California Regional Water Quality Control Board

Central Coast Region

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Linda S. Adams
Agency Secretary

Arnold Schwarzenegger
Governor

ORDER NO. R3-2009-0002
NPDES NO. CA0007005

WASTE DISCHARGE REQUIREMENTS FOR THE MOSS LANDING COMMERCIAL PARK AND MOSS LANDING CEMENT COMPANY MOSS LANDING CEMENT COMPANY FACILITY

Table 1. Discharger Information

Discharger	Moss Landing Commercial Park, LLC and Moss Landing Cement Company, LLC
Name of Facility	Moss Landing Cement Plant
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

Discharges by the Moss Landing Cement Plant from the discharge point identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Calcium and Magnesium Depleted Seawater	36º, 48' 08" N	121º, 47' 29" W	Monterey Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**March 19-20, 2009**
This Order shall become effective on:	**May 9, 2009**
This Order shall expire on:	**May 9, 2014**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of waste discharge requirements no later than:	**November 10, 2013**

IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) 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 in this Order.

I, Roger Briggs Executive Officer, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coastal Region, on **March 19-20, 2009**.

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Roger W. Briggs, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 3, CENTRAL COAST REGION

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order.

Table 4. Facility Information

Discharger	Moss Landing Commercial Park, LLC (7695 Hwy 1, Moss Landing, CA 95039) and Moss Landing Cement Company, LLC (7697 Hwy 1, Moss Landing, CA 95039)
Name of Facility	Moss Landing Cement Plant
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
Facility Contact, Title, and Phone	Sam Bose, Director of Operations (408) 340-4600
Mailing Address	PO Box 777 Moss Landing, CA 95039
Type of Facility	Industrial
Facility Design Flow	Phase 1 = 0.04 million gallons per day (mgd)(daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)

II. FINDINGS

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

A. Background. The Moss Landing Cement Company, LLC is the operator of the Moss Landing Cement Plant, which is located at 7697 Highway 1, Moss Landing on land owned by the Moss Landing Commercial Park, LLC. Together, the Moss Landing Commercial Park, LLC and the Moss Landing Cement Company, LLC are hereinafter referred to as the Discharger. The Discharger is currently authorized to discharge pursuant to Order No. R3-2001-030 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA-0007005. The Discharger submitted a Report of Waste Discharge, dated May 9, 2008, and applied to renew its NPDES permit to discharge up to 60 mgd, in three phases of development, of calcium and magnesium depleted seawater from the former National Refractories and Minerals Corporation Seawater Magnesia Plant.

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

B. Facility Description. Seawater is pumped from Moss Landing Harbor by up to nine 100 horsepower pumps through two intake lines to the facility. Seawater, which contains calcium and magnesium chloride ($CaCl_2$ and $MgCl_2$), is combined with dolime, lime, brucite (magnesium hydroxide tailings from historical operations of the National Refractories and Minerals Corporation), sodium hydroxide, sodium carbonate, fly ash, and/or calcium and magnesium bearing silicate materials such as olivine and serpentine. The Discharger's precipitation process also utilizes carbon dioxide (CO_2), sparged from flue gases of the neighboring Moss Landing Power Plant. Following precipitating reactions, the seawater mixture will be directed to as many as seven 3-million gallon (capacity) tanks where settling of precipitated solids will occur. Settled material is then dried to be sold to the construction industry as green cement or as a cement supplement. Calcium and magnesium depleted seawater, decanted from the thickening tanks, will be discharged back to Monterey Bay, within the Monterey Bay National Marine Sanctuary, through Discharge Point 001. See section II. A of the Fact Sheet (Attachment F) for a more complete description of this facility.

C. Legal Authorities. This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA, and Chapter 5.5, Division 7 of the California Water Code (the Water Code). It shall serve as an NPDES permit for point source discharges from this facility to surface waters; and it shall serve as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260).

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, through monitoring and reporting programs, and through special studies. Attachments A through F, which contain background information and rationale for the requirements of the

Order, are hereby incorporated into this Order and therefore constitute part of the Findings for this Order.

E. California Environmental Quality Act (CEQA). Pursuant to California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-Based Effluent Limitations. CWA section 301 (b) and USEPA implementing regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet minimum water quality standards. The discharge authorized by this Order must meet applicable federal technology-based requirements based on Effluent Limitations Guidelines (ELGs) and Standards for industrial categories listed in 40 CFR Parts 402 through 699, and based on best professional judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of development of technology-based effluent limitations is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. CWA 301 (b) and NPDES regulations at 40 CFR 122.44 (d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

H. Water Quality Control Plans. The Regional Water Board has adopted a Water Quality Control Plan for the Central Coast Region (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in marine waters, the receiving water for this discharge meets an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation.

Table 5 presents the beneficial uses established by the Basin Plan for the coastal waters between Soquel Point and the Salinas River.

Table 5. Receiving Water Beneficial Uses Established by the Basin Plan

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean between Soquel Point and the Salinas River	• Water Contact (REC-1) and Non-Contact Recreation (REC-2) • Industrial Service Supply (IND) • Navigation (NAV) • Shellfish Harvesting (SHELL) • Commercial and Sport Fishing (COMM) • Marine Habitat (MAR) • Rare, Threatened, or Endangered Species (RARE) • Wildlife Habitat (WILD)

I. California Ocean Plan. The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005, and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean. The Ocean Plan identifies the following beneficial uses of ocean waters of the State.

Table 6. Receiving Water Beneficial Uses Established by the Ocean Plan

Discharge Point	Receiving Water	Beneficial Uses
001	Pacific Ocean	• Industrial Water Supply • Water Contact and Non-Contact Recreation, including Aesthetic Enjoyment • Navigation • Commercial and Sport Fishing • Rare and Endangered Species • Marine Habitat • Mariculture • Fish Migration • Fish Spawning and Shellfish Harvesting • Preservation of Designated Areas of Special Biological Significance

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

J. 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. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA 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.

K. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations (WQBELs) for individual pollutants. As discussed in section IV.B. of the Fact Sheet, the Order establishes

technology-based effluent limitations for total suspended solids (TSS), settleable solids, oil and grease, turbidity, and pH for Discharge Point 001. These technology-based limitations implement the minimum, applicable federal technology-based requirements. The Order also contains effluent limitations in addition to the minimum federal technology-based requirements, necessary to meet applicable water quality standards. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. For Discharge Point 001, procedures for calculating individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to NPDES regulations at 40 CFR 131.21 (c) (1).

Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 require 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 water quality be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

M. Anti-Backsliding Requirements. CWA sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The requirements of this Order are consistent with the anti-backsliding provisions of the Clean Water Act and with applicable NPDES regulations that pertain to backsliding.

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

O. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting of monitoring results. California Water Code sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Plan (MRP), which is provided as Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements.

P. Standard and Special Provisions. Standard Provisions, which apply to all NPDES discharges pursuant to NPDES regulations at 40 CFR 122.41 - 122.42, and which must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

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

R. Consideration of Public Comment. The 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 of this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater to the Pacific Ocean (Monterey Bay) at a location other than as described by this Order at 36º, 48', 08" N. Latitude, 121º, 47', 29" W. Longitude is prohibited.

B. Discharge of any waste or discharges in any manner other than as described by this Order is prohibited.

C. Discharges to Monterey Bay and within the Monterey Bay National Marine Sanctuary, which are authorized by this Order, shall not exceed the following daily discharge rates during each operational phase, as those operational phases are described by this Order.

Operational Phase	Daily Average Discharge (mgd)	Maximum Daily Discharge (mgd)
1	0.04	0.05
2	24	25
3	56	60

D. The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to the Pacific Ocean and within the Monterey Bay National Marine Sanctuary is prohibited.

E. Federal law prohibits the discharge of sludge by pipeline to the Pacific Ocean and within the Monterey Bay National Marine Sanctuary. The discharge of municipal or industrial

waste sludge or other material with high solids content directly to the Ocean or into a waste stream that discharges to the Ocean is prohibited.

F. "Overflow" or "Bypass" of any wastewater other than spent ocean water is prohibited.

G. The discharge of domestic wastewater at Discharge Point 001 is prohibited.

H. The discharge of storm water at Discharge Point 001, pursuant to the limitations and conditions of this Order, is prohibited.

I. The discharge of chemical additives not described herein, including, but not limited to, scale inhibitors, chelants, cleaning compounds, and any organic chemicals (except carbon dioxide and carbonate ion) is prohibited.

J. The discharge of wastewater containing added coloration is prohibited.

K. Wastewater discharged pursuant to this Order shall not be discharged to receiving water at a temperature that adversely affects beneficial uses.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 at all times, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Conventional Pollutants

Parameter	Units	Monthly 30-Day Average	Weekly 7-Day Average	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	mL/L	1.0	1.5	3.0
TSS	mg/L	60 [1]	---	---
Turbidity	NTU	75	100	225
pH	s.u.	Within 6.0 to 9.0 at all times		

[1] 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 then 60 mg/L.

b. The Discharger shall maintain compliance with the following effluent limitations for toxic pollutants at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 8. Protection of Marine Aquatic Life

Parameter	Units	6-Month Median [5]	Daily Maximum [6]	Instantaneous Maximum [7]
Arsenic	µg/L	173	989	2621

Phase 1	lb/day	0.072	0.41	1.1
Phase 2	lb/day	36	206	546
Phase 3	lb/day	87	495	1312
Cadmium	µg/L	34	136	340
Phase 1	lb/day	0.014	0.057	0.14
Phase 2	lb/day	7.1	28	71
Phase 3	lb/day	17	68	170
Chromium(Hex) [1]	µg/L	68	272	680
Phase 1	lb/day	0.028	0.11	0.28
Phase 2	lb/day	14	57	142
Phase 3	lb/day	34	136	340
Copper	µg/L	36	342	954
Phase 1	lb/day	0.015	0.14	0.4
Phase 2	lb/day	7.5	71	199
Phase 3	lb/day	18	171	477
Lead	µg/L	68	272	680
Phase 1	lb/day	0.028	0.11	0.28
Phase 2	lb/day	14	57	142
Phase 3	lb/day	34	136	340
Mercury	µg/L	1.3	5.4	14
Phase 1	lb/day	0.00056	0.0023	0.0057
Phase 2	lb/day	0.28	1.1	2.8
Phase 3	lb/day	0.67	2.7	6.8
Nickel	µg/L	170	680	1700
Phase 1	lb/day	0.071	0.28	0.71
Phase 2	lb/day	35	142	354
Phase 3	lb/day	85	340	851
Selenium	µg/L	510	2040	5100
Phase 1	lb/day	0.21	0.85	2.1
Phase 2	lb/day	106	425	1063
Phase 3	lb/day	255	1021	2552
Silver	µg/L	19	90	233
Phase 1	lb/day	0.0077	0.037	0.1
Phase 2	lb/day	3.9	19	49
Phase 3	lb/day	9.3	45	116
Zinc	µg/L	416	2456	6536
Phase 1	lb/day	0.17	1.0	2.7
Phase 2	lb/day	87	512	1363
Phase 3	lb/day	208	1229	3271
Cyanide [2]	µg/L	34	136	340
Phase 1	lb/day	0.014	0.057	0.14
Phase 2	lb/day	7.1	28	71
Phase 3	lb/day	17	68	170
Total Chlorine Residual [3]	µg/L	68	272	2040
Phase 1	lb/day	0.028	0.11	0.85
Phase 2	lb/day	14	57	425
Phase 3	lb/day	34	136	1021

