

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0093

NPDES NO. CA0081337

WASTE DISCHARGE REQUIREMENTS
FOR
SOUTHERN CALIFORNIA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC PROJECT
EASTWOOD POWERHOUSE FACILITY
FRESNO COUNTY

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

BACKGROUND

1. Southern California Edison Company, a California corporation, owns and operates the Balsam Meadows Hydroelectric Project/Eastwood Powerhouse Facility (Facility), an underground hydroelectric powerhouse near Shaver Lake. Southern California Edison Company is hereafter referred to as Discharger.
2. This Order regulates the discharge of treated and untreated wastewater to Shaver Lake and North Fork Stevenson Creek, both waters of the United States. The Discharger submitted a Report of Waste Discharge (ROWD), dated 18 March 2004, and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES). Supplemental flow information was provided by the Discharger on 8 April 2004.
3. The underground Facility generates hydroelectric power through a single pump-turbine connected to a motor/generator and it is part of the Balsam Meadows Hydroelectric Project (hereafter "Balsam Project"). The Balsam Project includes a 5,900-foot diversion tunnel connecting the existing Huntington-Pitman-Shaver Conduit, a 4,320-foot power tunnel, an access tunnel, a construction tunnel used to store equipment and access different levels of the Facility, and a 7,500-foot tailrace tunnel with a 16-foot horseshoe section leading to Shaver Lake. The Balsam Project also includes the Balsam Meadows Forebay, a 2,100 acre-foot storage reservoir from which water flows to the Facility. During off-peak electrical consumption hours, water from Shaver Lake may be pumped into the forebay for power generation use the following day.
4. The discharge was previously governed by Waste Discharge Requirements specified in Order No. 99-015, adopted by the Regional Board on 30 April 1999, and amended 16 March 2001 by Special Order No. 5-01-047.

5. Based on data provided in the ROWD and supplemental correspondence provided 8 April 2004, the Discharger's effluent consists of treated wastes from an Oil & Grease Separator, untreated groundwater, and untreated non-contact cooling water. There are two discharge points from the Facility. Discharge Point 001 is from the Tailrace Tunnel to Shaver Lake and Discharge Point 002 is from the Access Tunnel Sump to the North Fork of Stevenson Creek. Discharge Point 001 is the primary discharge point for the Facility and consists of the commingled waste streams as described below. Discharge Point 002 is used only when the powerhouse is not operating and the discharge consists only of untreated groundwater. The Facility is in Section 20, T9S, R25E, MDB&M, as shown on Attachment A, a part of this Order. Attachment B, a part of this Order, provides a schematic of the waste streams.

Discharge Point 001 – Discharges from the Tailrace Tunnel to Shaver Lake. The discharge consists of commingled flows from three separate waste streams as described below:

Waste Stream (WS) 001A – Discharges from the Main Sump to the Tailrace Tunnel. The Main Sump collects flow from three different sources: (1) Approximately 0.01 million gallons per day (mgd) of treated wastewater from the Oil & Grease Separator. The separator collects and treats wastewater from equipment and floor cleaning operations, leaking pipe joints, and leaking bearings, (2) Approximately 0.04 mgd of untreated groundwater that seeps into the main sump, and (3) Approximately 1 mgd of untreated groundwater is pumped to the Main Sump during times when the equipment and structures of the construction tunnel require maintenance. Sludge from the Oil & Grease Separator is disposed of off-site by a licensed operator.

WS 001B – Discharges from the CT-4 Sump to the Tailrace Tunnel. The CT-4 Sump collects approximately 1.0 mgd of untreated groundwater that seeps into the construction tunnel and is pumped to the Tailrace Tunnel.

WS 003 – Discharges of up to 2.5 mgd of non-contact cooling water from the Powerhouse to the Tailrace Tunnel. The water is used to cool the turbine and generator pumping equipment.

Discharge Point 002 – Discharges of approximately 1.0 mgd of untreated groundwater from the Main Sump to the Access Tunnel Sump, then directly to Stevenson Creek. This discharge occurs on rare occasions, usually when the Powerhouse is down for maintenance.

6. The discharge from Discharge Point 001 to Shaver Lake, a water of the United States tributary to the San Joaquin River and Millerton Lake, occurs at a point in Section 20, T9S, R25E, MDB&M (latitude 37°7'50" North and longitude 119°15'40" West). The discharge from 002 to North Fork Stevenson Creek, a water of the United States tributary to San Joaquin River and to

Millerton Lake, occurs at a point in Section 21, T9S, R25E, MDB&M (latitude 37°8'20" North and longitude 119°15'0" West). The Facility is within the San Joaquin River Basin, specifically within the San Joaquin Hydrologic Unit, Redinger Hydrologic Area (540.30) as depicted on interagency maps published by the California Department of Water Resources in 1986.

7. The Discharger's ROWD, dated 15 March 2004, describes the effluent discharge as follows:

Constituent	Units	Discharge 001 to Shaver Lake Maximum Daily Value	Discharge 002 to North Fork Stevenson Creek Maximum Daily Value
Biochemical Oxygen Demand ¹	mg/L lbs/day	<5.0 <43.7	<5.0 <43.7
Total Suspended Solids ¹	mg/L	ND	ND
Chemical Oxygen Demand ¹	mg/L lbs/day	10.0 87.6	<10.0 <87.6
Total Organic Carbon ¹	mg/L lbs/day	10 87.6	1.0 8.76
Ammonia ¹	mg/L lbs/day	<0.2 <1.8	1.0 8.76
pH ²	s.u.	6.7-8.2	NA-8.6
Temperature (Winter)	°C	6.4	6.4
Temperature (Summer)	°C	24.2	24.2

¹ ROWD indicates that values are estimated from past analyses.

² Minimum-Maximum range.

8. Quarterly effluent monitoring data were submitted by the Discharger, as required by previous Order No. 99-015. Data from January 2000 to December 2003 are summarized as follows:

WS 001A

Monthly Average Flow: 0.35 mgd

Maximum Monthly Average Flow: 6.0 mgd

Constituent	Units	Monthly			No. of Samples
		Avg ¹	Max	Min	
Settleable Solids	ml/L	0.05	0.6	ND	15
Total Suspended Solids	mg/L	0.3	5	ND	17
Oil and Grease	mg/L	ND	ND	ND	21
Conductivity @25°C	µmhos/cm	9.0	24	0.1	14
PH	s.u.	--	8.9	7.1	14
Temperature	°C	13	24	6.5	14

¹ Non-detects are counted as 0 when calculating averages.

WS 001B

Monthly Average Flow: 0.9 mgd

Maximum Monthly Average Flow: 1.5 mgd

Constituent	Units	Monthly			No. of Samples
		Avg ¹	Max	Min	
Settleable Solids	ml/L	ND	ND	ND	2
Total Suspended Solids	mg/L	ND	ND	ND	4
Oil and Grease	mg/L	ND	ND	ND	7
Conductivity @25°C	µmhos/cm	27	51	20	14
PH	s.u.	--	8.8	2.6	14
Temperature	°C	20	22	17	14

¹ Non-detects are counted as 0 when calculating averages.

WS 003

Monthly Average Flow: 1.6 mgd.

