or roundwood on land during which water is sprayed or deposited intentionally on the logs (wet decking). The Discharger stacks logs in a 12.8-acre paved area (log deck) and keeps them wet by a sprinkler system to prevent checking and blue staining, and thus the requirements of 40 C.F.R. part 429, subpart I are applicable to the Facility. 40 C.F.R. sections 429.101 and 429.103 require that existing point sources subject to subpart I achieve effluent limitations representing

the degree of effluent reduction attainable by the application of best practicable control technology currently available (BPT) and best available technology economically achievable (BAT), respectively. For wet storage operations, 40 C.F.R. sections 429.101 and 429.103 both require that there shall be no debris discharged. Debris is defined as woody material such as bark, twigs, branches, heartwood, or sapwood that will not pass through a 2.54 cm (1.0 in) diameter round opening and is present in the discharge from a wet storage facility. Consistent with 40 C.F.R. sections 429.101 and 429.103, this Order prohibits discharges of debris recognized as originated from the Facility to surface waters or surface water drainage courses.

10. **Prohibition III.J (No discharge of wastewater from barking, sawmill, and planing operations).** ELG's were established at 40 C.F.R. part 429, subpart A for the Barking Subcategory of the Timber Products Point Source Category, which applies to discharges from the barking of logs, and at subpart K for the Sawmills and Planing Mills Subcategory, which applies to discharges from timber products processing procedures that include bark removal, sawing, resawing, edging, trimming, planing, and machining. The Discharger operates barking, sawmill, and planing mill operations, and thus the requirements of 40 C.F.R. part 429, subparts A and K are applicable to the Facility. 40 C.F.R. section 429.21(a) require that existing point sources subject to subpart A achieve effluent limitations representing the degree of effluent reduction attainable by the application of BPT. For mechanical barking operations, 40 C.F.R. section 429.21(a) requires that there shall be no discharge of process wastewater pollutants into navigable waters. 40 C.F.R. sections 429.121 and 429.123 require that existing point sources subject to subpart K achieve effluent limitations representing the degree of effluent reduction attainable by the application of BPT and BAT, respectively. For sawmill and planing mill operations, 40 C.F.R. sections 429.121 and 429.123 requires that there shall be no discharge of process wastewater pollutants into navigable waters. Consistent with 40 C.F.R. sections 429.21(a), 429.121, and 429.123, this Order prohibits discharges of process wastewater from barking, sawmill, and planing operations.

11. **Prohibition III.K (No discharge of hazardous or toxic substances).** The Basin Plan provides that all waters shall be maintained free of toxic substances. Water treatment chemicals used in maintaining the water quality within the boiler and cooling tower may cause toxicity to aquatic life. This Order prohibits the discharge of boiler blowdown, hazardous or toxic substances (including water treatment chemicals) to surface waters or surface water drainage courses. In addition, the Basin Plan states that surface water shall not contain oils, greases, or other materials in concentrations that cause nuisance or result in a visible film or coating on the surface of the water. This Order prohibits the discharge of petroleum products (including oil, grease, gasoline and diesel) to surface waters or surface water drainage courses.

12. **Prohibition III.L (No discharge of "hazardous" or "designated" waste).** Consistent with Order R5-2010-0034, this Order prohibits discharge of waste classified as "hazardous" as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), section 2510, et seq., or "designated", as defined in section 13173 of the Water Code.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must

meet minimum federal technology-based requirements based on Effluent Limitations Guidelines and Standards for the Barking, Wet Storage, and Sawmills and Planing Mills Subcategories in 40 C.F.R. part 429, subparts A, I, and K, respectively, and best professional judgement (BPJ) in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop ELG's representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELG's are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Central Valley Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations

a. **Barking Operations.** As discussed in section IV.A.11 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart A for the Barking Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. section 429.21(a), this Order establishes a prohibition of discharges of process wastewater from barking operations.

b. **Wet Storage Operations.** As discussed in section IV.A.10 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart I for the Wet Storage Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. sections 429.101 and 429.103 and Order R5-2010-0034, this Order prohibits discharges of debris recognized as originated from the Facility to surface waters or surface water drainage courses.

40 C.F.R. sections 429.101 and 103 also require that the pH be within the range of 6.0 to 9.0. Consistent with 40 C.F.R. sections 429.101 and 429.103 and Order R5-

2010-0034, this Order includes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0.

c. **Sawmill and Planing Mill Operations.** As discussed in section IV.A.11 of this Fact Sheet, ELG's established at 40 C.F.R. part 429, subpart K for the Sawmills and Planing Mills Subcategory of the Timber Products Point Source Category are applicable to the Facility. Consistent with 40 C.F.R. sections 429.121, and 429.123, this Order establishes a prohibition of discharges of process wastewater from sawmill and planing mill operations.

d. **TSS.** U.S. EPA's Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) contains sector-specific benchmarks for General Sawmills and Planing Mills (SIC code 2421) for TSS of 100 mg/L. Consistent with Order R5-2010-0034, this Order contains a maximum daily effluent limitation (MDEL) of 100 mg/L for TSS based on the site-specific benchmark in the MSGP based on BPJ.

Summary of Technology-based Effluent Limitations
Discharge Point 002

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.0	9.0
Total Suspended Solids	mg/L	--	100	--	--

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 C.F.R. sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** The Churn Creek tributary that receives discharge from the Facility has intermittent flow and is physically constricted. Churn Creek is tributary to the Sacramento River. Refer to section III.C.1. above for a complete description of the receiving water beneficial uses.

b. **Effluent and Ambient Background Data.** The Facility discharged from the retention pond only twice during the term of Order R5-2010-0034, in March 2011 and January 2016. At the time of the March 2011 discharge, the retention pond had sufficient storage capacity to contain all storm water received; however, the Discharger initiated discharge at Discharge Point 002 in order to reduce pond volume to locate the origin of a leak at the closed Discharge Point 001. Thus, the March 2011 effluent sample may not be representative of effluent quality under typical conditions necessitating a discharge to surface water (i.e., no capacity in the retention pond due to additional storm water flows). The January 2016 discharge event was wet-weather related (i.e., the retention basin reached maximum capacity). Water quality sampling conducted during the January 2016 discharge event has not been included for analysis in this Order, as the data was not available at the time of drafting this Order and the samples may not be representative of the permitted discharge for this Facility, as the retention basin contained log deck recycling pond water (prohibited from being discharged) during the period of discharge.

   An additional sample was collected from the retention pond during a June 2015 inspection. Because the sample was collected from the pond during a non-discharge period, and contained concentrated waste from the log deck recycling

pond (prohibited from being discharged), the sample may not be representative of pond quality during periods of discharge to the receiving water.

Section 1.2 of the SIP states, "*The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy. Instances where such consideration is warranted include, but are not limited to the following: evidence that a sample…is not representative of effluent or ambient receiving water conditions.*" In accordance with section 2 of the SIP, the Central Valley Water Board finds that the March 2011 effluent sample and June 2015 retention pond samples are insufficient for use in the RPA. Nevertheless, although the March 2011 effluent sample and June 2015 retention pond sample are not representative of effluent quality under typical discharge conditions, the Central Valley Water Board has considered this additional information to determine the need for WQBEL's.

Due to the limited dataset from the term of Order R5-2010-0034, the reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet was based on the effluent and receiving water data used to develop the existing permit (collected between March 2005 and January 2008) and upstream receiving water data from the March 2011 sampling event.

c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero dilution/assimilative capacity within the receiving water is that the discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP[1] and the CTR[2]. The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones[3]. Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10). [4]

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used (40 C.F.R. § 131.38(c)(4)).

[3] 40 C.F.R. §131.3(c)(4)(ii)

[4] 40 C.F.R. §131.38(c)(2)(iii) Table 4

This section of the CTR also indicates that the design conditions should be established such that the appropriate criteria are not exceeded more than once in a three year period on average.[1] The CTR requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge.[2] The CTR does not define the term "ambient," as applied in the regulations. Therefore, the Central Valley Water Board has considerable discretion to consider upstream and downstream ambient conditions when establishing the appropriate water quality criteria that fully complies with the CTR and SIP.

i. **Summary Findings**

The ambient hardness for the unnamed tributary is represented by the data in Figure F-1, below, which shows ambient hardness ranging from 34 mg/L to 64 mg/L based on ambient data collected between March 2005 and March 2011. Given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 34 mg/L (minimum) up to 64 mg/L (maximum). Staff recommends that the Central Valley Water Board use the ambient hardness values shown in Table F-6 for the following reasons.

(a) Using the ambient receiving water hardness values shown in Table F-6 will result in criteria and effluent limitations that ensure protection of beneficial uses under all ambient receiving water conditions.