Ammonia(as N)	µg/L	20400	81600	204000
Phase 1	lb/day	8.5	34	85
Phase 2	lb/day	4253	17014	42534
Phase 3	lb/day	10208	40833	102082
Chronic Toxicity [4], [8]	TUc	-------	34	-------
Phenolic Compounds (non-chlorinated)	µg/L	1020	4080	10200
Phase 1	lb/day	0.43	1.7	4.3
Phase 2	lb/day	213	851	2127
Phase 3	lb/day	510	2042	5104
Chlorinated Phenolics	µg/L	34	136	340
Phase 1	lb/day	0.014	0.057	0.14
Phase 2	lb/day	7.1	28	71
Phase 3	lb/day	17	68	170
Endosulfan	µg/L	0.31	0.61	0.92
Phase 1	lb/day	0.00013	0.00026	0.00038
Phase 2	lb/day	0.064	0.13	0.19
Phase 3	lb/day	0.15	0.31	0.46
Endrin	µg/L	0.068	0.14	0.2
Phase 1	lb/day	0.000028	0.000057	0.000085
Phase 2	lb/day	0.014	0.028	0.043
Phase 3	lb/day	0.034	0.068	0.1
HCH [9]	µg/L	0.14	0.27	0.41
Phase 1	lb/day	0.000057	0.00011	0.00017
Phase 2	lb/day	0.028	0.057	0.085
Phase 3	lb/day	0.068	0.14	0.2
Radioactivity	Not to exceed limits specified in Title 17, Division 5, Chapter 4, Group 3, Article 3, Section 32069 of the California Code of Regulations.			

[1] Discharger may, at its option, meet this limitation as a total chromium limitation.

[2] If the Discharger can demonstrate to the satisfaction of the Regional Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.

[3] Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours shall be determined using the following equation:

logy=-0.43(logx)+1.8 where: y = the water quality objective (in µg/L) to apply when chlorine is being discharged; and

x = the duration of uninterrupted chlorine discharge in minutes.

The applicable effluent limitation must then be determined using Equation No. 1 from the Ocean Plan.

[4] The Discharger shall conduct chronic toxicity testing if the minimum initial dilution of the effluent falls below 100:1 at the edge of the mixing zone. As the minimum initial dilution for the Moss Landing Cement Company Ocean Outfall is currently calculated as 33:1, chronic toxicity testing is required at this time.

[5] The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration

as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).

[6] The daily maximum shall apply to flow weighted 24-hour composite samples. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day (each variable referring to Equation 3 of the Ocean Plan).

[7] The instantaneous maximum shall apply to grab sample determinations.

[8] This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

Chronic Toxicity - Expressed as Toxic Units Chronic (TUc)

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

No Observed Effect Level (NOEL) - The 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 listed in Appendix II.

[9] See Definitions (Attachment A)

Table 9. Protection of Human Health - Non-Carcinogens

Parameter	Units	30-Day Average
Acrolein	µg/L	7480
Phase 1	lb/day	3.1
Phase 2	lb/day	1560
Phase 3	lb/day	3743
Antimony	µg/L	40800
Phase 1	lb/day	17
Phase 2	lb/day	8507
Phase 3	lb/day	20416
Bis(2-Chloroethoxy)Methane	µg/L	150
Phase 1	lb/day	0.062
Phase 2	lb/day	31
Phase 3	lb/day	75
Bis(2-Chloroisopropyl)Ether	µg/L	40800
Phase 1	lb/day	17
Phase 2	lb/day	8507
Phase 3	lb/day	20416
Chlorobenzene	µg/L	19380
Phase 1	lb/day	8.1
Phase 2	lb/day	4041
Phase 3	lb/day	9698
Chromium (III)	µg/L	6460000
Phase 1	lb/day	2694
Phase 2	lb/day	1346910
Phase 3	lb/day	3232584
Di-n-Butyl Phthalate	µg/L	119000
Phase 1	lb/day	50
Phase 2	lb/day	24812
Phase 3	lb/day	59548
Dichlorobenzenes [1]	µg/L	173400
Phase 1	lb/day	72
Phase 2	lb/day	36154

Phase 3	lb/day	86769
Diethyl Phthalate	µg/L	1122000
Phase 1	lb/day	468
Phase 2	lb/day	233937
Phase 3	lb/day	561449
Dimethyl Phthalate	µg/L	27880000
Phase 1	lb/day	11626
Phase 2	lb/day	5812980
Phase 3	lb/day	13951152
2-Methyl-4,6-Dinitrophenol	µg/L	7480
Phase 1	lb/day	3.1
Phase 2	lb/day	1560
Phase 3	lb/day	3743
2,4-Dinitrophenol	µg/L	136
Phase 1	lb/day	0.057
Phase 2	lb/day	28
Phase 3	lb/day	68
Ethylbenzene	µg/L	139400
Phase 1	lb/day	58
Phase 2	lb/day	29065
Phase 3	lb/day	69756
Fluoranthene	µg/L	510
Phase 1	lb/day	0.21
Phase 2	lb/day	106
Phase 3	lb/day	255
Hexachlorocyclopentadiene	µg/L	1972
Phase 1	lb/day	0.82
Phase 2	lb/day	411
Phase 3	lb/day	987
Nitrobenzene	µg/L	167
Phase 1	lb/day	0.069
Phase 2	lb/day	35
Phase 3	lb/day	83
Thallium	µg/L	68
Phase 1	lb/day	0.028
Phase 2	lb/day	14
Phase 3	lb/day	34
Toluene	µg/L	2890000
Phase 1	lb/day	1205
Phase 2	lb/day	602565
Phase 3	lb/day	1446156
Tributyltin	µg/L	0.048
Phase 1	lb/day	0.00002
Phase 2	lb/day	0.0099
Phase 3	lb/day	0.024
1,1,1-Trichloroethane	µg/L	18360000
Phase 1	lb/day	7656
Phase 2	lb/day	3828060

Phase 3	lb/day	9187344

Table 10. Protection of Human Health – Carcinogens

Parameter	Units	30-Day Average
Acrylonitrile	µg/L	3.4
Phase 1	lb/day	0.0014
Phase 2	lb/day	0.71
Phase 3	lb/day	1.7
Aldrin	µg/L	0.00075
Phase 1	lb/day	0.00000031
Phase 2	lb/day	0.00016
Phase 3	lb/day	0.00037
Benzene	µg/L	201
Phase 1	lb/day	0.084
Phase 2	lb/day	42
Phase 3	lb/day	100
Benzidine	µg/L	0.0023
Phase 1	lb/day	0.00000098
Phase 2	lb/day	0.00049
Phase 3	lb/day	0.0012
Beryllium	µg/L	1.1
Phase 1	lb/day	0.00047
Phase 2	lb/day	0.23
Phase 3	lb/day	0.56
Bis(2-Chloroethyl)Ether	µg/L	1.5
Phase 1	lb/day	0.00064
Phase 2	lb/day	0.32
Phase 3	lb/day	0.77
Bis(2-Ethylhexyl)Phthalate	µg/L	119
Phase 1	lb/day	0.05
Phase 2	lb/day	25
Phase 3	lb/day	60
Carbon Tetrachloride	µg/L	31
Phase 1	lb/day	0.013
Phase 2	lb/day	6.4
Phase 3	lb/day	15
Chlordane [1]	µg/L	0.00078
Phase 1	lb/day	0.00000033
Phase 2	lb/day	0.00016
Phase 3	lb/day	0.00039
Chlorodibromomethane	µg/L	292
Phase 1	lb/day	0.12
Phase 2	lb/day	61
Phase 3	lb/day	146
Chloroform	µg/L	4420
Phase 1	lb/day	1.8

Phase 2	lb/day	922
Phase 3	lb/day	2212
DDT (total) [1]	µg/L	0.0058
Phase 1	lb/day	0.0000024
Phase 2	lb/day	0.0012
Phase 3	lb/day	0.003
1,4 Dichlorobenzene	µg/L	612
Phase 1	lb/day	0.26
Phase 2	lb/day	128
Phase 3	lb/day	306
3,3'-Dichlorobenzidine	µg/L	0.28
Phase 1	lb/day	0.00011
Phase 2	lb/day	0.057
Phase 3	lb/day	0.14
1,2-Dichloroethane	µg/L	952
Phase 1	lb/day	0.4
Phase 2	lb/day	198
Phase 3	lb/day	476
1,1-Dichloroethylene	µg/L	31
Phase 1	lb/day	0.013
Phase 2	lb/day	6.4
Phase 3	lb/day	15
Dichlorobromomethane	µg/L	211
Phase 1	lb/day	0.088
Phase 2	lb/day	44
Phase 3	lb/day	105
Methylene Chloride	µg/L	15300
Phase 1	lb/day	6.4
Phase 2	lb/day	3190
Phase 3	lb/day	7656
1,3-Dichloropropylene	µg/L	303
Phase 1	lb/day	0.13
Phase 2	lb/day	63
Phase 3	lb/day	151
Dieldrin	µg/L	0.0014
Phase 1	lb/day	0.00000057
Phase 2	lb/day	0.00028
Phase 3	lb/day	0.00068
2,4-Dinitrotoluene	µg/L	88
Phase 1	lb/day	0.037
Phase 2	lb/day	18
Phase 3	lb/day	44
1,2-Diphenylhydrazine	µg/L	5.4
Phase 1	lb/day	0.0023
Phase 2	lb/day	1.1
Phase 3	lb/day	2.7
Halomethanes [1]	µg/L	4420

Phase 1	lb/day	1.84
Phase 2	lb/day	922
Phase 3	lb/day	2212
Heptachlor	µg/L	0.0017
Phase 1	lb/day	0.00000071
Phase 2	lb/day	0.00035
Phase 3	lb/day	0.00085
Heptachlor Epoxide	µg/L	0.00068
Phase 1	lb/day	0.00000028
Phase 2	lb/day	0.00014
Phase 3	lb/day	0.00034
Hexachlorobenzene	µg/L	0.0071
Phase 1	lb/day	0.000003
Phase 2	lb/day	0.0015
Phase 3	lb/day	0.0036
Hexachlorobutadiene	µg/L	476
Phase 1	lb/day	0.2
Phase 2	lb/day	99
Phase 3	lb/day	238
Hexachloroethane	µg/L	85
Phase 1	lb/day	0.035
Phase 2	lb/day	18
Phase 3	lb/day	43
Isophorone	µg/L	24820
Phase 1	lb/day	10
Phase 2	lb/day	5175
Phase 3	lb/day	12420
N-Nitrosodimethylamine	µg/L	248
Phase 1	lb/day	0.1
Phase 2	lb/day	52
Phase 3	lb/day	124
N-Nitrosodi-n-Propylamine	µg/L	13
Phase 1	lb/day	0.0054
Phase 2	lb/day	2.7
Phase 3	lb/day	6.5
N-Nitrosodiphenylamine	µg/L	85
Phase 1	lb/day	0.035
Phase 2	lb/day	18
Phase 3	lb/day	43
PAHs (total) [1]	µg/L	0.3
Phase 1	lb/day	0.00012
Phase 2	lb/day	0.062
Phase 3	lb/day	0.15
PCBs [1]	µg/L	0.00065
Phase 1	lb/day	0.00000027
Phase 2	lb/day	0.00013
Phase 3	lb/day	0.00032