9. The receiving waters are of very high quality with low turbidities and EC's and high dissolved oxygen concentrations.
10. The Discharger received a Notice of Violation, dated 6 October 1999, for exceeding the daily flow maximums of 1.0 and 1.05 mgd at WSs 001A and 001B. The Discharger responded by letter dated 26 October 1999 that it has no control over the quantity of groundwater that seeps into its tunnels. The Regional Board issued a Special Order dated 16 March 2001 to remove flow limitations that pertain to discharges of untreated groundwater (i.e., WSs 001A, 001B, and Discharge 002). The discharge of additional groundwater has not caused and does not pose a significant threat to water quality, provided the Discharger complies with other terms and conditions of this Order.
11. In October 1995 the Discharger performed chronic and acute toxicity tests using fathead minnow (*Pimephales promelas*) as the test organism. The tests were performed on effluent samples representing the discharges to Shaver Lake and Stevenson Creek. The first effluent tested consisted of internal WSs 001A, 001B, and 003 (on a flow-proportioned basis) from Discharge 001, and used Shaver Lake receiving water as the dilution water. The second effluent tested was from Discharge 002 and used Stevenson Creek receiving water as dilution water. Results of toxicity tests showed no significant toxicity in either discharge sample. Results of acute toxicity tests performed in May 1997 using rainbow trout (*Salmo gairdnerii*) as the test organism showed no toxicity in the Tailrace Tunnel discharge.
12. The *Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.
13. The U.S. Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan (SIP)), which contains guidance on implementation of the NTR and the CTR.

RECEIVING WATER BENEFICIAL USES

14. The Basin Plan at page II-2.00 states: “Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan identifies the following beneficial uses for the San Joaquin River, Sources to Millerton Lake:
- Municipal and Domestic Supply (MUN);
 - Agricultural Irrigation, Agricultural Stock Watering (AGR);
 - Hydropower Generation (POW);
 - Water Contact Recreation (REC-1);
 - Non-contact Water Recreation (REC-2);
 - Warm Freshwater Aquatic Habitat (WARM);
 - Cold Freshwater Aquatic Habitat (COLD); and
 - Wildlife Habitat (WILD).

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

15. 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 Clean Water Act (CWA) and amendments that are applicable to the discharge are contained herein.
16. The federal Clean Water Act (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 CFR, 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.”

17. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Board finds that the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard. Data for detected CTR constituents are presented in the Fact Sheet of this Order.
18. Previous Order No. 99-015 established effluent limitations for total suspended solids, settleable solids, and oil and grease, which were technology-based limits developed using best professional judgment. Results of water quality monitoring indicate detected concentrations of these constituents in the discharge do not result in reasonable potential for the discharge to exceed water quality criteria or objectives. Therefore, these existing technology based limitations are protective of Basin Plan beneficial uses. In order to ensure continued attainment of beneficial uses, this Order carries over the Effluent Limitations established by the previous Order.

Effluent limitations for flow and pH are also carried over from Order No. 99-015, however, the following revisions have been made:

pH: The effluent limitation for pH in WS 003 has been removed because monitoring of this waste stream is not feasible prior to commingling with the other waste streams in the Tailrace Tunnel. This waste stream consists only of non-contact cooling water and does not pose a significant threat to water quality.

Flow: Order No. 99-015 required that the discharge flows for WSs 001A, 001B, 002, and 003 not exceed 1.05, 1.0, 1.0, and 2.5 mgd, respectively. Special Order No. 5-01-047 removed flow limitations that pertain to discharges of untreated groundwater. Therefore, flow limitations for WSs 001A, 001B, and 002 are not included in this Order. The flow limitation of 2.5 mgd for internal WS 003 (non-contact cooling water) is maintained.

19. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. 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.

RECEIVING WATER LIMITATIONS

20. Receiving water limitations in this Order are based on the water quality objectives in the Basin Plan and are established to protect the designated beneficial uses for the receiving waters.
21. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; “The numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity and turbidity.

GROUNDWATER LIMITATIONS

22. The beneficial uses of the underlying groundwater, as designated in the Basin Plan, are MUN, Industrial Service Supply, Industrial Process Supply, and AGR.
23. Basin Plan water quality objectives to protect the beneficial uses of groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity of groundwater, and taste and odor. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, or animals. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The Basin Plan requires the application of the most stringent objective necessary to ensure that groundwaters do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use. This permit does not allow the discharge to degrade groundwater.

GENERAL FINDINGS

24. Section 13267 of the California Water Code states, in part, “(a) A regional 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 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 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.” The attached Monitoring and Reporting Program is issued pursuant to California Water Code Sections 13267. The attached Monitoring and Reporting Program is necessary to determine compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the Facility subject to this Order.

25. CWC Section 13383 states: “ (a) The state board or a regional board may establish monitoring, inspection, entry, reporting, and recordkeeping requirements, as authorized by Section 13377 or by subdivisions (b) and (c) of this section, for any person who discharges pollutants ... any person who owns or operates a publicly owned treatment works or other treatment works treating domestic sewage, or any person who uses or disposes of sewage sludge. (b) The state board or the regional boards may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and provide other information as may be reasonably required. (c) The state board or a regional board may inspect the facilities of any person subject to this section pursuant to the procedure set forth in subdivision (c) of Section 13267.”
26. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings and Requirements of this Order. The Fact Sheet, Monitoring and Reporting Program No. R5-2005-0093, and Attachments A through C are a part of this Order.
27. The USEPA and the Regional Board have classified this discharge as a minor discharge.
28. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq.*) in accordance with Section 13389 of the California Water Code.
29. The Discharger and interested agencies and persons were notified of the intent to prescribe waste discharge requirements for this discharge and provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
30. In a public meeting, all comments pertaining to the discharge were heard and considered.
31. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 99-015 is rescinded and pursuant to CWC Sections 13623, 13267, 13337, and 13383, Southern California Edison Company, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following for discharges from the Balsam Meadows Hydroelectric Project, Eastwood Powerhouse Facility:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (National Pollutant Discharge Elimination System)" dated February 2004.]

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
2. The by-pass or overflow of wastes is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"].

B. Effluent Limitations:

1. Effluent at WS 001A shall not exceed the following limitations:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Total Suspended Solids	mg/L	5.0	10.0
Settleable Solids	ml/L	0.1	0.2
Oil and Grease	mg/L	--	15

- 9.0.
2. Discharge 002 and WSs 001A, and 001B shall not have a pH less than 6.0 or greater than 9.0.
 3. The flow for WS 003 shall not exceed 2.5 mgd.
 4. Survival of aquatic organisms in 96-hour bioassays of undiluted waste at Discharge 002, WS 001A, and WS 001B shall be no less than:

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

C. Solids Disposal:

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, *et seq.*
2. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

D. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in the receiving waters:

1. Bacteria: The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
2. Dissolved Oxygen: Concentrations of dissolved oxygen to fall below 7.0 mg/L. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass, or the 95th percentile concentration to fall below 75 percent of saturation.
3. Oil and Grease: Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
4. Color: Discoloration that causes nuisance or adversely affects beneficial uses.

5. pH: The ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
6. Temperature: The natural receiving water temperature to increase more than 5°F.
7. Settleable Matter: Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
8. Radioactivity: 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.
9. Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
10. Toxicity: Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
11. Biostimulatory Substances: Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
12. Floating Material: Floating material in amounts that cause nuisance or adversely affect beneficial uses.
13. Sediment: Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
14. Suspended Sediment: Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.
15. Taste and Odor: Taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.
16. Turbidity: Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:

- a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.
17. Pesticides:
- a. Pesticides in individual or combined concentrations that adversely affect beneficial uses.
 - b. Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.
 - d. Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.)
 - e. Concentrations exceeding the lowest levels technically and economically achievable.
 - f. Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
 - g. Concentrations of thiobencarb in excess of 1.0 mg/L.
18. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

E. Groundwater Limitations:

The discharge shall not cause the underlying groundwater to be degraded.

F. Provisions:

1. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0093, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports to USEPA. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

2. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order.
3. The Discharger shall conduct chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Resources Control Board, this Order may be reopened and a limitation based on that objective included.
4. 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.
5. 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 this office.

