



California Regional Water Quality Control Board San Diego Region



Alan C. Lloyd, Ph.D.
Secretary for
Environmental
Protection

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September 15, 2005

CERTIFIED RETURN RECEIPT MAIL
7005 1160 0004 6026 6383

Mr. Patrick A. Thomas, Director of Public Works
City of Escondido
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In reply refer to:
POTW:01-1359.02

Dear Mr. Thomas:

ADOPTION OF ORDER NO. R9-2005-0139; NPDES PERMIT NO. CA0109215; WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF ESCONDIDO, INDUSTRIAL BRINE COLLECTION SYSTEM, DISCHARGE TO THE PACIFIC OCEAN VIA THE SAN ELIJO OCEAN OUTFALL, SAN DIEGO COUNTY

Enclosed is a copy of Order No. R9-2005-0139, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109215, which was adopted by the Regional Water Board at its September 14, 2005 meeting. The Order is also available on the Regional Board's web site. The web site address is: <http://www.waterboards.ca.gov/sandiego>.

Order No. R9-2005-0139, NPDES Permit No. CA0109215, establishes waste discharge requirements for the discharge of brine wastewaters from industrial users to the City of Escondido's Industrial Brine Collection System (IBCS). The adopted version contains the changes identified in the errata sheet for the Order.

If you have any questions regarding the above, please contact Mr. Brian Kelley at (858) 467-4254, or by email at bkelly@waterboards.ca.gov.

Respectfully,

JOHN H. ROBERTUS
Executive Officer

JHR:mpm:bdk:pjr

Enclosure: Order No. R9-2005-0139; NPDES Permit No. CA0109215 with attachments.

Mr. Patrick A. Thomas
Order No. R9-2005-0139

- 2 -

September 15, 2005

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Mr. Patrick A. Thomas
Order No. R9-2005-0139

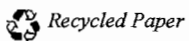
- 3 -

September 15, 2005

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California Environmental Protection Agency



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION**

**ORDER NO. R9-2005-0139
NPDES NO. CA0109215**

**WASTE DISCHARGE REQUIREMENTS FOR THE
CITY OF ESCONDIDO, INDUSTRIAL BRINE COLLECTION SYSTEM
DISCHARGE TO THE PACIFIC OCEAN VIA THE SAN ELIJO OCEAN OUTFALL**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information.

Discharger	City of Escondido
Name of Facility	Industrial Brine Collection System
Facility Address	1521 S. Hale Avenue Escondido, CA 92029 San Diego County

The discharge to the City of Escondido's Industrial Brine Collection System (IBCS) from discharge points identified below is subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations.

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
I-001	PEP Wastewater Collection and Transfer Sump for Low Volume Wastes	--	--	Internal Discharge Location
I-002	PEP Cooling Tower Blowdown	--	--	Internal Discharge Location
I-003	Goal Line L.P. Low Volume Waste	--	--	Internal Discharge Location
I-004	Goal Line L.P. Cooling Tower Blowdown	--	--	Internal Discharge Location
C-001	IBCS combined effluent (saline wastewaters)	33° 00' 21" N	117° 18' 09" W	Pacific Ocean

PEP – Palomar Energy Project


IBCS – Industrial Brine Collection System

Table 3. Order Information.

This Order was adopted by the Regional Water Board on:	September 14, 2005
This Order shall become effective on:	September 24, 2005
This Order shall expire on:	September 14, 2010
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than December 10, 2009 as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements herein.

I, John H. Robertus, Executive Officer, do hereby certify that this Order is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on September 14, 2005.



JOHN H. ROBERTUS
Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION
ORDER NO. R9-2005-0139
NPDES NO. CA0109215**

**WASTE DISCHARGE REQUIREMENTS FOR THE
CITY OF ESCONDIDO, INDUSTRIAL BRINE COLLECTION SYSTEM
DISCHARGE TO THE PACIFIC OCEAN VIA THE SAN ELIJO OCEAN OUTFALL**

TABLE OF CONTENTS

I. Facility Information.....	5
II. Findings	5
III. Discharge Prohibitions.....	9
IV. Discharge Specifications and Effluent Limitations.....	10
A. Discharge Specifications	9
B. Effluent Limitations	11
V. Receiving Water Limitations	15
A. Bacterial Characteristics.....	14
B. Physical Characteristics	14
C. Chemical Characteristics	15
D. Biological Characteristics	15
E. Toxic Materials	15
F. Radioactivity	16
VI. Provisions	18
A. Standard Provisions	16
B. Monitoring and Reporting Requirements.....	18
C. Special Provisions	18
VII. Compliance Determination	25
A. Average Monthly Effluent Limitation (AMEL).....	22
B. Average Weekly Effluent Limitation (AWEL).....	22
C. Maximum Daily Effluent Limitation (MDEL).....	23
D. Instantaneous Minimum Effluent Limitation	23
E. Instantaneous Maximum Effluent Limitation	23
F. Six-month Median Effluent Limitation.....	23
G. Mass and Concentration Limitations.....	23
H. Ocean Plan Provisions for Table B Constituents	23
I. Receiving Water Sampling Protocol	26
J. Chronic Toxicity	26
K. Toxicity Reduction Evaluation (TRE).....	26
L. Mass Emission Rate (MER).....	27
M. Single Operational Upset.....	28

LIST OF TABLES

Table 1. Discharger Information1
Table 2. Discharge Locations.....1
Table 3. Order Information2
Table 4. Facility Information5
Table 5. Basin Plan Beneficial Uses of the Pacific Ocean.....7
Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean.....7
Table 7. Effluent Limitations for Low Volume Wastes (Discharge Point I-001).....12
Table 8. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001)12
Table 9. Effluent Limitations Cooling Tower Blowdown (Discharge Point I-002)13
Table 10. Effluent Limitations for Low Volume Wastes (Discharge Point I-003).....13
Table 11. Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-004).....14
Table 12. Phase I – Effluent Limitations for IBCS (Discharge Point C-001).....14
Table 13. Phase II – Effluent Limitations for IBCS (Discharge Point C-001)15

LIST OF ATTACHMENTS

Attachment A – Definitions A-1
Attachment B – IBCS Map B-1
Attachment C – Wastewater Flow Schematic..... C-1
Attachment D – Federal Standard Provisions D-1
Attachment E – Monitoring and Reporting Program (MRP)..... E-1
Attachment F – Fact Sheet F-1
Attachment G – Dilution Model Summary..... G-1
Attachment H – Priority Pollutants..... H-1
Attachment I – TSS Credit Calculations for Internal Discharge Point I-001.....I-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order.

Table 4. Facility Information.

Discharger	City of Escondido
Name of Facility	Industrial Brine Collection System
Facility Address	1521 S. Hale Avenue Escondido, CA 92029 San Diego County
Facility Contact, Title, and Phone	Patrick A. Thomas, Director of Public Works, (760) 839-4651
Mailing Address	201 N. Broadway, Escondido, CA 92025
Type of Facility	Industrial brine collection system
Facility Design Flow	1.5 million gallons per day

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Water Board), finds:

A. Background. The City of Escondido (hereinafter “City”) submitted a Report of Waste Discharge, dated October 25, 2005, and applied for a National Pollutant Discharge Elimination System (NPDES) permit to discharge up to 1.5 million gallons per day (mgd) of untreated brine wastewater from the City’s Industrial Brine Collection System.

B. Facility Description. In order to minimize the discharge of salts to the sanitary sewer system, the City has constructed an Industrial Brine Collection System (IBCS). The City owns and operates the IBCS. The City proposes to allow qualified City-regulated industrial dischargers to discharge certain industrial brine wastewaters into the IBCS. Brine wastewaters allowed into the IBCS would include:

1. Brine wastewater or blowdown from evaporative cooling processes, and
2. Brine from reverse osmosis, water softener, and other types of water treatment processes.

Wastewater shall be discharged from Outfall No. C-001 (see table on cover page) to the Pacific Ocean, a water of the United States, via Escondido Land Outfall (ELO) and the San Elijo Ocean Outfall (SEOO). Attachment B provides a map of the area around the IBCS. Attachment C is a schematic illustrating how the effluent streams from the San Elijo Water Reclamation Facility, Hale Avenue Resource Recovery Facility, and the IBCS will contribute to the total SEOO discharge.

A dilution factor of 237:1 has been determined by this Regional Water Board for the SEOO. Modeling criteria used to determine the dilution factor are summarized in Attachment G.

- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from the IBCS to surface waters. This Order also serves as Waste Discharge Requirements pursuant to Article 4, Chapter 4 of the CWC.
- D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application. Attachments A through I, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and constitute part of the Findings for this Order.
- E. **California Environmental Quality Act (CEQA).** New sources as defined by the CWA must meet CEQA requirements specified in CWC 13389. The City of Escondido prepared and certified environmental impact reports (EIRs) for the Hale Avenue Resource Recovery Facility Expansion Project and Reclaimed Water Distribution system, including the Supplemental EIR (SEIR) for these projects [Schedule Nos. 1990010817, 1992011023, and 2002111043]. The City filed a Notice of Determination on February 27, 2003. No action challenging the EIRs or SEIR was filed within the prescribed period. No substantial changes to the project are proposed, no substantial changes to the circumstances under which the project is being undertaken have occurred, and no new information that was not known at the time the SEIR was certified as complete has become available. The Regional Board is entitled to rely on the EIRs/SEIR certified by the City pursuant to Public Resources Code Section 21167.2.
- F. **Technology-Based Effluent Limitations.** Section 122.44(a) of 40 CFR requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category in 40 CFR Part 423. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. **Water Quality-Based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBEL) 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, 40 CFR 122.44(d) specifies that WQBEL may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. Water Quality Control Plans. This Regional Water Board adopted a *Water Quality Control Plan for the San Diego Region* (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. 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. Beneficial uses applicable to the Pacific Ocean are listed in *Table 5. Basin Plan Beneficial Uses of the Pacific Ocean.*

Table 5. Basin Plan Beneficial Uses of the Pacific Ocean

Outfall Number	Receiving Water Name	Beneficial Use(s)
C-001	Pacific Ocean	<u>Existing:</u> Industrial Service Supply (IND); Navigation (NAV); Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Preservation of Biological Habitats of Special Significance (BIOL); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); Marine Habitat (MAR); Aquaculture (AQUA); Migration of Aquatic Organisms (MIRG); Spawning, Reproduction, and/or Early Development (SPWN); Shellfish Harvesting (SHELL)

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial uses of the state ocean waters. The Basin Plan, however, may contain additional water quality objectives applicable to the discharger.

On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized in *Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean.*

Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean.

Outfall Number	Receiving Water Name	Beneficial Use(s)
C-001	Pacific Ocean	Industrial Water Supply; Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; Navigation; Commercial and Sport Fishing; Mariculture; Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS); Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning and Shellfish Harvesting

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity),

general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended it on September 18, 1975. The Thermal Plan contains temperature objectives for coastal waters.

The terms and conditions of the Ocean Plan, Thermal Plan, and any revisions thereto are incorporated into the Basin Plan by reference. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

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

- I. **Antidegradation Policy.** 40 CFR 131.12 requires that 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 No. 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) a discharge in compliance with this Order is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- J. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued Order to be as stringent as those in the previous Order, with some exceptions where limitations may be relaxed. No effluent limitations have been established for this discharge prior to this Order.
- K. **Monitoring and Reporting.** 40 CFR 122.48 requires all NPDES permits to specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

Additional monitoring and reporting requirements have been established to evaluate the IBCS effluent quality for priority pollutants and determine if the new discharge meets water quality objectives and limitations established in Table B of the Ocean Plan.

- L. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42, apply to all NPDES discharges are provided in Attachment D. This Regional Water Board has also included in this Order special provisions applicable to the Discharger. A detailed rationale for the special provisions contained in this Order is provided in the Fact Sheet (Attachment F).
- M. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under USEPA's new regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- N. **Notification of Interested Parties.** This Regional Water Board has notified the City and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F).
- O. **Consideration of Public Comment.** This Regional 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 (Attachment F).

III. DISCHARGE PROHIBITIONS

- A. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.
- B. Compliance with applicable Discharge Prohibitions contained in the Basin Plan is a requirement of this Order.
- C. Discharges of wastes in a manner or to a location which have not been specifically authorized by this Order and for which valid waste discharge requirements are not in force are prohibited.
- D. The discharge of wastewater at a rate exceeding 1.4 mgd during Phase I of IBCS operation; 1.5 mgd during Phase II of IBCS operation; or any rate that when combined with the effluent discharge rate from HARRF contributes to an exceedance of 18 mgd, is prohibited unless the City obtains revised waste discharge requirements authorizing an increased discharge.
- E. The discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid at Internal Discharge Points I-001 through I-004 is prohibited.

- F. Neither free available chlorine nor total residual chlorine may be discharged from any power generating unit contributing to cooling tower blowdown effluent at Internal Discharge Points I-002 and I-004 for more than 2 hours in any one day and not more than one unit in any power generating facility may discharge free available or total residual chlorine at any one time.
- G. The discharge of wastewater from the IBCS, that when combined with the effluent discharged from HARRF, contributes to an exceedance of the Thermal Plan and the temperature effluent limitation established in Section IV.B of this Order is prohibited.
- H. Odors, vectors, and other nuisances of waste origin beyond the limits of the property controlled by the Discharger are prohibited.

IV. DISCHARGE SPECIFICATIONS AND EFFLUENT LIMITATIONS

A. Discharge Specifications

The discharge of effluent through Combined Discharge Point 001 (C-001) shall comply with the following:

1. Waste management systems that discharge to the Pacific Ocean through C-001 must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
2. Waste discharged to the Pacific Ocean through C-001 must be essentially free of:
 - a. Material that is floatable or will become floatable upon discharge.
 - b. Settleable material or substances that may form sediments, which will degrade benthic communities or other aquatic life.
 - c. Substances, which will accumulate to toxic levels in marine waters, sediments, or biota.
 - d. Substances that significantly decrease the natural light to benthic communities and other marine life.
 - e. Materials that result in aesthetically undesirable discoloration of the ocean surface.
3. Waste effluents shall be discharged through C-001 in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in treatment.
4. The location of waste discharges from the IBCS shall assure that:

- a. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body contact sports.
 - b. Natural water quality conditions are not altered in areas designated as being Areas of Special Biological Significance or areas that existing marine laboratories use as a source of seawater.
 - c. Maximum protection is provided to the marine environment.
5. Waste that contains pathogenic organisms or viruses shall be discharged from the IBCS through C-001 a sufficient distance from shellfishing and water contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard shall be used.
 6. The discharge of effluent shall not result in the increase in the natural water temperature exceeding 4 °F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system.
 7. The discharge of effluent shall not affect the natural temperature of designated Areas of Special Biological Significance.
 8. The Discharger shall not cause pollution, contamination, or nuisance, as those terms are defined in CWC 13050, as a result of the treatment or discharge of wastes.
 9. Collected screenings, sludges, and other solids removed from liquid wastes, shall be disposed of in a manner approved by this Regional Water Board.
 10. The IBCS monthly average effluent flow rate is not to exceed 1.5 million gallons per day (mgd).

B. Effluent Limitations

The discharge of effluent to the IBCS shall be measured at monitoring locations as described in the Monitoring and Reporting Program (Attachment E), except as otherwise noted. The discharge of effluent to the IBCS and from C-001 shall maintain compliance with the following:

The discharge of low volume wastes from the PEP facility to the IBCS shall maintain compliance with the effluent limitations listed in *Table 7. Effluent Limitations for Low Volume Wastes (Discharge Point I-001)*.

Table 7. Effluent Limitations for Low Volume Wastes (Discharge Point I-001).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30 ²	100	--	--
	lbs/day ¹	80.1 ²	266.9	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day ¹	43.8	53.4	--	--

¹ Mass-based effluent limitations have been established based on a maximum effluent flow of 0.32 mgd.

² If the HAARF reclaimed water has high levels of TSS, the effluent limitation for low volume wastes will be adjusted as noted in *Table 8. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001)* of this Order. To receive the adjusted effluent limitations the Discharger must provide monitoring data demonstrating that the TSS in the source water for PEP was greater than 5 mg/L.

Effluent limitations for the TSS in the Low Volume wastes are adjusted to the effluent limitations listed in *Table 8. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001)* when the Discharger demonstrates that the source water has a concentration greater than 17.6 mg/L for TSS.

Table 8. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001).

HAARF Reclaimed Water TSS Concentration (mg/L)	Intake Credit (mg/L)	Adjusted ELG-based Average Monthly Effluent Limitation ¹
0 to 17.6	0	30 mg/L
		80.1 lbs/day
17.6 to 20	3.8	33.8 mg/L
		90.2 lbs/day
20.1 to 25	12.3	42.3 mg/L
		112.9 lbs/day
25.1 to 30	20.7	50.7 mg/L
		135.3 lbs/day
30.1 to 35	29.2	59.2 mg/L
		158.0 lbs/day
35.1 to 40	37.6	67.6 mg/L
		180.4 lbs/day
40.1 to 45	46.1	76.1 mg/L
		203.1 lbs/day

¹ Mass-based effluent limitations have been established based on a maximum effluent flow of 0.32 mgd.

The discharge of cooling tower blowdown from the PEP facility to the IBCS shall maintain compliance with the effluent limitations listed in *Table 9. Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-002)*.

Table 9. Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-002).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day ²	--	--	--	5.8
Chromium, total ^{3,4}	mg/L	0.2	0.2	--	--
	lbs/day ²	2.3	2.3	--	--
Zinc, total ^{3,4}	mg/L	1.0	1.0	--	--
	lbs/day ²	11.6	11.6	--	--
Remaining priority pollutants ⁴	ug/L	ND ⁵	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order. The Discharger shall not discharge free available chlorine in an average concentration greater than 0.2 mg/L, as required by 40 CFR 423.11(k).

²Mass-based effluent limitations have been established based on a maximum effluent flow of 1.4 mgd.

³The effluent limitations for metals are expressed as total recoverable.

⁴Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants in chemicals added for cooling tower maintenance.

⁵Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

The discharge of low volume wastes from the Goal Line L.P. cogeneration facility to the IBCS shall maintain compliance with the effluent limitations listed in *Table 10. Effluent Limitations for Low Volume Waster (Discharge Point I-003)*.

Table 10. Effluent Limitations for Low Volume Waste (Discharge Point I-003).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day	5.7	19	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	2.8	3.8	--	--

¹Mass-based effluent limitations have been established based on a maximum effluent flow of 0.0228 mgd.

The discharge of cooling tower blowdown from the Goal Line L.P. cogeneration facility to the IBCS shall maintain compliance with the effluent limitations listed in *Table 11. Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-004)*.

Table 11. Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-004).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day ²	--	--	--	0.2
Chromium, total ^{3,4}	mg/L	0.2	0.2	--	--
	lbs/day ²	0.1	0.1	--	--
Zinc, total ^{3,4}	mg/L	1.0	1.0	--	--
	lbs/day ²	0.4	0.4	--	--
Remaining priority pollutants ⁴	ug/L	ND ⁵	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order.

² Mass-based effluent limitations have been established based on a maximum effluent flow of 29,400 gpd.

³ The effluent limitations for metals are expressed as total recoverable.

⁴ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁵ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

The discharge of IBCS effluent during Phase I operation of the IBCS shall maintain compliance with the effluent limitations listed in *Table 12. Phase I - Effluent Limitations for IBCS (Discharge Point C-001)*.

Table 12. Phase I - Effluent Limitations for IBCS (Discharge Point C-001).