TCDD Equivalents [1]	µg/L	0.00000013
Phase 1	lb/day	0.000000000055
Phase 2	lb/day	0.000000028
Phase 3	lb/day	0.000000066
1,1,2,2-Tetrachloroethane	µg/L	78
Phase 1	lb/day	0.033
Phase 2	lb/day	16
Phase 3	lb/day	39
Tetrachloroethylene	µg/L	68
Phase 1	lb/day	0.028
Phase 2	lb/day	14
Phase 3	lb/day	34
Toxaphene	µg/L	0.0071
Phase 1	lb/day	0.000003
Phase 2	lb/day	0.0015
Phase 3	lb/day	0.0036
Trichloroethylene	µg/L	918
Phase 1	lb/day	0.38
Phase 2	lb/day	191
Phase 3	lb/day	459
1,1,2-Trichloroethane	µg/L	320
Phase 1	lb/day	0.13
Phase 2	lb/day	67
Phase 3	lb/day	160
2,4,6-Trichlorophenol	µg/L	9.9
Phase 1	lb/day	0.0041
Phase 2	lb/day	2.1
Phase 3	lb/day	4.9
Vinyl Chloride	µg/L	1224
Phase 1	lb/day	0.51
Phase 2	lb/day	255
Phase 3	lb/day	612

[1] See definitions (Attachment A)

c. Initial Dilution: The minimum initial dilution at the point of discharge to Monterey Bay and within the Monterey Bay National Marine Sanctuary shall not be less than 33 to 1 (seawater to effluent) at any time.

2. Interim Effluent Limitations

This section of the standardized permit template is not applicable to this facility.

B. Land Discharge Specifications

This section of the standardized permit template is not applicable to this facility.

C. Reclamation Specifications

This section of the standardized permit template is not applicable to this facility.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The following receiving water limitations are based on water quality objectives contained in the Ocean Plan and are a required part of this Order. Compliance shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

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 bacteriological objectives shall be maintained throughout the water column.

   30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

   a. Total coliform density shall not exceed 1,000 per 100 mL, and

   b. Fecal coliform density shall not exceed 200 per 100 mL, and

   c. Enterococcus density shall not exceed 35 per 100 mL.

   Single Sample maximum;

   a. Total coliform density shall not exceed 10,000 per 100 ml, and

   b. Fecal coliform density shall not exceed 400 per 100 mL, and

   c. Enterococcus density shall not exceed 104 per 100 mL, and

   d. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.

2. At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacteriological objectives shall be maintained throughout the water column:

   a. The median total coliform density shall not exceed 70 organisms per 100 mLs, and in not more than 10 percent of samples shall coliform density exceed 230 organisms per 100 mLs.

3. Floating particulates and grease and oil shall not be visible.

4. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

5. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

6. 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.

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

8. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

9. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

10. The concentration of substances set forth in Chapter IV, Table B of the Ocean Plan in marine sediments shall not be increased to levels that would degrade indigenous biota.

11. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

12. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.

13. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Table B of the Ocean Plan.

14. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.

15. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

16. 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.

17. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations

Activities at the facility shall not cause exceedance or deviation from the following water quality objectives for groundwater established by the Basin Plan.

1. Groundwater shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.

2. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provision:

a. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease in flow in any portion of an inland watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (MRP), and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 CFR Part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants.*

C. Special Provisions

1. Reopener Provisions

a. This permit may be reopened and modified in accordance with NPDES regulations at 40 CFR 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any U.S. EPA approved, new, State water quality objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation for toxicity specified by Section IV of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan.

A TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the

reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases – characterization, identification, and confirmation using aquatic organism toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

The Discharger shall maintain a TRE Workplan which describes steps that the Discharger intends to follow in the event that a toxicity effluent limitation established by this Order is exceeded in the discharge. The Workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88-070 (for industrial discharges) or EPA/600/2-88/062 (for municipal discharges), and shall include, at a minimum:

- Actions that will be taken to investigate/identify the causes/sources of toxicity,
- Actions that will be evaluated to mitigate the impact of the discharge, to correct the non-compliance, and/or to prevent the recurrence of acute or chronic toxicity (this list of action steps may be expanded, if a TRE is undertaken), and
- A schedule under which these actions will be implemented.

When monitoring measures toxicity in the effluent above a limitation established by this Order, the Discharger shall resample immediately, if the discharge is continuing, and retest for whole effluent toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Executive Officer (EO) as soon as possible following receipt of monitoring results. The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures. The Discharger shall conduct a TRE giving due consideration to guidance provided by the USEPA's Toxicity Reduction Procedures, Phases 1, 2, and 3 (EPA document nos. EPA 600/3-88/034, 600/3-88/035, and 600/3-88/036, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule:

Table 11. Toxicity Reduction Evaluation Schedule

Action Step	When Required
Take all reasonable measures necessary to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate TRE in accordance with Workplan.	Within 7 days of notification by EO.
Conduct the TRE following the procedures in the	Within the period specified in the Workplan

Workplan.	(not to exceed one year, without an approved Workplan).
Submit the results of the TRE, including summary of findings, required corrective action, and all results and data.	Within 60 days of completion of the TRE.
Implement corrective actions to meet Permit limits and conditions.	To be determined by the EO.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Goal

The goal of the Pollutant Minimization Program is to reduce potential sources of Ocean Plan Table B toxic pollutants through pollutant minimization (control) strategies, including pollution prevention measures, to maintain effluent concentrations at or below the effluent limitation.

b. Determining the Need for a Pollutant Minimization Program

(1) The Discharger shall develop and implement a Pollutant Minimization Program if:

(a) A calculated effluent limitation is less than the reported Minimum Level,

(b) The concentration of the pollutant is reported as DNQ, and

(c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

(2) Alternatively, the Discharger shall develop and implement a Pollutant Minimization Program if:

(a) A calculated effluent limitation is less than the Method Detection Limit (MDL),

(b) The concentration of the pollutant is reported as ND, and

(c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation. Such evidence may include: health advisories for fish consumption; presence of whole effluent toxicity; results of benthic or aquatic organism tissue sampling; sample results from analytical methods more sensitive than methods included in the permit; and the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL.

c. Elements of a Pollutant Minimization Program

A Pollutant Minimization Program shall include actions and submittals acceptable to the Regional Water Board including, but not limited to, the following.

(1) An annual review and semiannual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;

(2) Quarterly monitoring for the reportable pollutant in influent to the wastewater treatment system;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant in the effluent at or below the calculated effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy;

(5) An annual status report that shall be sent to the Executive Officer that includes:

(i) All Pollutant Minimization Program monitoring results for the previous year;

(ii) A list of potential sources of the reportable pollutant;

(iii) A summary of all actions taken in accordance with the control strategy; and

(iv) A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specification

This section of the standardized permit template is not applicable to the Facility.

5. Special Provisions for Municipal Facilities (POTWs Only)

This section of the standardized permit template is not applicable to the Facility.

6. Other Special Provisions

a. **Discharges of Storm Water.** For the control of storm water discharged from the site, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.*

b. **Phase 1 Discharge Characterization Study.** In addition to monitoring required by section IV. A of the Monitoring and Reporting Plan (Attachment E), in order to more fully characterize the discharge, the Discharger shall perform the following monitoring of influent and effluent at Discharge Point 001 during Phase 1 of operations. Monitoring results for the entire Phase 1 period of operations shall be summarized and submitted to the Regional Water Board within 30 days of completion of Phase 1 operations. The Discharger shall not initiate discharges under Phase 2 until the Regional Water Board Executive Officer has reviewed results of this Phase 1 Discharge Characterization Study and has confirmed in writing that the character of the discharge is as contemplated by this Order and is therefore properly regulated by this Order. If monitoring requirements established for this Phase 1 Discharge Characterization Study are duplicated in section IV. A of the Monitoring and Reporting Plan, monitoring performed for this Phase 1 Discharge Characterization Study shall satisfy the requirements of the Monitoring and Reporting Plan.

Table 12. Phase 1 Discharge Characterization Monitoring Requirements

Parameter	Units	Sample Type	Sample Location	Minimum Sampling Frequency
Flow	mgd	Metered	Eff-001	Daily
Specific Conductivity	µmhos/cm	Grab	Inf-001 Eff-001	Daily
Total Dissolved Solids (TDS)	mg/L	Grab	Inf-001 Eff-001	Weekly
Settleable Solids	ml/L	Grab	Inf-001 Eff-001	Weekly
Total Suspended Solids (TSS)	mg/L	Grab	Inf-001 Eff-001	Weekly
Turbidity	NTU	Grab	Inf-001 Eff-001	Daily
pH	Units	Grab	Inf-001 Eff-001	Daily
Chronic Toxicity [1]	TUc	Grab	Inf-001 Eff-001	Monthly
Ocean Plan Table B Metals [2],[4]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Ocean Plan Table B Pollutants [3], [4]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
1,3-Butadiene [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Acetaldehyde [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Formaldehyde [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Naphthalene [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Propylene Oxide [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly

Parameter	Units	Sample Type	Sample Location	Minimum Sampling Frequency
Xylenes [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly
Total Organic Carbon (TOC) [5]	µg/L	24-hr composite	Inf-001 Eff-001	Monthly

[1] Whole effluent chronic toxicity monitoring shall be conducted according to the requirements established in section V. of this Monitoring and Reporting Plan; however, tests shall be performed with a vertebrate, an invertebrate, and an aquatic plant during each monitoring event performed for the Phase 1 Discharge Characterization Study.

[2] The metals with applicable water quality objectives established by Table B of the Ocean Plan (2005) – As, Cd, Cr^{+6}, Cu, Pb, Hg, Ni, Se, Ag, Zn.

[3] The pollutants, excluding radioactivity and acute toxicity, with applicable water quality objectives established by Table B of the Ocean Plan (2005). Monitoring for the Table B metals, which occurs quarterly, shall satisfy that portion (for the Table B metals) of this monitoring requirement.

[4] Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

[5] The analytical method selected for a parameter shall be the one that can measure the lowest detected limit for that parameter.

7. Compliance Schedules

This section of the standardized permit template is not applicable to the Facility.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Multiple Sample Data.

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

ATTACHMENT A – DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Acute Toxicity:

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC}_{50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Areas of Special Biological Significance (ASBS) are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

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.

Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

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

b. No Observed Effect Level (NOEL)

The 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 listed in Ocean Plan Appendix II.

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.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade: 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.

Detected, but Not Quantified (DNQ) are those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters shall mean waters downstream with respect to ocean currents.

Dredged Material: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

Enclosed Bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

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).

Kelp Beds, for purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture is the culture of plants and animals in marine waters independent of any pollution source.

Material: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML) is the concentrations 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.