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 Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 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 California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

6. The Board may modify or reopen this Order prior to its expiration date in any of the following circumstances:
 - a. If present or future investigations demonstrate that the discharge governed by this Order has a reasonable potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters;
 - b. New or revised water quality objectives (WQOs) come into effect for the receiving water. In such cases, effluent limitations in this permit will be modified as necessary to reflect updated WQOs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or as otherwise permitted under federal regulations governing NPDES permit modifications;
 - c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified. The Discharger may request permit modification on this basis. The Discharger shall include in any such request an antidegradation and anti-backsliding analysis.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Regional Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance, and an estimate of the date when the Discharger will be in compliance, shall be stated. The Discharger shall notify the Regional Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of this Order.

8. The Discharger shall use the best practicable cost-effective control technique currently available to comply with terms of this Order.
9. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).
10. The Regional Board will review this Order periodically and will revise requirements when necessary.
11. This Order expires on **23 June 2010**, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date to apply for renewal of waste discharge requirements if it wishes to continue the discharge.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24 June 2005.

THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0093

NPDES NO. CA0081337

MONITORING AND REPORTING PROGRAM
FOR
SOUTHERN CALIFORNIA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC PROJECT
EASTWOOD POWERHOUSE FACILITY
FRESNO COUNTY

Specific sample station locations shall be established with concurrence of Regional Board staff, and the Discharger shall attach a description of the stations to this Monitoring and Reporting Program. All analyses shall be performed in accordance with the latest edition of *Guidelines Establishing Test Procedures for Analysis of Pollutants*, promulgated by EPA (40 CFR 136) or other procedures approved by the Regional Board. Method Detection Limits (MDLs) and Minimum Levels (MLs) shall be reported for each constituent in all monitoring reports. All monitoring and reporting shall conform with SIP Reporting Requirements, Section 2.4 et seq. In particular, the reported MLs shall be at least as low as the lowest ML for each priority pollutant specified in Appendix 4 of the SIP. In reporting data, the Discharger shall indicate whether any analysis was performed using a method not in conformance with EPA's Guidelines.

Note: Other conditions, definitions, and methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (National Pollutant Discharge Elimination System)" dated February 2004.

EFFLUENT MONITORING

Effluent samples shall be collected as described below. Effluent samples shall be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. The following discharges shall be monitored:

Discharge Point 001

Monitoring data shall be collected at the internal waste streams (WSs) that comprise Discharge Point 001 as described below:

<u>WS</u>	<u>Description</u>
001A	WS 001A consists of discharge from the oil and grease separator and groundwater seepage. The sample location shall be at the main sump.

<u>WS</u>	<u>Description</u>
001B	WS 001B consists of groundwater seepage into the construction tunnel. The sample location shall be at the construction tunnel sump.
003	WS 003 consists of non-contact cooling water from the Powerhouse to Tailrace Tunnel. The Discharger is required to provide flow data only for this waste stream.

Effluent monitoring for internal WSs 001A, 001B, and 003 shall include at least the following:

INTERNAL WS 001A

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Metered	Continuous
Oil and Grease ¹	mg/L	Grab	Quarterly
Suspended Solids	mg/L, lbs/day	Grab	Quarterly
Settleable Solids	ml/L	Grab	Quarterly
pH	standard units	Grab	Quarterly
Temperature	°F	Grab	Quarterly
EC at 25°C	µmhos/cm	Grab	Quarterly
Hardness (as CaCO ₃)	mg/L	Grab	Quarterly
Priority Pollutants	See below	See below	Once during duration of permit
Chronic Toxicity	See below	See below	Once during duration of permit

¹ Sampling frequency is quarterly on condition. If the concentration of the constituent exceeds the daily maximum effluent limitation of 15 mg/L, the sampling frequency shall be increased to monthly until three consecutive months show that the discharge is consistently in compliance with the effluent limitation.

INTERNAL WS 001B

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Metered	Continuous
pH	standard units	Grab	Quarterly
Temperature	°F	Grab	Quarterly
EC at 25°C	µmhos/cm	Grab	Quarterly
Chronic Toxicity	See below	See below	Once during duration of permit

INTERNAL WS 003

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	mgd	Metered	Continuous

Discharge Point 002

Discharge Point 002 consists of groundwater seepage into the construction tunnel that is sometimes re-routed to the access tunnel for discharge via Discharge Point 002. The sample location shall be at the access tunnel sump. Samples shall be collected for Discharge Point 002, when discharging, as described below:

DISCHARGE POINT 002

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u> ¹
Flow	mgd	Metered	Continuous
pH	standard units	Grab	Monthly
Temperature	°F	Grab	Monthly
EC at 25°C	µmhos/cm	Grab	Monthly

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u> ¹
Hardness (as CaCO ₃)	mg/L	Grab	Monthly
Priority Pollutants	See below	See below	Once during duration of permit
Chronic Toxicity	See below	See below	Once during duration of permit

¹ The Discharger shall monitor and record data for all of the constituents listed above on the first day the discharge occurs after which the frequencies of analysis given in the above schedule shall apply for the duration of each such intermittent discharge.

RECEIVING WATER MONITORING

Discharge from the facility occurs under 2 different conditions:

Condition No. 1 - This condition represents normal operating conditions. Under condition No. 1 WS 001A, WS 001B and WS 003 discharge through the tailrace tunnel to Shaver Lake at Discharge Point 001.

Condition No. 2 - This condition occurs when the powerhouse is not operating for an extended period of time (i.e. during an outage for maintenance). Under Condition No. 2 WS 001B discharges through the Access Tunnel Sump to North Fork Stevenson's Creek at Discharge Point 002. WS 001A discharges through the tailrace tunnel to Shaver Lake at Discharge Point 001. WS 003 is not discharged under Condition No. 2 (no cooling water is used when the plant is not operational).

DISCHARGE POINT 001

All receiving water samples shall be grab samples. Receiving water monitoring shall be conducted when a spill occurs at the facility with the potential to impact either the CT4 sump, the Main Sump, or the receiving water. Monitoring will be conducted daily for a period of not less than two weeks and will continue until no further evidence of impact is detected.

<u>Station</u>	<u>Description</u>
R-3	Greater than 25 feet, and not to exceed 125 feet from the point of discharge to Shaver Lake.
R-4	Within 25 feet of the point of discharge from the Tailrace Tunnel to Shaver Lake

<u>Constituents</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
Dissolved Oxygen	mg/L	R-3, R-4	Twice/Year ¹
pH	standard units	R-3, R-4	Twice/Year ¹
Hardness (as CaCO ₃)	mg/L	R-3, R-4	Twice/Year ¹
Temperature	°F	R-3, R-4	Twice/Year ¹
Turbidity	NTU	R-3, R-4	Twice/Year ¹
EC at 25°C	µmhos/cm	R-3, R-4	Twice/Year ¹
Priority Pollutants	See below	R-3	Once during duration of permit

¹ Twice/Year monitoring must occur once in the spring and fall (e.g., May and October).

DISCHARGE POINT 002

All receiving water samples shall be grab samples. Receiving water monitoring of Discharge Point 002 shall include at least the following:

<u>Station</u>	<u>Description</u>
R-1	Not to exceed 250 feet upstream from the point of discharge from the access tunnel to North Fork Stevenson Creek.
R-2	Not to exceed 250 feet downstream from the point of discharge from the access tunnel to North Fork Stevenson Creek.