(b) Using an ambient hardness that is higher than the hardness used in Order R5-2010-0034 (minimum effluent hardness of 24 mg/L) will result in limits that may allow increased metals to be discharged to the unnamed tributary to Churn Creek, but such discharge is allowed under the *State Anti-Degradation Policy*. The Central Valley Water Board finds that this degradation is consistent with the *State Anti-Degradation Policy* (see antidegradation findings in Section IV.D.4 of the Fact Sheet). The *State Anti-Degradation Policy* requires the Discharger to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that: a) a pollution or nuisance will not occur, and b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

(c) Using the ambient hardness values shown in Table F-6 is consistent with the CTR and SIP's requirements for developing metals criteria.

Table F-6. Summary of CTR Criteria for Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)[2,3]	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Copper	34	3.6	2.8
Chromium III	34	540	64
Cadmium	34	0.90	0.80

[1] 40 C.F.R. §131.38(c)(2)(iii) Table 4, notes 1 and 2
[2] 40 C.F.R. §131.38(c)(2)(i)

CTR Metals	Ambient Hardness (mg/L)[2,3]	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Lead	34	13	0.52
Nickel	34	140	16
Silver	34	0.35	--
Zinc	34	36	36

[1] Metal criteria rounded to two significant figures in accordance with the CTR (40 C.F.R. §131.38(b)(2)).

[2] The ambient hardness values in this table represent actual observed receiving water hardness measurements from the dataset shown in Figure F-1.

[3] The CTR's hardness dependent metals criteria equations vary differently depending on the metal, which results in differences in the range of ambient hardness values that may be used to develop effluent limitations that are protective of beneficial uses and comply with CTR criteria for all ambient flow conditions.

ii. **Background**

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant (Davis Order) and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant (Yuba City Order). The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, thus regional water boards have considerable discretion in determining ambient hardness so long as the selected value is protective of water quality criteria under the given flow conditions. (Davis Order, p.10). The State Water Board explained that it is necessary that, "*The* [hardness] *value selected should provide protection for all times of discharge under varying hardness conditions*." (Yuba City Order, p. 8). The Davis Order also provides that, "*Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions*." (Davis Order, p. 11)

The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

H = ambient hardness (as $CaCO_3$) [1]

WER = water-effect ratio

m, b = metal- and criterion-specific constants

The direction in the CTR regarding hardness selection is that it must be based on ambient hardness and consistent with design discharge conditions for design flows and mixing zones. Consistent with design discharge conditions and design flows means that the selected "design" hardness must result in effluent limitations under design discharge conditions that do not result in more

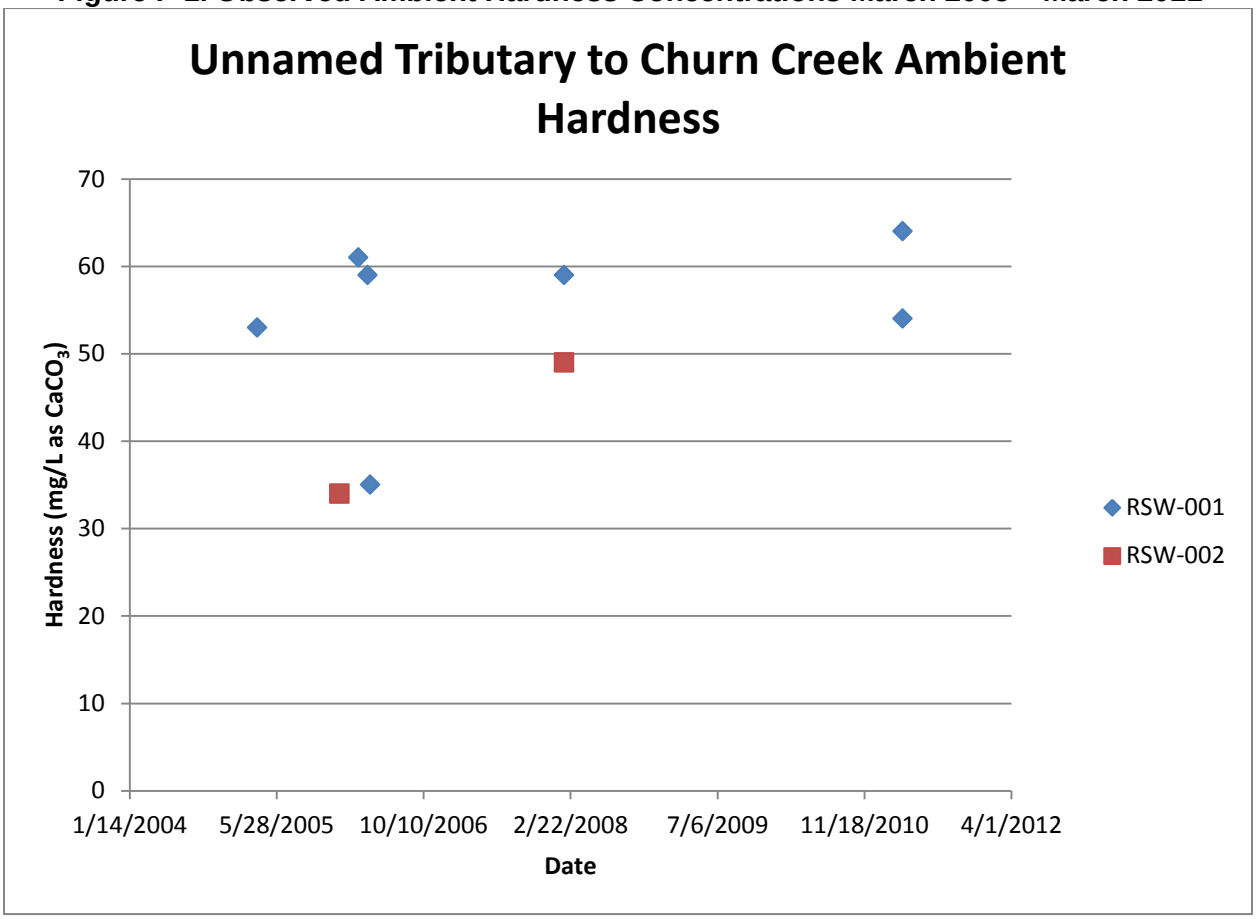
[1] For this discussion, all hardness values are expressed in mg/L as $CaCO_3$.

than one exceedance of the applicable criteria in a 3-year period.[1] Design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in 10 years (1Q10) and the lowest average 7 consecutive day flow with an average reoccurrence frequency of once in 10 years (7Q10). The 1Q10 and 7Q10 flows for the unnamed tributary to Churn Creek are unavailable.

iii. **Ambient conditions**

The ambient receiving water hardness varied from 34 mg/L to 64 mg/L based on nine samples collected between March 2005 and March 2011 (see Figure F-1).

Figure F-1. Observed Ambient Hardness Concentrations March 2005 – March 2011



In this analysis, the entire range of ambient hardness concentrations shown in Figure F-1 were considered to determine the appropriate ambient hardness to calculate the CTR criteria and effluent limitations that are protective under all discharge conditions.

iv. **Approach to derivation of criteria**

As shown above, ambient hardness varies substantially. Because of the variation, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum, mid-point). While the hardness selected must be hardness of the ambient receiving water,

[1] 40 C.F.R. §131.38(c)(2)(iii) Table 4, notes 1 and 2

selection of an ambient receiving water hardness that is too high would result in effluent limitations that do not protect beneficial uses. Also, the use of minimum ambient hardness would result in criteria that are protective of beneficial uses, but such criteria may not be representative considering the wide range of ambient conditions. However, given the limited dataset for ambient hardness (seven upstream results and two downstream results), it is uncertain whether a higher ambient hardness would result in criteria that are protective of beneficial uses under all conditions. Therefore, the Central Valley Water Board has calculated criteria using the minimum ambient receiving water hardness of 34 mg/L. Using this hardness value to calculate criteria, which is an actual sample result collected in the receiving water, will result in effluent limitations that are protective under all ambient flow conditions.

3. Determining the Need for WQBEL's

a. **Constituents with No Reasonable Potential.** WQBEL's are not included in this Order for constituents that do not demonstrate reasonable potential (i.e., constituents were not detected in the effluent or receiving water); however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. However, the following constituents were found to have no reasonable potential after assessment of the data:

i. **Lead**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. These criteria for lead are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for lead in the effluent are 21 µg/L and 0.81 µg/L, respectively, as total recoverable. Order R5-2010-0034 included effluent limitations for lead based on the CTR criteria.

(b) **RPA Results.** Lead was detected but not quantified at an estimated concentration of 3 µg/L and the maximum observed quantifiable effluent concentration was 0.8 µg/L., based on six samples collected between March 2005 and January 2008. Lead was not detected in the March 2011 effluent sample or the June 2015 retention pond sample.

SIP Section 2.4.2 states that the Minimum Level (ML) is the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.