Natural Light: Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

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

Reported Minimum Level is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

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

Shellfish are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

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

State Water Quality Protection Areas (SWQPAs) are non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28,

74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

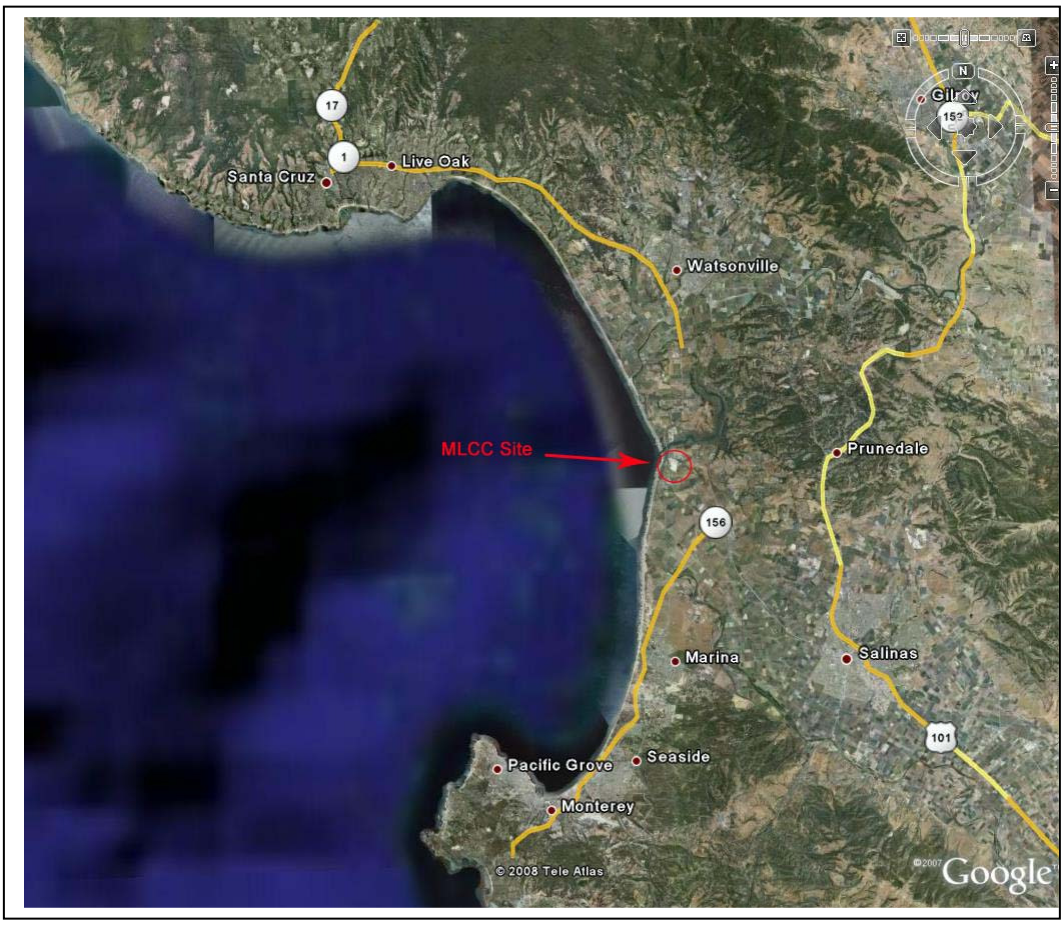
Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

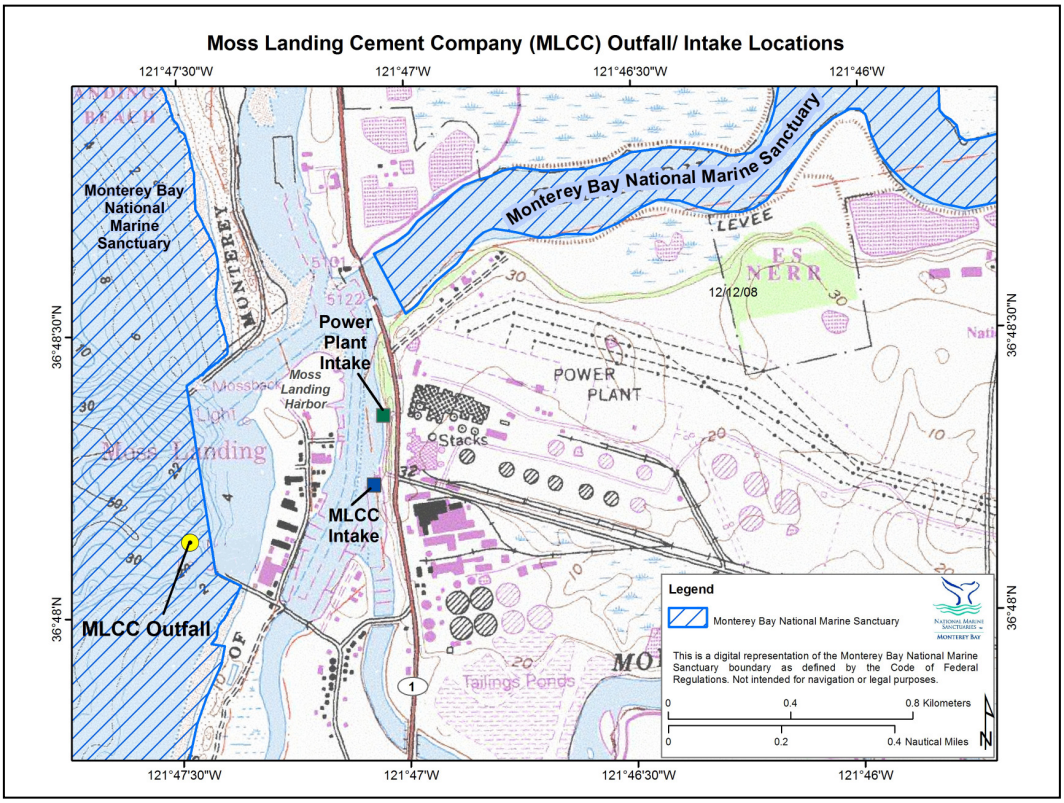
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps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

Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – LOCATION MAPS

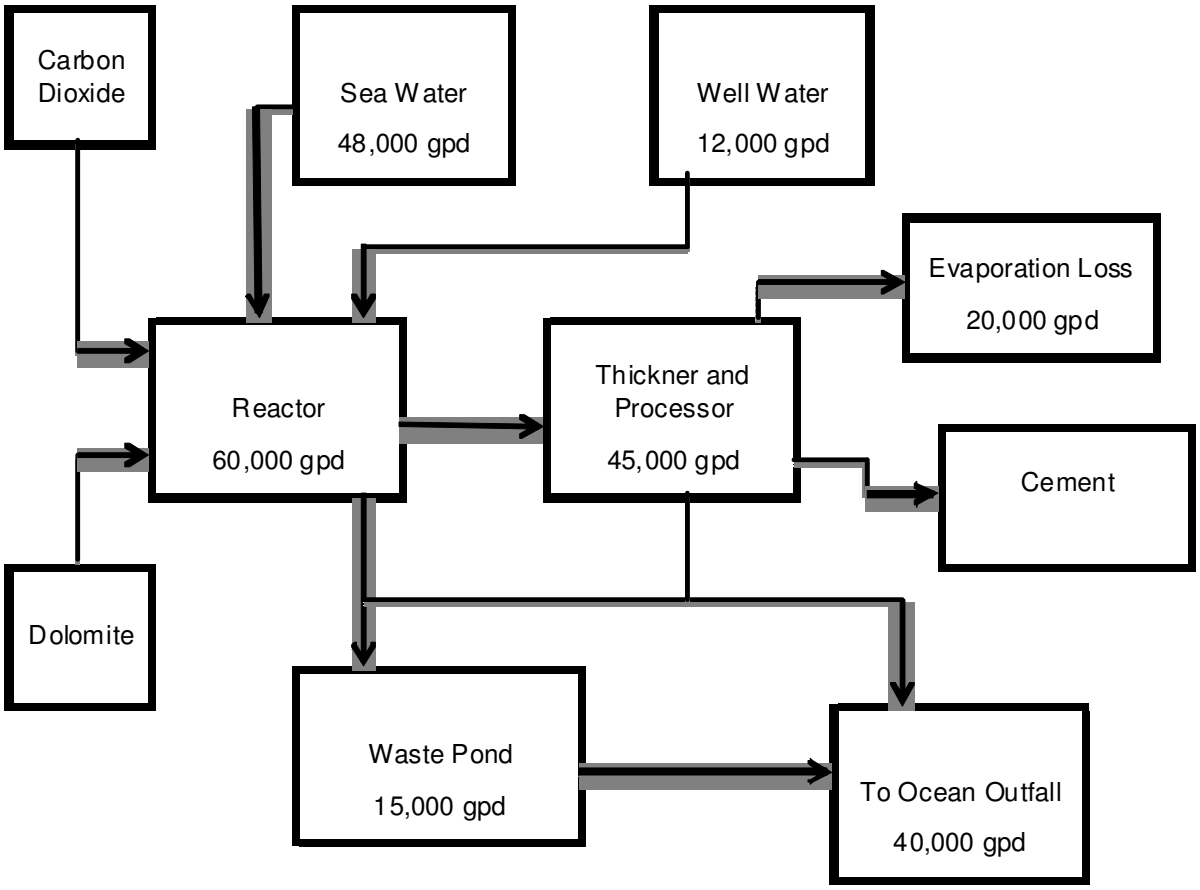




ATTACHMENT C – FLOW SCHEMATIC

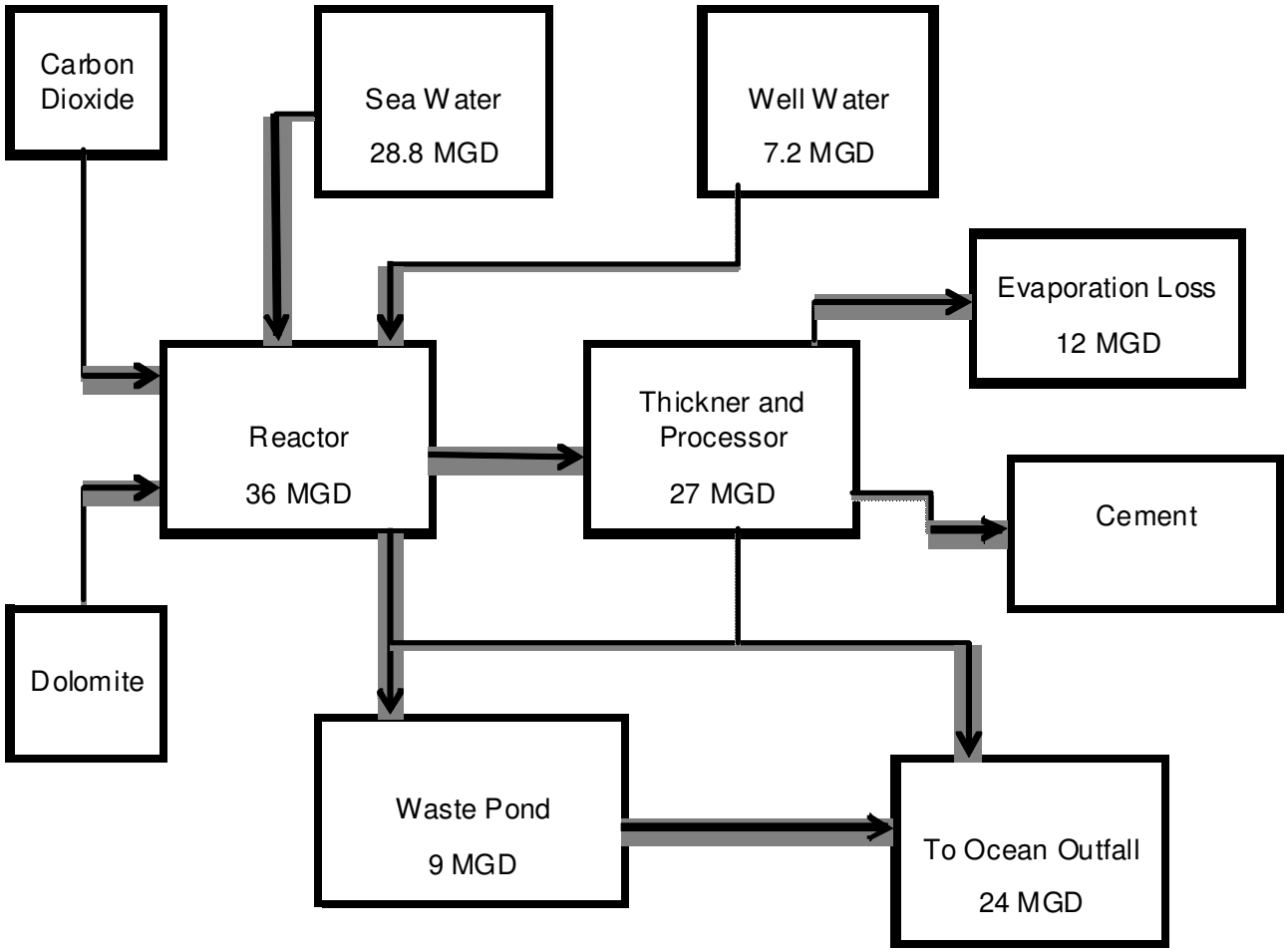
SCHEMATIC DRAWING OF WATER FLOW

Phase I Pilot Process



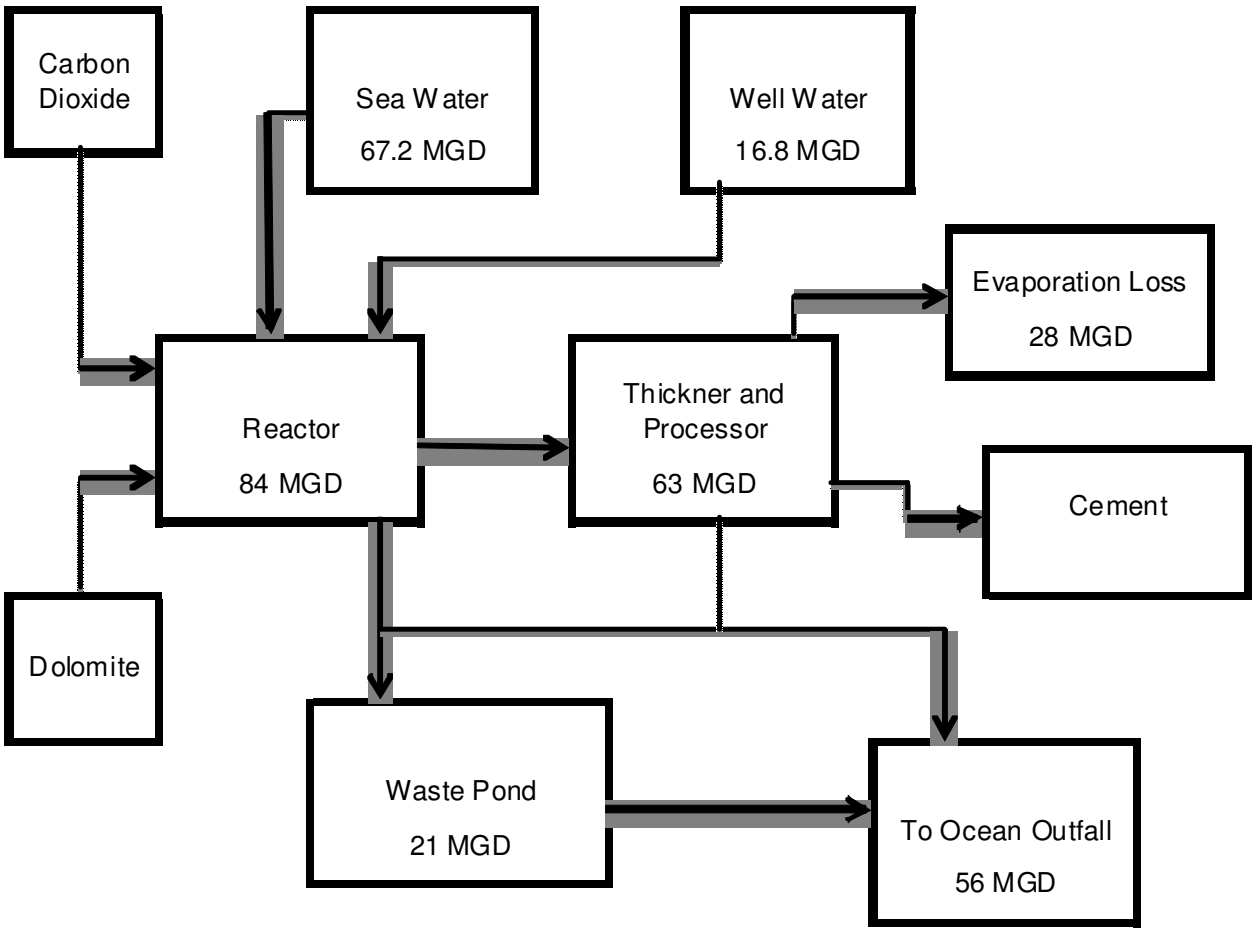
SCHEMATIC DRAWING OF WATER FLOW

Phase II Prototype Process



SCHEMATIC DRAWING OF WATER FLOW

Phase III Full-Scale Process



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the CWA and the CWC and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. 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 (USEPA), 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 §122.41(i)*] [*CWC 13383(c)*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];

3. 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 §122.41(i)(3)*];

4. 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 §122.41(i)(4)*].

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [*40 CFR §122.41(m)(4)(B)*]; and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(C)*].

4. 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 I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

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

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the 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 §122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 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 §122.41(n)(2)*].

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

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*40 CFR §122.41(n)(3)(iii)*]; and

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

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [*40 CFR §122.41(n)(4)*].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. 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 §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. 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 §122.41(j)(4)*] [*40 CFR §122.44(i)(1)(iv)*].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 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 §122.41(j)(2)*].

B. Records of monitoring information shall include:

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

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].

2. All permit applications shall be signed as follows:

   a. 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 USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

   b. 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 §122.22(b)(2)*]; and

   c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [*40 CFR §122.22(b)(3)*].

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

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

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted

is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [*40 CFR §122.22(d)*].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the MRP in this Order [*40 CFR §122.41(l)(4)*].

2. 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 §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 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 §122.41(l)(4)(ii)*].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [*40 CFR §122.41(l)(4)(iii)*].

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

3. 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 §122.41(l)(6)(iii)*].

F. 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 §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. 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 §122.41(l)(2)].*

H. 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 Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the

Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

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

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

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

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

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

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

ATTACHMENT D-1 - CENTRAL COAST WATER BOARD STANDARD PROVISIONS (JANUARY 1985)

I. Central Coast General Permit Conditions

A. Central Coast Standard Provisions – Prohibitions

1. Introduction of "incompatible wastes" to the treatment system is prohibited.

2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.

3. Discharge of "toxic pollutants" in violation of effluent standards and prohibitions established under Section 307(a) of the Clean Water Act is prohibited.

4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.

5. Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that:

   a. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or,

   b. Flow through the system to the receiving water untreated; and,

   c. Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.

6. Introduction of "pollutant free" wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this order is prohibited.

B. Central Coast Standard Provisions – Provisions

1. Collection, treatment, and discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.

2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.

3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.

4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed in a manner approved by the Executive Officer.

5. Publicly owned wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Administrative Code.

6. After notice and opportunity for a hearing, this order may be terminated for cause, including, but not limited to:

   a. violation of any term or condition contained in this order;

   b. obtaining this order by misrepresentation, or by failure to disclose fully all relevant facts;

   c. a change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge; and,

   d. a substantial change in character, location, or volume of the discharge.

7. Provisions of this permit are severable. If any provision of the permit is found invalid, the remainder of the permit shall not be affected.

8. After notice and opportunity for hearing, this order may be modified or revoked and reissued for cause, including:

   a. Promulgation of a new or revised effluent standard or limitation;

   b. A material change in character, location, or volume of the discharge;

   c. Access to new information that affects the terms of the permit, including applicable schedules;

   d. Correction of technical mistakes or mistaken interpretations of law; and,

   e. Other causes set forth under Sub-part D of 40 CFR Part 122.

9. Safeguards shall be provided to assure maximal compliance with all terms and conditions of this permit. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. Preventative and contingency plans for controlling and minimizing the affect of accidental discharges shall:

   a. identify possible situations that could cause "upset", "overflow" or "bypass", or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.)

   b. evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the permit.

10. Physical Facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full compliance with this order when

properly operated and maintained. Proper operation and maintenance shall be described in an Operation and Maintenance Manual. Facilities shall be accessible during the wet-weather season.

11. Production and use of reclaimed water is subject to the approval of the Regional Water Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Regional Water Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Board.

C. Central Coast Standard Provisions – General Monitoring Requirements

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Executive Officer agrees the original monitoring frequency may be resumed.

   For example, if copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.).

2. Water quality analyses performed in order to monitor compliance with this permit shall be by a laboratory certified by the State Department of Health Services for the constituent(s) being analyzed. Bioassay(s) performed in order to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Resources Control Board and the State Department of Fish and Game. If the laboratory used or proposed for use by the discharger is not certified by the California Department of Health Services or, where appropriate, the Department of Fish and Game due to restrictions in the State's laboratory certification program, the discharger shall be considered in compliance with this provision provided:

   a. Data results remain consistent with results of samples analyzed by the Central Coast Water Board;

   b. A quality assurance program is used at the laboratory, including a manual containing steps followed in this program that is available for inspections by the staff of the Central Coast Water Board; and,

c. Certification is pursued in good faith and obtained as soon as possible after the program is reinstated.

3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions. Influent samples shall be samples collected from the combined flows of all incoming wastes, excluding recycled wastes. Effluent samples shall be samples collected downstream of the last treatment unit and tributary flow and upstream of any mixing with receiving waters.

4. 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.

D. Central Coast Standard Provisions – General Reporting Requirements

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

   b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).

   c. A description of the sampling procedures and preservation sequence used in the survey.

   d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.

   e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.

2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within the permit. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.

3. The “Discharger” shall file a report of waste discharge or secure a waiver from the Executive Officer at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.