<u>Constituents</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency (when discharging)</u>
Flow	mgd	R-1	Monthly
Dissolved Oxygen	mg/L	R-1, R-2	Monthly
Hardness (as CaCO ₃)	mg/L	R-1, R-2	Monthly
pH	standard units	R-1, R-2	Monthly
Temperature	°F	R-1, R-2	Monthly

<u>Constituents</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency (when discharging)</u>
Turbidity	NTU	R-1, R-2	Monthly
EC at 25°C	µmhos/cm	R-1, R-2	Monthly
Priority Pollutants	See below	See below	Once during duration of permit

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2 and within Shaver Lake (R-3 and R-4), attention shall be given to the presence or absence of:

1. Floating or suspended matter
2. Discoloration
3. Bottom deposits
4. Aquatic life
5. Visible films, sheens or coatings
6. Fungi, slimes, or objectionable growths
7. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

CALIFORNIA TOXICS RULE MONITORING

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). **The SIP states that the Regional Boards will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.** Accordingly, the Regional Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger conduct **effluent monitoring and receiving water monitoring** of priority pollutants **one time no more than 365 days and no less than 180 days prior to expiration of this Order.** The list of priority pollutants and required minimum levels (MLs) (or criterion quantitation limitations) is included as Attachment C. The Discharger must analyze **pH and hardness** at the same time as priority pollutants in the effluent and receiving water.

All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection

Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The reported MLs shall be at least as low as the lowest ML for each priority pollutant specified in Appendix 4 of the SIP. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
- b. Sample results less than the reported ML, 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.
- c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA-821-R-02-013, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002. Composite samples shall be collected at the Internal Stream 001A and Discharge Point 002. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Time of sample collection shall be recorded. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas*, *Ceriodaphnia dubia* and *Selenastrum capricornicutum*
Frequency: **One time no less than 180 days prior to expiration of this Order.**

	<u>Dilutions (%)</u>					<u>Controls</u>	
	<u>100</u>	<u>50</u>	<u>25</u>	<u>12.5</u>	<u>6.25</u>		
						Receiving	Lab
						<u>Water</u>	<u>Water</u>
% Effluent	100	50	25	12.5	6.25	0	0
% Dilution Water ¹	0	50	75	87.5	93.75	100	0
% Lab Water ²	0	0	0	0	0	0	100

¹ Dilution water shall be receiving water taken upstream from the discharge point or in a location unaffected by the discharge. The dilution series may be altered upon approval of Regional Board staff.

² Lab water shall meet USEPA protocol requirements

REPORTING

Monitoring results shall be submitted to the Regional Board by the **1st day of the second month** following sample collection. Quarterly, twice/year, and annual monitoring results and reports shall be submitted by the **1st day of the second month** following each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November), twice/year period (1 February, and 1 August), and annual period (1 February), respectively.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, should be determined and recorded.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

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

- a. The names and telephone numbers of persons to contact in emergency and routine situations.

MONITORING AND REPORTING PROGRAM ORDER NO. R5-2005-0093
SOUTHERN CALIFORNIA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC POWER PROJECT
EASTWOOD POWERHOUSE FACILITY
FRESNO COUNTY

-9-

- b. A statement certifying when monitoring instruments and devices for purposes of assuring compliance with this Order were last calibrated, including identification of who performed the calibration.

The Discharger may also be requested to submit an annual report to the Regional 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 facility's 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.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

24 June 2005
(Date)

INFORMATION SHEET

ORDER NO. R5-2005-0093
NPDES NO. CA0081337
SOUTHERN CALIFORNIA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC PROJECT
EASTWOOD POWERHOUSE FACILITY
FRESNO COUNTY

BACKGROUND INFORMATION

Southern California Edison Company (Discharger) applied for a permit renewal to discharge water from its Eastwood Powerhouse Facility, an underground facility that generates hydroelectric power through a single pump-turbine connected to a motor/generator. The Facility is part of the Balsam Meadows Hydroelectric Project (hereafter "Balsam Project"), which includes a 5,900-foot diversion tunnel connecting the existing Huntington-Pitman-Shaver Conduit, a 4,320-foot power tunnel, an access tunnel, a construction tunnel used to store equipment and access different levels of the Facility, and a 7,500-foot Tailrace Tunnel with a 16-foot horseshoe section leading to Shaver Lake, a water of the United States.

The Discharger's effluent consists of: 1) treated wastes from an oil and grease (O&G) separator which treats up to 0.01 million gallons per day (mgd) of wastewater from on-site cleaning operations and from leaking joints and bearings in the pump-turbine; 2) approximately 1.04 mgd of untreated groundwater that seeps into the tunnels, and 3) up to 2.5 mgd of untreated non-contact cooling water used to cool the pump-turbine. There are two discharge points from the Facility. Discharge Point 001 discharges from the Tailrace Tunnel to Shaver Lake and consists of the commingled waste streams described above. Discharge Point 002 is used only when the powerhouse is not operating and consists of untreated groundwater. Discharge Point 002 discharges to the North Fork of Stevenson Creek.

Discharger monitoring data indicate that the discharges are relatively free of solids, biochemical oxygen demand (BOD), and O&G. Results of chronic and acute toxicity tests performed in October 1995 at Discharge 001 to Shaver Lake (Waste Streams (WSs) 001A, 001B, and 003) and North Fork Stevenson Creek (Discharge 002) using fathead minnow (*Pimephales promelas*) as the test organism showed no significant toxicity in either discharge sample. Results of acute toxicity tests performed in May 1997 using rainbow trout (*Salmo gairdnerii*) as the test organism showed no toxicity in a sample of the Tailrace Tunnel discharge.

BENEFICIAL USES OF THE RECEIVING WATER

The Basin Plan identifies the beneficial uses of the San Joaquin River, Sources to Millerton Lake as:

- Municipal and Domestic Supply (MUN);
- Agricultural Irrigation, Agricultural Stock Watering (AGR);
- Hydropower Generation (POW);
- Water Contact Recreation (REC-1);
- Non-contact Water Recreation (REC-2);

- Warm Freshwater Aquatic Habitat (WARM);
- Cold Freshwater Aquatic Habitat (COLD); and
- Wildlife Habitat (WILD).

The beneficial uses of the underlying groundwater, as identified in the Basin Plan, are MUN, Industrial Service Supply, Industrial Process Supply, and AGR.

REASONABLE POTENTIAL ANALYSIS

CTR Constituents

The Discharger was issued a letter on February 27, 2001, pursuant to California Water Code, Section 13267, requiring effluent and receiving water monitoring meeting the requirements of the SIP. These data were required to assist the Regional Board in conducting reasonable potential analyses (RPAs).

On 8 January 2004 the Discharger submitted effluent and receiving water data for CTR constituents to the Regional Board for a sample taken on 8 May 2001. On 17 February 2004 the Discharger submitted effluent and receiving water data for priority pollutants for a sample taken on 20 January 2004. The RPA for CTR constituents was based on these effluent and receiving water monitoring data. Based on the RPA methodology in the SIP, no constituents have been found to have reasonable potential to cause or contribute to an excursion above water quality objectives or water quality criteria in the receiving water. Therefore, no effluent limitations currently are required for CTR constituents. The monitoring data from this study indicated no CTR constituents in detectable concentrations with the exception of mercury. The results of the RPA for mercury are summarized below.

CTR Parameter #	Constituent	MEC or Minimum MDL (µg/L)	Maximum B or Minimum MDL (µg/L)	Lowest Criterion (µg/L)	RPA Result ¹
8	Mercury	0.0014	0.0014	0.05	No

- 1) RP = Yes, if either MEC or Background > WQO/WQC.
 RP = No, if (1) both MEC and background < WQO/WQC or (2) no background and all effluent data non-detect, or no background and MEC < WQO/WQC.