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	1					
pH	units	--	--	--	--	6.0	9.0
Oil and Grease	mg/L	--	25	40	--	--	75
	lbs/day ²	--	292	467	--	--	876
Turbidity	NTU	--	75	100	--	--	225
Settleable Solids	ml/L	--	1.0	1.5	--	--	3.0
Suspended Solids	mg/L	--	--	--	--	--	60
	lbs/day ²	--	--	--	--	--	701
Total Chlorine Residual	mg/L	0.48	--	--	1.9	--	14.3
	lbs/day ²	5.6	--	--	22.2	--	167
Chronic Toxicity ³	TUc	--	--	--	238	--	--

¹The maximum temperature of the effluent shall not exceed the natural temperature of receiving waters by more than 20 °F at any time.

²Mass-based effluent limitations have been calculated based on a maximum daily flow of 1.4 MGD. These mass-based effluent limitations are applicable during the Phase I operation of the IBCS.

³Compliance with the effluent limitation for chronic toxicity shall be determined as specified in Section VII.J of this Order.

The discharge of IBCS effluent during Phase II operation of the IBCS shall maintain compliance with the effluent limitations listed in *Table 13. Phase II - Effluent Limitations for IBCS (Combined Discharge Point C-001)*.

Table 13. Phase II - Effluent Limitations for IBCS (Discharge Point C-001).

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	1					
PH	units	--	--	--	--	6.0	9.0
Oil and Grease	mg/L	--	25	40	--	--	75
	lbs/day ²	--	313	500	--	--	939
Turbidity	NTU	--	75	100	--	--	225
Settleable Solids	ml/L	--	1.0	1.5	--	--	3.0
Suspended Solids	mg/L	--	--	--	--	--	60
	lbs/day ²	--	--	--	--	--	751
Total Chlorine Residual	mg/L	0.48	--	--	1.9	--	14.3
	lbs/day ²	6	--	--	23.8	--	179
Chronic Toxicity ³	TUc	--	--	--	238	--	--

¹The maximum temperature of the effluent shall not exceed the natural temperature of receiving waters by more than 20 °F at any time.

²Mass-based effluent limitations have been calculated based on a maximum daily flow of 1.5 MGD. These mass-based effluent limitations are applicable during the Phase II operation of the IBCS.

³Compliance with the effluent limitation for chronic toxicity shall be determined as specified in Section VII.J of this Order.

V. RECEIVING WATER LIMITATIONS

Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Bacterial Characteristics

1. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional

Water Board, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

- a. Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).
 - b. The fecal coliform density, based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.
2. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.
 3. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

B. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.
2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.
5. The temperature of the receiving water shall not be altered or the water quality degraded due to the temperature of the discharge of waste.

C. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
4. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan (2001), shall not be increased in marine sediments to levels that would degrade indigenous biota.
5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
7. Numerical water quality objectives established in Chapter II, Table B of the California Ocean Plan (2001) shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Hale Avenue Resource Recovery Facility.

D. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
3. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

E. Toxic Materials

Upon completion of initial dilution, the discharge of waste through C-001 shall not by itself or jointly with any other discharge, cause water quality objectives found in Table B of the Ocean Plan (2001) to be exceeded in the receiving water, except that limitations indicated for radioactivity shall apply directly to the undiluted waste effluent.

F. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The City shall comply with all Standard Provisions included in Attachment D.
2. **Regional Water Board Standard Provisions.** The City shall comply with the following provisions:
 - a. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
 - b. Upon application by any affected person, or on its own motion, the Regional Water Board may review and revise this Order.
 - c. The City shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
 - d. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall protect the City from its liabilities under federal, State, or local laws. Except as provided for in 40 CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the City from civil or criminal penalties for noncompliance.

Nothing in this Order shall preclude the institution of any legal action or relieve the City from any responsibilities, liabilities, or penalties to which the City is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall preclude institution of any legal action or relieve the City from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

- e. Any noncompliance with this Order is a violation of the California Water Code and/or the federal Clean Water Act and is grounds for denial of an application for Order modification.

- f. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.
- g. For the purposes of this Order, the term “permittee” used in parts of 40 CFR incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term “Discharger” used elsewhere in this Order.
- h. This Order expires on June 8, 2010, after which, the terms and conditions of this permit are automatically continued pending issuance of a new Order, provided that all requirements of USEPA’s NPDES regulations at 40 CFR 122.6 and the State’s regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired Orders and waste discharge requirements are met.
- i. Any application submitted by the City for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the California Water Code and the California Code of Regulations.
- j. Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this permit will be considered confidential, and all such information and documents shall be available for review by the public at the office of the Regional Water Board.
- k. The City shall conduct appropriate analyses on any sample provided by USEPA as part of the discharge monitoring quality assurance (DMQA) program. The results of such analyses shall be submitted to USEPA’s DMQA manager.
- l. The handling, transport, treatment, or disposal of waste or the discharge of waste to waters of the state in a manner, which causes or threatens to cause a condition of pollution, contamination, or nuisance, as those terms are defined in CWC 13050, is prohibited.
- m. The City shall comply with any interim effluent limitations as established by addendum, enforcement action or revised waste discharge requirements, which have been or may be adopted by this Regional Water Board.
- n. A copy of this Order shall be maintained on-site at the HARRF, and shall be available to operating personnel at all times.
- o. This Order does not apply to discharges of radioactive materials regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.).

B. Monitoring and Reporting Program Requirements

1. The City shall comply with the Monitoring and Reporting Program (Attachment E), and future revisions thereto.
2. Reports required to be submitted to this Regional Water Board shall be sent to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Notifications required to be provided to this Regional Water Board shall be made to:

Telephone - (858) 467-2952
Facsimile - (858) 571-6972

3. After notification by the State or Regional Water Board, the City may be required to electronically submit self-monitoring reports. Until such time as electronic submission of self-monitoring reports is required, the City shall submit discharge monitoring reports (DMRs) in accordance with the requirements described further below.

DMRs must be signed and certified as required by the standard provisions (Attachment D). The City shall submit the original DMR and one copy to:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self generated or modified cannot be accepted.

C. Special Provisions

1. Re-opener Provisions
 - a. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
 - 1) Violation of any terms or conditions of this Order.
 - 2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.

- 3) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the City for modifications, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

- b. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.
 - c. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
 - d. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (ML).
 - e. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load allocation (TMDL) for the receiving water.
 - f. This Order may be re-opened upon submission by the City of adequate information, as determined by this Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
 - g. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.
 - h. This Order may also be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.
2. Special Studies, Technical Reports and Additional Monitoring Requirements

Core monitoring may include intake monitoring, effluent monitoring, receiving water monitoring, and groundwater monitoring. This Order includes core monitoring for influent and effluent. In addition to core monitoring requirements, the City may be

required to conduct additional monitoring. Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core monitoring program. The City shall implement special studies as directed by this Regional Water Board.

- a. The City shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional monitoring program for the Pacific Ocean as directed by this Regional Water Board. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During a coordinated sampling effort, the City's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of discharges to the receiving water.
- b. This Regional Water Board is requiring the City to conduct effluent monitoring for the priority pollutants as listed in Attachment H.

This monitoring shall be conducted at the following locations:

- 1) Effluent Outfall for IBCS (Outfall No. C-001).

The City shall conduct two priority pollutant monitoring studies as specified in Attachment H. The first monitoring study shall be conducted quarterly for the first year of facility operation (four monitoring events). The results of the quarterly priority pollutant monitoring shall be submitted to this Regional Water Board within 3 months of completing the fourth monitoring event, and no later than November 1, 2006. The second priority pollutant monitoring study requires the City to conduct priority pollutant monitoring approximately one year prior to the Order expiration date. The final priority pollutant monitoring event shall be conducted between March 1, 2009 and April 31, 2009 and include Phase II effluent if possible. The results of the second priority pollutant monitoring study shall be submitted at least 180 days prior to the expiration date of this Order and shall be submitted with the Report of Waste Discharge.

3. Best Management Practices and Pollution Prevention

The City must establish an industrial users evaluation and regulatory program which will establish discharge regulations, discharge prohibitions, and requirements under which industrial dischargers will be allowed to discharge to the IBCS.

4. Spill Prevention and Response Plans

- a. For purposes of this section, a spill is a discharge of brine wastewater that occurs at a location from the IBCS in violation of the Discharge Prohibitions of this Order. This section does not include sanitary sewer overflows reportable under separate waste discharge requirements.

- b. The City shall maintain a Spill Prevention Plan (SPP) for the IBCS and facilities owned and/or operated by the City in an up-to-date condition and shall amend the SPP whenever there is a change (e.g., in the design, construction, operation, or maintenance of the IBCS) which materially affects the potential for spills. The City shall review and amend the SPP as appropriate after each spill from the IBCS. The SPP and any amendments thereto shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The City shall submit the SPP and any amendments thereto to the Executive Officer upon request of the Executive Officer. The City shall ensure that the up-to-date SPP is readily available to the personnel at all times and that personnel are familiar with it.
- c. The City shall maintain a Spill Response Plan (SRP) for the IBCS in an up-to-date condition and shall amend the SRP, as necessary. The City shall review and amend the SRP as appropriate after each spill from the IBCS. The SRP and any amendments thereto shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The City shall submit the SRP and any amendments thereto to the Executive Officer upon request of the Executive Officer. The City shall ensure that the up-to-date SRP is readily available to personnel at all times and that personnel are familiar with it.

5. Spill Reporting Requirements

The City shall report spills as defined in Section VI.C.4.a above in accordance with the following procedures:

- a. If a spill results in a discharge of brine wastewater that is greater than 1,000 gallons that reaches surface waters, the City shall:
 - 1) Report the spill to the Regional Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the Discharger becomes aware of the spill. The City shall inform the Regional Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.
 - 2) Submit a written report, as well as any additional pertinent information, to the Regional Water Board no later than five days following the starting date of the spill event. The City shall submit the written report using the Sanitary Sewer Overflow Report Form (June 13, 2001) provided under Regional Water Board Order No. 96-04.
- b. If a spill results in a discharge of brine wastewater under 1,000 gallons and the discharge does not reach surface waters,
 - 1) The City is not required to notify the Regional Water Board within 24 hours.

- 2) The City shall submit a written report, as well as any additional pertinent information, in the monthly self-monitoring report for the month in which the spill occurred. The City shall submit the written report using the Sanitary Sewer Overflow Report Form (June 13, 2001) provided under Regional Water Board Order No. 96-04.
 - c. For spills of material other than brine wastewater that cause, may cause, or are caused by significant operational failure, or endangers or may endanger human health or the environment, the City shall notify the Regional Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the City becomes aware of the spill. The City shall inform the Regional Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.
 - d. For all spills, the City shall submit an annual summary containing the following information for each spill: date of spill, location of spill and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.
 - e. The spill reporting requirements contained in this Order do not relieve the City of responsibilities to report to other agencies, such as the Office of Emergency Services (OES) and the County of San Diego Department of Environmental Health Services.
6. Water Treatment Systems and Cooling Tower Additives Audit.

The Discharger is required to maintain a log at each power generating facility of all chemical additives added to the water treatment systems and cooling tower that are eventually discharged from the power generating facilities (PEP and Goal Line L.P. Cogeneration) to the IBCS.

The log shall include a list of the chemicals used, the use of each chemical, the location of use of each chemical, and the approximate quantity of chemical used over a given time period.

A chemical additives audit which contains a list of all chemical additives used in the water treatment systems and cooling tower shall be submitted 30-days prior to connection to the IBCS and thereafter annually with the annual report required in Section VII.B.3 of the MRP.

The Regional Water Board must be notified in writing of any additional chemical additive not listed in the chemical additives audit within one business day of its use in the water treatment system or cooling tower. The notification shall include the name of the chemical additive, the reason for its use, and the approximate quantity to be used over a given time.

The Regional Water Board must be notified of any additive used for cooling tower maintenance that contains a priority pollutant listed in Attachment H of this Order a minimum of 24-hours prior to its use. The notification shall include the name of the chemical additive, the priority pollutant(s) it contains, the reason for its use, and the approximate quantity to be used over a given time.

Effluent limitations and monitoring are required by this Order when priority pollutants are added to the cooling tower.

VII. COMPLIANCE DETERMINATION

Compliance with effluent limitations or discharge specifications shall be determined as follows:

A. Average Monthly Effluent Limitation (AMEL).

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

B. Average Weekly Effluent Limitation (AWEL).

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

D. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

E. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

F. Six-month Median Effluent Limitation.

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median limitation.

G. Mass and Concentration Limitations.

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations.

H. Ocean Plan Provisions for Table B Constituents.

1. Sampling Reporting Protocols

- a. Dischargers must report with each sample result the reported Minimum Level (ML) and the laboratory's current Method Detection Limit (MDL).
- b. Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - 1) Sample results greater than or equal to the reported ML must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).

- 2) Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").
- 3) Sample results less than the laboratory's MDL must be reported as "Not Detected", or ND.

2. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-Constituent Effluent Limitations

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the ML.

b. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

c. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported ML). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

3. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including

pollution prevention measures, in order to maintain the effluent concentration at or below the 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 completion and implementation of a Pollution Prevention Plan, required in accordance with CWC Section 13263.3 (d) will fulfill the Pollution Minimization Program requirements in this section.

- b. Determining the need for a Pollutant Minimization Program
 - 1) The Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - a) The calculated effluent limitation is less than the reported ML.
 - b) The concentration of the pollutant is reported as DNQ.
 - c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
 - 2) Alternatively, the Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - a) The calculated effluent limitation is less than the Method Detection Limit.
 - b) The concentration of the pollutant is reported as ND.
 - c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
- c. Regional Water Board may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:
 - 1) Health advisories for fish consumption,
 - 2) Presence of whole effluent toxicity,
 - 3) Results of benthic or aquatic organism tissue sampling,
 - 4) Sample results from analytical methods more sensitive than methods included in the permit.
 - 5) The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL

I. Receiving Water Sampling Protocol.

The instantaneous maximum and daily maximum receiving water limitations shall apply to grab sample determinations.

J. Chronic Toxicity.

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the Chronic Toxicity effluent limitation established in Section IV.B of this Order for Outfall C-001 shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2001) and restated in the MRP (Attachment E). Chronic Toxicity (TU_c) shall be expressed as Toxic Units Chronic (TU_c), where:

$$TU_c = 100 / NOEL$$

where NOEL is the No Observed Effect Level and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test

If the toxicity testing result shows an exceedance of the chronic toxicity limitation identified in the effluent limitations for Outfall C-001 (Section IV.B of this Order), the Discharger shall:

1. Take all reasonable measures necessary to immediately minimize toxicity; and
2. Increase the frequency of the toxicity test(s) that showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

If the Executive Order determines that toxicity testing shows consistent violation or exceedance of the chronic toxicity limitation identified in Section IV.B of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) that includes all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in the final effluent limitations for Outfall C-001 (Section IV.B of this Order).

K. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a Toxicity Reduction Evaluation (TRE) workplan in accordance with the TRE procedures established by the USEPA in the following guidance manuals:

1. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).

2. Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F).
3. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080).
4. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081).

The Discharger shall submit the TRE workplan to the Regional Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the Regional Water Board and shall be modified as directed by the Regional Water Board.

If toxicity effluent limitations identified in Section IV.B of this Order are exceeded, then within 15 days of the exceedance, the Discharger shall begin conducting six additional toxicity tests over a 6-month (at least one sample per calendar month, for a total of two samples per calendar month) period and provide the results to the Regional Water Board. The additional monthly toxicity tests will be incorporated into the semiannual discharge monitoring reports submitted pursuant to the MRP (Attachment E).

If the additional monthly tests indicate that toxicity effluent limitations are being consistently violated (at least three exceedances out of the six tests), the Regional Water Board may recommend that the Discharger conduct a TRE and a Toxic Identification Evaluation (TIE), as identified in the approved TRE workplan.

Within fifteen days of completion of the TRE/TIE, the Discharger shall submit the results of the TRE/TIE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitation of this Order and prevent recurrence of violations of those limitation, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

L. Mass Emission Rate.

The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

$$\text{Mass Emission Rate (lb/Day)} = 8.34 \times Q \times C$$

in which Q and C are the flow rate in MGallons/Day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor. If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

M. Single Operational Upset.

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision E.5.b(2) of Attachment D - Standard Provisions.
3. For purposes outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purposes of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

ATTACHMENT A – DEFINITIONS

Anti-Backsliding. Provisions in the Clean Water Act and U.S. EPA regulations [CWA 303 (d) (4); CWA 402 (c); CFR 122.44 (l)] that require a reissued permit to be as stringent as the previous permit with some exceptions.

Antidegradation. Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by the State to minimize adverse effects on water.

Applicable Standards and Limitations means all State, interstate, and federal standards and limitations to which a discharge, a sewage sludge use or disposal practice, or a related activity is subject under the CWA, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, pretreatment standards, and standards for sewage sludge use or disposal under sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of CWA.

Areas of Special Biological Significance (ASBS) are those areas designated by the State Water Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

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.

Beneficial Uses of the waters of the State that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ). The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Bioaccumulative pollutants are 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.

Bioassay. A test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Biochemical Oxygen Demand (BOD). A measurement of the amount of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a wastewater sample; it is used as a measurement of the readily decomposable organic content of a wastewater.

Biosolids. Sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill. Sewage sludge is defined as solid, semi-solid, or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility.

Bypass. The intentional diversion of wastestreams from any portion of a treatment (or pretreatment) facility.

Carbonaceous Biochemical Oxygen Demand (CBOD). The measurement of oxygen required for carbonaceous oxidation of a nonspecific mixture of organic compounds. Interference caused by nitrifying bacteria in the standard 5-day BOD test is eliminated by suppressing the nitrification reaction.

Certifying Official. All applications, including NOIs, must be signed as follows:

For a corporation: By a responsible corporate officer, which 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.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively;
or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

Chemical Oxygen Demand (COD). A measure of the oxygen-consuming capacity of inorganic and organic matter present in wastewater. COD is expressed as the amount of oxygen consumed in mg/L. Results do not necessarily correlate to the biochemical oxygen demand (BOD) because the chemical oxidant may react with substances that bacteria do not stabilize.

Composite Sample. Sample composed of two or more discrete samples of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. The aggregate sample will reflect the average water quality covering the compositing or sample period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Conventional Pollutants. Pollutants typical of municipal sewage, and for which municipal secondary treatment plants are typically designed; defined at 40 CFR 401.16 as BOD, TSS, fecal coliform bacteria, oil and grease, and pH.

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.

Daily Maximum Limit. The maximum allowable daily discharge of pollutant. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass

discharged over the course of the 24-hour period. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that 24-hour period.

Degrade (Degredation). Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

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.

Dilution Ratio is the critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

Discharge when used without qualification means the discharge of a pollutant. Discharge of a pollutant means:

1. Any addition of any pollutant or combination of pollutants to waters of the United States from any point source, or
2. Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any indirect Discharger.

Discharge Monitoring Report (DMR) means the U.S. EPA uniform form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved states as well as by U.S. EPA. The U.S. EPA will supply DMRs to any approved state upon request. The U.S. EPA national forms may be modified to substitute the state agency name, address, logo, and other similar information, as appropriate, in place of U.S. EPA's.

Effluent Limitation means any restriction imposed by an Order on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Grab Sample. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. The sample is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time of day.

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.

Method Detection Limit (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.

Minimum Level (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.

Sanitary Sewer. A pipe or conduit (sewer) intended to carry wastewater or water-borne wastes from homes, businesses, and industries to the POTW.