(1) Required ML's are listed in Appendix 4 of the SIP. Where more than one ML is listed in Appendix 4, the Discharger may select any one of the cited analytical methods for compliance determination. The selected ML used for compliance determination is referred to as the Reporting Level (RL).

(2) An RL can be lower than the ML in Appendix 4 only when the Discharger agrees to use a RL that is lower than the ML listed in Appendix 4. The Central Valley Water Board and the Discharger have no agreement to use a RL lower than the listed ML.

(3) SIP Section 1.2 requires that the Regional Board use all available, valid, relevant, representative data and information, as determined by the Regional Board, to implement the SIP. SIP Section 1.2 further states that the Regional Board has the discretion to consider if any data are inappropriate or insufficient for use in implementing the SIP.

(4) Data reported below the ML indicates the data may not be valid due to possible matrix interferences during the analytical procedure.

(5) Further, SIP Section 2.4.5 (Compliance Determination) supports the insufficiency of data reported below the ML or RL. In part it states, "*Dischargers shall be deemed out of compliance with an effluent limitation, for reporting and administrative enforcement purposes, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.*" Thus, if submitted data is below the RL, that data cannot be used to determine compliance with effluent limitations.

(6) Data reported below the ML is not considered valid data for use in determining reasonable potential. Therefore, in accordance with Section 1.2 of the SIP, the Central Valley Water Board has determined that data reported below the ML is inappropriate and insufficient to be used to determine reasonable potential.

Thus, the Central Valley Water Board finds that the estimated effluent results are inappropriate and insufficient to determine reasonable potential under the SIP. The maximum quantifiable effluent result of 0.8 µg/L does not exceed the CTR chronic criterion of 0.81 µg/L. Therefore, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for lead, and the effluent limitations for lead have not been retained in this Order. Removal of these effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

ii. **pH**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the *"…pH shall not be depressed below 6.5 nor raised above 8.5.*"

(b) **RPA Results.** In the six samples collected between March 2005 and January 2008, the effluent pH ranged from 6.25 to 7.56 and the downstream receiving water pH ranged from 7.43 to 7.89. The March 2011 sample indicated an effluent pH level of 7.18 and a downstream receiving water pH of 7.82. As shown in the table below, although the effluent pH was below the Basin Plan objective of 6.5 in two samples, the pH of the downstream receiving water was within the Basin Plan objectives in all samples.

Table F-7. Effluent and Receiving Water Data for pH

Date	EFF-002	RSW-001	RSW-002
23 March 2005	**6.33**	7.43	7.36
28 December 2005	6.54	7.5	7.56
2 March 2006	7.09	7.89	7.4
3 April 2006	7.14	7.7	7.22
12 April 2006	7.56	7.66	7.49
31 January 2008	**6.25**	7.62	7.21
28 March 2011	7.18	7.82	7.4

Based on the effluent and receiving water data, the Central Valley Water Board finds that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan water quality objectives for pH. Therefore, this Order does not include WQBEL's for pH. However, as discussed in section IV.B.2 of this Fact Sheet, this Order includes technology-based instantaneous minimum and maximum effluent limitations of 6.0 and 9.0, based on the applicable ELG's.

iii. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state Maximum Contaminant Levels (MCL's), contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria for Chloride recommends acute and chronic criteria for the protection of aquatic life. There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective. The Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan Amendment that will establish a salt and nitrate Management Plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objective is to be interpreted for the protection of agricultural use. All studies conducted through this Order to establish an agricultural limit to implement the narrative objective will be reviewed by and consistent with the efforts currently underway by CV-SALTS.

Table F-8.Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Objective[1]	Secondary MCL[2]	U.S. EPA NAWQC	Effluent	
				Average[3]	Maximum
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	N/A	103[4]	136[4]
TDS (mg/L)	Varies	500, 1000, 1500	N/A	82[5]	84[5]
Sulfate (mg/L)	Varies	250, 500, 600	N/A	3.81[5]	3.81[5]

Parameter	Agricultural WQ Objective[1]	Secondary MCL[2]	U.S. EPA NAWQC	Effluent	
				Average[3]	Maximum
Chloride (mg/L)	Varies	250, 500, 600	860 1-hr 230 4-day	3.94[5]	3.94[5]

1 Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality, Chapter IV, Section 8 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.

2 The Secondary MCL's are stated as a recommended level, upper level, and a short-term maximum level.

3 Maximum calendar annual average.

4 Based on the 2005-2008 dataset and March 2011 sampling event.

5 Based on the March 2011 sampling event only. Monitoring data was not available in the 2005-2008 dataset.

(1) **Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(2) **Electrical Conductivity.** The Secondary MCL for electrical conductivity is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum.

(3) **Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(4) **Total Dissolved Solids.** The Secondary MCL for total dissolved solids is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum.

(b) **RPA Results**

(1) **Chloride.** Monitoring data for chloride from March 2005 to January 2008 was not available. The chloride concentration in the effluent sample from March 2011 was 3.94 mg/L. This level does not exceed the Secondary MCL. The background concentration of chloride in the unnamed tributary to Churn Creek was 1.06 mg/L, for one sample collected by the Discharger in March 2011.

(2) **Electrical Conductivity.** The average effluent electrical conductivity was 103 µmhos/cm, with a range from 21 µmhos/cm to 136 µmhos/cm based on samples collected between March 2005 and January 2008 and the March 2011 sample. These levels do not exceed the Secondary MCL. The background receiving water electrical conductivity measured 130 µmhos/cm.

(3) **Sulfate.** Monitoring data for sulfate from March 2005 to January 2008 was not available. The sulfate concentration in the effluent sample from March 2011 was 3.81 mg/L. This level does not exceed the Secondary MCL. The background concentration in the unnamed tributary to Churn Creek was 5.83 mg/L, for one sample collected by the Discharger in March 2011.

(4) **Total Dissolved Solids.** Monitoring data for total dissolved solids from March 2005 to January 2008 was not available. The average total dissolved solids effluent concentration was 82 mg/L with concentrations ranging from 79 mg/L to 84 mg/L. These levels do not exceed the Secondary MCL. Upstream receiving water data for total dissolved solids is not available.

Based on the relatively low reported salinity, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. In order to ensure that the Discharger will control the discharge of salinity, this Order includes a requirement to implement a salinity evaluation and minimization plan.

b. **Constituents with No Data or Insufficient Data.** Reasonable potential cannot be determined for the following constituents because effluent data are limited or ambient background concentrations are not available. The Discharger is required to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether to add numeric effluent limitations or to continue monitoring.

i. **Aluminum**

Aluminum is the third most abundant element in the earth's crust and is ubiquitous in both soils and aquatic sediments. When mobilized in surface waters, aluminum has been shown to be toxic to various fish species. However, the potential for aluminum toxicity in surface waters is directly related to the chemical form of aluminum present, and the chemical form is highly dependent on water quality characteristics that ultimately determine the mechanism of aluminum toxicity. Surface water characteristics, including pH, temperature, colloidal material, fluoride and sulfate concentrations, and total organic carbon, all influence aluminum speciation and its subsequent bioavailability to aquatic life. Calcium [hardness] concentrations in surface water may also reduce aluminum toxicity by competing with monomeric aluminum (Al^{3+}) binding to negatively charged fish gills.

(a) **WQO.** State Water Board, Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels (MCL's) to assist public drinking water systems in managing their drinking water for aesthetic conditions such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. Title 22 requires compliance with Secondary MCL's on an annual average basis.

The Code of Federal Regulations promulgated criteria for priority toxic pollutants for California's surface waters as part of section 131.38 Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (California Toxics Rule or CTR), including metals criteria. However, aluminum criteria were not promulgated as part of the CTR. Absent numeric aquatic life criteria for aluminum, WQBEL's in the Central Valley Region's NPDES permits are based on the Basin Plans' narrative toxicity objective. The Basin Plans' *Policy for Application of Water Quality Objectives* requires the Central Valley Water Board to consider, "*on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or*

published by other agencies and organizations. In considering such criteria, the Board evaluates whether the specific numerical criteria which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective." Relevant information includes, but is not limited to (1) U.S. EPA Ambient Water Quality Criteria (NAWQC) and subsequent Correction, (2) site-specific conditions of the unnamed tributary to Churn Creek, and (3) site-specific aluminum studies conducted by dischargers within the Central Valley Region. (Basin Plan, p. IV.-17.00; see also, 40 C.F.R. 122.44(d)(vi).)

U.S. EPA NAWQC. U.S. EPA recommended the NAWQC aluminum acute criterion at 750 µg/L based on test waters with a pH of 6.5 to 9.0. U.S. EPA also recommended the NAWQC aluminum chronic criterion at 87 µg/L based upon the following two toxicity tests. All test waters contained hardness at 12 mg/L as $CaCO_3$.