EFFLUENT LIMITATIONS

The Regional Board has determined that the effluent limitations applied to the internal waste streams as established under the previous Order continue to be appropriate, except for pH and flow that were adjusted based on Finding 18 of this Order.

RECEIVING WATER LIMITATIONS

The Facility discharges to Shaver Lake and North Fork Stevenson Creek, both tributary to the San Joaquin River. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan establishes water quality objectives that apply to all surface waters in the Basin. This Order includes Receiving Water Limitations for: bacteria, biostimulatory substances, chemical constituents (lead, arsenic, barium, copper, cyanide, iron, manganese, silver and zinc), color, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, chloride, electrical conductivity, and dissolved oxygen based on the applicable narrative and numeric water quality objectives contained in the Basin Plan.

MONITORING AND REPORTING REQUIREMENTS

The effluent discharge samples are collected from internal waste streams at locations that are more accessible than the discharge points (i.e. Discharge Point 001 is approximately 30 feet below the surface of Shaver Lake). An internal monitoring station is established at the main sump to collect samples of WS 001A, which consists of treated wastewater from the oil and grease separator commingled with groundwater. A sampling point at the oil and grease separator is not accessible at this time. Samples are also collected from the construction tunnel sump for WS 001B, which consists of groundwater.

A sample at Discharge Point 002 can physically be collected at the discharge location; however, the sample is drawn from the access tunnel sump. This is a safer location and representative of the discharge at Discharge Point 002 because no waste streams commingle with the groundwater waste stream prior to discharge to North Fork Stevenson Creek.

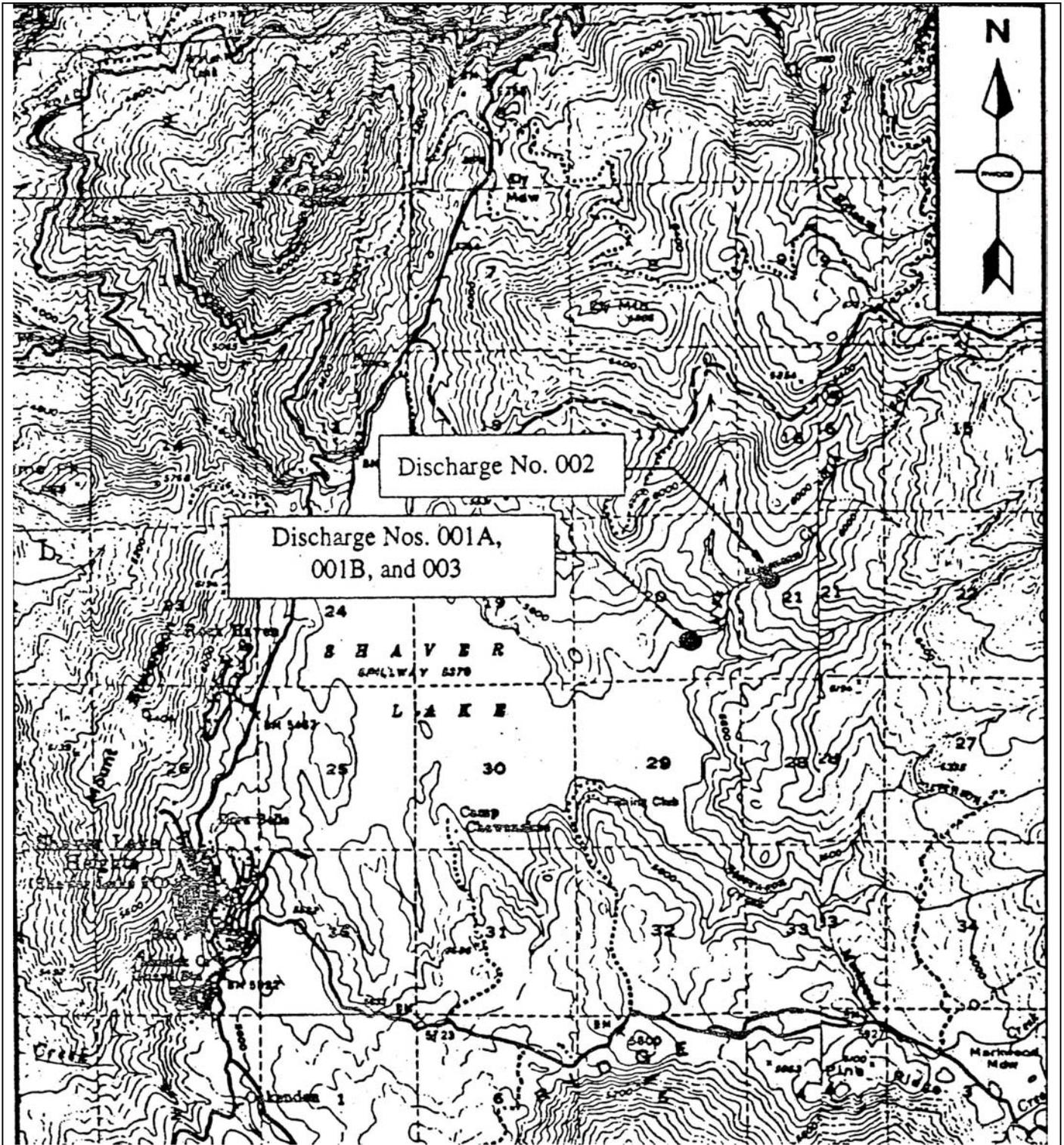
The monitoring and reporting requirements established under the previous Order continue to be appropriate for this discharge, with the following exceptions:

- Effluent and receiving water monitoring requirements for Discharge Point 002 have been changed from quarterly to monthly when in operation, and a sample must be collected on the first day of discharge. The outfall is used infrequently and for short periods of time. Very little data is available to determine potential impacts of this discharge on the receiving water.
- Effluent and receiving water monitoring requirements were added for hardness, priority pollutants, and chronic toxicity for internal waste streams and discharge points. Priority pollutant monitoring is required under the SIP and hardness data is necessary to conduct reasonable potential analyses. Chronic toxicity monitoring is required once during the duration of this Order to determine whether the effluent is contributing toxicity to the receiving waters.
- Requirements to measure flow for North Fork Stevenson Creek was added to ensure such data are available for developing future permit requirements.

- Monitoring requirements for pH, conductivity, and temperature have been removed for WS 003. The monitoring requirement for flow remains. Waste stream 003 consists of non-contact cooling water from the powerhouse. The previous Order included effluent monitoring requirements for WS 003, similar to the requirements for WSs 001B and 002. The non-contact cooling water is directly discharged to the Tailrace Tunnel and commingled with WSs 001A and 001B prior to discharge to Shaver Lake. Currently there is no adequate sampling location that would be representative of this waste stream prior to commingling with other waste streams in the Tailrace Tunnel.

Acute toxicity monitoring is not required in this Order because the Discharger conducted a special monitoring study in 1995 and demonstrated that the discharge did not cause or contribute to acute toxicity in the receiving water. The Discharger does not propose to modify its operation nor the character and nature of its discharge during the current permit term. If the Facility's operation or character and nature of its discharge should change, the Discharger will report such changes to the Regional Board in accordance with the Standard Provisions of this Order, and the Discharger will be directed to conduct acute toxicity monitoring under the authority of Section 13267 of the California Water Code.

JE:je: 6/24/05

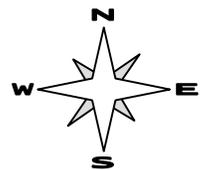


Drawing Reference:
 Sections 20 and 21, T9S, R25E,
 MDB&M.