Sanitary Sewer Overflows (SSO). Untreated or partially treated sewage overflows from a sanitary sewer collection system.

Secondary Treatment Standards. Technology-based requirements for direct discharging municipal sewage treatment facilities. Standards are based on a combination of physical and biological processes typical for the treatment of pollutants in municipal sewage. Standards are expressed as a minimum level of effluent quality in terms of: BOD₅, total suspended solids (TSS), and pH (except as provided for special considerations and treatment equivalent to secondary treatment).

Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period.

Surface Waters: Surface Waters include navigable waters, rivers, streams (including ephemeral streams), lakes, playa lakes, natural ponds, bays, the Pacific Ocean, lagoons, estuaries, man-made canals, ditches, dry arroyos, mudflats, sandflats, wet meadows, wetlands, swamps, marshes, sloughs and water courses, and storm drains tributary to surface waters. Surface Waters include waters of the United States as used in the federal Clean Water Act (see 40 CFR 122.2)

Technology-Based Effluent Limit. A permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration.

Toxic Pollutant. Pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator of U.S. EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. Toxic pollutants also include those pollutants listed by the Administrator under CWA Section 307 (a) (1) or any pollutant listed under Section 405 (d) which relates to sludge management.

Toxicity Reduction Evaluation (TRE). A site-specific study conducted in a stepwise process designed to identify the causative agent(s) of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Upset is defined as (a) An unusual event that temporarily disrupts the usually satisfactory operation of a system. This definition constitutes the plain meaning or broad definition of the term “upset.” (b) An event more narrowly defined at 40 CFR 122.41 (n)(1) and which belongs to a subset of events that fit the definition of the term “upset” provided in (a).

Water Quality Control Plan consists of a designation or establishment for the waters within a specified area of all of the following:

1. Beneficial uses to be protected.
2. Water quality objectives.
3. A program of implementation needed for achieving water quality objectives.

Water Quality Objectives means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Whole Effluent Toxicity (WET). The total toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – IBCS Topographic Map

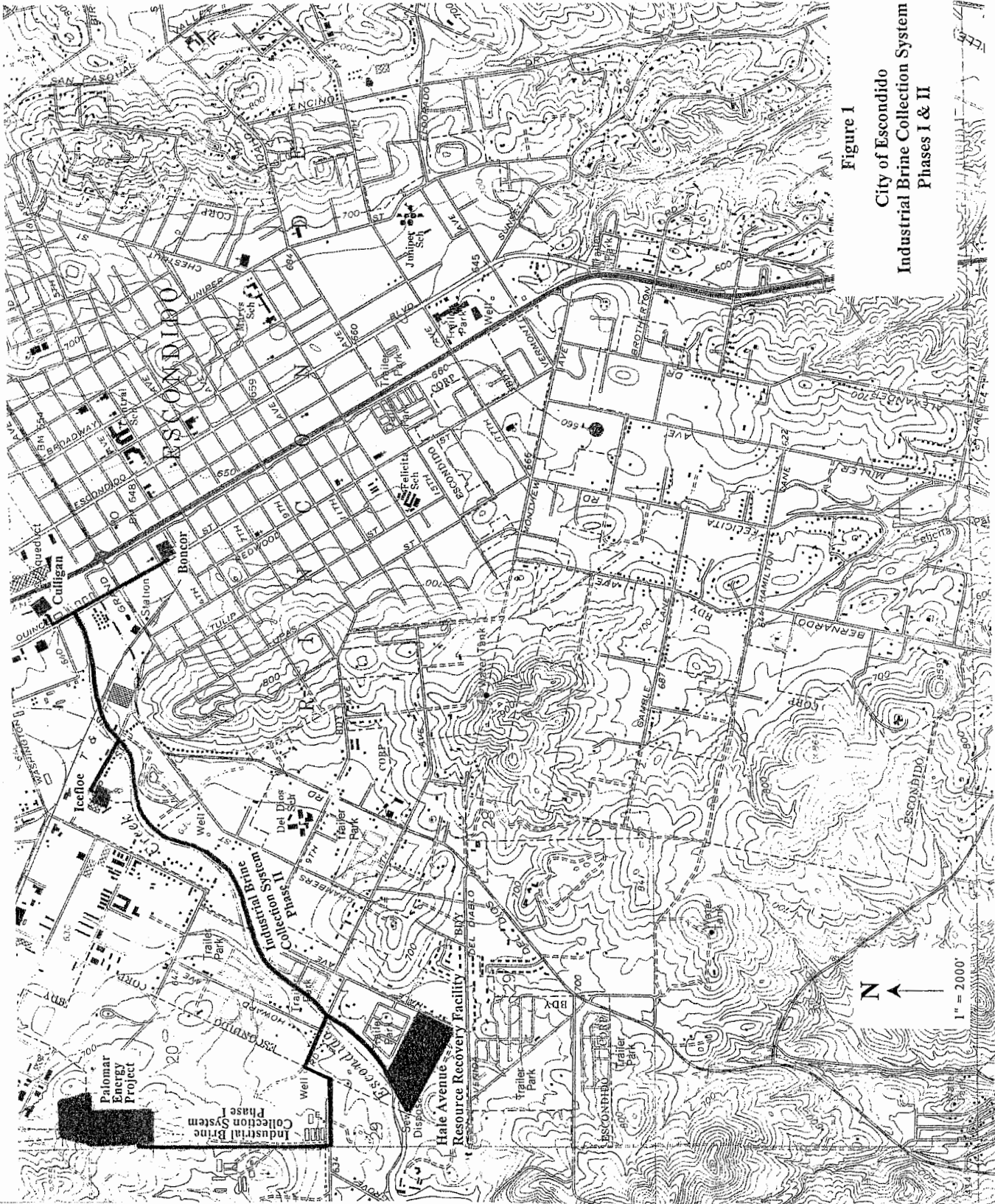
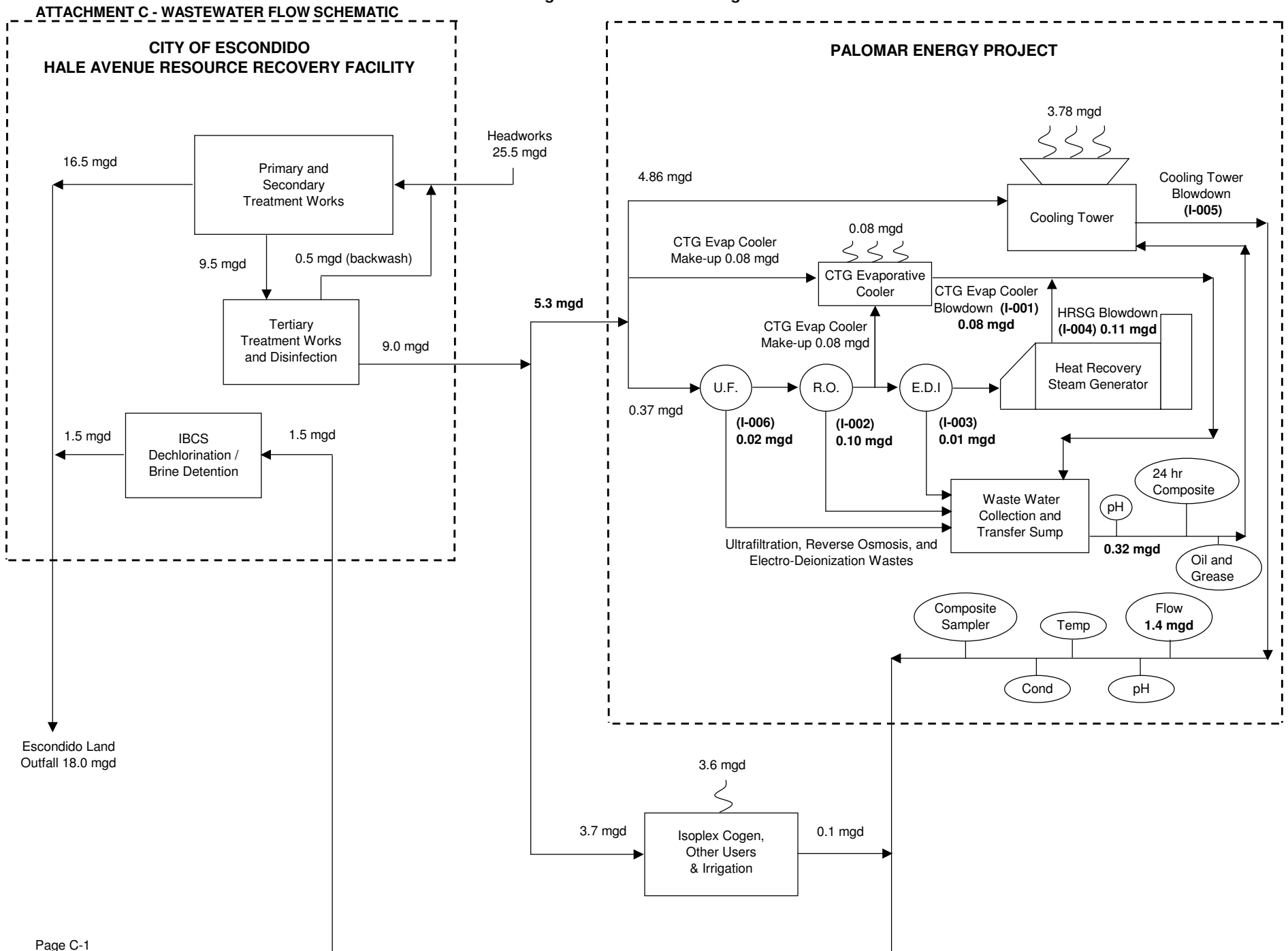


Figure 1. Process Flow Diagram



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. FEDERAL STANDARD PROVISIONS

A. Standard Provisions – Permit Compliance

1. Duty to Comply

- a. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application. [40 CFR section 122.41(a)]
- b. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act 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 been modified to incorporate the requirement. [40 CFR section 122.41(a)(1)]

2. 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 CFR section 122.41(c)]

3. 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 CFR section 122.41(d)]

4. 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 CFR section 122.41(e)]

5. Property Rights

- a. This Order does not convey any property rights of any sort or any exclusive privileges. [40 CFR section 122.41(g)]
- b. 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 CFR section 122.5(c)]

6. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (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 [40 CFR section 122.41(i)] [CWC 13383(c)]:

- a. 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 [40 CFR section 122.41(i)(1)];
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR section 122.41(i)(2)];
- c. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR section 122.41(i)(3)];
- d. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location. [40 CFR section 122.41(i)(4)]

7. Bypass

a. Definitions

- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR section 122.41(m)(1)(i)]
- (2) "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 CFR section 122.41(m)(1)(ii)]

- b. 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 A.7.c. and A.7.e below [40 CFR section 122.41(m)(2)]
- c. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR section 122.41(m)(4)(i)]:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; [40 CFR section 122.41(m)(4)(A)];
 - (2) 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 CFR section 122.41(m)(4)(B)]; and
 - (3) The Discharger submitted notice to the Regional Water Board as required under Standard Provision A.7.e below. [40 CFR section 122.41(m)(4)(C)]
- d. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance A.7.c. above. [40 CFR section 122.41(m)(4)(ii)]
- e. Notice
 - (1) 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 CFR section 122.41(m)(3)(i)]
 - (2) Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting E.5. below. [40 CFR section 122.41(m)(3)(ii)]

8. 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 permittee. 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 CFR section 122.41(n)(1)]

- a. 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 paragraph 8.b of this section 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 CFR section 122.41(n)(2)]
- b. 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 CFR section 122.41(n)(3)]:
 - (1) An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR section 122.41(n)(3)(i)];
 - (2) The permitted facility was, at the time, being properly operated [40 CFR section 122.41(n)(3)(i)];
 - (3) The Discharger submitted notice of the upset as required in Standard Provisions – Reporting E.5.b(2). [40 CFR section 122.41(n)(3)(iii)]; and
 - (4) The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance A.3. above. [40 CFR section 122.41(n)(3)(iv)].
- c. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR section 122.41(n)(4)].

B. Standard Provisions – Permit Action

1. 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 CFR section 122.41(f)]

2. 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 CFR section 122.41(b)]

3. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional 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 CWC. [40 CFR section 122.41(l)(3)] [40 CFR section 122.61]

C. Standard Provisions – Monitoring

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR section 122.41(j)(1)]
2. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order. [40 CFR section 122.41(j)(4)] [40 CFR section 122.44(i)(1)(iv)]

D. Standard Provisions – Records

1. 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 CFR 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 Regional Water Board Executive Officer at any time. [40 CFR section 122.41(j)(2)]
2. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements [40 CFR section 122.41(j)(3)(i)];
 - b. The individual(s) who performed the sampling or measurements [40 CFR section 122.41(j)(3)(ii)];
 - c. The date(s) analyses were performed [40 CFR section 122.41(j)(3)(iii)];
 - d. The individual(s) who performed the analyses [40 CFR section 122.41(j)(3)(iv)];
 - e. The analytical techniques or methods used [40 CFR section 122.41(j)(3)(v)]; and
 - f. The results of such analyses [40 CFR section 122.41(j)(3)(vi)]

3. Claims of confidentiality for the following information will be denied [40 CFR section 122.7(b)]:
 - a. The name and address of any permit applicant or Discharger [40 CFR section 122.7(b)(1)];
 - b. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

E. Standard Provisions – Reporting

1. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional 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 Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. [40 CFR section 122.41(h)] [CWC 13267]

2. Signatory and Certification Requirements

- a. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with paragraph (b) and (c) of this provision. [40 CFR section 122.41(k)]
- b. All permit applications shall be signed as follows:
 - (1) For a corporation: 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 CFR section 122.22(a)(1)]

- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; [40 CFR section 122.22(a)(2)] or
 - (3) For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). [40 CFR section 122.22(a)(3)]
- c. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in paragraph (b) of this provision [40 CFR section 122.22(b)(1)];
 - (2) The authorization specified 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 CFR section 122.22(b)(2)] and,
 - (3) The written authorization is submitted to the Regional Water Board, State Water Board, or U.S. EPA. [40 CFR section 122.22(b)(3)]
- d. If an authorization under paragraph (c) of this provision 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 paragraph (c) of this provision must be submitted to the Regional Water Board, State Water Board or U.S. EPA prior to or together with any reports, information, or applications, to be signed by an authorized representative. [40 CFR section 122.22(c)]
- e. Any person signing a document under paragraph (b) or (c) of this provision 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 CFR section 122.22(d)]

3. Monitoring Reports

- a. Monitoring results shall be reported at the intervals specified in Attachment E, the Monitoring and Reporting Program in this Order. [40 CFR section 122.41(l)(4)]
- b. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. [40 CFR section 122.41(l)(4)(i)]
- c. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. [40 CFR section 122.41(l)(4)(ii)]
- d. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. [40 CFR section 122.41(l)(4)(iii)]

4. 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 CFR section 122.41(l)(5)]

5. Twenty-four Hour Reporting

- a. 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 CFR section 122.41(l)(6)(i)]
- b. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR section 122.41(l)(6)(ii)]:

- (1) Any unanticipated bypass that exceeds any effluent limitation in this Order. [40 CFR section 122.41(l)(6)(ii)(A)]
 - (2) Any upset that exceeds any effluent limitation in this Order. [40 CFR section 122.41(l)(6)(ii)(B)]
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours. [40 CFR section 122.41(l)(6)(ii)(C)]
- c. The Regional 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 CFR section 122.41(l)(6)(iii)]

6. Planned Changes

The Discharger shall give notice to the Regional 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 CFR section 122.41(l)(1)]:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR section 122.29(b); [40 CFR section 122.41(l)(1)(i)] or
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions - Notification Levels G.1.a) [40 CFR section 122.41(l)(1)(ii)]
- c. 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 CFR section 122.41(l)(1)(iii)]

7. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. [40 CFR section 122.41(l)(2)]

8. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted.

The reports shall contain the information listed in Provision E.5. [*40 CFR section 122.41(l)(7)*]

9. 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 Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. [*40 CFR section 122.41(l)(8)*]

F. Standard Provisions – Enforcement

1. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions. [*40 CFR section 122.41(a)(2)*] [*CWC Sections 13385 and 13387*]
2. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of

this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000. [40 CFR section 122.41(a)(3)]

3. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. [40 CFR section 122.41(j)(5)].
4. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 CFR section 122.41(k)(2)]

G. Additional Provisions – Notification Levels

1. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [40 CFR §122.42(a)]:

- a. 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 CFR section 122.42(a)(1)]:
 - (1) 100 micrograms per liter ($\mu\text{g/L}$) [40 CFR section 122.42(a)(1)(i)];
 - (2) 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR section 122.42(a)(1)(ii)];
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR section 122.42(a)(1)(iii)]; or
 - (4) The level established by the Regional Water Board in accordance with 40 CFR section 122.44(f). [40 CFR section 122.42(a)(1)(iv)]

b. 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 CFR section 122.42(a)(2)]:

(1) 500 micrograms per liter ($\mu\text{g/L}$) [40 CFR section 122.42(a)(2)(i)];

(2) 1 milligram per liter (mg/L) for antimony [40 CFR section 122.42(a)(2)(ii)];

(3) Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR section 122.42(a)(2)(iii)]; or

(4) The level established by the Regional Water Board in accordance with 40 CFR section 122.44(f). [40 CFR section 122.42(a)(2)(iv)]

ATTACHMENT E - MONITORING AND REPORTING PROGRAM

TABLE OF CONTENTS

I.	General Monitoring Provisions	2
II.	Monitoring Locations	3
III.	Effluent Monitoring Requirements	3
A.	Internal Monitoring Locations MI-001 and MI-003 (Low Volume Wastes)	3
B.	Internal Monitoring Location MI-002 and MI-004 (Cooling Tower Blowdown)	4
C.	Total IBCS Effluent Monitoring Location C-001	4
IV.	Whole Effluent Toxicity Testing Requirements	5
V.	Receiving Water Monitoring Requirements	7
VI.	Other Monitoring Requirements	8
VII.	Reporting Requirements	9
A.	General Monitoring and Reporting Requirements	9
B.	Self Monitoring Reports	10
C.	Discharge Monitoring Reports	12
D.	Other Reports	12

LIST OF TABLES

Table 1.	Monitoring Locations	3
Table 2.	Effluent Monitoring Requirements for Low Volume Wastes	3
Table 3.	Effluent Monitoring Requirements for Cooling Tower Blowdown	4
Table 4.	Effluent Monitoring Requirements for Total IBCS Effluent MC-001A	4
Table 5.	Effluent Monitoring Requirements for Combined HARRF and IBCS Effluent MC-001B	5
Table 6.	Approved Tests for Chronic Toxicity	6
Table 7.	Receiving Water Monitoring Requirements	7
Table 8.	Surf Zone Monitoring Stations	7
Table 9.	Reporting Schedule	10
Table 10.	Regional Water Board Address	11
Table 11.	State Water Board Address	11

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. The California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program establishes monitoring and reporting requirements that implement the 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 this Regional Water Board.
- B. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, unless other test procedures are specified in Order No. R9-2005-0139 and /or this Monitoring and Reporting Program (MRP) and/or this Regional Water Board.
- C. A copy of the monitoring reports signed, and certified as required by Attachment D, Reporting Requirement E.2, of Order No. R9-2005-0139, shall be submitted to the Regional Water Board at the address listed in Section VII.B.6 of this MRP.
- D. 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 Order No. R9-2005-0139 and this MRP, and records of all data used to complete the application for Order No. R9-2005-0139. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended by request of this Regional Water Board or by the USEPA at any time.
- E. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or by a laboratory approved by this Regional Water Board.
- F. The Discharger shall report in its cover letter all instances of noncompliance not reported under Attachment D, Section E.5 of Order No. R9-2005-0139 at the time monitoring reports are submitted. The reports shall contain the information listed in Attachment D, Section E.5 of Order No. R9-2005-0139.