(1) Acute toxicity tests at various aluminum doses were conducted in various acidic waters (pH 6.0 – 6.5) on 159- and 160-day old striped bass. The 159-day old striped bass showed no mortality in waters with pH at 6.5 and aluminum doses at 390 µg/L, and the 160-day old striped bass showed 58% mortality at a dose of 174.4 µg/L in same pH waters. However, the 160-day old striped bass showed 98% mortality at aluminum dose of 87.2 µg/L in waters with pH at 6.0, which is U.S. EPA's basis for the 87 µg/L chronic criterion. The varied results draw into question this study and the applicability of the NAWQC chronic criterion of 87 µg/L.

(2) Chronic toxicity effects on 60-day old brook trout were evaluated in circumneutral pH waters (6.5 – 6 9 pH) in five cells at various aluminum doses (4, 57, 88, 169, and 350 µg/L). Chronic evaluation started upon hatching of eyed eggs of brook trout, and their weight and length were measured after 45 days and 60 days. The 60-day old brook trout showed 24% weight loss at 169 µg/L of aluminum and 4% weight loss at 88 µg/L of aluminum, which is the basis for U.S. EPA's chronic criteria. Though this test study shows chronic toxic effects of 4% reduction in weight after exposure for 60-days, the chronic criterion is based on 4-day exposure; so again, the applicability of the NAWQC chronic criterion of 87 µg/L is questionable.

Site-specific Conditions. U.S. EPA advises that a water effects ratio may be more appropriate to better reflect the actual toxicity of aluminum to aquatic organisms when the pH and hardness conditions of the receiving water are not similar to that of the test conditions.[1] Effluent and the receiving water monitoring data indicate that the pH and hardness values are not similar to the low pH and hardness conditions under which the chronic criterion for aluminum was developed, as shown in the table

[1] "*The value of 87 micro-g/L is based on a toxicity test with striped bass in water with pH = 6.5 – 6.6 and hardness < 10 mg/L. Data in [a 1994 Study] indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time.*" U.S. EPA 1999 NAWQC Correction, Footnote L.

below, and therefore, the Central Valley Water Board does not expect aluminum to be as toxic in the unnamed tributary to Churn Creek as in the previously described toxicity tests. The pH of the unnamed tributary to Churn Creek, ranged from 7.43 to 7.89 with a median of 7.66 based on seven monitoring results obtained between March 2005 and March 2011. These water conditions typically are circumneutral pH where aluminum is predominately in the form of $Al(OH)_3$ and non-toxic to aquatic life. The hardness of the unnamed tributary to Churn Creek ranged from 34 mg/L to 64 mg/L, based on nine samples from March 2006 to March 2011, which is above the conditions, and thus less toxic, than the tests used to develop the chronic criterion.

Parameter	Units	Test Conditions for Applicability of Chronic Criterion	Effluent	Receiving Water
pH	standard units	6.0 – 6.5	6.25 – 7.56	7.43 – 7.89
Hardness, Total (as $CaCO_3$)	mg/L	12	14 – 48	34 – 64
Aluminum, Total Recoverable	µg/L	87.2 - 390	400	589

Local Environmental Conditions and Studies. Twenty-one site-specific aluminum toxicity tests have been conducted within the Central Valley Region. The pH and hardness of the unnamed tributary to Churn Creek are similar, as shown in the table below, and thus the results of these site-specific aluminum toxicity tests are relevant and appropriate for the unnamed tributary to Churn Creek. As shown in the following table, all EC_{50}[1] toxicity study result values are at concentrations of aluminum above 5,000 µg/L. Thus, the effects of aluminum in these surface waters and in the unnamed tributary to Churn Creek, are less toxic (or less reactive) to aquatic species than demonstrated in the toxicity tests that U.S. EPA used for the basis of establishing the chronic criterion of 87 µg/L. This new information and review of the toxicity tests U.S. EPA used to establish the chronic criterion indicate that 87 µg/L is overly stringent and not applicable to the unnamed tributary to Churn Creek.

Central Valley Region Site-Specific Aluminum Toxicity Data

Discharger	Test Waters	Hardness Value	Total Aluminum EC_{50} Value	pH	WER
***Oncorhynchus mykiss* (rainbow trout)**					
Manteca	Surface Water/Effluent	124	>8600	9.14	N/C
Auburn	Surface Water	16	>16500	7.44	N/C
Modesto	Surface Water/Effluent	120/156	>34250	8.96	>229
Yuba City	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5

[1] The effect concentration is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC_{50} is a point estimate of the toxicant concentration that would cause an observable adverse effect in 50 percent of the test organisms. The EC_{50} is used in toxicity testing to determine the appropriate chronic criterion.

Discharger	Test Waters	Hardness Value	Total Aluminum EC_{50} Value	pH	WER
***Ceriodaphnia dubia* (water flea)**					
Auburn	Effluent	99	>5270	7.44	>19.3
	Surface Water	16	>5160	7.44	>12.4
Manteca	Surface Water/Effluent	124	>8800	9.14	N/C
	Effluent	117	>8700	7.21	>27.8
	Surface Water	57	7823	7.58	25.0
	Effluent	139	>9500	7.97	>21.2
	Surface Water	104	>11000	8.28	>24.5
	Effluent	128	>9700	7.78	>25.0
	Surface Water	85	>9450	7.85	>25.7
	Effluent	106	>11900	7.66	>15.3
	Surface Water	146	>10650	7.81	>13.7
Modesto	Surface Water/Effluent	120/156	31604	8.96	211
Yuba City	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5
Placer County (SMD 1)	Effluent	150	>5000	7.4 – 8.7	>13.7
***Daphnia magna* (water flea)**					
Manteca	Surface Water/Effluent	124	>8350	9.14	N/C
Modesto	Surface Water/Effluent	120/156	>11900	8.96	>79.6
Yuba City	Surface Water/Effluent	114/164[1]	>8000	7.60/7.46	>53.5

The Discharger has not conducted a toxicity test for aluminum; however, the City of Auburn conducted two toxicity tests in Auburn Ravine. As shown, the test water quality characteristics of the Auburn Ravine are similar to those in the unnamed tributary to Churn Creek, with the pH at 7.4 and hardness at 16 mg/L as $CaCO_3$ in comparison to the mean pH of 7.66 and the minimum hardness at 34 mg/L as $CaCO_3$, respectively. Thus, based on these two similar primary water quality characteristics (pH and hardness) that drive aluminum speciation, the aluminum toxicity within Auburn Ravine is expected to be similar in the unnamed tributary to Churn Creek. Therefore, the Auburn Ravine aluminum toxicity test study is relevant and appropriate in this case for use in determining the specific numerical criteria to be used in determining compliance with the Basin Plan's narrative toxicity objective. The City of Auburn aluminum toxicity study resulted in a site-specific aluminum objective at 1,079 µg/L. Thus, these results support the conclusion that the 87 µg/L chronic criterion is overly stringent for the unnamed tributary to Churn Creek near the discharge.

Applicable WQOs. This Order implements the Secondary MCL of 200 µg/L as an annual average for the protection of MUN and implements the Basin Plan's narrative toxicity objective for the protection of aquatic life using an acute (1-hour) criterion and chronic (4-day) criterion of 750 µg/L based on U.S. EPA's NAWQC and the discussion above.

(b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Aluminum is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method

for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board conducts the RPA for aluminum based on the calendar year annual average effluent aluminum concentrations.

Effluent data for aluminum was not available at the time Order R5-2010-0034 was adopted. The effluent aluminum concentration during the 28 March 2011 sampling event was 400 µg/L. However, as discussed in section IV.C.2.b of this Fact Sheet, the March 2011 effluent sample may not be representative of effluent quality under typical conditions necessitating a discharge to surface water (i.e., no capacity in the retention pond due to additional storm water flows). Additionally, the Central Valley Water Board finds that a single sample is insufficient to determine if the discharge exhibits reasonable potential to cause or contribute to an exceedance of the Secondary MCL on an annual average basis. Therefore, this Order does not establish WQBEL's for aluminum. Instead of limitations, annual effluent monitoring for aluminum has been retained from Order R5-2010-0034. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of the Secondary MCL, this Order may be reopened and modified by adding appropriate effluent limitations.

ii. **Bis (2-ethylhexyl) Phthalate**

(a) **WQO.** The CTR includes a criterion of 1.8 µg/L for bis (2-ethylhexyl) phthalate for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** Previous Order R5-2003-0154 included effluent limitations for bis (2-ethylhexyl) phthalate. Bis (2-ethylhexyl) phthalate was not detected in the effluent based on six samples collected between March 2005 and January 2008. Based on this data, the Central Valley Water Board concluded that bis (2-ethylhexyl) phthalate did not have reasonable potential to cause or contribute to an exceedance of the CTR criterion and the effluent limitations for bis (2-ethylhexyl) phthalate were discontinued in Order R5-2010-0034.