4. Within 120 days after the discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within four (4) years, the discharger shall file a written report with the Central Coast Water Board. The report shall include:

   a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,

   b. a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

   In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

5. All “Dischargers” shall submit reports to the:

   California Regional Water Quality Control Board
   Central Coast Region
   895 Aerovista Place, Suite 101
   San Luis Obispo, CA 93401-7906

   In addition, "Dischargers" with designated major discharges shall submit a copy of each document to:

   Regional Administrator
   US Environmental Protection Agency, Region 9
   Attention: CWA Standards and Permits Office (WTR-5)
   75 Hawthorne Street
   San Francisco, California 94105

6. Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing “Discharger” and proposed “Discharger” containing specific date for transfer of responsibility, coverage, and liability between them. Whether a permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete permit application. Please also see Federal Standard Provision – Permit Action II.C.

7. Except for data determined to be confidential under Section 308 of the Clean Water Act (excludes effluent data and permit applications), all reports prepared in accordance with this permit shall be available for public inspection at the office of the Central Coast Water Board or Regional Administrator of EPA. Please also see Federal Standard Provision – Records IV.C.

8. By January 30th of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. The discharger shall discuss the compliance record and corrective actions taken, or which may be needed, to bring the discharge into full compliance. The report shall address operator certification and provide a list of current operating personnel and their grade of certification. The report shall inform the Board of the date of the Facility's Operation and Maintenance Manual (including contingency plans as described Central Coast Standard Provision – Provision B.9., above), of the date the manual was last reviewed, and whether the manual is complete and valid for the current facility. The report shall restate, for the record, the laboratories used by the discharger to monitor compliance with effluent limits and provide a summary of performance relative to Section C above, General Monitoring Requirements.

   If the facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.

   If applicable, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Programs."

E. Central Coast Standard Provisions – General Pretreatment Provisions

1. Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (appendix C, 40 CFR Part 403), where categorical pretreatment standards have been established, or are to be established, (according to 40 CFR Chapter 1, Subchapter N), shall comply with the appropriate pretreatment standards:

   a. By the date specified therein;

   b. Within three (3) years of the effective date specified therein, but in no case later than July 1, 1984; or,

   c. If a new indirect discharger, upon commencement of discharge.

F. Central Coast Standard Provisions – Enforcement

1. Any person failing to file a report of waste discharge or other report as required by this permit shall be subject to a civil penalty not to exceed $5,000 per day.

2. Upon reduction, loss, or failure of the treatment facility, the "Discharger" shall, to the extent necessary to maintain compliance with this permit, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

G. Central Coast Standard Provisions – Definitions

(Not otherwise included in Attachment A to this Order)

1. A “composite sample" is a combination of no fewer than eight (8) individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.

2. “Daily Maximum” limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on "composite samples” except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a “grab sample”.

3. “Discharger", as used herein, means, as appropriate: (1) the Discharger, (2) the local sewering entity (when the collection system is not owned and operated by the Discharger), or (3) "indirect discharger" (where "Discharger" appears in the same paragraph as "indirect discharger”, it refers to the discharger.)

4. “Duly Authorized Representative" is one where:

   a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;

   b. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,

   c. the written authorization was submitted to the Central Coast Water Board.

5. A "grab sample" is defined as any individual sample collected in less than 15 minutes. "Grab samples” shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.

6. "Hazardous substance” means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

7. "Incompatible wastes” are:

a. Wastes which create a fire or explosion hazard in the treatment works;

b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes;

c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;

d. Any waste, including oxygen demanding pollutants (BOD, etc), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency; and,

e. Heat in amounts that inhibit or disrupt biological activity in the treatment works or that raise influent temperatures above 40°C (104°F) unless the treatment works is designed to accommodate such heat.

8. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.

9. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C1 \times C2 \times ... \times Cn)1/n,$$

in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

10. "Mass emission rate" is a daily rate defined by the following equations:

$$\text{mass emission rate (lbs/day)} = 8.34 \times Q \times C; \text{ and,}$$

$$\text{mass emission rate (kg/day)} = 3.79 \times Q \times C,$$

where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in mgd) is the measured daily flow rate or the average of measured daily flow rates over the period of interest.

11. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.

12. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month Median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.

13. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.

14. "Monthly Average" (or "Weekly Average", as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X1 + X2 + ... + Xn) / n$$

in which "n" is the number of days samples were analyzed during the period and "X" is either the constituent concentration (mg/L) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

15. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial waste, or other waste.

16. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.

17. "Pollutant-free wastewater" means inflow and infiltration, storm waters, and cooling waters and condensates which are essentially free of pollutants.

18. "Primary Industry Category" means any industry category listed in 40 CFR Part 122, Appendix A.

19. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/L) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$C_{Effluent} \text{ Removal Efficiency } (\%) = 100 \times (1 - C_{effluent} / C_{influent})$$

20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss to natural resources which can reasonably be expected to occur in the absence of a "bypass". It does not mean economic loss caused by delays in production.

21. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.

22. To "significantly contribute" to a permit violation means an "indirect discharger" must:

    a. Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by Federal, State, or Local law;

b. Discharge wastewater which substantially differs in nature or constituents from its average discharge;

c. Discharge pollutants, either alone or in conjunction with discharges from other sources, which results in a permit violation or prevents sewage sludge use or disposal; or

d. Discharge pollutants, either alone or in conjunction with pollutants from other sources that increase the magnitude or duration of permit violations.

23. "Toxic Pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR Part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.).

24. “Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Resources Control Board.

Attachment E – Monitoring and Reporting Program – Table of Contents

LIST OF TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

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

B. 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 approval of the Regional Water Board.

C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

1. A Guide to Methods and Standards for the Measurement of Water Flow, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421)

2. Water Measurement Manual, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027).

3. Flow Measurement in Open Channels and Closed Conduits, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

4. NPDES Compliance Sampling Manual, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp (Available from the

General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)

D. 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.

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

F. Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 CFR 135, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantification limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule shall also adhere to guidance and requirements contained in the Policy for *Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005). Analyses for toxics listed in Table B of the California Ocean Plan (2005) shall adhere to guidance and requirements contained in that document.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	At a location where a representative sample of intake seawater can be obtained prior to its contact with any operations, chemical application, other water or waste streams, and/or treatment.
001	EFF-001	At a point where an effluent sample can be collected that is representative of discharges to the Pacific Ocean, but before dilution occurs with ocean water and other waste streams not authorized by this Order (e.g., Moss Landing Marine Laboratories and Monterey Bay Aquarium Research Institute).

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

The Discharger shall monitor influent seawater at Monitoring Location INF-001, during all phases of operation, in accordance with the following schedule.

Table E-2. Influent Seawater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	Units	Grab	Daily
Temperature	° F	Grab	Weekly
Turbidity	NTU	Grab	Weekly
Specific Conductivity	µmhos/cm	Grab	Weekly
Settleable Solids	mL/L/hr	Grab	Weekly
TDS	mg/L	Grab	Monthly
Ocean Plan Table B Metals [1]	µg/L	Grab	Annually [2]

[1] The metals with applicable water quality objectives established by Table B of the Ocean Plan (2005) – As, Cd, Cr+6, Cu, Pb, Hg, Ni, Se, Ag, Zn. Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

[2] Monitoring for the Ocean Plan Table B metals shall be performed during the first year following the effective date of this Order and every year thereafter.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor its discharge to Monterey Bay at Monitoring Location EFF-001, during all phases of operation, in accordance with the following schedule.

Table E-3. Effluent Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	mgd	Metered	Daily
pH	Units	Grab	Daily
Temperature	℃	Grab	Weekly
Specific Conductivity	µmhos/cm	Grab	Weekly
TDS	mg/L	Grab	Weekly
Settleable Solids	ml/L	Grab	Weekly
TSS	mg/L	Grab	Monthly
Turbidity	NTU	Grab	Monthly
Oil and Grease	mg/L	Grab	Annually
Chronic Toxicity [1]	TUc	Grab	Quarterly
Ocean Plan Table B Pollutants [2], [3]	µg/L	Grab	Annually
1,3-Butadiene [4]	µg/L	Grab	Annually
Acetaldehyde [4]	µg/L	Grab	Annually
Formaldehyde [4]	µg/L	Grab	Annually
Naphthalene [4]	µg/L	Grab	Annually
Propylene Oxide [4]	µg/L	Grab	Annually
Xylenes [4]	µg/L	Grab	Annually

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Organic Carbon (TOC) [4]	µg/L	24-hr composite	Annually

[1] Whole effluent chronic toxicity monitoring shall be conducted according to the requirements established in section V. of this Monitoring and Reporting Plan.

[2] The pollutants, excluding radioactivity and acute toxicity, with applicable water quality objectives established by Table B of the Ocean Plan (2005).

[3] Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Ocean Plan, including the Standard Monitoring Procedures presented in Appendix III of the Ocean Plan. The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix II of the Ocean Plan are the lowest calibration standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of Table B; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML.

[4] The analytical method selected for a parameter shall be the one that can measure the lowest detected limit for that parameter.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity

The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA-821/600/R-95/136; *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA-600-4-91-003; *Procedures Manual for Conducting Toxicity Tests developed by the Marine Bioassay Project, SWRCB 1996, 96-1WQ; and/or Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA/600/4-87-028 or subsequent editions.

Chronic toxicity measures a sub lethal effect (e.g., reduced growth or reproduction) to experimental test organisms exposed to an effluent compared to that of the control organisms. The no observed effect concentration (NOEC) is the maximum tested concentration in a medium which does not cause known adverse effects upon chronic exposure in the species in question (i.e. the highest effluent concentration to which organisms are exposed in a chronic test that causes no observable adverse effects on the test organisms; (e.g., the highest concentration of a toxicant to which the values for the observed responses are not statistically significantly different from the controls). Examples of chronic toxicity include but are not limited to measurements of toxicant effects on reproduction, growth, and sublethal effects that can include behavioral, physiological, and biochemical effects. Test results shall be reported in chronic toxicity units (TUc), where TUc = 100/NOEC. For this discharge, the presence of chronic toxicity at more than 34 TUc shall trigger the TRE requirements of the Order.

If the effluent to be discharged to a marine or estuarine system (e.g., salinity values in excess of 1,000 mg/L) originates from a freshwater supply, salinity of the effluent must be increased with dry ocean salts (e.g., FORTY FATHOMS®) to match salinity of the receiving water. This modified effluent shall then be tested using marine species.

Test species shall include a vertebrate, an invertebrate, and an aquatic plant. After a screening period, monitoring may be reduced to the most sensitive species. Screening phase chronic toxicity monitoring shall be conducted with approved test protocols and species shown in Table E-4 below.

Table E-4. Approved Tests – Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
Giant Kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
Red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
Oyster, *Crassostrea gigas*; mussels, *Mytilus spp.*	abnormal sell development; percent survival	1	a, c
Urchin, *Strongylocentrotus purpuratus;* sand dollar, *Dendraster excentricus*	percent normal development; percent fertilization	1	a, c
Shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
Shrimp*, Menidia beryllina*	percent survival; fecundity	2	b, d
Topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silverside, *Menidia beryllina*	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. Webber, C.I., W.B. Horning II, D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1998. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA/600/4-87/028.

Authorized dischargers shall conduct toxicity tests using effluent dilutions of 100%, 85%, 70%, 50%, and 25%. Dilution and control waters shall be obtained from an area of the receiving waters, typically upstream, which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Regional Water Board. If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.

The sensitivity of test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results.