- G. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- H. Monitoring results shall be reported at intervals and in a manner specified in Order No. R9-2005-0139 or in this Monitoring and Reporting Program.
- I. This Monitoring and Reporting Program may be modified by this Regional Water Board as appropriate.

II. MONITORING LOCATIONS

The Discharger shall establish the monitoring locations listed in *Table 1. Monitoring Locations* to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order.

Table 1. Monitoring Locations.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
I-001	MI-001	PEP low volume waste streams, at the wastewater collection and transfer sump.
I-002	MI-002	PEP cooling tower blowdown, prior to combining with any other wastewaters.
I-003	MI-003	Goal Line L.P. low volume waste stream(s), prior to entering the cooling tower.
I-004	MI-004	Goal Line L.P. cooling tower blowdown, prior to combining with any other wastewaters.
C-001	MC-001A	Total IBCS effluent after dechlorination and prior to combining with any other wastewater.
C-001	MC-001B	Combined effluent after commingling with effluent from HARRF and prior to combining with any other wastewater.
--	MR-001	Surf Zone Monitoring Stations

III. EFFLUENT MONITORING REQUIREMENTS

A. Internal Monitoring Locations MI-001 and MI-003 (Low Volume Wastes)

1. The Discharger shall monitor effluent at internal monitoring locations MI-001 and MI-003 as specified in *Table 2. Effluent Monitoring Requirements for Low Volume Wastes*.

Table 2. Effluent Monitoring Requirements for Low Volume Wastes.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	GPD	Continuous or totalizer	Continuous or daily totalizer
pH	Units	Grab	Monthly

Constituent ¹	Units	Sample Type	Frequency
Total Suspended Solids ³	mg/L	24-hr composite	Monthly
	lbs/day ⁴	Calculated ³	
Oil and Grease	mg/L	Grab	Monthly
	lbs/day ⁴	Calculated ³	

¹ All parameters shall be analyzed by the methods specified in 40 CFR 136.3.

² Flow shall be monitored prior to combining with any other waste stream. .

³ To receive intake credits for TSS at Internal Discharge Point I-001, the Discharger must provide HARRF reclaimed water data for TSS.

⁴ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/l)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

B. Internal Monitoring Location MI-002 and MI-004 (Cooling Tower Blowdown)

1. The Discharger shall monitor effluent at internal monitoring locations MI-002 and MI-004 as specified in *Table 3. Effluent Monitoring Requirements for Cooling Tower Blowdown.*

Table 3. Effluent Monitoring Requirements for Cooling Tower Blowdown.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	MGD	Continuous	Continuous
pH	Units	Grab	Semi-annual
Free Available Chlorine	µg/L	Grab	Semi-annual
	lbs/day ³	Calculated ³	
Chromium, total ⁴	mg/L	24-hr composite	Semi-annual
	lbs/day ³	Calculated ³	
Zinc, total ⁴	ml/L	Grab	Semi-annual
Remaining Priority Pollutants ⁴	µg/L	24-hr composite	Annual

¹ All parameters shall be analyzed by the methods specified in 40 CFR section 136.3.

² Flow shall be monitored prior to combining with any other waste stream.

³ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

⁴ The Discharger shall monitor only for the priority pollutants listed in Attachment H of Order No. R9-2005-0139 that are used for cooling tower maintenance.

C. IBCS Effluent Monitoring Location C-001

1. The Discharger shall monitor the IBCS effluent at combined monitoring location MC-001A as specified in *Table 4. Effluent Monitoring Requirements for IBCS Effluent MC-001A.*

Table 4. Effluent Monitoring Requirements for IBCS Effluent MC-001A.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	MGD	Continuous	Continuous
pH	Units	Grab	Weekly
Residual Chlorine	µg/L	Grab	Weekly
	lbs/day ³	Calculated ³	

Constituent ¹	Units	Sample Type	Frequency
Temperature	°F	Grab/Continuous	Weekly
Suspended Solids	mg/L	24-hr composite	Monthly
	lbs/day ³	Calculated ³	
Settleable Solids	ml/L	Grab	Monthly
Oil and Grease	mg/L	Grab	Monthly
	lbs/day ³	Calculated ³	
Turbidity	NTU	24-hr composite	Monthly
Total Chlorine Residual	mg/L	Grab	Weekly
	lbs/day ³	Calculated ³	
Chronic Toxicity	TUc	24-hr composite	Annually
Priority Pollutants ⁴	µg/L	24-hr composite	⁵

¹ All parameters shall be analyzed by the methods specified in 40 CFR section 136.3.

² Flow shall be monitored prior to combining with any other waste stream.

³ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

⁴ The Discharger shall monitor for the priority pollutants as specified in Attachment H of Order No. R9-2005-0139.

⁵ Priority Pollutant monitoring shall be conducted quarterly during the first year of operation, and one more time approximately one year prior to the expiration date of the Order as specified in Attachment H.

- The City shall monitor the combined effluent from HARRF and IBCS at MC-001B as specified in *Table 5. Effluent Monitoring Requirements for Combined HARRF and IBCS Effluent MC-001B.*

Table 5. Effluent Monitoring Requirements for Combined HARRF and IBCS Effluent MC-001B.

Parameter ¹	Units	Sample Type	Minimum Sampling Frequency
Flow ²	MGD	Continuous	Continuous
Temperature	°F	Grab	Weekly

¹ All parameters shall be analyzed by the methods specified in 40 CFR 136.3.

² Total flow of both HARRF and IBCS effluent.

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Monitoring

Critical life stage toxicity tests shall be performed to measure chronic toxicity (TUc). Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (SWRCB, 1996).

Chronic toxicity is to be calculated using the following formula:

$$TU_c = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II of the 2001 Ocean Plan.

Other tests may be used, if they have been approved for such testing by the State Water Board. Dilution and control water should be obtained from an unaffected area of the receiving waters. The brine from the IBCS shall meet the chronic toxicity effluent limitation after initial dilution of the effluent has taken place. The chronic toxicity test species are listed in *Table 6. Approved Tests for Chronic Toxicity.*

Table 6. Approved Tests for Chronic Toxicity.

Species	Test	Tier ¹	Reference ²
giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	a, c
red abalone, <i>Haliotis rufescens</i>	abnormal shell development	1	a, c
oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	abnormal shell development; percent survival	1	a, c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent normal development	1	a, c
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	percent fertilization	1	a, c
shrimp, <i>Homesimysis costata</i>	percent survival; growth	1	a, c
shrimp, <i>Mysidopsis bahia</i>	percent survival; fecundity	2	b, d
topsmelt, <i>Atherinops affinis</i>	larval growth rate; percent survival	1	a, c
Silversides, <i>Menidia beryllina</i>	larval growth rate; percent survival	2	b, d

¹ First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the discharger can use a second tier test method following approval by the Regional Water Board.

² Protocol References:

- a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. EPA Report No. EPA/600/R-95/136.
- b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. U.S. EPA Report No. EPA-600-4-91-003.
- c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
- d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler 9eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

B. Toxicity Reduction Evaluation

If requested by this Regional Water Board, the City shall develop a Toxicity Reduction Evaluation (TRE) workplan in accordance with the TRE procedures established by the U.S. EPA in the following guidance manuals:

1. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070)
2. Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F)
3. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080)
4. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081)

If toxicity effluent limitations identified in Discharge Specification IV.B of this Order are exceeded, then within 15 days of the exceedance, the discharger shall begin conducting six additional toxicity tests over a six month (at least one sample per calendar month) period and provide the results to the Regional Water Board. The additional monthly toxicity tests will be incorporated into the semiannual discharge monitoring reports submitted pursuant to this MRP.

If the additional monthly tests indicate that toxicity effluent limitations are being consistently violated (at least three exceedances out of the six tests), the Regional Water Board may recommend that the discharger conduct a TRE and a Toxic Identification Evaluation (TIE), as identified in the approved TRE workplan.

If the City conducts the TRE/TIE, the City shall, within 15 days of completion of the TRE/TIE, submit the results of the TRE/TIE, including a summary of findings, identified sources of toxicity, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations of this Order and prevent recurrence of violations of those limitations and a time schedule for implementations of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Regional Water Board.

V. RECEIVING WATER MONITORING REQUIREMENTS.

The Discharger shall monitor temperature as specified in *Table 7. Receiving Water Monitoring Requirements* at the surf zone monitoring stations (MR-001) described in *Table 8. Surf Zone Monitoring Stations*.

Table 7. Receiving Water Monitoring Requirements.

Parameter ¹	Units	Sample Type	Minimum Sampling Frequency
Temperature	°F	Grab	Weekly

¹ Monitoring and analysis shall be conducted in accordance with 40 CFR 136.

Table 8. Surf Zone Monitoring Stations.

Monitoring Location Name	Surf Zone Monitoring Location Description
S1	Surf Zone; 8,000 ft south of the outfall
S2	Surf Zone; 4,500 ft south of the outfall
S3	Surf Zone; 2,500 ft south of the outfall
S4	Surf Zone; 500 ft south of the outfall
S5	Surf Zone; 500 ft north of the outfall
S6	Surf Zone; 4,000 ft north of the outfall
S7	Surf Zone; 8,000 ft north of the outfall

VI. OTHER MONITORING REQUIREMENTS

A. Priority Pollutant Monitoring

This Regional Water Board is requiring that the City conduct effluent monitoring for the priority pollutants listed in Attachment H.

This monitoring shall be conducted at the following locations:

1. Effluent Outfall (MC-001A).

The City shall conduct two priority pollutant monitoring studies as specified in Attachment H. The first monitoring study shall be conducted quarterly for the first year of facility operation (four monitoring events). The results of the quarterly priority pollutant monitoring shall be submitted to this Regional Water Board within 3 months of completing the fourth monitoring event, and no later than November 1, 2006. The second priority pollutant monitoring study shall be conducted approximately one year prior to the permit expiration. The final priority pollutant monitoring event shall be conducted between March 1, 2009 and April 31, 2009 and include Phase II effluent if possible. The results of the priority pollutant monitoring data shall be submitted at least 180 days prior to the expiration date of this Order and shall be submitted with the Report of Waste Discharge.

B. Regional Watershed/Ocean Monitoring

The City shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional watershed or ocean monitoring program for the Pacific Ocean as directed by this Regional Water Board.

The intent of a regional monitoring program is to maximize the efforts of all monitoring

partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During the coordinated monitoring effort, the City's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of discharges to the Pacific Ocean.

C. Special Studies

Core monitoring may include intake monitoring, effluent monitoring, receiving water monitoring, and groundwater monitoring. This Order includes core monitoring for effluent. In addition to core monitoring requirements, the City may be required to conduct additional monitoring. Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core monitoring program. The City shall implement special studies as directed by this Regional Water Board.

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The City shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping and the general monitoring and reporting requirements below. In cases where the monitoring and reporting requirements contained within this section, and the Standard Provisions (Attachment D) conflict, the more stringent of the two requirements apply.
2. The City shall file a new Report of Waste Discharge not less than 180 days prior to the following:
 - a. Addition of any industrial waste to the discharge or the addition of a new process or product resulting in a change in the character of the wastes.
 - b. Significant change in disposal method (e.g. change in the method of treatment which would significantly alter the nature of the waste).
 - c. Significant change in disposal area (e.g. moving the discharge to a disposal area significantly removed from the original area, potentially causing different water quality or nuisance problems).
 - d. Increase in flow beyond that specified in this Order.
 - e. Other circumstances, which result in a material change in character, amount, or location or the waste discharge.
3. The City must notify this Regional Water Board, in writing, at least 30 days in advance of any proposed transfer of this facility to a new discharger. The notice must

- include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable after the transfer date.
4. Except for data determined to be confidential, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the California Regional Water Quality Control Board, San Diego Region and the United States Environmental Protection Agency, Region IX. As required by the Clean Water Act, Reports of Waste Discharge, this Order, and effluent monitoring data shall not be considered confidential.
 5. The City is required to maintain a written log at each power generating facility of all chemical additives added to the water treatment systems and cooling tower that are eventually discharged from the power generating facilities (PEP and Goal Line L.P. Cogeneration) to the IBCS. The log shall include a list of the chemicals used, the use of each chemical, the location of use of each chemical, and the approximate quantity of chemical used over a given time period. A chemical additives audit which contains a list of all chemical additives used in the water treatment systems and cooling tower shall be submitted 30-days prior to connection to the IBCS and thereafter annually with the annual report required in Part VII.B.3 of this MRP. The Regional Water Board must be notified in writing of any additional chemical additive not listed in the chemical additives audit within one business day of its use in the water treatment system or cooling tower. The notification shall include the name of the chemical additive, the reason for its use, and the approximate quantity to be used over a given time. The Regional Water Board shall receive written notification of any additive used for cooling tower maintenance that contains a priority pollutant listed in Attachment H of this Order a minimum of 24-hours prior to its use. The notification shall include the name of the chemical additive, the priority pollutant(s) it contains, the reason for its use, and the approximate quantity to be used over a given time. It should be noted that additional monitoring requirements and effluent limitations are established with the use of priority pollutants for cooling tower maintenance.

B. Self Monitoring Reports

1. At any time during the term of this permit, the City, after notification by the State or Regional Water Board, may be required to electronically submit self-monitoring reports. Until such time as electronic submission of Self Monitoring Reports is required, the City shall submit self-monitoring reports in accordance with the requirements described further below.
2. The City shall submit quarterly and annual Self Monitoring Reports including the results of all required monitoring and monitoring conducted in addition to the minimum required monitoring and using USEPA approved test methods or other test methods specified in this Order. Quarterly reports shall be due on May 1, August 1,

November 1, and February 1 following each calendar quarter; Annual reports shall be due on February 1 following each calendar year.

- Monitoring periods for all required monitoring shall commence according to the schedule in *Table 9. Reporting Schedule.*

Table 9. Reporting Schedule.

Sampling Frequency	Monitoring Period Starts On...	Monitoring Period	Reporting Due with SMR on...
Continuous	September 14, 2005	All	First day of second month following month of sampling
Weekly	September 14, 2005	Sunday through Saturday	First day of second month following month of sampling
Monthly	October 1, 2005	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Semi-annual	October 1, 2005	January 1 through June 30 July 1 through December 31	August 1 March 1
Annual	January 1, 2006	January 1 through December 31	March 1

- The City shall report with each sample result the applicable Minimum Level (ML) and the laboratory current Method Detection Limit (MDL) as determined by the procedure in 40 CFR Part 136.
- Self Monitoring Reports must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D).
- The Discharger shall attach a cover letter to its Self Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation. Monitoring results must be reported on forms approved by this Regional Water Board. Self Monitoring Reports shall be submitted to the addresses listed in *Table 10. Regional Water Board Address.*

Table 10. Regional Water Board Address

Submit monitoring reports to:
California Regional Water Quality Control Board San Diego Region 9174 Sky Park Court, Suite 100 San Diego, California 92123-4340 Attention: Executive Officer

Notifications required to be provided to this Regional Water Board shall be made to:

Telephone – (858) 467-2952

Facsimile – (858) 571-6972

C. Discharge Monitoring Reports

1. As described in Section VII.B.1 of this MRP, at any time during the term of this permit, the Discharger, after notification by the State or Regional Water Board, may be required to electronically submit self-monitoring reports. Until such time as electronic submission of self monitoring reports is required, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described further below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy to the address listed *Table 11. State Water Board Address*.

Table 11. State Water Board Address

Submit DMRs to:
State Water Resources Control Board Discharge Monitoring Report Processing Center Post Office Box 671 Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self generated or modified cannot be accepted.

D. Other Reports

The City shall provide annual monitoring reports to this Regional Water Board regarding the industrial users of the IBCS. The annual report should:

1. Identify industrial discharger Orders issued to qualifying dischargers,
2. Identify industries discharging to the IBCS and flows contributed by each IBCS discharger, and
3. Summarize the compliance status of each IBCS discharger with City-assigned industrial effluent limitations.

Attachment F – Fact Sheet

Table of Contents

I. Permit Information.....	3
II. Facility Description	4
A. Description of Wastewater Treatment or Controls	6
B. Discharge Points and Receiving Waters	7
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data	7
III. Applicable Plans, Policies, and Regulations	11
A. Legal Authorities	11
B. California Environmental Quality Act (CEQA).....	11
C. State and Federal Regulations, Policies, and Plans	11
D. Impaired Water Bodies on CWA 303(d) List	13
IV. Rationale For Effluent Limitations and Discharge Specifications.....	14
A. Discharge Prohibitions	14
B. Technology-Based Effluent Limitations	15
1. Scope and Authority	15
2. Applicable Technology-Based Effluent Limitations.....	17
C. Water Quality-Based Effluent Limitations (WQBELs).....	21
1. Scope and Authority	21
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives.....	21
3. Determining the Need for WQBELs for Priority Pollutants	22
4. Determining the Need for WQBELs for Non-Priority Pollutants	23
5. WQBELs Calculations	23
6. Whole Effluent Toxicity (WET)	25
D. Final Effluent Limitations.....	26
V. Rationale for Receiving Water Limitations.....	30
VI. Monitoring and Reporting Requirements	30
A. Effluent Monitoring.....	30
B. Whole Effluent Toxicity Testing Requirements.....	33
C. Receiving Water Monitoring.....	33
VII. Rationale for Provisions	33
A. Standard Provisions.....	33
B. Special Provisions.....	33
1. Re-Opener Provisions	33
2. Special Studies and Additional Monitoring Requirements.....	34
3. Best Management Practices and Pollution Prevention.....	35
VIII. Public Participation.....	35
A. Notification of Interested Parties	35
B. Written Comments.....	36
C. Public Hearing.....	36
D. Waste Discharge Requirements Petitions	37
E. Information and Copying.....	37
F. Register of Interested Persons	37

LIST OF TABLES

Table 1. Facility Information3
Table 2. Projected Physical and Chemical Concentrations.....7
Table 3. Projected TDS Concentrations.....8
Table 4. Projected Metals and Cyanide Concentrations8
Table 5. Projected Toxic Organic Concentrations9
Table 6. PEP Chemical Additives.....10
Table 7. Goal Line L.P. Cogeneration Chemical Additives10
Table 8. Basin Plan Beneficial Uses of the Pacific Ocean.....11
Table 9. Ocean Plan Beneficial Uses of the Pacific Ocean.....12
Table 10. Technology Based Effluent Limitations for Internal Discharge Point I-00118
Table 11. Technology Based Effluent Limitations for Internal Discharge Point I-00218
Table 12. Technology Based Effluent Limitations for Internal Discharge Point I-00320
Table 13. Technology Based Effluent Limitations for Internal Discharge Point I-00420
Table 14. Summary of WQBELs for Combined Discharge Point C-00124
Table 15. Final Effluent Limitations for Internal Discharge Point I-001.....25
Table 16. TSS Intake Credits for Internal Discharge Point I-00127
Table 17. Final Effluent Limitations for Internal Discharge Point I-002.....27
Table 18. Final Effluent Limitations for Internal Discharge Point I-003.....28
Table 19. Final Effluent Limitations for Internal Discharge Point I-004.....28
Table 20. Summary of Final Effluent Limitations for Combined Discharge Point C-00129
Table 21. Effluent Monitoring Requirements for Internal Discharge Points of Low Volume
Wastes30
Table 22. Effluent Monitoring Requirements for Internal Discharge Points of Cooling Tower
Blowdown30
Table 23. Effluent Monitoring Requirements for Combined Discharge Point C-00131

ATTACHMENT F – FACT SHEET

As described in Section II of Order No. R9-2005-0139, this Fact Sheet includes the specific legal requirements and detailed technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

Administrative information for the IBCS is summarized in *Table 1. Facility Information.*

Table 1. Facility Information.