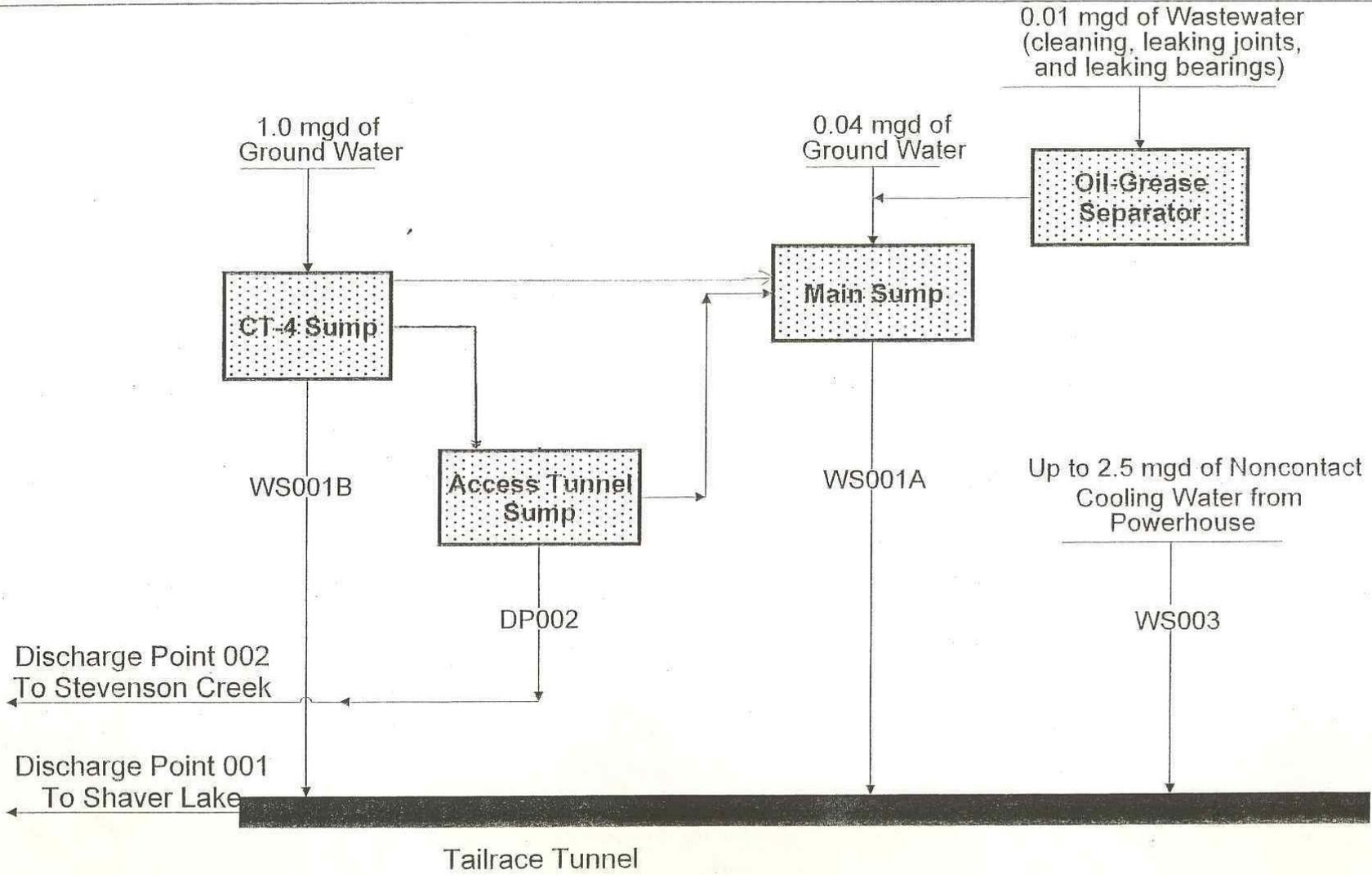
U.S.G.S TOPOGRAPHIC MAPS
 7.5 MINUTE QUADRANGLE

SITE LOCATION MAP

Southern California Edison Company
 Balsam Meadows Hydroelectric Project
 Eastwood Powerhouse Facility,
 Fresno County



NOT TO
 SCALE



Drawing Reference:
 Wastestream Discharge Schematic

WASTESTREAM DISCHARGES
 Southern California Edison Company
 Balsam Meadows Hydroelectric Project
 Eastwood Powerhouse Facility, Fresno County

ATTACHMENT C
CTR MONITORING
SOUTHERN CA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC FACILITY
FRESNO COUNTY

CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
VOLATILE ORGANICS						
28	1,1-Dichloroethane	75343	Primary MCL	5	0.5	EPA 8260B
30	1,1-Dichloroethene	75354	National Toxics Rule	0.057	0.5	EPA 8260B
41	1,1,1-Trichloroethane	71556	Primary MCL	200	0.5	EPA 8260B
42	1,1,2-Trichloroethane	79005	National Toxics Rule	0.6	0.5	EPA 8260B
37	1,1,2,2-Tetrachloroethane	79345	National Toxics Rule	0.17	0.5	EPA 8260B
75	1,2-Dichlorobenzene	95501	Taste & Odor	10	0.5	EPA 8260B
29	1,2-Dichloroethane	107062	National Toxics Rule	0.38	0.5	EPA 8260B
	cis-1,2-Dichloroethene	156592	Primary MCL	6	0.5	EPA 8260B
31	1,2-Dichloropropane	78875	Calif. Toxics Rule	0.52	0.5	EPA 8260B
101	1,2,4-Trichlorobenzene	120821	Public Health Goal	5	0.5	EPA 8260B
76	1,3-Dichlorobenzene	541731	Taste & Odor	10	0.5	EPA 8260B
32	1,3-Dichloropropene	542756	Primary MCL	0.5	0.5	EPA 8260B
77	1,4-Dichlorobenzene	106467	Primary MCL	5	0.5	EPA 8260B
17	Acrolein	107028	Aquatic Toxicity	21	5	EPA 8260B
18	Acrylonitrile	107131	National Toxics Rule	0.059	2	EPA 8260B
19	Benzene	71432	Primary MCL	1	0.5	EPA 8260B
20	Bromoform	75252	Calif. Toxics Rule	4.3	0.5	EPA 8260B
34	Bromomethane	74839	Calif. Toxics Rule	48	1	EPA 8260B
21	Carbon tetrachloride	56235	National Toxics Rule	0.25	0.5	EPA 8260B
22	Chlorobenzene (mono chlorobenzene)	108907	Taste & Odor	50	0.5	EPA 8260B
24	Chloroethane	75003	Taste & Odor	16	0.5	EPA 8260B
25	2-Chloroethyl vinyl ether	110758	Aquatic Toxicity	122 (3)	1	EPA 8260B
26	Chloroform	67663	OEHHA Cancer Risk	1.1	0.5	EPA 8260B
35	Chloromethane	74873	USEPA Health Advisory	3	0.5	EPA 8260B
23	Dibromochloromethane	124481	Calif. Toxics Rule	0.41	0.5	EPA 8260B
27	Dichlorobromomethane	75274	Calif. Toxics Rule	0.56	0.5	EPA 8260B
36	Dichloromethane	75092	Calif. Toxics Rule	4.7	0.5	EPA 8260B
33	Ethylbenzene	100414	Taste & Odor	29	0.5	EPA 8260B
88	Hexachlorobenzene	118741	Calif. Toxics Rule	0.00075	1	EPA 8260B
89	Hexachlorobutadiene	87683	National Toxics Rule	0.44	1	EPA 8260B
91	Hexachloroethane	67721	National Toxics Rule	1.9	1	EPA 8260B
94	Naphthalene	91203	USEPA IRIS	14	10	EPA 8260B
38	Tetrachloroethene	127184	National Toxics Rule	0.8	0.5	EPA 8260B
39	Toluene	108883	Taste & Odor	42	0.5	EPA 8260B
40	trans-1,2-Dichloroethylene	156605	Primary MCL	10	0.5	EPA 8260B
43	Trichloroethene	79016	National Toxics Rule	2.7	0.5	EPA 8260B
44	Vinyl chloride	75014	Primary MCL	0.5	0.5	EPA 8260B
	Methyl-tert-butyl ether (MTBE)	1634044	Secondary MCL	5	0.5	EPA 8260B
	Trichlorofluoromethane	75694	Primary MCL	150	5	EPA 8260B
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	Primary MCL	1200	10	EPA 8260B
	Styrene	100425	Taste & Odor	11	0.5	EPA 8260B
	Xylenes	1330207	Taste & Odor	17	0.5	EPA 8260B