B. Toxicity Reporting

1. The Discharger shall include a full report of toxicity test results with the regular monthly monitoring report and include the following information.

a. toxicity test results,

b. dates of sample collection and initiation of each toxicity test, and

c. and/or chronic toxicity discharge limitations (or value).

2. Toxicity test results shall be reported according to the appropriate guidance - *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, U.S. EPA Office of Water, EPA-821-R-02-012 (2002) or the latest edition, or, EPA-821-R-02-012 (2002) or subsequent editions.

3. If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the monitoring report for the month in which investigations conducted under the TRE workplan occurred.

4. Within 14 days of receipt of test results exceeding the chronic toxicity discharge limitation, the Discharger shall provide written notification to the Executive Officer of:

   a. Findings of the TRE or other investigation to identify the cause(s) of toxicity,

   b. Actions the Discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity. When corrective actions, including TRE, have not been completed, a schedule under which corrective actions will be implemented, or the reason for not taking corrective action, if no action has been taken.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

This section of the standardized permit form is not applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

This section of the standardized permit form is not applicable.

IX. OTHER MONITORING REQUIREMENTS

A. Video Tape Survey of Diffuser and Diffuser Area

A video tape reconnaissance survey of the diffuser and diffuser area shall be conducted annually. Surveys shall occur during periods of safe diving conditions and water clarity conducive to good video taping. The surveys shall include the diffuser and bottom area within at least 20 feet on each side of the diffuser. The videotape shall be submitted to the Regional Water Board and shall be accompanied by a diver narrative describing bottom conditions, any fish or macroinvertebrates, and any apparent effects of the diffuser and outfall system.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. If there is no discharge during any reporting period, the report shall so state.

3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements

5. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.G.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Website will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutants more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	**May 9, 2009**	All	Submit with monthly SMR

Daily	**May 9, 2009**	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	Submit with monthly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	Submit with next monthly SMR
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	Submit with monthly SMR
Annually	January 1 following (or on) permit effective date	January 1 through December 31	Submit with Annual Report

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

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

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

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

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

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

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

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

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

c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

6. An Annual Self Monitoring Report shall be due on February 1 following each calendar year and shall include:

a, All data required by this MRP for the corresponding monitoring period, including appropriate calculations to verify compliance with effluent limitations.

b. A discussion of any incident of non-compliance and corrective actions taken.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below.

Standard Mail
State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
PO Box 100
Sacramento, CA 95812-1000

Fed Ex / UPS / Other Private Carrier
State Water Resources Control Board
Division of Water Quality
c/o DMR Processing Center
1001 I Street, 15th Floor
Sacramento, CA 95814

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 will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any special monitoring, TREs, or other data or information that results from the Special Provisions, Section VI.C, of the Order. The Discharger shall submit such reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

2. Notifications. The regulations for the Monterey Bay National Marine Sanctuary at 15 CFR Part 922.132 prohibit discharges from within the boundaries of the MBNMS. Discharges occurring outside the MBNMS that subsequently enter and injure Sanctuary resources or qualities are similarly prohibited. In order to protect the health of the MBNMS, the permittee must immediately notify the MBNMS office at 888-902-2778 for any spills that are likely to enter ocean waters. In addition to facilitating potential enforcement investigations, the MBNMS seeks to track this information in order to evaluate existing and direct the implementation of new management measures. The Discharger shall send annual reports to MBNMS staff and notify MBNMS staff prior to changes in Facility Design Flow, specifically, before going to Permit Phase 2 and Permit Phase 3. . All correspondence shall be sent to the individual listed below:

Permit Coordinator
Monterey Bay National Marine Sanctuary
299 Foam Street Monterey, CA 93940

ATTACHMENT F – FACT SHEET – TABLE OF CONTENTS

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	3272006001
Discharger	Moss Landing Commercial Park and Moss Landing Cement Company, LLC
Name of Facility	Moss Landing Cement Company Facility
Facility Address	7697 Highway 1
	Moss Landing, CA 95039
	Monterey County
Facility Contact, Title and Phone	Sam Bose, Director of Operations (408) 340-4600 Brent Constantz, Managing Member (408) 340-4600
Authorized Person to Sign and Submit Reports	Sam Bose, Director of Operations (408) 340-4600
Mailing Address	PO Box 777, Moss Landing, CA 95039
Billing Address	PO Box 777, Moss Landing, CA 95039
Type of Facility	Green Cement Plant
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	B
Pretreatment Program	NA
Reclamation Requirements	NA
Facility Permitted Flow	Phase 1 = 0.04 million gallons per day (mgd) (daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)
Facility Design Flow	Phase 1 = 0.04 mgd (daily average), 0.05 mgd (daily maximum) Phase 2 = 24 mgd (daily average), 25 mgd (daily maximum) Phase 3 = 56 mgd (daily average), 60 mgd (daily maximum)
Watershed	NA
Receiving Water	Pacific Ocean (Monterey Bay)
Receiving Water Type	Pacific Ocean

A. Moss Landing Cement Company, LLC is the operator of the Moss Landing Cement Company Plant. Moss Landing Commercial Park, LLC owns the property at 7697 Highway 1, Moss Landing, CA, on which the facility is located. Together Moss Landing Cement Company, LLC and Moss Landing Commercial Park, LLC are referred to as the Discharger. The facility extracts calcium and magnesium from seawater and by precipitation processes produces cement or an intermediate product for the production of cement.

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

B. The facility is a green cement plant, which is operated at the location of the former National Refractories and Minerals Corporation cement plant and discharges calcium and magnesium depleted seawater to Monterey Bay within the Monterey Bay National Marine Sanctuary (waters of the United States).

C. The Discharger filed a Report of Waste Discharge and submitted an application to renew the facility's Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on May 9, 2008. A site visit to assist with development of this Order was conducted on September 25, 2008.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Treatment or Controls

Seawater is pumped from Moss Landing Harbor by up to nine 100-horsepower pumps through two intake lines to the facility. Seawater, which contains calcium chloride and magnesium chloride ($CaCl_2$ and $MgCl_2$), is combined with dolime, lime, brucite (magnesium hydroxide tailings from historical operations of the National Refractories and Minerals Corporation), sodium hydroxide, sodium carbonate, fly ash, and/or calcium and magnesium-bearing silicate materials such as olivine and serpentine. The Discharger's precipitation process also utilizes carbon dioxide (CO_2), sparged from flue gases of the neighboring Moss Landing Power Plant. Following precipitating reactions, the seawater mixture will be directed to as many as seven 3-million gallon (capacity) tanks where settling of precipitated solids will occur. Settled material will be dried to be sold to the construction industry as green cement or as a cement supplement. Calcium and magnesium depleted seawater, decanted from the thickening tanks, will be discharged back to Monterey Bay through Discharge Point 001.

If necessary, chlorine can be added at the seawater intake to prevent microbiological fouling. No scale inhibitors, chelants, or other cleaning compounds will be used. In the event of plant shut down, intake pumps can be shut off and flow within the plant will be held in one or more of the on-site ponds. Well water may be used for washing production equipment.

Initially, the Discharger plans to operate a pilot-scale operation with a daily average discharge of 0.04 mgd and a daily maximum discharge of 0.05 mgd. This Phase 1 operation will be followed by a prototype operation with a daily maximum discharge of 25 mgd, and ultimately, by a full-scale operation with discharge of up to 60 mgd. Modifications to operational procedures and equipment will likely be required after Phase 1 and/or Phase 2 based on the experience of the earlier phases of operation.

This facility and its discharge will be similar to that of the National Refractories and Minerals Corporation which has occupied the same location. Both operations extract minerals from seawater for the manufacture of cement, with a difference being the use of carbon dioxide from an external source by the Moss Landing Cement Company.

Only the discharge of calcium and magnesium depleted seawater will occur under this permit. The previous permit also authorized the discharge of domestic wastewater and industrial storm water. Neither of the two latter sources is addressed in this permit. Domestic wastewater generated at the Moss Landing Commercial Park will be treated in a septic system and leach field. Discharge of storm water must be authorized by State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001 (*Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*).

Water Board staff evaluated the potential effects of entrainment and impingement using a volumetric approach that compared the Moss Landing Cement Plant project to previous 316(b) studies at the adjacent Moss Landing Power Plant (MLPP). The proposed discharge in Phase 1 (maximum flow 0.05 mgd or 35 gpm) would have a flow about 24,500 times lower than the combined maximum intake volume of the MLPP cooling water system (approximately 1226 MGD). For comparison to the maximum Phase 1 flow of 35 gpm, the circulating pump on a standard small V8 GM-based sterndrive engine uses approximately 50 gpm of Moss Landing Harbor seawater for cooling. The proposed maximum discharge flows in Phase 2 (maximum flow 25 mgd) and Phase 3 (maximum flow 60 mgd) would have flows about 49 and 20 times lower, respectively, than the combined maximum intake volume of the MLPP cooling water system. Based on review of entrainment modeling studies (Fecundity Hind casting, Adult Equivalent Losses, and Empirical Transport Model) at MLPP, the relatively low flows of Moss Landing Harbor water through the Moss Landing Cement Plant would have negligible potential impingement and entrainment impacts.

B. Discharge Points and Receiving Waters

Wastewater is discharged from Discharge Point 001 to the Monterey Bay near Moss Landing Harbor, waters of the United States, through a 620-foot (189 m), 51-inch (inside diameter) outfall/diffuser system. The last 130 feet of pipe consists of a diffuser section, which has 32 nozzles placed to gradually diffuse the discharge to the ocean environs.

The Discharger's diffuser sustained damages during the 1989 Loma Prieta earthquake. Studies conducted by the Moss Landing Marine Laboratories at that time determined there is low potential for significant environmental impact because of the damage. The outfall/diffuser system is visually inspected on an annual basis during normal operations. The Discharger continues to use the existing outfall/diffuser system without repair. The minimum initial dilution factor was determined to be 33:1 (seawater: effluent). The Discharger currently allows the Moss Landing Marine Laboratories and Monterey Bay Aquarium Research Institute to use its outfall. These dischargers are not subject to or authorized to discharge pursuant to this Order. Similarly, this Order does not authorize discharges to Monterey Bay, via Discharge Point 001, by any tenant of the Moss Landing Commercial Park other than the Moss Landing Cement Company, LLC. The Discharger has established and will maintain an effluent compliance monitoring location that is prior to any other sources entering the outfall line.

The receiving water for this discharge is part of the Monterey Bay National Marine Sanctuary, designated as such on September 15, 1992. The purpose of the National

Marine Sanctuaries Program is to protect areas of the marine environment which possess conservation, recreational, ecological, historical, research, educational, or aesthetic qualities of special national significance. The first priority of the Program is the long-term protection of resources within designated sanctuaries. The Monterey Bay Sanctuary has been recognized for its unique and diverse biological and physical characteristics.

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

Effluent limits contained in the previous Order for Discharge Point 001 are presented in the following tables.