WDID	9 00001359
Discharger	City of Escondido
Name of Facility	City of Escondido Industrial Brine Collection System
Facility Address	Terminus at: 1521 S. Hale Avenue Escondido, CA 92029 San Diego County
Facility Contact, Title and Phone	John Burcham (Plant Superintendent), (760) 839-6273
Authorized Person to Sign and Submit Reports	Patrick A. Thomas (Director of Public Works), (760) 839-4651
Mailing Address	201 N. Broadway, Escondido, CA 92025
Billing Address	201 N. Broadway, Escondido, CA 92025
Type of Facility	Industrial Brine Collection System
Threat to Water Quality	2
Complexity	A
Pretreatment Program	NA
Reclamation Requirements	NA
Facility Permitted Flow	1.5 million gallons per day
Facility Design Flow	1.5 million gallons per day
Watershed	Pacific Ocean Shoreline, Escondido Creek
Receiving Water	Pacific Ocean (via San Elijo Ocean Outfall)
Receiving Water Type	Surface Water

The City of Escondido (hereinafter Discharger) is the owner and operator of the Escondido Industrial Brine Collection System (hereinafter IBCS), a collection system for industrial brine wastewaters.

The Discharger proposes to discharge up to 1.5 million gallons per day (mgd) of dechlorinated industrial brine wastewater from the IBCS to the Pacific Ocean, a water of the United States, via the Escondido Land Outfall and the San Elijo Ocean Outfall.

The Discharger filed a report of waste discharge and submitted an application for Waste Discharge Requirements (WDR) and National Pollutant Discharge Elimination System (NPDES) permit on October 25, 2004. A site visit was conducted on March 29, 2005 to observe operations and collect additional data to develop Order limitations and conditions. A

revised NPDES permit application was submitted on July 21, 2005. A site visit of the Palomar Energy Project was conducted on July 27, 2005 to collect additional information to develop Order limitations and monitoring conditions established in the Order.

II. FACILITY DESCRIPTION

In order to minimize the discharge of salts to the sanitary sewer system, the City of Escondido has constructed an Industrial Brine Collection System (IBCS). The City of Escondido proposes to allow qualified City-regulated industrial dischargers to discharge certain industrial brine wastewaters into the IBCS. Brine wastes allowed into the IBCS would include:

1. Brine wastewater or blowdown from evaporative cooling processes, and
2. Brine from reverse osmosis, water softener, and other types of water treatment processes.

These industrial processes concentrate dissolved minerals that naturally exist in potable water and recycled water supplies, resulting in elevated concentrations of total dissolved solids (TDS) in the discharge. Normal municipal wastewater treatment processes do not remove TDS, and increased concentrations of TDS can interfere with secondary biological wastewater treatment processes and adversely affect the usability of recycled water. To avoid adverse salinity impacts at the City's Hale Avenue Resource Recovery Facility (HARRF), brine industrial wastewater discharged into the IBCS will not be directed to HARRF preliminary, primary, or secondary treatment facilities. The brine wastewater discharged into the IBCS will be dechlorinated and discharged into an equalization basin that feeds directly into the City's Escondido Land Outfall (ELO) and is then directed to the San Elijo Ocean Outfall (SEOO).

The City of Escondido proposes to construct the IBCS in two phases. Phase I of the IBCS is a 12-inch diameter pressure pipeline that will receive wastewater discharges from the *Palomar Energy Project* (PEP). The PEP is a 550-megawatt power plant being constructed by Palomar Energy LLC, an entity of Sempra Energy. The PEP is located at a site approximately 0.9 miles north-northwest of HARRF. The PEP will be a natural gas combined cycle power plant. The PEP intends to begin power generating testing operations in October 2005 using approximately 3.0 mgd to 5.3 mgd of HARRF recycled water for power plant operations.

The projected schedule for PEP power generating testing operations will coincide with the Discharger's proposed start-up of the IBCS, Phase I, system in October 2005. Commercial power generation operations at PEP are expected to within the month. Phase I of the IBCS would receive an average flow of 1.0 mgd and a maximum flow of 1.4 mgd of cooling tower blowdown, evaporative cooler blowdown, heat recovery steam generator blowdown, demineralization brine, and low volume waste streams from various floor drains throughout the facility from PEP.

Phase II of the IBCS will include brine pipelines that receive industrial brine wastewater flow of approximately 0.09 mgd of cooling tower blowdown and brine wastewaters from the following industrial facilities:

1. Boncor (0.02 mgd of water softening and regeneration wastewater),
2. Culligan (0.017 mgd of water softening and regeneration wastewater), and
3. Goal Line L.P. (0.05 mgd of cooling tower blowdown, heat recovery generator blowdown, and demineralization brine wastewater).

Phase II of the IBCS will include a connection to the existing 49-megawatt cogeneration Goal Line L.P. facility. HARRF recycled water will provide cooling water for the Goal Line L.P. cooling towers and cooling tower blowdown.

The Discharger is currently working on the Phase II infrastructure. The Discharger expects the IBCS, Phase II, to be completed within 5 years.

The majority of recycled water flows directed to the power plants (both Goal Line L.P. and PEP) will be evaporated. Approximately 26% of the recycled water delivered to the Goal Line L.P. and the PEP will be discharged as waste brine to the IBCS. The waste brine will contain the same mass of salt that would have been discharged to the SEOO if the power plant was not using and evaporating the recycled water. This mass of salt discharged to the SEOO will be slightly concentrated because of the reduced flow. Under Phase I of the IBCS, average daily City of Escondido discharges to the ELO and SEOO system (IBCS and HARRF effluent) would be reduced by approximately 2.7 mgd due to the evaporation that occurs at PEP.

Operation of the IBCS and the PEP will reduce flows discharged to the SEOO by the City of Escondido. The flow reduction is expected to reduce the potential for the City's intermittent wet-weather stream discharges, which are regulated by Regional Water Board Order No. R9-2003-0394.

With the implementation of the proposed 1.5 mgd IBCS brine discharge, the combined SEOO discharge to the Pacific Ocean will contain the following three effluent streams:

1. HARRF secondary and tertiary treated municipal wastewater currently regulated by Regional Water Board Order No. R9-2005-0101 (NPDES No. CA0107981),
2. Secondary treated municipal wastewater from the San Elijo Joint Powers Authority (SEJPA) San Elijo Water Reclamation Facility (SEWRF), currently regulated by Regional Water Board Order No. 99-71 (CA0107999), and
3. Dechlorinated brine industrial wastewater from the City of Escondido's IBCS.

Attachment C to Order No. R9-2005-0139 is a line diagram of the three effluent streams that will contribute to the total ELO discharge.

The ELO has a hydraulic capacity of 27.6 mgd. The SEOO has a hydraulic capacity of 25.5 mgd. Operating capacity of SEOO is limited by the inshore 30-inch diameter section of SEOO that has a design pressure limit of 50 feet or 21.7 pounds per square inch (psi). To insure safe operating pressures within this inshore 30-inch diameter portion of SEOO, total flows through the outfall are limited to 24.3 mgd through a flow-regulating valve on ELO. A pressure transmitter in the 30-inch diameter portion of SEOO actuates the ELO valve. The City of Escondido leases 79 percent of the 24.3 mgd SEOO capacity (19.2 mgd).

Currently, SEJPA is permitted to discharge up to 5.25 mgd of treated municipal wastewater to SEOO. The City of Escondido is currently permitted to discharge up to 16.5 mgd of treated municipal wastewater to SEOO. The City of Escondido has submitted an application to increase the allowable average daily HARRF discharge flow to SEOO from 16.5 mgd to 18.0 mgd. The increased flow rate for HARRF includes the additional flow volume from the IBCS (1.5 mgd).

The IBCS, Phase I, flows will be discharged to ELO after dechlorination. During the first year of operation of the IBCS, the IBCS will discharge to the ELO continuously. By mid-2006 the Discharger expects to have a two million gallon flow equalization basin for the IBCS discharge. Once the flow equalization basin is in operation, the City will be able to control the time and rate of discharges from the IBCS to the ELO.

The total HARRF flows (i.e., the secondary treated discharges and the IBCS) will be maintained at 18 mgd. The HARRF flows will be controlled through various means, including:

1. Storage at Pump Station No. 77.
2. In-plant process storage.
3. The existing 2 million gallon equalization storage basin at HARRF (for secondary treated wastewater).

After completion of the 2 million gallon brine equalization basin in mid-2006, IBCS flows will be discharged to the equalization basin prior to discharge to ELO.

A. Description of Wastewater Treatment or Controls

The City plans to regulate industries discharging brine wastewaters to the IBCS through industrial discharge permits issued by the City's existing USEPA-approved industrial discharger pretreatment program. Through the City's pretreatment program, the City has authority to establish effluent discharge standards for each regulated industry, issue industrial discharger permits, and enforce the established industrial discharge standards.

Prior to discharge to the ELO, brine industrial wastewaters collected in the IBCS will be dechlorinated at the HARRF. Dechlorination will occur prior to combining with the HARRF effluent. Following dechlorination, the effluent would be discharged to the ELO, then the SEOO.

The use of the HARRF recycled water for the evaporative cooling towers will reduce the City of Escondido's discharges (HARRF and IBCS) to the ELO and the SEOO. The combined total flow from the HARRF and IBCS shall not exceed 18.0 mgd.

B. Discharge Points and Receiving Waters

The Discharger proposes to discharge up to 1.5 mgd of brine wastewater, blowdown from evaporative cooling processes, and brine from reverse osmosis, water softener, and other types of water treatment processes. The combined treated wastewater is discharged to the Pacific Ocean through the SEOO. The SEOO is located at 33° 00' 21" North latitude and 117° 18' 09" West longitude.

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

The largest industrial user of the IBCS, the PEP, is not yet operating. Therefore, water quality monitoring data for IBCS, Phase I, are not available. Estimates of water quality concentrations in the IBCS discharge have been developed by the City of Escondido based on the following:

1. The type of facility contributing to IBCS, Phase I, flows.
2. Known qualities of wastewater from existing industries (currently discharging to the City of Escondido's sanitary sewer system) that will contribute to IBCS, Phase II, flows.

Because the Phase I flow makes up the majority of the Phase I and Phase II total flow (1.5 mgd and 0.1 mgd respectively), effluent water quality for physical and chemical constituents is not expected to differ greatly from Phase I to Phase II. The expected IBCS effluent quality for physical and chemical constituents is summarized in *Table 2*.

Projected Physical and Chemical Concentrations.

Table 2. Projected Physical and Chemical Concentrations.

Parameter	Unit	Projected Maximum Daily Value	Projected Average Daily Value
Flow	mgd	1.5	1.1
Temperature (winter)	°C	40	31
Temperature (summer)	°C	40	35
pH	Units	6 - 9	6 - 9
Biochemical Oxygen Demand (BOD)	mg/L	<45	<30
Chemical Oxygen Demand (COD)	mg/L	<90	<50
Total Suspended Solids (TSS)	mg/L	<60	<45

Parameter	Unit	Projected Maximum Daily Value	Projected Average Daily Value
Ammonia (as N)	mg/L	<80	<25
Total Chlorine Residual	mg/L	0	0
Grease and Oil	mg/L	<5	<5

The combined flow from IBCS, Phase I and Phase II, is projected to cause TDS concentrations that are approximately five times (a ratio of 5 to 1) higher than the HARRF recycled water would be if the industrial uses were not discharging the IBCS. The expected IBCS effluent quality for TDS is summarized in *Table 3. Projected TDS Concentrations.*

Table 3. Projected TDS Concentrations.

IBCS Phase	Facility Name	Projected Average Flow	Projected TDS Concentration (mg/L)
Phase I	Palomar Energy Plant (PEP)	1.0	4,250
Phase II	Boncor	0.022	17,000
	Culligan	0.019	15,000
	Goal Line L.P.	0.050	4,500
Combined Phase I and Phase II IBCS Discharge		1.5	4,400
HARRF Recycled Water TDS Concentration		--	900

Effluent quality of metals and cyanide are not expected to differ from Phase I to Phase II. Water quality concentration estimates for metals and cyanide are expected to increase from the HARRF recycled water by five times. The expected IBCS effluent quality for metals and cyanide are summarized in *Table 4. Projected Metals and Cyanide Concentrations.*

Table 4. Projected Metals and Cyanide Concentrations.

Parameter	2003 Maximum Detected Value in HARRF Secondary Effluent (µg/L)	2003 Mean Value for HARRF Secondary Effluent (µg/L)	Projected Maximum Concentration in IBCS Brine Effluent (µg/L) ¹	Projected Mean Concentration in IBCS Brine Effluent (µg/L)
Antimony	<5	<5	<25	<25
Arsenic	1.38	<3	<50	<15
Beryllium	0.07	<0.6	<3.5	<3.0
Cadmium	6.2	<5	<50	<10
Chromium III	1.14	<1.9	<20	<9.5
Chromium VI	ND	<2.0	<20	<10
Copper	15.8	11.1	77.42	55
Lead	10.9	<6.5	53.41	<33
Mercury	0.18	<0.2	0.88	<1.0
Nickel	38	14.0	184.73	70
Selenium	1.13	<5	5.54	<25
Silver	1.9	<1.2	9.31	<6.0
Thallium	<3.4	<3.4	9.8	<17
Zinc	67	54	330.26	270
Cyanide	ND	<50	<250	<250

Parameter	2003 Maximum Detected Value in HARRF Secondary Effluent (µg/L)	2003 Mean Value for HARRF Secondary Effluent (µg/L)	Projected Maximum Concentration in IBCS Brine Effluent (µg/L) ¹	Projected Mean Concentration in IBCS Brine Effluent (µg/L)
Phenolic Compounds	120	<110	588	<550

¹ Based on 2003 maximum detected value in HARRF secondary effluent.

² ND = Non-Detect

Organic phosphate inhibitors are used for controlling biological growth within cooling tower and power generation facilities to control biological growth. No toxic organic algacides or other toxic organic compounds are proposed at PEP or are used at Goal Line L.P. that would adversely affect IBCS effluent quality.

Data for toxic organic parameters for HARRF recycled water is not available. Data for toxic compounds in the HARRF secondary effluent at concentrations in excess of method detection limits during 2003 include chloroform, methylene chloride, phenol, 1,4-dichlorobenzene, and BHC (total).

It is expected that volatile compounds in the HARRF recycled water will volatilize in the evaporative cooling towers. Non-volatile toxic constituents in the HARRF recycled water are expected to be concentrated by the power plant evaporative cooling and water treatment operations at a ratio at approximately 5 to 1. Effluent quality of toxic organic constituents is not expected to differ significantly from Phase I to Phase II. The expected effluent quality for anticipated toxic organic constituents are summarized in *Table 5*.

Projected Toxic Organic Concentrations.

Table 5. Projected Toxic Organic Concentrations.

Category	Compound	2003 Maximum Detected Value in HARRF Secondary Effluent (µg/L)	2003 Mean Value for HARRF Secondary Effluent (µg/L)	Projected Maximum Concentration in IBCS Brine Effluent (µg/L) ¹	Projected Mean Concentration in IBCS Brine Effluent (µg/L)
Volatile Organic Compounds	Chloroform	3.0	<2	ND	ND
	Methylene Chloride	3.8	<4	ND	ND
	All other volatile compounds	ND	ND	ND	ND
Acid Extractable Compounds	Phenol	120	<110	<600	<550
	All other acid extractable compounds	ND	ND	ND	ND
Base Neutral Compounds	1,4-dichlorobenzene	1.0	<1	5	<5
	All other base neutral compounds	ND	ND	ND	ND
Pesticides	BHC (total)	0.09	<0.06	0.45	<0.3
	All other pesticides	ND	ND	ND	ND

¹ Based on 2003 maximum detected value in HARRF secondary effluent.

² ND = Non-detect

Whole effluent toxicity data is not available for the IBCS discharge.

Organic phosphate inhibitors are used for controlling biological growth within cooling tower and power generation facilities to control biological growth. No toxic organic algaecides or other toxic organic compounds are proposed at PEP or are used at Goal Line L.P. that would adversely affect IBCS effluent quality. Chemicals to be added to the PEP cooling tower water and wastewater system are summarized in *Table 6. PEP Chemical Additives.*

Table 6. PEP Chemical Additives.

Chemical Additive	Injection Point(s)	Purpose of Additive
Sodium Hypochlorite	Raw water storage tank, cooling tower, ultra filter backwash	Disinfectant to control biological fouling.
Nalco Acti-Brome 1338	Raw water storage tank	Disinfectant to control biological fouling.
Nalco Ferralyte 8132	Ultra filter inlet	Coagulant used to improve removal of suspended solids
Sodium Hydroxide	Reverse osmosis system, ultra filter	Removal of carbon dioxide from inlet to demineralizer; pH adjustment
Sulfuric Acid	Reverse osmosis makeup, cooling tower, ultra filter backwash	PH adjustment, control circulating water alkalinity
PermaTreat PC-191	Reverse osmosis makeup	Reverse osmosis membrane anti-scalant
Nalco 7408	Reverse osmosis makeup, cooling tower blowdown	Dechlorination
Sodium Chloride	Electro-Deionization	Increase conductivity
Nalco 3DT195	Circulating water mineral dispersant and corrosion inhibitor	Circulating water anti-scalant
Nalco 3DT BR40	Cooling tower	Tracer for acti-brome
Nalco 73550	Cooling tower	Circulating water mineral dispersant and corrosion inhibitor
Nalco Eliminox	Condensate cycle	Boiler feedwater oxygen scavenger
Nalco Tri-Act 1800	Condensate cycle	pH adjustment
Nalco BT-3000	Heat Recovery Steam Generator	Boiler water pH adjustment and conditioner
Aqueous Ammonia	SCR (exhaust gases)	NOx reduction
Nalco 8338	Closed cycle cooling water system	Corrosion inhibitor
Nalco 7330	Closed cycle cooling water system closed cooling	Biocide

Information was supplied by the Goal Line L.P. cogeneration facility indicating chemical additives are used in the Goal Line L.P. cogeneration-cooling tower. Chemicals to be added to the Goal Line L.P. cogeneration facility cooling tower water are summarized in *Table 7. Goal Line L.P. Chemical Additives.*

Table 7. Goal Line L.P. Chemical Additives.

Chemical Additive	Injection Point(s)	Purpose of Additive
Sodium Hypochlorite	Cooling tower	Disinfectant to control biological fouling.
Sulfuric Acid	Cooling tower	pH Control.
Phosphate Compound	Cooling tower	Corrosion inhibitor

Pursuant to Section VII.A.5 of the MRP, a final list of chemicals that will be used by PEP and Goal Line L.P. in the wastewater treatment system and cooling tower is required to be submitted to the Regional Water Board 30-days prior to discharging to the IBCS.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) that implements regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit for point source discharges from the IBCS to a surface water of the United States. This Order establishes Waste Discharge Requirements pursuant to Article 4, Chapter 4 of the CWC.