In the March 2011 effluent sample, bis (2-ethylhexyl) phthalate was detected but not quantified at an estimated concentration of 2 µg/L (MDL 0.9 µg/L, RL 5 µg/L). During the June 2015 inspection, bis (2-ethylhexyl) phthalate was detected in the retention pond at a concentration of 13.1 µg/L, which exceeds the CTR human health criterion of 1.8 µg/L. As described in section IV.C.2.b of this Fact Sheet, the March 2011 effluent sample and June 2015 retention pond sample are insufficient for use in the RPA. Furthermore, bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, an analytical equipment, and sources of detected bis (2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. Based on the limited dataset from the term of Order R5-2010-0034, it is uncertain if the

discharge has reasonable potential to cause or contribute to an exceedance of the CTR criteria for bis (2-ethylhexyl) phthalate

Section 1.3, Step 8 of the SIP allows the Central Valley Water Board to require additional monitoring for a pollutant in place of an effluent limitation if data are unavailable or insufficient. Therefore, this Order require additional monitoring using clean sampling techniques to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of the CTR criterion, this Order may be reopened and modified by adding appropriate effluent limitations.

iii. **Iron**

(a) **WQO**. The Secondary MCL – Consumer Acceptance Limit for iron is 300 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(b) **RPA Results**. For priority pollutants, the SIP dictates the procedures for conducting the RPA. Iron is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board conducts the RPA for iron based on the calendar year annual average effluent iron concentrations.

Effluent data for iron was not available at the time Order R5-2010-0034 was adopted. The effluent iron concentration during the March 2011 sampling event was 727 µg/L, which exceeds the Secondary MCL. However, as discussed in section IV.C.3.b of this Fact Sheet, the March 2011 effluent sample may not be representative of effluent quality under typical conditions necessitating a discharge to surface water (i.e., no capacity in the retention pond due to additional storm water flows). Therefore, this Order does not establish WQBEL's for iron. Instead of limitations, monthly effluent monitoring for iron has been established. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of the Secondary MCL, this Order may be reopened and modified by adding appropriate effluent limitations.

iv. **Manganese**

(a) **WQO**. The Secondary MCL – Consumer Acceptance Limit for manganese is 50 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(b) **RPA Results**. For priority pollutants, the SIP dictates the procedures for conducting the RPA. Manganese is not a priority pollutant. Therefore, the

Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the Central Valley Water Board conducts the RPA for manganese based on the calendar year annual average effluent manganese concentrations.

Effluent data for manganese was not available at the time Order R5-2010-0034 was adopted. The effluent manganese concentration during the March 2011 sampling event was 106 µg/L, which exceeds the MCL. However, as discussed in section IV.C.2.b of this Fact Sheet, the March 2011 effluent sample may not be representative of effluent quality under typical conditions necessitating a discharge to surface water (i.e., no capacity in the retention pond due to additional storm water flows). Therefore, this Order does not establish WQBEL's for manganese. Instead of limitations, monthly effluent monitoring for manganese has been established. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of the Secondary MCL, this Order may be reopened and modified by adding appropriate effluent limitations.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper, settleable solids, and zinc. WQBEL's for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Copper**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. These criteria for copper are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for copper in the effluent are 5.1 µg/L and 3.7 µg/L, respectively, as total recoverable.

The Basin Plan includes a hardness-dependent water quality objective for dissolved copper for the Sacramento River and its tributaries above the State Highway 32 bridge at Hamilton City, which is applicable to the receiving water. Using the default U.S. EPA acute translator and a hardness of 34 mg/L (as $CaCO_3$), the applicable Basin Plan objective for copper is 5.1 µg/L.

(b) **RPA Results.** The maximum effluent concentration (MEC) for copper was 6 µg/L (as total recoverable) based on six samples collected between

March 2005 and January 2008. Copper was detected in the effluent at a concentration of 2.1 µg/L on 28 March 2011 and in the retention pond at a concentration of 7.1 µg/L on 25 June 2015. The maximum observed receiving water concentration was 3.5 µg/L (as total recoverable) based on seven samples collected between March 2005 and March 2011. Because the effluent and retention pond concentrations exceed the applicable criteria, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life and the Basin Plan objective.

(c) **WQBEL's.** This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for copper of 2.5 µg/L and 5.1 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life and the Basin Plan objective.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 6 µg/L is greater than applicable WQBEL's. Based on the sample results from the effluent, the limitations appear to put the Discharger in immediate non-compliance should a discharge occur. However, consistent with Order R5-2010-0035, *Recission of Cease and Desist Order No. R5-2006-0128 for Sierra Pacific Industries, Inc., Shasta Lake Division, Shasta County*, the Central Valley Water Board is not providing a compliance schedule for copper, as the Discharger completed facility upgrades to address past compliance issues related to copper. However, the Facility improvements conducted in 2009 have not been fully tested due, in part, to State drought conditions over the past 4 years (i.e., the Facility had no wet weather discharge events). The Discharger is aware that they may have compliance issues should the 2009 Facility improvements prove inadequate to control copper concentrations in the effluent.

ii. **Settleable Solids**

(a) **WQO.** For inland surface waters, the Basin Plan states that "[w]*ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses*."

(b) **RPA Results.** Log deck runoff contains bark, sawdust, tannins and lignins, dissolved organics, and settleable and suspended solids. Therefore, the Central Valley Water Board finds that the discharge of process wastewater from the Facility has a reasonable potential to cause or contribute to an excursion above the Basin Plan's narrative objective for settleable material.

(c) **WQBEL's.** Consistent with Order R5-2010-0034, this Order contains an AMEL and MDEL for settleable solids of 0.1 mL/L and 0.2 mL/L, respectively. The settleable solids limitations in this Order are based on what can reasonably be achieved in a well-designed, constructed and operated settling basin for the types of contaminants encountered in the timber industry (wood debris and soil particles).

(d) **Plant Performance and Attainability.** Settleable solids were not detected in the effluent between March 2005 and March 2011. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Zinc**

(a) **WQO.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. These criteria for zinc are presented in dissolved concentrations, as 1-hour acute criteria and 4-day chronic criteria. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. Default U.S. EPA translators were used for calculating the criteria. As described in section IV.C.2.e of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for zinc in the effluent are 48 µg/L and 48 µg/L, respectively, as total recoverable.

The Basin Plan includes a hardness-dependent water quality objective for dissolved zinc for the Sacramento River and its tributaries upstream of the State Highway 32 bridge at Hamilton City, which is applicable to the receiving water. Using the default U.S. EPA acute translator and a hardness of 34 mg/L (as $CaCO_3$), the applicable Basin Plan objective for zinc is 14 µg/L.

(b) **RPA Results.** The MEC for zinc was 29.6 µg/L (as total recoverable) based on six samples collected between March 2005 and January 2008. Zinc was detected in the effluent at a concentration of 10.8 µg/L on 28 March 2011 and was not detected in the retention pond on 25 June 2015. The maximum observed receiving water concentration was 9.4 µg/L (as total recoverable) based on seven samples collected between March 2005 and March 2011. Because the effluent concentrations exceed the applicable criteria, zinc in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan objective.

(c) **WQBEL's**. This Order contains a final AMEL and MDEL for zinc of 7.0 µg/L and 14 µg/L, respectively, based on the Basin Plan objective.

(d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 29.6 µg/L is greater than applicable WQBEL's. Based on the sample results from the effluent, the limitations appear to put the Discharger in immediate non-compliance should a discharge occur. However, consistent with Order R5-2010-0035, *Rescission of Cease and Desist Order No. R5-2006-0128 for Sierra Pacific Industries, Inc., Shasta Lake Division, Shasta County*, the Central Valley Water Board is not providing a compliance schedule for zinc as the Discharger completed facility upgrades to address past compliance issues related to zinc. However, the Facility improvements conducted in 2009 have not been fully tested due, in part, to State drought conditions over the past 4 years (i.e., the Facility had no wet weather discharge events). The Discharger is aware that they may have compliance issues should the 2009 Facility improvements prove inadequate to control zinc concentrations in the effluent.