ATTACHMENT C
CTR MONITORING
SOUTHERN CA EDISON COMPANY
BALSAM MEADOWS HYDROELECTRIC FACILITY
FRESNO COUNTY

CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
SEMI-VOLATILE ORGANICS						
60	1,2-Benzanthracene	56553	Calif. Toxics Rule	0.0044	5	EPA 8270C
85	1,2-Diphenylhydrazine	122667	National Toxics Rule	0.04	1	EPA 8270C
45	2-Chlorophenol	95578	Taste and Odor	0.1	2	EPA 8270C
46	2,4-Dichlorophenol	120832	Taste and Odor	0.3	1	EPA 8270C
47	2,4-Dimethylphenol	105679	Calif. Toxics Rule	540	2	EPA 8270C
49	2,4-Dinitrophenol	51285	National Toxics Rule	70	5	EPA 8270C
82	2,4-Dinitrotoluene	121142	National Toxics Rule	0.11	5	EPA 8270C
55	2,4,6-Trichlorophenol	88062	Taste and Odor	2	10	EPA 8270C
83	2,6-Dinitrotoluene	606202	USEPA IRIS	0.05	5	EPA 8270C
50	2-Nitrophenol	25154557	Aquatic Toxicity	150 (5)	10	EPA 8270C
71	2-Chloronaphthalene	91587	Aquatic Toxicity	1600 (6)	10	EPA 8270C
78	3,3'-Dichlorobenzidine	91941	National Toxics Rule	0.04	5	EPA 8270C
62	3,4-Benzofluoranthene	205992	Calif. Toxics Rule	0.0044	10	EPA 8270C
52	4-Chloro-3-methylphenol	59507	Aquatic Toxicity	30	5	EPA 8270C
48	4,6-Dinitro-2-methylphenol	534521	National Toxics Rule	13.4	10	EPA 8270C
51	4-Nitrophenol	100027	USEPA Health Advisory	60	5	EPA 8270C
69	4-Bromophenyl phenyl ether	101553	Aquatic Toxicity	122	10	EPA 8270C
72	4-Chlorophenyl phenyl ether	7005723	Aquatic Toxicity	122 (3)	5	EPA 8270C
56	Acenaphthene	83329	Taste and Odor	20	1	EPA 8270C
57	Acenaphthylene	208968	No Criteria Available		10	EPA 8270C
58	Anthracene	120127	Calif. Toxics Rule	9,600	10	EPA 8270C
59	Benzidine	92875	National Toxics Rule	0.00012	5	EPA 8270C
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
63	Benzo(g,h,i)perylene	191242	No Criteria Available		5	EPA 8270C
64	Benzo(k)fluoranthene	207089	Calif. Toxics Rule	0.0044	2	EPA 8270C
65	Bis(2-chloroethoxy) methane	111911	No Criteria Available		5	EPA 8270C
66	Bis(2-chloroethyl) ether	111444	National Toxics Rule	0.031	1	EPA 8270C
67	Bis(2-chloroisopropyl) ether	39638329	Aquatic Toxicity	122 (3)	10	EPA 8270C
68	Bis(2-ethylhexyl) phthalate	117817	National Toxics Rule	1.8	3	EPA 8270C
70	Butyl benzyl phthalate	85687	Aquatic Toxicity	3 (7)	10	EPA 8270C
73	Chrysene	218019	Calif. Toxics Rule	0.0044	5	EPA 8270C
81	Di-n-butylphthalate	84742	Aquatic Toxicity	3 (7)	10	EPA 8270C
84	Di-n-octylphthalate	117840	Aquatic Toxicity	3 (7)	10	EPA 8270C
74	Dibenzo(a,h)-anthracene	53703	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
79	Diethyl phthalate	84662	Aquatic Toxicity	3 (7)	2	EPA 8270C
80	Dimethyl phthalate	131113	Aquatic Toxicity	3 (7)	2	EPA 8270C
86	Fluoranthene	206440	Calif. Toxics Rule	300	10	EPA 8270C
87	Fluorene	86737	Calif. Toxics Rule	1300	10	EPA 8270C
90	Hexachlorocyclopentadiene	77474	Taste and Odor	1	1	EPA 8270C
92	Indeno(1,2,3-c,d)pyrene	193395	Calif. Toxics Rule	0.0044	0.05	EPA 8270C
93	Isophorone	78591	National Toxics Rule	8.4	1	EPA 8270C
98	N-Nitrosodiphenylamine	86306	National Toxics Rule	5	1	EPA 8270C
96	N-Nitrosodimethylamine	62759	National Toxics Rule	0.00069	5	EPA 8270C
97	N-Nitrosodi-n-propylamine	621647	Calif. Toxics Rule	0.005	5	EPA 8270C
95	Nitrobenzene	98953	National Toxics Rule	17	10	EPA 8270C
53	Pentachlorophenol	87865	Calif. Toxics Rule	0.28	0.2	EPA 8270C
99	Phenanthrene	85018	No Criteria Available		5	EPA 8270C