B. California Environmental Quality Act (CEQA)

New sources as defined by the CWA must meet CEQA requirements specified in CWC 13389. The City of Escondido prepared and certified environmental impact reports (EIRs) for the Hale Avenue Resource Recovery Facility Expansion Project and Reclaimed Water Distribution system, including the Supplemental EIR (SEIR) for these projects [Schedule Nos. 1990010817, 1992011023, and 2002111043]. The City filed a Notice of Determination on February 27, 2003. No action challenging the EIRs or SEIR was filed within the prescribed period. No substantial changes to the project are proposed, no substantial changes to the circumstances under which the project is being undertaken have occurred, and no new information that was not known at the time the SEIR was certified as complete has become available. The Regional Board is entitled to rely on the EIRs/SEIR certified by the City pursuant to Public Resources Code Section 21167.2.

C. State and Federal Regulations, Policies, and Plans

- 1. Basin Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. 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. Beneficial uses applicable to Pacific Ocean are listed in *Table 8. Basin Plan Beneficial Uses*.

Table 8. Basin Plan Beneficial Uses of the Pacific Ocean.

Outfall Number	Receiving Water Name	Beneficial Use(s)
C-001	Pacific Ocean	<p style="text-align: center;"><u>Existing:</u></p> Industrial Service Supply (IND); Navigation (NAV); Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Preservation of Biological Habitats of Special Significance (BIOL); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); Marine Habitat (MAR); Aquaculture (AQUA); Migration of Aquatic Organisms (MIRG); Spawning, Reproduction, and/or Early Development (SPWN); Shellfish Harvesting (SHELL)

Chapter 3, Water Quality Objectives, on p. 3-4 of the Basin Plan specifically states that the *Water Quality Control Plan for the Ocean Waters of California* (hereinafter, Ocean Plan) is incorporated into the Basin Plan for protection of the beneficial uses of the State ocean waters.

- 2. Ocean Plan.** On November 16, 2000 the State Water Board adopted a revised Ocean Plan. The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized in *Table 9. Ocean Plan Beneficial Uses*.

Table 9. Ocean Plan Beneficial Uses of the Pacific Ocean.

Outfall Number	Receiving Water Name	Beneficial Use(s)
C-001	Pacific Ocean	Industrial Water Supply; Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; Navigation; Commercial and Sport Fishing; Mariculture; Preservation and Enhancement of Designated Areas of Special Biological Significance (ASBS); Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning and Shellfish Harvesting

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

- 3. Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (hereinafter, Thermal Plan) on May 18, 1972, and amended it

on September 18, 1975. The Thermal Plan contains temperature objectives for coastal surface waters.

- 4. Antidegradation Policy.** 40 CFR 131.12 requires that 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 No. 68-16, which incorporates the requirements of the federal antidegradation policy. State Water Board Resolution No. 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- 5. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. No effluent limitations have previously been established for this discharge.
- 6. Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.
- 7. Regional Water Board Order No. R9-2005-0101 (NPDES Permit for HARRF).** Existing waste discharge requirements for HARRF are contained in Order No. R9-2005-0101 (NPDES No. CA0107981), adopted by the Regional Water Board on June 8, 2005. Order No. R9-2005-0101 included regulations for an increase in the HARRF discharge flow limitation from 16.5 mgd to 18.0 mgd.
- 8. Regional Water Board Order No. R9-2005-0100 (NPDES Permit for SEJPA discharge to SEOO).** The SEJPA discharge to SEOO is currently regulated by Regional Water Board Order No. R9-2005-0100 (NPDES No. CA0107999). Order No. R9-2005-0100 includes regulations for discharge up to 5.25 mgd of treated wastewater to SEOO.

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

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations for point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt total maximum daily loads (TMDLs) that will specify waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA has approved the State's 303(d) list of impaired water bodies. Certain receiving waters in the San Diego County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2002 303(d) list and have been scheduled for TMDL development.

The 2002 State Water Board's California 303(d) List classifies the Pacific Ocean Shoreline, Escondido Creek Hydrologic Area as impaired for bacteria. Currently there is no proposed date for the TMDL completion for this receiving water body.

Because the discharge from the IBCS is dechlorinated municipal water comprised of concentrated sodium chloride, magnesium ions, and calcium ions, this discharge is not likely to contribute to the bacterial impairment of the receiving water body. Further, the discharge is not expected to contain significant concentrations of bacteria. This Order does not allow the discharge of detectable levels of bacteria that would contribute to the impairment of the receiving water body.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges 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: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality objective to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, three options exist to protect water quality: 1) 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative objective supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A diffuser has been installed on the submerged discharge outfall pipe from the SEOO. Based on State Water Board modeling, the diffuser increases the initial dilution by a factor of 237:1. A dilution factor of 237:1 has been allowed for discharges of the total combined IBCS effluent. Information relevant to the modeling of the SEOO outfall is included in Attachment G.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Ocean Plan, Thermal Plan, and the CWC, and are consistent with the requirements set for other discharges regulated by waste discharge requirements adopted by this Regional Water Board.

1. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.
2. Compliance with applicable Discharge Prohibitions contained in the Basin Plan is a requirement of this Order.
3. Discharges of wastes in a manner or to a location which have not been specifically authorized by this Order and for which valid waste discharge requirements are not in force are prohibited.
4. The discharge of wastewater at a rate exceeding 1.5 mgd during Phase I of IBCS operation; 1.5 mgd during Phase II of IBCS operation; or any rate that when combined with the effluent discharge rate from HARRF contributes to an exceedance of 18 mgd, is prohibited unless the Discharger obtains revised waste discharge requirements authorizing an increased discharge.
5. The discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid at Internal Discharge Points I-001 through I-008 is prohibited.
6. Neither free available chlorine nor total residual chlorine may be discharged from any power generating unit contributing to cooling tower blowdown effluent at Internal Discharge Points I-002 and I-003 for more than 2 hours in any one day and not more than one unit in any facility may discharge free available or total residual chlorine at any one time.
7. The discharge of wastewater, that when combined with the effluent discharged from HARRF, contributes to an exceedance of the Thermal Plan and the temperature effluent limitation established in Section IV.B of this Order is prohibited.
8. Odors, vectors, and other nuisances of waste origin beyond the limits of the property controlled by the Discharger are prohibited.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations be established based on several factors:

- a. Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional 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 nonconventional pollutants.

- c. Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after evaluating the cost of attaining a reduction in pollutant discharge, the benefits that would result, and the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) that represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that implement new treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELG), BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of best professional judgment (BPJ) to develop technology-based effluent limitations on a case-by-case basis where ELGs are not available. Where BPJ is used, the permit writer must comply with 40 CFR section 125.3. None of the effluent limitations contained in this Order were established using BPJ.

Pursuant to 40 CFR section 122.2 a new source is defined as any building, structure, facility, or installation from which there is or may be a discharge of pollutants after the promulgation of effluent guidelines. The effluent guidelines for steam electric power generating point source became effective on November 19, 1982. The PEP facility is currently under construction and is a new source performance standards (NSPS) facility. The Goal Line L.P. cogeneration facility was constructed after November 19, 1982 and began operation in 1995 and is also subject to NSPS.

The single Phase I industrial user (PEP) is a recently built natural gas combined cycle power plant and is subject to NSPS for the steam electric power generating point source category ELGs specified in 40 CFR section 423.15. According to 40 CFR section 423.11, low volume wastes are defined as wastewater from all sources except those for which specific limitations are otherwise established. Pursuant to 40 CFR section 423.15 (c), the waste brine from the on-site water treatment system is subject to meet NSPS ELG-based effluent limitations for low volume waste sources prior to commingling with any other waste streams. The cooling tower blow down effluent from PEP effluent must meet NSPS prior to commingling with other wastewaters (including all low volume wastewaters) and being discharged to the IBCS. Because the IBCS is not a publicly owned treatment works facility as defined in 40 CFR section 403.3(o), pretreatment standards for new sources are not applicable to the effluent waste stream from PEP.

During Phase II of the IBCS, Goal Line L.P. cogeneration facility will begin to discharge to the IBCS. The Goal Line L.P. cogeneration facility commenced

operation in 1994 and currently discharges to a sanitary sewer system. The cogeneration facility includes a 41.2-megawatt combustion turbine that burns natural gas. Exhaust from the combustion turbine is ducted to a heat recovery steam generator to produce steam. High-pressure steam from the heat recovery steam generator is used in a 10.2 megawatts steam turbine generator. Section 423.10 of 40 CFR establishes the ELGs for steam electric power generating point source category to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilization of fossil-type fuel or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. Pursuant to 40 CFR Part 423, wastewaters from the Goal Line L.P. cogeneration facility must meet NSPS prior to commingling with other wastewaters.

The City of Escondido has applied for waste discharge requirements for the discharge of dechlorinated PEP and Goal Line L.P. cogeneration effluent. The IBCS is acting as a conveyance for the industrial waste. Pursuant to the City of Escondido's NPDES permit application, the City of Escondido is responsible for compliance with the NSPS ELG-based effluent limitations and prohibitions.

In compliance with 40 CFR section 122.45(f) and 40 CFR Part 423.15, mass-based limitations have also been established in the Order for conventional, nonconventional, and toxic pollutants. Generally, mass-based limitations ensure that proper treatment, and not dilution is employed to comply with the final effluent concentration limitations. Pursuant to 40 CFR 122.45, mass-based limitations are calculated using long term average flows. Because the PEP effluent is a new discharge, the mass-based effluent limitations contained in the Order for discharges from PEP are based on a maximum total discharge flow rate to allow for some variances within the expected flow rates. When calculating the mass-based limitations for discharges, the appropriate flow, instantaneous maximum limitations for instantaneous maximum mass calculations, and the 30-day average limitations when calculating the 30-day average mass, should be substituted in the following equation:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} * 8.34 * \text{effluent limitation (mg/L)}$$

where: mass = mass limitation for a pollutant (lbs/day)
effluent limitation = concentration limitation for a pollutant (mg/L)
flow rate = discharge flow rate (MGD)

2. Applicable Technology-Based Effluent Limitations

a. Phase I (PEP)

Pursuant to 40 CFR section 423.15, NSPS, ELGs for steam electric power generating facilities have been established in this Order. The Report of Waste

Discharge (RWD) submitted to the Regional Water Board by the Discharger indicates that cooling tower blowdown, evaporative cooler blowdown, reverse osmosis brine, deionization brine, various low volume floor drain effluent, and heat recovery steam generator blowdown will be discharged into the IBCS by PEP during Phase I of the IBCS. The Discharger indicates that all other wastes, including drains located in areas of chemical storage and those subject to discharges of oily discharges from the PEP facility will be directed to the sanitary sewer.

The ELGs prohibit the discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid in all wastewaters from the facility.

Numeric ELG-based effluent limitations applicable to all NSPS discharges and for low volume wastes have been established in this Order at Internal Discharge Point I-001 at a wastewater collection and transfer sump. ELG-based effluent limitations for low volume wastes are applicable for the low volume waste prior to commingling with other wastewaters or being routed to the cooling tower.

The ELGs establish effluent limitations for pH. Further, concentration-based effluent limitations and mass-based effluent limitations are established for total suspended solids (TSS) and oil and grease in low volume wastes.

An internal discharge point for evaporative cooler blowdown, ultra filtration backwash, reverse osmosis brine backwash, deionization brine backwash, various low flow floor drains, and heat recovery steam generator blowdown has been established at the waste water collection and transfer sump. Mass-based effluent limitations have been established for low volume wastes based on a total low volume waste flow of 0.32 mgd. Low volume wastes ELG-based effluent limitations are summarized in *Table 10. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point I-001)*.

Table 10. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point I-001).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day	80.1	266.9	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	43.8	53.4	--	--

ELG-based effluent limitations applicable to cooling tower blowdown effluent from PEP have been established in the Order at Internal Discharge Point I-002.

The ELGs establish effluent limitations for pH. Further, concentration-based effluent limitations are applicable to cooling tower blowdown for free available chlorine, total chromium, total zinc, and the remaining priority pollutants (listed

in Attachment H). The ELGs prohibit the discharge of available chlorine and total residual chlorine in cooling tower blowdown from any unit for more than two hours in any one day. Further, not more than one unit in any plant may discharge free available or total residual chlorine at any one time. Mass-based effluent limitations for cooling tower blowdown are based on a maximum peak flow of 1.27 gpd. The applicable technology-based effluent limitations for Internal Discharge Point I-002 are listed in *Table 11. Technology-Based Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-002)*.

Table 11. Technology-Based Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-002).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day	--	--	--	5.3
Chromium, total ^{2,3}	mg/L	0.2	0.2	--	--
	lbs/day	2.1	2.1	--	--
Zinc, total ^{2,3}	mg/L	1.0	1.0	--	--
	lbs/day	11.6	11.6	--	--
Remaining priority pollutants ³	ug/L	ND ⁴	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order.

² The effluent limitations for metals are expressed as total recoverable.

³ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁴ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

b. Phase II (Goal Line L.P. Cogeneration Facility)

The discharge of cooling tower blowdown and low volume waste from the Goal Line L.P. cogeneration facility is subject to 40 CFR section 423.15, NSPS ELGs for steam electric power generating facilities. ELG-based effluent limitations have been established in this Order for the discharge of blowdown from the cogeneration facility cooling towers, and the discharge of low volume waste (demineralization brine). The RWD submitted to the Regional Water Board by the City of Escondido indicates that a total discharge flow of wastewater to the IBCS from the Goal Line L.P. cogeneration facility is expected to be approximately 29,400 gallons per day (gpd) with a maximum discharge of 50,000 gpd. A maximum discharge flow for the cooling tower blowdown of 50,000 gpd was confirmed during a phone call on July 28, 2005 with a facility representative. During the phone call, the facility representative indicated that a low volume

waste (demineralization brine) is directed to the cooling tower prior to discharge. The WDR indicates that a heat recovery generator blowdown discharge may be discharged to the IBCS once the Goal Line L.P. facility is connected to the IBCS. The facility representative confirmed that the heat recovery generator blowdown would not be directed to the IBCS and would continue to be discharged to the sanitary sewer.

The ELGs prohibit the discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid in all wastewaters from the facility.

The ELGs establish effluent limitations for pH. Further, concentration-based effluent limitations and mass-based effluent limitations are established for total suspended solids, and oil and grease in low volume wastes.

An internal discharge point for demineralization brine from the on-site water treatment facility at the Goal Line L.P. cogeneration facility has been established as Internal Discharge Point I-003. Mass-based effluent limitations have been established for low volume waste (demineralization brine) based on a low volume waste flow of 20 gallons per minute, 19 hours per day for a total flow of 22,800 gpd. Low volume wastes ELG-based effluent limitations are summarized in *Table 12. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point I-003)*.

Table 12. Technology Based Effluent Limitations for Low Volume Waste (Discharge Point I-003).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day	5.7	19	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	2.8	3.8	--	--

ELG-based effluent limitations applicable to cooling tower blowdown effluent from the Goal Line L.P. cogeneration facility have been established in the Order at Internal Discharge Point I-004.

The ELGs establish effluent limitations for pH. Further, concentration-based effluent limitations are applicable to cooling tower blowdown for free available chlorine, total chromium, total zinc, and the remaining priority pollutants (listed in Attachment H). The ELGs prohibit the discharge of available chlorine and total residual chlorine in cooling tower blowdown from any unit for more than two hours in any one day. Further, not more than one unit in any plant may discharge free available or total residual chlorine at any one time. Mass-based effluent limitations for cooling tower blowdown are based on a long-term average flow of

29,400 gpd. The applicable technology-based effluent limitations for Internal Discharge Point I-004 are listed in *Table 13. Technology-Based Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-004)*.

Table 13. Technology-Based Effluent Limitations for Cooling Tower Blowdown (Discharge Point I-004).

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day	--	--	--	0.2
Chromium, total ^{2,3}	mg/L	0.2	0.2	--	--
	lbs/day	0.1	0.1	--	--
Zinc, total ^{2,3}	mg/L	1.0	1.0	--	--
	lbs/day	0.4	0.4	--	--
Remaining priority pollutants ³	ug/L	ND ⁴	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order.

² The effluent limitations for metals are expressed as total recoverable.

³ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁴ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

USEPA regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels, which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. For discharges to the Pacific Ocean, the Ocean Plan allows the Regional Water Board no discretion in the application of WQBELs. The Ocean Plan requires the establishment of WQBELs in discharge permits for all toxic pollutants from Table B of the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

In order to protect the beneficial uses established in the Ocean Plan and the Basin Plan (referenced in Part III.C of this Fact Sheet), the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean,

quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

Table A of the Ocean Plan provides effluent limitations for conventional and certain non-conventional pollutants (including grease and oil, settleable solids, turbidity, and pH). Table B of the Ocean Plan list water quality objectives for pollutants for protection of marine aquatic life and human health (carcinogens and noncarcinogens).

Section 3 of the Thermal Plan specifies narrative waste discharge requirements for temperature into coastal waters.

3. Determining the Need for WQBELs for Priority Pollutants

Section II.D of the Ocean Plan establishes numeric water quality objectives for the protection of marine aquatic life and human health.

The Ocean Plan allows the use of a minimum probable initial dilution factor, D_m (expressed as parts seawater per part wastewater), for calculation of effluent limitations for the priority pollutant water quality objectives listed in Table B of the Ocean Plan. The Regional Water Board has determined that a dilution factor of 237:1 is applicable to the SEOO.

The IBCS is a new discharge. No effluent data for the IBCS is available to complete a reasonable potential analysis. The Discharger submitted projected effluent quality data in the Report of Waste Discharge. The projected effluent quality data are estimates based on projected source water quality from HARRF, known characteristics of existing sanitary sewer dischargers (e.g., Boncor, Culligan, Goal Line L.P.), and water quality projections provided to the Discharger by PEP. The projected effluent quality data was utilized in-part to determine reasonable potential.

The projected maximum effluent concentrations for pollutants contained in the IBCS in *Table 4. Projected Metals and Cyanide Concentrations*, and *Table 5. Projected Toxic Organic Concentrations* were compared to the Table B water quality objectives contained in the Ocean Plan. None of the projected maximum effluent concentrations exceeded the Ocean Plan water quality objectives (with a dilution factor of 237:1). Discharges to the IBCS are not expected to contain levels of toxic metals, volatile organics, or other priority pollutants that would exceed water quality objectives.

Because there is not reasonable potential for the discharge of priority pollutants, Order No. R9-2005-0139 does not contain WQBELs for individual metals and priority pollutants listed in Table B of the Ocean Plan (except chronic toxicity) for the total IBCS effluent.

Because actual data is not available to conduct a RPA, the Discharger shall conduct accelerated monitoring, as specified in Section VII.B.2.b of this Fact Sheet, for pollutants with water quality objectives specified in Table A and Table B of the Ocean

Plan. A chronic toxicity effluent limitation has been established in this Order pursuant to Table B of the Ocean Plan to provide a minimum level of protection of water quality objectives.

4. Determining the Need for WQBELs for Non-Priority Pollutants

The Thermal Plan establishes narrative effluent limitations for elevated temperature wastes discharged to coastal waters. The effluent temperatures for the IBCS discharge in the Report of Waste Discharge submitted to this Regional Water Board and summarized in *Table 2. Projected Physical and Chemical Concentrations* indicate elevated effluent temperatures above the ambient receiving water temperature. The IBCS demonstrates reasonable potential to exceed water quality-based effluent limitations established in the Thermal Plan. Pursuant to the Thermal Plan, WQBELs for temperature have been established in Order No. R9-2005-0139.