4. WQBEL Calculations

a. This Order includes WQBEL's for copper, settleable solids, and zinc. The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

Effluent Concentration Allowance. For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

ECA = C + D(C – B) where C>B, and
ECA = C where C≤B

where:

ECA = effluent concentration allowance
D = dilution credit
C = the priority pollutant criterion/objective
B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECA's based on MCL's, which implement the Basin Plan's chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

b. **Basin Plan Objectives and MCL's.** For WQBEL's based on site-specific numeric Basin Plan objectives or MCL's, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitations, depending on the averaging period of the objective.

c. **Aquatic Toxicity Criteria.** WQBEL's based on acute and chronic aquatic toxicity criteria are calculated in accordance with Section 1.4 of the SIP. The ECA's are converted to equivalent long-term averages (i.e., LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

d. **Human Health Criteria.** WQBEL's based on human health criteria, are also calculated in accordance with Section 1.4 of the SIP. The AMEL is set equal to ECA and a statistical multiplier was used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:
$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point 002

Table F-9. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Copper, Total Recoverable	µg/L	2.5	5.1	--	--
Zinc, Total Recoverable	µg/L	7.0	14	--	--
Non-Conventional Pollutants					
Settleable Solids	ml/L	0.1	0.2	--	--

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00) The Basin Plan also states that, *"…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…*".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for publicly owned treatment works discharging to contact recreational waters).*" Although the discharge has been consistently in compliance with the acute effluent limitations during the terms of Orders R5-2003-0154 and R5-2010-0034, the Facility discharges log deck runoff that contains bark, sawdust, tannins and lignins, dissolved organics, settleable and suspended solids, and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its

document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*" Consistent with Order R5-2010-0034, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ---------- 70%
Median for any three consecutive bioassays ---------- 90%

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-8.00.) In January 2008, the Discharger simulated a discharge from Discharge Point 002 and collected samples for chronic toxicity. Analytical results did not meet the test acceptability criteria for *Ceriodaphnia dubia* (survival and reproduction test), *Pimephales promelas* (larval survival and growth test), and *Selenastrum capricornutum* (growth test). The Discharger did not conduct chronic toxicity monitoring during the March 2011 discharge event. Therefore, adequate chronic WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring once per year for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, the Special Provision in section VI.C.2.a of the Order includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE or Toxicity Evaluation Study initiation if toxicity is demonstrated.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in petitions for review of a NPDES permit issued by the Los Angeles Water Board[1] that contained numeric chronic toxicity effluent limitations. To address the petitions, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board stated, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public*

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits." State Water Board Order WQO 2003-012 (*Los Coyotes and Long Beach Wastewater Reclamation Plants*), p. 9. The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 C.F.R. section 122.44(k).

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E, section V). Furthermore, the Special Provision contained at VI.C.2.a of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a TRE in accordance with an approved TRE work plan, or conduct a Toxicity Evaluation Study approved by the Executive Officer. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE or Toxicity Evaluation Study if effluent toxicity has been demonstrated.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order does not include effluent limitations expressed in terms of mass. Pursuant to the exceptions to mass limitations provided in 40 CF.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

For non-continuous discharges, such as those from the Facility, 40 C.F.R. section 122.45(e) states:

(e) Non-continuous discharges. Discharges which are not continuous, as defined in §122.2, shall be particularly described and limited, considering the following factors, as appropriate:

(1) Frequency (for example, a batch discharge shall not occur more than once every 3 weeks);

(2) Total mass (for example, not to exceed 100 kilograms of zinc and 200 kilograms of chromium per batch discharge);

(3) Maximum rate of discharge of pollutants during the discharge (for example, not to exceed 2 kilograms of zinc per minute); and

(4) Prohibition or limitation of specified pollutants by mass, concentration, or other appropriate measure (for example, shall not contain at any time more than 0.1 mg/1 zinc or more than 250 grams (1⁄4 kilogram) of zinc in any discharge).

Thus, the Central Valley Water Board is not restricted to a particular averaging period for non-continuous discharges. This Order implements AMEL's and MDEL's for priority pollutants, consistent with the procedures in the SIP. For settleable solids and TSS, this Order includes AMEL's (settleable solids only) and MDEL's, consistent with the effluent limitations in Order R5-2010-0034.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for copper, lead, and zinc. The effluent limitations for these pollutants are less stringent than those in Order R5-2010-0034. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent WQBEL's "*except in compliance with Section 303(d)(4).*" CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where water quality standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limit based on a TMDL or other Waste Load Allocation (WLA) may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLA's will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   The unnamed tributary to Churn Creek is considered an attainment water for copper, lead, and zinc because the receiving water is not listed as impaired on the CWA section 303(d) list for these constituents.[1] As discussed in section IV.D.4, below, removal of the effluent limits for lead and relaxation of the effluent limitations for copper and zinc complies with federal and state antidegradation requirements. Thus, removal of the effluent limitations for lead and relaxation of the effluent limitations for copper and zinc from Order R5-2010-0034 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if

[1] "*The exceptions in Section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list*." State Water Board Order WQ 2008-0006, Berry Petroleum Company, Poso Creek/McVan Facility.

information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. CWA 402(o)(2)(B)(ii) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if it is determined that technical mistakes or mistaken interpretations of law were made.

Order R5-2010-0034 included effluent limitations for copper, lead, and zinc based on water quality criteria calculated using the minimum observed effluent hardness of 24 mg/L. However, as described further in section IV.C.2.e of this Fact Sheet, the SIP[1] and the CTR[2] require that criteria for hardness-dependent metals be based on the hardness of the receiving water (actual ambient hardness). Furthermore, on 29 October 2014, the Superior Court for Sacramento County entered a judgment and peremptory writ of mandate in the matter of *California Sportfishing Protection Alliance v. California Regional Water Quality Control Board, Central Valley Region (Case No. 34-2013- 80001358-CU-QM-GDS)* in regards to the NPDES permit for the Sacramento Regional Wastewater Treatment Plant (Regional San Decision), ruling that the Central Valley Water Board abused its discretion by failing to use the equation set forth in the California Toxics Rule (CTR) and by using the hardness value of the effluent in the equations. The Court ordered the Central Valley Water Board to modify Order R5-2010-0114-03 (NPDES Permit No. CA0077682) to vacate the portions of the permit establishing effluent limitations for hardness-dependent metals, and to recalculate such effluent limitations using the equations set forth in 40 C.F.R. section 131.38(b)(2) without using the hardness value of the effluent. Based on the requirements of the SIP and CTR and in accordance with the Regional San Decision, the Central Valley Water Board finds that it is inappropriate to use the effluent hardness to calculate the applicable criteria for copper, lead, and zinc, and use of the effluent hardness to calculate the criteria for these metals when developing Order R5-2010-0034 represents a “technical mistake or mistaken interpretation of law”. Therefore, for the purposes of this Order, the criteria for these metals have been calculated using the receiving water (actual ambient hardness), which results in less stringent criteria. Based on the less stringent criteria, the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the CTR criteria for lead and, therefore, effluent limitations for lead have not been retained in this Order. Additionally, based on the less stringent criteria, relaxed effluent limitations for copper and zinc are included in this Order. The removal of effluent limitations for lead and relaxation of the effluent limitations for copper and zinc satisfy the requirements in CWA 402(o)(2)(B)(ii).

4. Antidegradation Policies

a. **Surface Water.** This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL’s where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the *State Anti-Degradation Policy*.

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used (40 C.F.R. § 131.38(c)(4)).

Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

This Order removes effluent limitations for lead and relaxes effluent limitations for copper and zinc based on a finding that the previous effluent limitations were based on technical mistakes or mistaken interpretations of the law. The removal of effluent limitations for lead and relaxation of effluent limitations for copper and zinc will not result in a decrease in the level of treatment or control or a reduction of water quality. Therefore, the Central Valley Water Board finds that the relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the removal of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the *State Anti-Degradation Policy*.

b. **Groundwater.** The Discharger utilizes a retention pond and log deck recycle pond to store process wastewater on site, and these ponds are unlined. Percolation from the ponds may therefore result in limited degradation of the underlying groundwater. The *State Anti-Degradation Policy* generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:

i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;

iii. The discharger will employ Best Practicable Treatment or Control (BPTC) to minimize degradation; and

iv. The degradation is consistent with the maximum benefit to the people of the state.

Though the ponds are unlined, the Central Valley Water Board considers the use of unlined ponds to store process water to be an industry-standard practice that is an appropriate component of an effective suite of best management practices. This Order, specifically the Best Management Practices and Pollution Prevention measures required in section VI.C.3, will require the Discharger to implement BPTC. In addition, the Central Valley Water Board finds, based on existing information, that the limited groundwater degradation that may occur under this Order will not result in exceedances of any applicable groundwater water quality objectives or in any impacts to beneficial uses. Therefore, pollution or nuisance will not occur.