ATTACHMENT C
 CTR MONITORING
 SOUTHERN CA EDISON COMPANY
 BALSAM MEADOWS HYDROELECTRIC FACILITY
 FRESNO COUNTY

CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
54	Phenol	108952	Taste and Odor	5	1	EPA 8270C
100	Pyrene	129000	Calif. Toxics Rule	960	10	EPA 8270C
INORGANICS						
	Aluminum	7429905	Ambient Water Quality	87	50	EPA 6020/200.8
1	Antimony	7440360	Primary MCL	6	5	EPA 6020/200.8
2	Arsenic	7440382	Ambient Water Quality	0.018	1	EPA 1632
15	Asbestos	1332214	National Toxics Rule/ Primary MCL	7 MFL	0.2 MFL >10um	EPA/600/R-93/116(PCM)
	Barium	7440393	Basin Plan Objective	100	100	EPA 6020/200.8
3	Beryllium	7440417	Primary MCL	4	1	EPA 6020/200.8
4	Cadmium	7440439	Public Health Goal	0.07	0.25	EPA 1638/200.8
5a	Chromium (total)	7440473	Primary MCL	50	2	EPA 6020/200.8
5b	Chromium (VI)	18540299	Public Health Goal	0.2	5	EPA 7199/1636
6	Copper	7440508	National Toxics Rule	4.1 (2)	0.5	EPA 6020/200.8
14	Cyanide	57125	National Toxics Rule	5.2	5	EPA 9012A
	Fluoride	7782414	Public Health Goal	1000	100	EPA 300
	Iron	7439896	Secondary MCL	300	100	EPA 6020/200.8
7	Lead	7439921	Calif. Toxics Rule	0.92 (2)	0.5	EPA 1638
8	Mercury	7439976	TMDL Development		0.0005 (11)	EPA 1669/1631
	Manganese	7439965	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
9	Nickel	7440020	Calif. Toxics Rule	24 (2)	5	EPA 6020/200.8
10	Selenium	7782492	Calif. Toxics Rule	5 (8)	5	EPA 6020/200.8
11	Silver	7440224	Calif. Toxics Rule	0.71 (2)	1	EPA 6020/200.8
12	Thallium	7440280	National Toxics Rule	1.7	1	EPA 6020/200.8
	Tributyltin	688733	Ambient Water Quality	0.063	0.06	EV-024/025
13	Zinc	7440666	Calif. Toxics Rule/ Basin Plan Objective	54/ 16 (2)	10	EPA 6020/200.8
PESTICIDES - PCBs						
110	4,4'-DDD	72548	Calif. Toxics Rule	0.00083	0.02	EPA 8081A
109	4,4'-DDE	72559	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
108	4,4'-DDT	50293	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
112	alpha-Endosulfan	959988	National Toxics Rule	0.056 (9)	0.02	EPA 8081A
103	alpha-Hexachlorocyclohexane (BHC)	319846	Calif. Toxics Rule	0.0039	0.01	EPA 8081A
	Alachlor	15972608	Primary MCL	2	1	EPA 8081A
102	Aldrin	309002	Calif. Toxics Rule	0.00013	0.005	EPA 8081A
113	beta-Endosulfan	33213659	Calif. Toxics Rule	0.056 (9)	0.01	EPA 8081A
104	beta-Hexachlorocyclohexane	319857	Calif. Toxics Rule	0.014	0.005	EPA 8081A
107	Chlordane	57749	Calif. Toxics Rule	0.00057	0.1	EPA 8081A
106	delta-Hexachlorocyclohexane	319868	No Criteria Available		0.005	EPA 8081A
111	Dieldrin	60571	Calif. Toxics Rule	0.00014	0.01	EPA 8081A
114	Endosulfan sulfate	1031078	Ambient Water Quality	0.056	0.05	EPA 8081A
115	Endrin	72208	Calif. Toxics Rule	0.036	0.01	EPA 8081A
116	Endrin Aldehyde	7421934	Calif. Toxics Rule	0.76	0.01	EPA 8081A
117	Heptachlor	76448	Calif. Toxics Rule	0.00021	0.01	EPA 8081A

ATTACHMENT C
 CTR MONITORING
 SOUTHERN CA EDISON COMPANY
 BALSAM MEADOWS HYDROELECTRIC FACILITY
 FRESNO COUNTY

CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
118	Heptachlor Epoxide	1024573	Calif. Toxics Rule	0.0001	0.01	EPA 8081A
105	Lindane (gamma-Hexachlorocyclohexane)	58899	Calif. Toxics Rule	0.019	0.019	EPA 8081A
119	PCB-1016	12674112	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
120	PCB-1221	11104282	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
121	PCB-1232	11141165	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
122	PCB-1242	53469219	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
123	PCB-1248	12672296	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
124	PCB-1254	11097691	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
125	PCB-1260	11096825	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
126	Toxaphene	8001352	Calif. Toxics Rule	0.0002	0.5	EPA 8081A
	Atrazine	1912249	Public Health Goal	0.15	1	EPA 8141A
	Bentazon	25057890	Primary MCL	18	2	EPA 643/ 515.2
	Carbofuran	1563662	CDFG Hazard Assess.	0.5	5	EPA 8318
	2,4-D	94757	Primary MCL	70	10	EPA 8151A
	Dalapon	75990	Ambient Water Quality	110	10	EPA 8151A
	1,2-Dibromo-3-chloropropane (DBCP)	96128	Public Health Goal	0.0017	0.01	EPA 8260B
	Di(2-ethylhexyl)adipate	103231	USEPA IRIS	30	5	EPA 8270C
	Dinoseb	88857	Primary MCL	7	2	EPA 8151A
	Diquat	85007	Ambient Water Quality	0.5	4	EPA 8340/ 549.1/HPLC
	Endothal	145733	Primary MCL	100	45	EPA 548.1
	Ethylene Dibromide	106934	OEHHA Cancer Risk	0.0097	0.02	EPA 8260B/ 504
	Glyphosate	1071836	Primary MCL	700	25	HPLC/ EPA 547
	Methoxychlor	72435	Public Health Goal	30	10	EPA 8081A
	Molinate (Ordram)	2212671	CDFG Hazard Assess.	13	2	EPA 634
	Oxamyl	23135220	Public Health Goal	50	20	EPA 8318/ 632
	Picloram	1918021	Primary MCL	500	1	EPA 8151A
	Simazine (Princep)	122349	USEPA IRIS	3.4	4	EPA 8141A
	Thiobencarb	28249776	Basin Plan Objective/ Secondary MCL	1	1	HPLC/ EPA 639
16	2,3,7,8-TCDD (Dioxin)	1746016	Calif. Toxics Rule	1.30E-08	5.00E-06	EPA 8290 (HRGC) MS
	2,4,5-TP (Silvex)	93765	Ambient Water Quality	10	1	EPA 8151A
	Diazinon	333415	CDFG Hazard Assess.	0.05	0.25	EPA 8141A/ GCMS
	Chlorpyrifos	2921882	CDFG Hazard Assess.	0.014	1	EPA 8141A/ GCMS

CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
OTHER CONSTITUENTS						
	Ammonia (as N)	7664417	Ambient Water Quality	1500 (4)		EPA 350.1
	Chloride	16887006	Agricultural Use	106,000		EPA 300.0
	Flow			1 CFS		
	Hardness (as CaCO ₃)			5000		EPA 130.2
	Foaming Agents (MBAS)		Secondary MCL	500		SM5540C
	Nitrate (as N)	14797558	Primary MCL	10,000	2,000	EPA 300.0
	Nitrite (as N)	14797650	Primary MCL	1000	400	EPA 300.0
	pH		Basin Plan Objective	6.5-8.5	0.1	EPA 150.1
	Phosphorus, Total (as P)	7723140	USEPA IRIS	0.14		EPA 365.3
	Specific conductance (EC)		Agricultural Use	700 umhos/cm		EPA 120.1
	Sulfate		Secondary MCL	250,000	500	EPA 300.0
	Sulfide (as S)		Taste and Odor	0.029		EPA 376.2
	Sulfite (as SO ₃)		No Criteria Available			SM4500-SO3
	Temperature		Basin Plan Objective	°F		
	Total Dissolved Solids (TDS)		Agricultural Use	450,000		EPA 160.1

FOOTNOTES:

- (1) - The Criterion Concentrations serve only as a point of reference for the selection of the appropriate analytical method. They do not indicate a regulatory decision that the cited concentration is either necessary or sufficient for full protection of beneficial uses. Available technology may require that effluent limits be set lower than these values.
- (2) - Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. Values displayed correspond to a total hardness of 40 mg/L.
- (3) - For haloethers
- (4) - Freshwater aquatic life criteria for ammonia are expressed as a function of pH and temperature of the water body. Values displayed correspond to pH 8.0 and temperature of 22 C.
- (5) - For nitrophenols.
- (6) - For chlorinated naphthalenes.
- (7) - For phthalate esters.
- (8) - Basin Plan objective = 2 ug/L for Salt Slough and specific constructed channels in the Grassland watershed.
- (9) - Criteria for sum of alpha- and beta- forms.
- (10) - Criteria for sum of all PCBs.
- (11) - Mercury monitoring shall utilize "ultra-clean" sampling and analytical methods. These methods include: Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, US EPA; and Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence, US EPA