The pollutants of grease and oil, suspended solids, settleable solids, turbidity, and pH are characteristic of all effluent discharges. Pursuant to Table A of the Ocean Plan, effluent limitations for grease and oil, suspended solids, settleable solids, turbidity, and pH are established for the discharge of IBCS effluent in Order No. R9-2005-0139.

Table A of the Ocean Plan establishes a performance-based effluent limitation for suspended solids. Table A of the Ocean Plan states that the Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L. The projected maximum effluent concentration for suspended solids for IBCS is <60 mg/L. Because the maximum effluent concentration for suspended solids is projected to be lower than 60 mg/L, the requirement to remove 75% of suspended solids from the influent stream before discharging wastewaters is not applicable to this discharge and an instantaneous maximum effluent limitation of 60 mg/L has been established.

5. WQBELs Calculations

Water quality based effluent limitations are based on projected effluent quality and water quality objectives specified in Table A and Table B of the Ocean Plan (2001). WQBELs for Table A pollutants were determined pursuant to Section III.B of the Ocean Plan. The WQBEL for chronic toxicity was calculated pursuant to Section III.C of the Ocean Plan.

The process for developing a WQBEL for chronic toxicity according to Section III.C of the Ocean Plan is shown in the following example:

For each Ocean Plan Table B constituent requiring an effluent limitation (chronic toxicity), identify the applicable water quality effluent limitation contained in Table B of the Ocean Plan. Effluent limitations for water quality objectives listed

in Table B, with the exception of acute toxicity and radioactivity, may be determined through the use of the following equation:

$$C_e = C_o + D_m (C_o - C_s)$$

Where C_e = The effluent concentration limit
 C_o = The concentration (water quality objective) to be met at the completion of initial dilution
 C_s = Background seawater concentration
 D_m = Minimum probable initial dilution expressed as parts seawater per part wastewater.

A dilution factor of 237 was used to calculate the effluent limitation established for chronic toxicity. Further, no background concentration of chronic toxicity was assumed. Therefore for chronic toxicity:

$$C_e = 1 \text{ TUc} + (237)(1 \text{ TUc} - 0 \text{ TUc})$$

Thus, for chronic toxicity the applicable WQBEL is:

$$C_e = 238 \text{ TUc}$$

In compliance with 40 CFR section 122.45(f), mass-based limitations have also been established in the Order for conventional, nonconventional, and toxic pollutants. Generally, mass-based limitations ensure that proper treatment, and not dilution is employed to comply with the final effluent concentration limitations. Pursuant to 40 CFR 122.45, mass-based limitations are calculated using long term average flows. Because this is a new discharge, the mass-based effluent limitations contained in the Order for the total combined IBCS effluent are based on a maximum total discharge flow rate of 1.4 MGD during Phase I of IBCS operation, and 1.5 MGD during Phase II of IBCS operation, established for Discharge Point C-001. When calculating the mass-based limitations for discharges, the appropriate flow, instantaneous maximum limitations for instantaneous maximum mass calculations, and the 30-day average limitations when calculating the 30-day average mass, should be substituted in the following equation:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} * 8.34 * \text{effluent limitation (mg/L)}$$

where: mass = mass limitation for a pollutant (lbs/day)
effluent limitation = concentration limitation for a pollutant (mg/L)
flow rate = discharge flow rate (MGD)

Using the monthly average effluent limitation for grease and oil at Discharge Point C-001 during Phase II operation of the IBCS as an example, the following equation demonstrates how water quality based effluent limitations were established for this Order.

$$\text{Mass (lbs/day)} = 1.5 \text{ (MGD)} * 8.34 * 25 \text{ (mg/L)} = 313 \text{ lbs/day}$$

Pursuant to 40 CFR section 122.45(f), and outlined in this Fact Sheet, the WQBELs summarized in *Table 14. Summary of WQBELs for Combined Discharge Point C-001* have been established in the Order:

Table 14. Summary of WQBELs for Combined Discharge Point C-001.

Parameter	Units	Effluent Limitations						Basis ¹
		6-Month Median	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Temperature	°F	2						TP
pH	units	--	--	--	--	6.0	9.0	OP
Oil and Grease	mg/L	--	25	40	--	--	75	OP
	Phase I - lbs/day ³	--	292	467	--	--	876	
	Phase II - lbs/day ⁴	--	313	500	--	--	939	
Turbidity	NTU	--	75	100	--	--	225	OP
Settleable Solids	ml/L	--	1.0	1.5	--	--	3.0	OP
Suspended Solids	mg/L	--	--	--	--	--	60	OP
	Phase I - lbs/day ³	--	--	--	--	--	701	
	Phase II - lbs/day ⁴	--	--	--	--	--	751	
Chronic Toxicity ⁵	TUc	--	--	--	238	--	--	OP

1 OP = Ocean Plan; TP = Thermal Plan.

2 The maximum temperature of the effluent shall not exceed the natural temperature of receiving waters by more than 20 °F at any time.

3 Mass-based effluent limitations have been calculated based on a maximum daily flow of 1.4 MGD. These mass-based effluent limitations are applicable during the Phase I operation of the IBCS.

4 Mass-based effluent limitations have been calculated based on a maximum flow value of 1.5 MGD. These mass-based effluent limitations are applicable during the Phase II operation of the IBCS.

5 Compliance with the effluent limitation for chronic toxicity shall be determined as specified in Section IV.C.6 of this Fact Sheet.

6. Whole Effluent Toxicity (WET)

The 2001 Ocean Plan establishes numeric objectives for chronic toxicity in Section II.D, Table B, with a chronic toxicity daily maximum effluent objective of 1.0 (TU_c). Based on methods of the Ocean Plan (2001) with a minimal initial dilution of 237:1, a maximum daily effluent limitation of 238 TU_c for chronic toxicity is required. Pursuant to Section III.C.3.c of the Ocean Plan, the Discharger shall conduct chronic toxicity monitoring.

Chronic toxicity is to be calculated using the following formula:

$$TU_c = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II of the 2001 Ocean Plan.

If toxicity effluent limitations established in the Order are exceeded, then, within 15 days of the exceedance, the Discharger shall begin conducting six additional toxicity tests over a six-month period and provide the results to the Regional Water Board. If the additional monthly toxicity tests indicate that toxicity effluent limitations are being consistently violated, the Regional Water Board may require the Discharger to complete a toxicity reduction evaluation (TRE) and Toxic Identification Evaluation (TIE).

D. Final Effluent Limitations

Pursuant to 40 CFR section 423.15, the final effluent limitations in *Table 15. Final Effluent Limitations for Internal Discharge Point I-001* have been established in the Order for the discharge of PEP low volume waste discharges at Internal Discharge Point I-001.

Table 15. Final Effluent Limitations for Internal Discharge Point I-001.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30 ²	100	--	--
	lbs/day ¹	80.1 ²	266.9	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day ¹	43.8	53.4	--	--

¹ Mass-based effluent limitations have been established based on a maximum effluent flow of 0.32 mgd.

² The effluent limitations for TSS are dependent on the source water value of TSS. Under normal operations when the TSS concentration in the reclaimed water supplied by HARRF is greater than or equal to 17.6 mg/L, the Discharger is expected to meet these limitations. Under critical operational periods, when the TSS concentration in the reclaimed water supplied by HARRF is greater than 17.6 mg/L, intake water credits may be applicable pursuant to 40 CFR 122.45(g)(ii) as summarized in Table 15 of this fact sheet.

During periods of normal operations, the reclaimed water supplied to PEP for power generating operations is expected to have a TSS concentration of <5 mg/L. The reclaimed water supplied to PEP from HARRF is the only expected major source of TSS in the low volume waste streams. PEP has provided engineering calculations demonstrating that during normal operations, when TSS concentrations are expected to be less than 5 mg/L, the facility is capable of complying with the ELG-based effluent limitations for TSS at Internal Discharge Point I-001. Further, the engineering calculations demonstrate the facility is capable of complying with ELG-based effluent limitations for TSS at Internal Discharge Point I-001 with TSS concentrations in the source water as high as 17.6 mg/L. Recent data

and design specifications for the reclaimed water system submitted by the City indicate that the reclaimed water should not exceed TSS concentrations greater than 11.4 mg/L.

Pursuant to 40 CFR 122.45(g)(ii), the Discharger has requested intake water credits for TSS when the source water has concentrations of greater than 17.6 mg/L of TSS. Because the final combined outfall of the IBCS must still meet water quality objectives for TSS, no environmental degradation to water quality is expected from the granting of the intake credits. Because the only expected major source of TSS is the source water, the Regional Water Board has determined that the mass of TSS in the intake water is substantially similar to the mass of TSS in the effluent, although the concentration of TSS may be higher in the effluent due to the water treatment process. Thus, intake credits for the discharge of low volume waste streams at the PEP facility are within the requirements of 40 CFR 122.45(g)(ii).

Effluent limitations for the TSS in the Low Volume wastes are adjusted to the effluent limitations listed in *Table 16. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001)* when the Discharger demonstrates that the source water has a concentration greater than 17.6 mg/L for TSS. The engineering calculations are summarized in Attachment I of the Order. The adjusted effluent limitations apply when the PEP is properly operated. Because the HARRF may not distribute reclaimed water above 45 mg/L, no effluent limitation adjustments are provided above 45 mg/L of TSS or to comply with the ELG-based daily maximum effluent limitation of 100 mg/L. To receive the effluent limitations adjustments, the Discharger must provide HARRF reclaimed water data that demonstrates TSS in the source water was elevated as listed in the table below.

Table 16. Adjusted Effluent Limitations for Low Volume Wastes (Discharge Point I-001).

HARRF Reclaimed Water TSS Concentration (mg/L)	Intake Credit (mg/L)	Adjusted ELG-based Average Monthly Effluent Limitation ¹
0 to 17.6	0	30 mg/L
		62.5 lbs/day
17.6 to 20	3.8	33.8 mg/L
		70.5 lbs/day
20.1 to 25	12.3	42.3 mg/L
		88.2 lbs/day
25.1 to 30	20.7	50.7 mg/L
		105.7 lbs/day
30.1 to 35	29.2	59.2 mg/L
		123.4 lbs/day
35.1 to 40	37.6	67.6 mg/L
		140.9 lbs/day
40.1 to 45	46.1	76.1 mg/L
		158.7 lbs/day

¹ Mass-based effluent limitations have been established based on a maximum effluent flow of 0.25 mgd.

Pursuant to 40 CFR section 423.15, the final effluent limitations in *Table 17. Final Effluent Limitations for Internal Discharge Point I-002* have been established in the

Order for the discharge of PEP cooling tower blowdown at Internal Discharge Point I-002.

Table 17. Final Effluent Limitations for Internal Discharge Point I-002.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day ²	--	--	--	5.3
Chromium, total ^{3,4}	mg/L	0.2	0.2	--	--
	lbs/day ²	2.1	2.1	--	--
Zinc, total ^{3,4}	mg/L	1.0	1.0	--	--
	lbs/day ²	10.6	10.6	--	--
Remaining priority pollutants ⁴	ug/L	ND ⁵	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order.

² Mass-based effluent limitations have been established based on a maximum effluent flow of 1.27 mgd.

³ The effluent limitations for metals are expressed as total recoverable.

⁴ Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁵ Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

Pursuant to 40 CFR section 423.15, the final effluent limitations in *Table 18. Final Effluent Limitations for Internal Discharge Point I-003* have been established in the Order for Goal Line L.P. low volume waste effluent at Internal Discharge Point I-003.

Table 18. Final Effluent Limitations for Internal Discharge Point I-003.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
TSS	mg/L	30	100	--	--
	lbs/day	5.7	19	--	--
Oil and Grease	mg/L	15	20	--	--
	lbs/day	2.8	3.8	--	--

¹ Mass-based effluent limitations have been established based on a maximum effluent flow of 0.0228 mgd.

Pursuant to 40 CFR section 423.15, the final effluent limitations in *Table 19. Final Effluent Limitations for Internal Discharge Point I-004* have been established in the Order for the discharge of Goal Line L.P. cooling tower blowdown at Internal Discharge Point I-004.

Table 19. Final Effluent Limitations for Internal Discharge Point I-004.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	Units	--	--	6.0	9.0
Free available chlorine	mg/L	--	--	--	0.5 ¹
	lbs/day ²	--	--	--	0.2
Chromium, total ^{3,4}	mg/L	0.2	0.2	--	--
	lbs/day ²	0.1	0.1	--	--
Zinc, total ^{3,4}	mg/L	1.0	1.0	--	--
	lbs/day ²	0.4	0.4	--	--
Remaining priority pollutants ⁴	ug/L	ND ⁵	--	--	ND ⁴

¹The ELGs establish an effluent limitation of 0.2 mg/L as an “Average concentration”. The ELGs at 40 CFR 423.11(k) define the “Average concentration” as the average of analyses made over a single period of chlorine release which does not exceed two hours. Further, 40 CFR section 423.15 (j)(2) prohibits the discharge of either free available chlorine or total residual chlorine from any unit for more than two hours in any one day and this discharge prohibition has been established in the Order.

²Mass-based effluent limitations have been established based on a maximum effluent flow of 29,400 gpd.

³The effluent limitations for metals are expressed as total recoverable.

⁴Effluent limitations for total chromium, total zinc, and the remaining priority pollutants are only applicable for priority pollutants added for cooling tower maintenance.

⁵Detectable amounts of priority pollutants listed in Attachment H in the cooling tower blowdown effluent are prohibited.

Pursuant to 40 CFR section 122.45(f), the final effluent limitations summarized in *Table 20. Summary of Final Effluent Limitations for Combined Discharge Point C- 001* have been established in the Order for the total combined IBCS effluent at Combined Discharge Point C-001.

Table 20. Summary of Final Effluent Limitations for Combined Discharge Point C-001.

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	1					
pH	units	--	--	--	--	6.0	9.0
Oil and Grease	mg/L	--	25	40	--	--	75
	Phase I - lbs/day ²	--	292	467	--	--	876
	Phase II - lbs/day ³	--	313	500	--	--	939
Turbidity	NTU	--	75	100	--	--	225
Settleable Solids	ml/L	--	1.0	1.5	--	--	3.0
Suspended	mg/L	--	--	--	--	--	60

Parameter	Units	Effluent Limitations					
		6-Month Median	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Solids	Phase I - lbs/day ²	--	--	--	--	--	701
	Phase II - lbs/day ³	--	--	--	--	--	751
Chronic Toxicity ⁴	TUc	--	--	--	238	--	--

¹The maximum temperature of the effluent shall not exceed the natural temperature of receiving waters by more than 20 °F at any time.

²Mass-based effluent limitations have been calculated based on a maximum daily flow of 1.4 MGD. These mass-based effluent limitations are applicable during the Phase I operation of the IBCS.

³Mass-based effluent limitations have been calculated based on a maximum flow value of 1.5 MGD. These mass-based effluent limitations are applicable during the Phase II operation of the IBCS.

⁴Compliance with the effluent limitation for chronic toxicity shall be determined as specified in Section IV.C.6 of this Fact Sheet.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Narrative and numerical receiving water limitations have been established in Order No. R9-2005-0139 based on water quality objectives specified in the Ocean Plan to ensure the reasonable protection of beneficial uses and the prevention of nuisance.

The discharge of waste through Combined Discharge Point C-001 shall not cause violation of the 2001 Ocean Plan water quality objectives. Compliance with the water quality objectives shall be determined from samples collected at monitoring stations determined by the Regional Water Board.

VI. MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the IBCS.

A. Effluent Monitoring

Effluent monitoring requirements at internal monitoring points have been established to determine compliance with technology-based effluent limitations at internal discharge points. Monthly effluent monitoring requirements for pH, TSS, and oil and grease have been established to determine compliance with effluent limitations at Internal Discharge Points I-001 and I-003 in Order No. R9-2005-0139 and summarized in Section IV.D of this Fact Sheet. Monthly effluent monitoring requirements for pH, free available chlorine, total

chromium, total zinc, and the remaining priority pollutants have been established to determine compliance with effluent limitations at Internal Discharge Points I-002 and I-004 in Order No. R9-2005-0139 and summarized in Section IV.D of this Fact Sheet.

Effluent monitoring requirements for Internal Discharge Points I-001 and I-003 are listed in *Table 21. Effluent Monitoring Requirements for Internal Discharge Points of Low Volume Wastes.*

Table 21. Effluent Monitoring Requirements for Internal Discharge Points of Low Volume Wastes.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	GPD	Continuous	Continuous
pH	Units	Grab/Continuous	Monthly
Total Suspended Solids	mg/L	24-hr composite	Monthly
	lbs/day ³	Calculated ³	
Oil and Grease	mg/L	Grab	Monthly
	lbs/day ³	Calculated ³	

¹ All parameters shall be analyzed by the methods specified in 40 CFR section 136.3.

² Flow shall be monitored prior to combining with any other effluent stream (including other low volume wastes).

³ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

Effluent monitoring requirements for Internal Discharge Points I-002 and I-004 are listed in *Table 22. Effluent Monitoring Requirements for Internal Discharge Points of Cooling Tower Blowdown.*

Table 22. Effluent Monitoring Requirements for Internal Discharge Points of Cooling Tower Blowdown.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	MGD	Continuous	Continuous
pH	Units	Grab/Continuous	Monthly
Free Available Chlorine	µg/L	Grab/Continuous	Monthly
	lbs/day ³	Calculated ³	
Chromium, total ⁴	mg/L	24-hr composite	Semi-annual
	lbs/day ³	Calculated ³	
Zinc, total ⁴	ml/L	Grab	Semi-annual
Remaining Priority Pollutants ⁴	µg/L	24-hr composite	Annual

¹ All parameters shall be analyzed by the methods specified in 40 CFR section 136.3.

² Flow shall be monitored prior to combining with effluent from HARRF and after combining with effluent from HARRF.

³ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

⁴ The Discharger shall monitor for only the priority pollutants listed in Attachment H of Order No. R9-2005-0139 that are used for cooling tower maintenance.

Effluent monitoring requirements for temperature, pH, oil and grease, turbidity, settleable solids, suspended solids, and chronic toxicity have been established to evaluate compliance

with the final effluent limitations for the total combined flow from IBCS in Order No. R9-2005-0139 and summarized in Section IV.D of this Fact Sheet.

The IBCS will collect chlorinated wastewaters from various industrial users. Effluent monitoring for total residual chlorine has been established to evaluate the need for future WQBELs for residual chlorine effluent limitations and ensure the protection of water quality and aquatic life.

The Discharger shall conduct effluent monitoring for pH, oil and grease, turbidity, settleable solids, suspended solids, total chlorine residual, and chronic toxicity prior to the combined total IBCS effluent combining with any other flow (e.g., HARRF effluent).

The IBCS effluent is not expected to meet Thermal Plan requirements prior to commingling with HARRF effluent. The City of Escondido, being owner and operator of both the HARRF and IBCS facilities, has indicated that temperature limitations can be met by blending HARRF effluent and IBCS effluent. The Discharger shall conduct effluent monitoring for temperature after the IBCS effluent and HARRF effluent combine, and prior to the addition of San Elijo WRF effluent or any other waste stream, for the purpose of determining compliance with the temperature effluent limitation.

Priority pollutant monitoring has been established to determine if the total combined IBCS effluent has reasonable potential to discharge priority pollutants exceeding water quality objectives listed in Table B of the Ocean Plan and evaluate the need for additional WQBELs.