Lastly, the limited degradation that may occur under this Order inheres to the maximum benefit of the people of the State because it will occur due to the operation of a sawmill and planing mill that is an important regional employer. The Discharger will also be required to confirm that the discharges have not resulted in pollution or nuisance in a report, the Antidegradation Reevaluation, which the Discharger will submit as a part of its permit renewal application. Should the Antidegradation Reevaluation reveal degradation inconsistent with the State Anti-Degradation Policy, the Discharger must propose additional treatment or control measures to further limit any impacts from the ponds.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on pH and TSS. Restrictions on pH and TSS are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBEL's have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual WQBEL's for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to 30 May, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to 30 May 2000, but not approved by U.S. EPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Summary of Final Effluent Limitations
Discharge Point 002

Table F-10. Summary of Final Effluent Limitations

Pollutant	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
pH	standard units	--	--	6.0	9.0	ELG
Total Suspended Solids	mg/L	--	100	--	--	BPJ
Priority Pollutants						
Copper, Total Recoverable	µg/L	2.5	5.1	--	--	CTR, BP
Zinc, Total Recoverable	µg/L	7.0	14	--	--	CTR, BP
Non-Conventional Pollutants						
Settleable Solids	ml/L	0.1	0.2	--	--	BP
Acute Toxicity	% Survival	--	70[2]/90[3]	--	--	BP

[1] ELG – Based on the effluent limitation guidelines for the Wet Storage Subcategory of the Timber Products Point Source Category contained in 40 C.F.R. part 429, subpart I.
BPJ – Based on Best Professional Judgment.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
BP – Based on water quality objectives contained in the Basin Plan.

[2] Minimum for any one bioassay.

[3] Median for any three consecutive bioassays.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications

1. The Land Discharge Specifications are necessary to protect the beneficial uses of the groundwater.

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a)-(c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

   a. **pH.** Order R5-2010-0034 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and the allowance of averaging periods for pH. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order does not require a receiving water limitation for pH change.

   In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the pH receiving water objective is consistent with the *State Anti-Degradation Policy*, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. § 131.12).

   The relaxation of the pH receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the pH receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. §131.12).

The revised receiving water limitation for pH, which is based on the amendment to the Basin Plan's pH water quality objective, reflects current scientifically supported pH requirements for the protection of aquatic life and other beneficial uses. The revised receiving water limitation for pH is more consistent with the current U.S. EPA recommended criteria and is fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in pH when pH is maintained within the range of 6.5 to 8.5 are neither beneficial nor adverse and, therefore, are not considered to be degradation in water quality. Attempting to restrict pH changes to 0.5 pH units would incur substantial costs without demonstrable benefits to beneficial uses. Thus, any changes in pH that would occur under the revised pH limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore the proposed amendment will not violate antidegradation policies.

b. **Temperature.** Order R5-2010-0034 included the following receiving water limitation specifying that discharges from the Facility shall not cause "*The natural temperature to be increased by more than 5°F (3C). or higher than 56°F when such an increase will be detrimental to the fishery, whichever is more restrictive.*" The Basin Plan includes a site-specific water quality objective for the Sacramento River from Shasta Dam to the I Street Bridge that states, "*The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor above 68°F in the reach from Hamilton City to the I Street Bridge during periods when temperature increases will be detrimental to the fishery*." This objective is specific to the Sacramento River and is not applicable to its tributaries. Therefore, the receiving water limitation for temperature has been revised to be consistent with the Basin Plan objective for COLD or WARM intrastate waters, which specifies that "*At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature*."

c. **Turbidity.** Order R5-2010-0034 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the turbidity receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. § 131.12).

The relaxation of the turbidity receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the turbidity receiving water limitation (i) is to the maximum benefit to the people of

the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 C.F.R. §131.12).

B. Groundwater

1. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCL's in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.
3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be

reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper and zinc. If the Discharger performs studies to determine site-specific WER's and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

d. **Groundwater Limitations.** This Order requires the Discharger to expand its groundwater monitoring network, perform monitoring, and complete water quality analyses for characterization. Based on the results of the groundwater monitoring, this Order may be reopened as described in section VI.C.1 of this Order to modify the groundwater limitations.

e. **Municipal Recycled Water Use.** This Order may be reopened to add or modify findings, specifications, limits, or other conditions as appropriate, as a result of the use of recycled water at the Facility.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00.) As described in section IV.C.5.b of this Fact Sheet, adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The Monitoring and Reporting Program of this Order requires chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, this provision includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE or Toxicity Evaluation Study initiation if toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of **> 1** TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, accelerated monitoring, and a TRE or Toxicity Evaluation Study, if required, is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity,

the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.*" Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-2), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with U.S. EPA guidance. Numerous guidance documents are available, as identified below:

i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.

ii. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.

iii. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition*, EPA 600/6-91/003, February 1991.

iv. *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, May 1992.

v. *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA/600/R-92/080, September 1993.

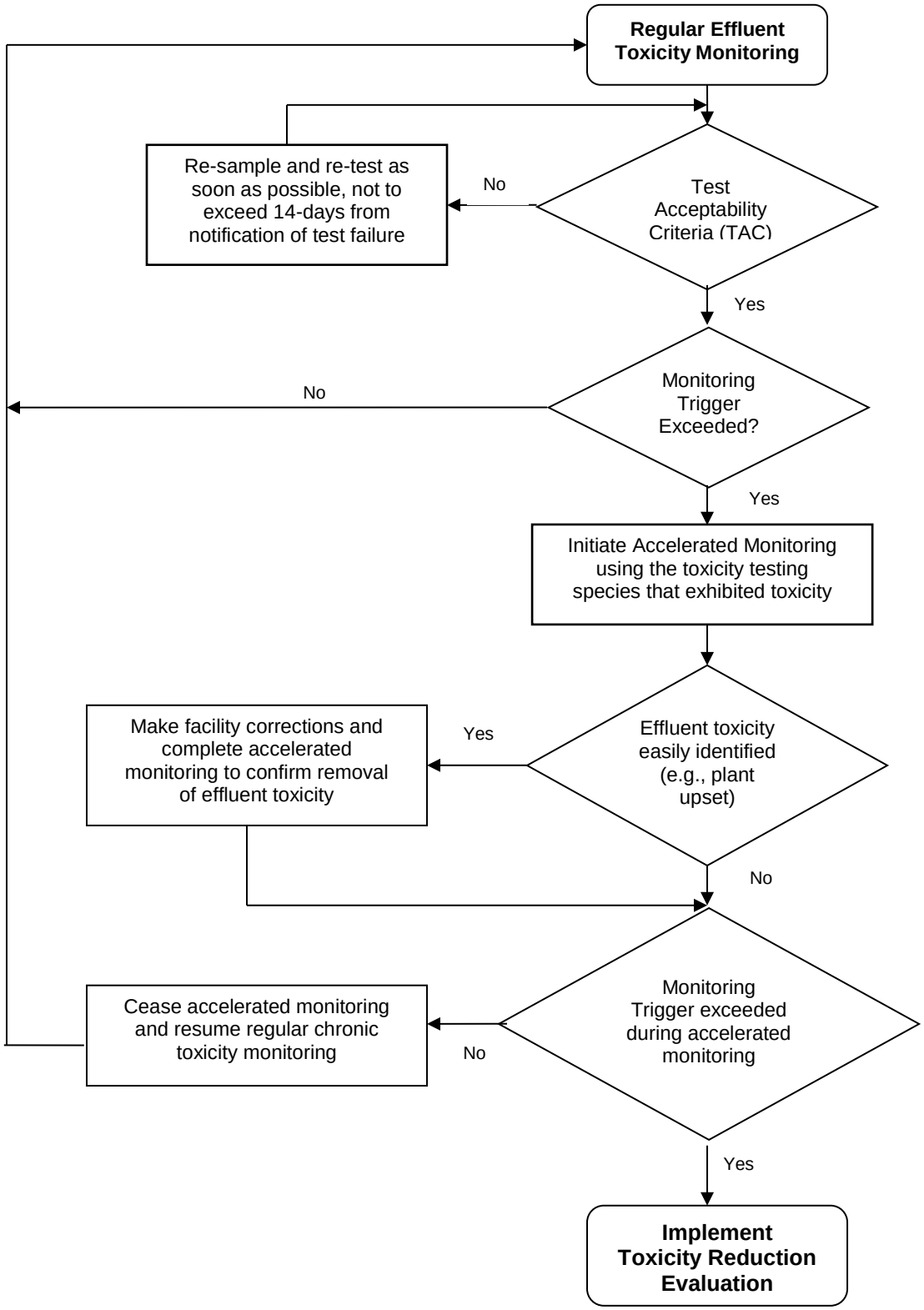
vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA 600/R-92/081, September 1993.

vii. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, EPA-821-R-02-012, October 2002.

viii. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA-821-R-02-013, October 2002.

ix. *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

Figure F-2
WET Accelerated Monitoring Flow Chart



Site-Specific Toxicity Evaluation Study. The Facility is a sawmill that discharges effluent (commingled process wastewater and storm water) from a log deck. Facility discharges are predominantly storm water for which the most effective measures to reduce effluent toxicity are to re-evaluate BMP's. Due to the short-term and intermittent nature of the effluent discharges, a site-specific Toxicity Evaluation Study may be more effective than accelerated monitoring for identifying and eliminating chronic toxicity in discharges from the Facility. Therefore, this provision allows the Discharger to conduct a Toxicity Evaluation Study, individually or as part of a coordinated group effort with other dischargers with similar discharges from sawmill log deck operations, to investigate the cause and eliminate toxicity in the effluent.

b. **Groundwater Monitoring Well Network Installation and Characterization.** The Discharger is required to expand its groundwater monitoring network, perform monitoring, and complete water quality analyses for characterization, and submit a technical report on the findings, as specified in section VI.C.2.b, in order to confirm compliance with Groundwater Limitations V.B. Site-specific conditions such as year-round wet-decking, the use of unlined ponds for storage of process wastewater, the proximity of the ponds to surface water (e.g., adjacent), and the presence of shallow groundwater in the area, may also affect the quality of surface waters within the area. The technical report is necessary to further assess potential impacts and to protect both surface and ground water.

c. **Antidegradation Reevaluation.** The Discharger is required to submit an Antidegradation Reevaluation, as specified in section VI.C.2.c, to confirm that the land discharge continues to be consistent with the *State Anti-degradation Policy*.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required to be implemented in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to the unnamed tributary to Churn Creek.