Effluent monitoring requirements for the total combined flow from the IBCS applicable to the Discharger are listed in *Table 23. Effluent Monitoring Requirements for Combined Discharge Point C-001.*

Table 23. Effluent Monitoring Requirements for Combined Discharge Point C-001.

Constituent ¹	Units	Sample Type	Frequency
Flow ²	MGD	Continuous	Continuous
pH	Units	Grab/Continuous	Weekly
Residual Chlorine	µg/L	Grab/Continuous	Weekly
	lbs/day ³	Calculated ³	
Temperature	°F	Grab/Continuous	Weekly
Total Suspended Solids	mg/L	24-hr composite	Monthly
	lbs/day ³	Calculated ³	
Settleable Solids	ml/L	Grab	Monthly
Oil and Grease	mg/L	Grab	Monthly
	lbs/day ³	Calculated ³	
Turbidity	NTU	24-hr composite	Monthly
Chronic Toxicity	TUc	24-hr composite	Annually
Priority Pollutants ⁴	µg/L	24-hr composite	⁵

¹ All parameters shall be analyzed by the methods specified in 40 CFR section 136.3.

² Flow shall be monitored prior to combining with effluent from HARRF and after combining with effluent from HARRF.

³ lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where: Q = flow rate, million gallons per day (MGD)

⁴The Discharger shall monitor for the priority pollutants as specified in Attachment H of Order No. R9-2005-0139.

⁵Priority Pollutant monitoring shall be conducted quarterly during the first year of facility operation, and one more time approximately one year prior to the expiration date of the permit. Additional priority pollutant monitoring requirements are summarized in Section VII.B.2.b of this Fact Sheet.

All monitoring procedures (including whole effluent toxicity testing procedures) must comply with monitoring procedures specified in Appendix III of the Ocean Plan and 40 CFR section 136.3.

The MRP should be reviewed for greater detail regarding specific monitoring requirements.

B. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity testing shall be conducted by the methods specified in Section IV.C.6 of this Fact Sheet and Section IV of the MRP.

C. Receiving Water Monitoring

In order to determine compliance with the Thermal Plan and the thermal effluent limitation established in the Order, the City shall conduct weekly monitoring of the receiving water for temperature, as specified in Section V of the MRP.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR 122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

B. Special Provisions

1. Re-Opener Provisions

- a. This Order may be re-opened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge by this Regional Water Board.
- b. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

- c. This Order may be re-opened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new minimum level (ML).
- d. This Order may be re-opened and modified to revise effluent limitations because of Basin Plan Amendments, such as an update of an objective or the adoption of a Total Maximum Daily Load (TMDL).
- e. This Order may be re-opened upon submission of adequate information by the Discharger, as determined by this Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- f. This Order may also be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies and Additional Monitoring Requirements

Core monitoring may include intake monitoring, effluent monitoring, receiving water monitoring, and groundwater monitoring. This Order includes core monitoring for effluent. In addition to core monitoring requirements, the Discharger may be required to conduct additional monitoring. Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core monitoring program. The Discharger shall implement special studies as directed by this Regional Water Board.

- a. The Discharger shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional monitoring program for the Pacific Ocean as directed by this Regional Water Board. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During a coordinated sampling effort, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of discharges to the receiving water.
- b. This Regional Water Board is requiring, as part of the MRP, that the Discharger conduct effluent monitoring for the priority pollutants as specified in Attachment H.

This monitoring shall be conducted at the following locations:

- 1) Total Combined IBCS Effluent Discharge Point C-001. Monitoring of the IBCS effluent shall be conducted prior to the IBCS effluent commingling with any other waste streams (prior to discharge into the ELO).
- 2) Receiving water (for pH only). Samples for pH shall be collected at offshore water quality monitoring stations described in Attachment E to Order No. R9-2005-0101, NPDES No. CA0107981. Sampling shall occur at frequencies that are concurrent with the monitoring protocol outlined in Attachment E to Order No. R9-2005-0101; NPDES No. CA0107981. The results shall be used to determine compliance with the Thermal Plan for the discharge from the IBCS.

The Discharger shall conduct two priority pollutant monitoring studies as specified in Attachment H. The first monitoring study shall be conducted quarterly for the first year of facility operation (four monitoring events). The results of the quarterly priority pollutant monitoring shall be submitted to this Regional Water Board within 3 months of completing the fourth monitoring event, and no later than November 1, 2006. The second priority pollutant monitoring study requires the Discharger to conduct priority pollutant monitoring approximately one year prior to the permit expiration date as established in Section VI.A of the MRP (Attachment E). The final priority pollutant monitoring event shall be conducted between March 1, 2009 and April 31, 2009 and include Phase II effluent if possible. The results of the second priority pollutant monitoring study shall be submitted at least 180 days prior to the expiration date of this Order and shall be submitted with the Report of Waste Discharge.

3. Best Management Practices and Pollution Prevention

The Discharger must establish an industrial users evaluation and regulatory program which will establish discharge regulations, discharge prohibitions, and requirements under which industrial dischargers will be allowed to discharge to the IBCS.

VIII. PUBLIC PARTICIPATION

This Regional Water Board is considering the issuance of waste discharge requirements (WDR) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for City of Escondido's Industrial Brine Collection System. This Regional Water Board has developed WDRs. This Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

This Regional Water Board has notified the Discharger and interested agencies and persons of its intent to adopt waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and

recommendations. Notification was provided through publication in the North County Times on August 8, 2005 and by letter mailed to interested parties on August 8, 2005.

B. Written Comments

Interested persons are invited to submit written comments regarding the WDR. Comments should be submitted either in person or by mail, during business hours, to:

John H. Robertus, Executive Officer
Attn: POTW Compliance Unit
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

To ensure that this Regional Water Board has the opportunity to fully consider written material, comments regarding Order No. R9-2005-0139 should be received in the Regional Water Board's office no later than 5:00 p.m. on August 31, 2005. Written material submitted after 5:00 p.m. on September 7, 2005 will not be provided to the Regional Water Board members and will not be considered by this Regional Water Board. Oral comments will be received at the hearing on June 8, 2005.

C. Public Hearing

The Regional Water Board will hold a public hearing on the WDRs during its regular Board meeting on the following date and time and at the following location:

Date: September 14, 2005
Time: 9:00 a.m.
Location: Regional Water Quality Control Board
Regional Water Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California 92123

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and Order. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is <http://www.waterboards.ca.gov/sandiego> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

For additional information, interested persons may write the following address or contact Bryan Ott of the Regional Water Board by e-mail at BOtt@waterboards.ca.gov or by phone at (858) 637-5589.

Regional Water Quality Control Board, San Diego Region
Attn: Executive Officer
9174 Sky Park Court, Suite 100
San Diego, California 92123

Copies of the applications, NPDES waste discharge requirements, and other documents (other than those that the Executive Officer maintains as confidential) are available at the Regional Water Board office for inspections and copying according to the following schedule (excluding holidays):

Monday and Thursday:	1:30 p.m. to 4:30 p.m.
Tuesday and Wednesday:	8:30 a.m. to 11:30 a.m. 1:30 p.m. to 4:30 p.m.
Friday:	8:30 a.m. to 11:30 a.m.

An electronic copy of the Fact Sheet and Order can be accessed on the Regional Water Board website: <http://www.waterboards.ca.gov/sandiego>.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact this Regional Water Board, reference this Facility, and provide a name, address, and phone number.

ATTACHMENT G – DILUTION MODEL INFORMATION

The dilution model used to determine the dilution factor of the San Elijo Ocean Outfall (SEOO) was Visual Plumes (UM3 Model). The USEPA Visual Plumes website is located at <http://www.epa.gov/ceampubl/swater/vplume/index.htm>.

The following information and assumptions were used for the input into the model:

Port diameter – 2 inches - Table 4-2 of the Report of Waste Discharge for the IBCS (RWD)

Port elevation – 0 feet - Part 4-3 of RWD indicates that the outfall lies on the ocean floor.

Vertical angle - -5 degrees - Table 4-2 of RWD

Horizontal angle – 0 degrees - The model does not have input abilities for a diffuser with ports facing various directions. A single direction for all ports was assigned. This will result in a conservative dilution factor.

Number of ports – 200 ports - Table 4-2 of RWD

Port spacing – 6 feet - Table 4-2 of RWD (IBCS) indicates that there are 100 ports on each side of the diffuser. The table also indicates that the ports are spaced every 12 feet. To account for two ports every 12 feet, the port spacing was entered as 6 ft, instead of the actual 12 feet (which would double the length of the diffuser).

Acute mix zone - Not relevant, value does not effect dilution factor as defined by the State Water Resources Control Board (State Water Board).

Chronic mix zone - Not relevant, value does not effect dilution factor as defined by the State Water Board.

Port depth – 148 feet - Table 4-2 of RWD, the Visual Plume manual suggests using the deepest port depth.

Effluent flow – 23.25 mgd – The total permitted flow. Note that the actual operating capacity of the outfall is 24.3 mgd.

Effluent salinity – 1.2 psu - The most conservative value was selected from Table 2-3 of the Report of Waste Discharge for HARRF (not IBCS).

Effluent temp – 22.5 °C The most conservative value was selected from Table 2-4 of the Report of Waste Discharge for HARRF (not IBCS).

Effluent concentration - Not relevant, input does not effect dilution factor.

Ambient data - Monthly ambient data submitted to the Regional Water Quality Control Board for the SEOO (monitoring station A0.5S - closest to the diffuser) for the time frame between June 2003 through May 2004 was entered. The most conservative month was used to determine the dilution factor (February 2004).

Far-field diffusion coefficient - 0.0003 m^{0.67}/s² - recommended in the Visual Plumes manual as a conservative value.

Special Settings Tab, Farfield Diffusivity Option - 4/3 Power Diffusivity was chosen based on the fact that the discharge is occurring in open water.

Special Settings Tab, Diffuser Port Contraction Coefficient - 0.61 - based on the use of cylindrical ports in the diffuser.

Special Settings Tab, Standard Light Adsorption Coefficient - 0.16 - recommended in the manual as a conservative value.

ATTACHMENT H – PRIORITY POLLUTANT MONITORING REQUIREMENTS

The Discharger shall conduct effluent monitoring for the priority pollutants (except for 2,3,7,8-TCDD) as described below.

This monitoring shall occur at the following locations:

- Internal Discharge Points. Cooling tower blowdown (Discharge Points I-002 and I-004) only for priority pollutants added for cooling tower maintenance.
 - Combined Flow Discharge Point. IBCS effluent (Discharge Point MC-001A).
- I. In order to determine compliance with the effluent limitations established at internal Discharge Points I-002 and I-004, the Discharger shall conduct annual priority pollutant monitoring for priority pollutants used for cooling tower maintenance as specified in Attachment E for the priority pollutants contained in *Table 1. Priority Pollutants*.
- II. In addition to the annual effluent compliance monitoring at Internal Discharge Points I-002 and I-004, the Discharger shall conduct the two priority pollutant monitoring studies at Combined Discharge Point MC-001A of the parameters in *Table 1. Priority Pollutants*. Further, the Discharger must analyze the pH of the receiving water concurrent with the analysis for the priority pollutants. Quarterly priority pollutant monitoring shall be conducted during the first year of facility operation (four monitoring events). The results of the quarterly priority pollutant monitoring shall be submitted to this Regional Water Board within 3 months of completing the fourth monitoring event, and no later than November 1, 2006.
- III. The second priority pollutant monitoring study shall include a single monitoring event at the Combined Discharge Point MC-001A, approximately one year prior to the permit expiration date as established in Section VI.C.2.b. of the Waste Discharge Requirements. The Discharger must analyze the pH of the receiving water concurrent with this analysis for the priority pollutants. The final priority pollutant monitoring event shall be conducted between March 1, 2009 and April 31, 2009 and include Phase II effluent if possible. The results of the second priority pollutant monitoring study shall be submitted to the Regional Water Board at least 180 days prior to the expiration date of this Order and shall be submitted with the Report of Waste Discharge.
- IV. The Discharger shall conduct effluent monitoring for 2,3,7,8 TCDD, once during the term of the Order (between March 1, 2009 and April 31, 2009) and submit the results with the Report of Waste Discharge, a minimum of 180 days prior to the expiration date of this Order. The Discharger is required to calculate Toxic Equivalence (TEQ) for each congener by multiplying its analytical concentration by the appropriate Toxicity Equivalence Factors (TEF) provided in *Table 2. Toxicity Equivalence Factors*.

Table 1. Priority Pollutants.

Constituent	Units	Type of Sample
pH	Standard units	Grab
Hardness (as CaCO ₃)	mg/L	Grab
Salinity	g/L	Grab
Antimony	µg/L	Grab
Arsenic ²	µg/L	Grab
Beryllium	µg/L	Grab
Cadmium ²	µg/L	Grab
Chromium III ²	µg/L	Grab
Chromium VI ²	µg/L	Grab
Copper ²	µg/L	Grab
Lead ²	µg/L	Grab
Mercury	µg/L	Grab
Nickel ²	µg/L	Grab
Selenium	µg/L	Grab
Silver ²	µg/L	Grab
Thallium	µg/L	Grab
Zinc ²	µg/L	Grab
Cyanide	µg/L	Grab
Asbestos	Fibers/L	Grab
Acrolein	µg/L	Grab
Acrylonitrile	µg/L	Grab
Bromoform	µg/L	Grab
Carbon Tetrachloride	µg/L	Grab
Chlorobenzene	µg/L	Grab
Chlorodibromomethane (Dibromochloromethane)	µg/L	Grab
Chloroethane	µg/L	Grab
2-Chloroethylvinyl ether	µg/L	Grab
Chloroform	µg/L	Grab
Dichlorobromomethane (Bromodichloromethane)	µg/L	Grab
1,1-Dichloroethane	µg/L	Grab
1,2-Dichloropropane	µg/L	Grab
1,3-Dichloropropylene	µg/L	Grab
Methyl Bromide (Bromomethane)	µg/L	Grab
Methyl Chloride (Chloromethane)	µg/L	Grab
Methylene Chloride	µg/L	Grab
1,1,2,2-Tetrachloroethane	µg/L	Grab

Constituent	Units	Type of Sample
1,1,2-Trichloroethane	µg/L	Grab
Vinyl Chloride	µg/L	Grab
1,2-Dichlorobenzene	µg/L	Grab
1,3-Dichlorobenzene	µg/L	Grab
1,4-Dichlorobenzene	µg/L	Grab
2-Chlorophenol	µg/L	Grab
2,4-Dichlorophenol	µg/L	Grab
2,4-Dimethylphenol	µg/L	Grab
2-Methyl- 4,6-Dinitrophenol	µg/L	Grab
2,4-Dinitrophenol	µg/L	Grab
2-Nitrophenol	µg/L	Grab
4-Nitrophenol	µg/L	Grab
3-Methyl 4-Chlorophenol	µg/L	Grab
Pentachlorophenol	µg/L	Grab
Phenol	µg/L	Grab
2,4,6-Trichlorophenol	µg/L	Grab
Acenaphthene	µg/L	Grab
Acenaphthylene	µg/L	Grab
Anthracene	µg/L	Grab
Benzidine	µg/L	Grab
Benzo(a)Anthracene	µg/L	Grab
Benzo(a)Pyrene	µg/L	Grab
Benzo(b)Fluoranthene	µg/L	Grab
Benzo(ghi)Perylene	µg/L	Grab
Benzo(k)Fluoranthene	µg/L	Grab
Bis(2-Chloroethoxy)Methane	µg/L	Grab
Bis(2-Chloroethyl)Ether	µg/L	Grab
Bis(2-Chloroisopropyl)Ether	µg/L	Grab
Bis(2-Ethylhexyl)Phthalate	µg/L	Grab
4-Bromophenyl Phenyl Ether	µg/L	Grab
Butylbenzyl Phthalate	µg/L	Grab
2-Chloronaphthalene	µg/L	Grab
4-Chlorophenyl Phenyl Ether	µg/L	Grab
Chrysene	µg/L	Grab
Dibenzo(a,h)Anthracene	µg/L	Grab
3,3 Dichlorobenzidine	µg/L	Grab
Diethyl Phthalate	µg/L	Grab
Dimethyl Phthalate	µg/L	Grab
Di-n-Butyl Phthalate	µg/L	Grab
2,4-Dinitrotoluene	µg/L	Grab

Constituent	Units	Type of Sample
2,6-Dinitrotoluene	µg/L	Grab
Di-n-Octyl Phthalate	µg/L	Grab
1,2-Diphenylhydrazine	µg/L	Grab
Fluoranthene	µg/L	Grab
Fluorene	µg/L	Grab
Hexachlorobenzene	µg/L	Grab
Hexachlorobutadiene	µg/L	Grab
Hexachlorocyclopentadiene	µg/L	Grab
Hexachloroethane	µg/L	Grab
Indeno(1,2,3-cd)Pyrene	µg/L	Grab
Isophorone	µg/L	Grab
Naphthalene	µg/L	Grab
Nitrobenzene	µg/L	Grab
N-Nitrosodimethylamine	µg/L	Grab
N-Nitrosodi-n-Propylamine	µg/L	Grab
N-Nitrosodiphenylamine	µg/L	Grab
Phenanthrene	µg/L	Grab
Pyrene	µg/L	Grab
1,2,4-Trichlorobenzene	µg/L	Grab
Aldrin	µg/L	Grab
alpha-BHC (hexachloro-cyclohexane)	µg/L	Grab
beta-BHC	µg/L	Grab
gamma-BHC	µg/L	Grab
delta-BHC	µg/L	Grab
Chlordane	µg/L	Grab
4,4'-DDT	µg/L	Grab
4,4'-DDE (linked to DDT)	µg/L	Grab
4,4'-DDD	µg/L	Grab
Dieldrin	µg/L	Grab
alpha-Endosulfan	µg/L	Grab
beta-Endolsulfan	µg/L	Grab
Endosulfan Sulfate	µg/L	Grab
Endrin	µg/L	Grab
Endrin Aldehyde	µg/L	Grab
Heptachlor	µg/L	Grab
Heptachlor Epoxide	µg/L	Grab
PCBs sum ³	µg/L	Grab
Toxaphene	µg/L	Grab

¹Monitoring and analysis for pH, hardness, and salinity is required for receiving water only.

² Measured as total recoverable.

³ PCBs sum refers to sum of PCB Arochlors 1016, 1221, 1232, 1242, 1248, 1254, and 1260

Table 2. Toxicity Equivalence Factors

Congeners	TEF
2,3,7,8-Tetra CDD	1.0
1,2,3,7,8-penta CDD	1.0
1,2,3,4,7,8-hexa CDD	0.1
1,2,3,6,7,8-hexa CDD	0.1
1,2,3,7,8,9-hexa CDD	0.1
1,2,3,4,6,7,8-hepta CDD	0.01
Octa CDD	0.0001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
1,2,3,4,7,8-hexa CDF	0.1
1,2,3,6,7,8-hexa CDF	0.1
1,2,3,7,8,9-hexa CDF	0.1
2,3,4,6,7,8-hexa CDF	0.1
1,2,3,4,6,7,8-hepta CDF	0.01
1,2,3,4,7,8,9-hepta CDF	0.01
Octa CDF	0.0001

Please note that the report for 2,3,7,8 TCDD and the final priority pollutant study is must be submitted with the Report of Waste Discharge and submitted to the Regional Water Board as an attachment to the Report of Waste Discharge no later than 180 days prior to the expiration date of Order No. R9-2005-0139.