4. Construction, Operation, and Maintenance Specifications

a. **Retention Pond and Log Deck Recycle Pond Operating Requirements.** The operation and maintenance specifications for the retention pond and log deck recycle pond are necessary to protect the beneficial uses of the groundwater and surface water. The specifications included in this Order are retained from Order R5-2010-0034. In addition, reporting requirements related to use of the retention pond and log deck recycle pond are required to monitor their use and the potential impact on groundwater.

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

a. **Sludge, Wood Waste, and/or Ash Management Disposal.** Sludge disposal provisions are necessary to ensure proper disposal of collected screening, sludges, wood ash, wood waste, and other solids removed from liquid wastes, ponds, or other sources in a manner that is consistent with Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq, and approved by the Executive Officer.

b. **Municipal Recycled Water Use.** The Discharger utilizes recycled water at the Facility and the use of recycled water shall be in accordance with California Code of Regulations (CCR) Title 22, Chapter 3.

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

2. Effluent monitoring frequencies and sample types for oil and grease (semi-annually), pH (weekly), TSS (weekly), alkalinity (monthly), aluminum (annually), electrical conductivity (weekly), settleable solids (weekly), and turbidity (weekly) have been retained from Order R5-2010-0034 to determine compliance with effluent limitations, where applicable, and characterize the effluent for these parameters. Weekly effluent monitoring frequencies have been reduced to monthly for copper, lead, zinc, chemical oxygen demand, hardness, tannins and lignins. Annual effluent monitoring for chloride and sulfate has been removed. Annual monitoring for iron, manganese, and total dissolved solids has been increased from annual to monthly. Flow monitoring frequency has increased from 1/day to continuous as a result of the intermittent nature of the discharge and the need to assess compliance with Discharger Prohibition III.D.

3. As discussed in section IV.C.3.b of this Fact Sheet, insufficient information is available to determine reasonable potential for bis (2-ethylhexyl) phthalate. Therefore, this Order establishes monthly monitoring for bis (2-ethylhexyl) phthalate using “clean” techniques to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

4. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established is required. This Order requires monitoring during the first two discharge events that occurs during the permit term in order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the MRP for more detailed requirements related to performing priority pollutant monitoring.

5. Water Code section 13176, subdivision (a), states: “*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.*” The DDW certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** The monitoring frequency for 96-hour bioassay testing has been increased from once per year to twice per year and is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Consistent with Order R5-2010-0034, chronic whole effluent toxicity testing is required once per year in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Receiving water monitoring requirements at Monitoring Location RSW-001 have been retained from Order R5-2010-0034 for flow (daily), pH (weekly), electrical conductivity (weekly) and turbidity (weekly). Weekly monitoring for copper, lead, zinc, and hardness has been reduced to monthly. Weekly aluminum monitoring has been reduced to annual. Annual monitoring for chloride and sulfate has been removed. Annual monitoring for iron and manganese has been increased to monthly.

c. Receiving water monitoring requirements at Monitoring Location RSW-002 have been retained from Order R5-2010-0034 for pH (weekly), hardness (weekly), and turbidity (weekly).

d. Due to the elevated levels of chemical oxygen demand and tannins and lignins in the effluent, this Order establishes weekly monitoring for dissolved oxygen and monthly monitoring for tannins and lignins at Monitoring Locations RSW-001 and RSW-002 to determine the impacts of the discharge on the receiving water.

e. Order R5-2010-0034 required annual monitoring for priority pollutant metals at Monitoring Location RSW-001. This Order includes weekly receiving water monitoring for those priority pollutant metals that demonstrated reasonable potential to contribute to an exceedance of water quality objectives in the process wastewater discharge (i.e., copper and zinc) and for lead. The remaining metals did not exhibit reasonable potential to cause or contribute to exceedance of water quality objectives; therefore, monitoring requirements for the remaining priority pollutant metals has not been retained in this Order.

f. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires monitoring for priority pollutants and other pollutants of concern during the first two discharge events that occur during the permit term in the upstream receiving water, concurrent with effluent monitoring, in

order to collect data to conduct an RPA for the next permit renewal. See section IX.D of the Monitoring and Reporting Program (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.

2. Groundwater

a. Water Code section 13267 states, in part, "(a) A *[Regional Water Board], in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation…, the [Regional Water Board] may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the [Regional Water Board] requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.*" In requiring those reports, a Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program is authorized by Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the Facility subject to this Order.

b. Monitoring of the groundwater must be conducted to confirm that any groundwater degradation resulting from the discharge is in compliance with the groundwater limitations contained in this Order, and ensure protection of beneficial uses and compliance with Central Valley Water Board and State Water Board plans and policies, including the State Anti-Degradation Policy. This Order requires a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program.

E. Other Monitoring Requirements

1. **Precipitation Monitoring**

Precipitation monitoring is necessary to assess the amount of rainfall that falls on the log deck area.

2. **Ash Monitoring**

The annual ash report is necessary to determine the quantity of ash generated at the facility and to ensure the proper handling of such material.

3. **Pond Monitoring**

Retention pond and log deck recycle pond monitoring requirements for freeboard and dissolved oxygen is necessary to assess compliance with pond operating requirements and to ensure pond integrity. Retention pond and log deck recycle pond monitoring for pH, electrical conductivity, chemical oxygen demand, copper, zinc, iron, manganese, sulfate, and total dissolved solids is necessary to assess the impacts of the discharge on groundwater.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through physical posting, mailing, and internet posting.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on 2 March 2016.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	21/22 April 2016
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 1685 "E" Street Fresno, CA 93706

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the Central Valley Water Board's Redding Office at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board, Redding Office by calling (530) 224-4845.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Stacy Gotham at (530) 224-4993.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Aluminum, Total Recoverable	µg/L	400[1]	589[1]	200	750[2]	--	--	--	--	200	Inconclusive[3]
Bis (2-Ethylhexyl) Phthalate	µg/L	2 DNQ	0.9 DNQ	1.8	--	--	1.8	5.9	--	4	Inconclusive[3]
Copper, Total Recoverable	µg/L	6	3.5 DNQ	3.7	5.1	3.7	1,300	--	5.1	1,000	Yes
Electrical Conductivity @ 25°C	µmhos/cm	103[1]	130[1]	900	--	--	--	--	--	900	No
Iron, Total Recoverable	µg/L	727[1]	875[1]	300	--	--	--	--	--	300	Inconclusive[3]
Lead, Total Recoverable	µg/L	3.0 DNQ	<0.1	0.81	21	0.81	--	--	--	15	No[3]
Manganese, Total Recoverable	µg/L	106[1]	28.4[1]	50	--	--	--	--	--	50	Inconclusive[3]
Zinc, Total Recoverable	µg/L	29.6	9.4	14	48	48	--	--	14	5,000	Yes

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) Represents the maximum observed annual average concentration for comparison with the Primary MCL.
(2) U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour average.
(3) See section IV.C.3 of the Fact Sheet for a discussion of the RPA results.

ATTACHMENT H – CALCULATION OF WQBEL'S

Aquatic Life WQBEL's Calculations															
Parameter	Units	Criteria		Dilution Factors		Aquatic Life Calculations							Final Effluent Limitations		
		CMC	CCC	CMC	CCC	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL[1]	AWEL[2]	MDEL[3]
Copper, Total Recoverable	µg/L	5.1	3.7	--	--	0.32	1.64	0.53	1.95	1.55	--	3.11	2.5	--	5.1
Zinc, Total Recoverable	µg/L	14	48	--	--	0.32	4.50	0.53	25.32	1.55	--	3.11	7.0	--	14

1 Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
2 Average Weekly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 98th percentile occurrence probability.
3 Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.