Table F-2. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Daily Maximum
TSS	mg/L	60	--	90
	lb/day	30,000		45,000
Oil & Grease	mg/L	25	40	75
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Acute Toxicity	TUa	1.5	2.0	2.5
pH	pH Units	6.0 – 9.0		

Table F-3. Effluent Limitations for Toxic Pollutants for the Protection of Marine Aquatic Life

Pollutant	Unit	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	mg/L	0.2	0.99	2.6
Cadmium	mg/L	0.03	0.2	0.34
Chromium (+6)	mg/L	0.07	0.3	0.68
Copper	mg/L	0.04	0.34	0.95
Lead	mg/L	0.07	0.3	0.68
Mercury	mg/L	1.0	5.4	13.0
Nickel	mg/L	0.2	0.68	1.7
Selenium	mg/L	0.51	2.0	5.1
Silver	mg/L	0.02	0.09	0.23
Zinc	mg/L	0.4	2.5	6.5
Cyanide	mg/L	0.17	0.68	1.7
Total Residual Chlorine	mg/L	0.07	0.3	2.0
Ammonia (as N)	mg/L	20.4	81.6	204.0
Chronic Toxicity	TUc	---	34.0	---
Phenolic Compounds (non-chlorinated)	mg/L	1.0	4.08	10.2
Chlorinated Phenolics	mg/L	0.03	0.14	0.34
Endosulfan	µg/L	0.3	0.61	0.92
Endrin	µg/L	0.07	0.14	0.20
HCH	µg/L	0.14	0.27	0.41

Pollutant	Unit	6-Month Median	Daily Maximum	Instantaneous Maximum
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

Table F-4. Effluent Limitations for Toxic Pollutants for the Protection of Human Health (Non-Carcinogens)

Pollutant	Unit	30-day Average
Acrolein	mg/L	7.5
Antimony	mg/L	41.0
Bis(2-Chloroethoxy)Methane	mg/L	0.15
Bis(2-Chloroisopropyl)Ether	mg/L	41.0
Chlorobenzene	mg/L	19.0
Chromium (III)	g/L	6.5
Di-n-Butyl Phthalate	g/L	0.12
Dichlorobenzenes [1]	g/L	0.18
1,1-Dichloroethylene	g/L	0.24
Diethyl Phthalate	g/L	1.1
Dimethyl Phthalate	g/L	28.0
4,6-Dinitro-2-methylphenol	mg/L	7.5
2,4-Dinitrophenol	mg/L	0.14
Ethylbenzene	g/L	0.14
Fluoranthene	mg/L	0.51
Hexachlorocyclopentadiene	mg/L	2.0
Isophorone	µg/L	5.1
Nitrobenzene	mg/L	0.17
Thallium	mg/L	0.48
Toluene	µg/L	2.9
1,1,2,2-Tetrachloroethane	µg/L	0.041
Tributylin	µg/L	0.048
1,1,1-Trichloroethane	µg/L	18.0
1,1,2-Trichloroethane	µg/L	1.5

Table F-5. Effluent Limitations for Toxic pollutants for the Protection of Human Health (Carcinogens)

Pollutant	Unit	30-day Average
Acrylonitrile	µg/L	3.4
Aldrin	ng/L	0.75
Benzene	mg/L	0.20
Benzidine	ng/L	2.3
Beryllium	µg/L	1.1
Bis(2-chloroethyl) ether	µg/L	1.5
Bis(2-ethylhexyl) phthalate	mg/L	0.12

Pollutant	Unit	30-day Average
Carbon Tetrachloride	mg/L	0.031
Chlordane	ng/L	0.78
Chloroform	mg/L	4.4
DDT	ng/L	5.8
1,4-Dichlorobenzene	mg/L	0.61
3,3-Dichlorobenzidine	µg/L	0.28
1,2-Dichloroethane	mg/L	4.4
Dichloromethane	mg/L	15.0
1,3-Dichloropropene	mg/L	0.30
Dieldrin	µg/L	1.4
2,4-Dinitrotoluene	mg/L	0.088
1,2-Diphenylhydrazine	µg/L	5.4
Halomethanes	mg/L	4.4
Heptachlor	µg/L	0.024
Hexachlorobenzene	ng/L	7.1
Hexachlorobutadiene	mg/L	0.48
Hexachloroethane	mg/L	0.085
N-nitrosodimethylamine	mg/L	0.25
N-nitrosodiphenylamine	mg/L	0.085
PAHs	µg/L	0.30
PCBs	ng/L	0.65
TCDD Equivalents	ng/L	0.13
Tetrachloroethylene	mg/L	3.4
Toxaphene	ng/L	7.1
Trichloroethylene	mg/L	0.92
2,4,6-Trichlorophenol	µg/L	9.9
Vinyl Chloride	mg/L	1.2

D. Compliance Summary

There has been no discharge from this facility since 2001.

E. Planned Changes

The Discharger intends to resume operations at this facility in three phases of operation, with Phase 3, the intended long-term mode of operation, to be accomplished during the anticipated five-year term of this Order. Phase 1 of operations will be a pilot scale operation and will result in a daily average discharge rate of 0.04 mgd and a daily maximum discharge rate of 0.05 mgd. Phase 2 will result in daily average and daily maximum discharge rates of 24 and 25 mgd; and Phase 3 will result in a daily average and daily maximum discharge rates of 56 and 60 mgd, respectively. There is no set schedule for initiation of Phases 2 and 3; however, the Discharger expects to be in Phase 3 of operations during the five-year term of this Order.

Section VI. C. 6. b of this Order establishes a requirement for the Discharger to perform a Discharge Characterization Study during Phase 1 of operations. The Regional Water Board must review results of this study and provide written confirmation to the Discharger that characteristics of the discharge are as contemplated by this Order before the Discharger will become authorized to discharge in its Phase 2 of operations.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to the federal Clean Water Act (CWA) section 402 and implementing regulations adopted by the USEPA, and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to CWC Article 4, Chapter 4, Division 7.

B. California Environmental Quality Act (CEQA)

Pursuant to California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board has adopted a *Water Quality Control Plan for the Central Coast Region* (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. To address ocean waters, the Basin Plan incorporates by reference the *Water Quality Control Plan for Ocean Waters of California* (the Ocean Plan), which was adopted in 1972 and amended in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The most recent amendment to the Ocean Plan was adopted by the State Water Resources Control Board (the State Water Board) on April 21, 2005, and became effective on February 14, 2006.

   The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Because of very high levels of total dissolved solids (TDS) in marine waters, the receiving waters for discharges from the Moss Landing Cement Company facility meet an exception to Resolution No. 88-63, which precludes waters with TDS levels greater than 3,000 mg/L from the MUN designation. Beneficial uses established by the Basin Plan and the Ocean Plan for the coastal waters between Soquel Point and the Salinas River, including Monterey Bay, are described in section II. H of the Order.

   Requirements of this Order implement the Basin Plan and Ocean Plan.

2. **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* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains the following temperature objective for existing discharges to enclosed bays and coastal waters of California.

   Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

   The Ocean Plan defines elevated temperature wastes as:

   Liquid, solid, or gaseous material discharged at a temperature higher than the natural temperature of receiving water.

3. **California Ocean Plan**. The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21. 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes. [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21] Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA 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.

5. **Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require 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 federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the Clean Water Act (CWA) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

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

CWA section 303 (d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303 (d) listed water bodies and pollutants, the Regional Water Board must develop and implement TMDLs (Total Maximum Daily Loads) that will specify WLAs (Waste Load Allocations) for point sources and Load Allocations for non-point sources.

The State's 2006 303(d) list of impaired water bodies, which was approved by USEPA in June 2007, does not identify Monterey Bay in the vicinity of the discharge as impaired.

E. Other Plans Policies and Regulations

1. **Discharges of Storm Water.** For the control of storm water discharged from the site of the facility, the Order requires, if applicable, the Discharger to seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001 (*Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*).

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. NPDES regulations establish two principal bases for effluent limitations. At 40 CFR 122.44 (a) permits are required to include applicable technology-based limitations and standards; and at 40 CFR 122.44 (d) permits are required to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 CFR 122.44 (d) - (1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA Section 304 (a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

A. Discharge Prohibitions

1. Discharge Prohibition III. A (No discharge to Monterey Bay at a location other than as described by the Order). The Order authorizes a single, specific point of discharge to Monterey Bay; and this prohibition reflects CWA section 402's prohibition against discharges of pollutants except in compliance with the Act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also retained from the previous permit.

2. Discharge Prohibition III. B (Discharges in a manner, except as described by the Order, are prohibited). Because limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order do not adequately address waste streams not contemplated during drafting of the Order. To prevent the discharge of such waste streams that may be inadequately regulated, the Order prohibits the discharge of any waste that was not described to and contemplated by the Regional Water Board during the process of permit reissuance.

3. Discharge Prohibition III. C. (Discharges to Monterey Bay shall not exceed defined maximum discharge rates). As limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order may not adequately address waste streams that were not contemplated during drafting of the Order. In particular, section VI. C. 6. b of the Order requires the Discharger to more fully characterize its discharge; and through review of that characterization data, the Regional Water Board will need to confirm its understanding of the character of the discharge before it will authorize a discharge at the higher Phase 2 rate.

4. Discharge Prohibition III. D. (Discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste is prohibited). This prohibition restates a discharge prohibition established in section III. H. of the Ocean Plan.

5. Discharge Prohibition III. E. (Discharge of sludge or sludge digester supernatant to the Ocean is prohibited). This prohibition restates a discharge prohibition established in section III. H. of the Ocean Plan.

6. Discharge Prohibition III. F (Overflows and bypasses prohibited). The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 CFR 122.41 (m), or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by the Order.

7. Discharge Prohibition III.G. (Discharge of domestic wastewater is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that there will be no component of domestic wastewater in discharges from this facility. This prohibition acknowledges that understanding and provides protection of the receiving water, as the Regional Water Board has not included other common limitations and conditions in the Order for the control of domestic wastewater.

8. Discharge Prohibition III.H. (Discharge of storm water is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that there will be no storm water component in discharges from this facility. This prohibition acknowledges that understanding and provides protection for the receiving water, as the Regional Water Board has not included other common limitations and conditions in the Order for the control of storm water.

9. Discharge Prohibition III.I. (Discharge of chemical additives is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that no chemicals will be added to the discharge, except for dolomite, lime, and other similar inorganic materials. The Regional Water Board also understands that no organic (carbon containing) materials, except carbon dioxide and carbonate ion, will be added to the discharge. This prohibition acknowledges the Regional Water Board's understanding that a very limited number of similar inorganic materials can be introduced to the facility's discharge and provides protection for the receiving water, as the Regional Water Board has not included limitations and conditions in the Order for the control of such chemical additives.

10. Discharge Prohibition III.J. (Discharge of wastewater containing added coloration is prohibited). Based on information provided by the Discharger, the Regional Water Board understands that the discharge will be of the same color as incoming seawater. Because the facility's process of removing calcium and magnesium from seawater relies on precipitation reactions, this prohibition is meant to prohibit carryover of precipitated solids in the discharge, as well as post-precipitation reactions that could cause coloration of the receiving water in the vicinity of the outfall.

11. Discharge Prohibition III. K. (Discharge of wastewater to receiving water at a temperature that adversely affects beneficial uses is prohibited.) Based on information provided by the Discharger, the Regional Water Board understands that the temperature of seawater will not be significantly raised as it moves from the intake location to the facility's outfall in Monterey Bay within the Monterey Bay National Marine Sanctuary. The Thermal Plan requires that such discharges do not cause natural water temperature to increase to assure protection of the beneficial uses. Based on the Discharger's description of its process, and based generally on the objectives of the Thermal Plan, the Regional Water Board has established this prohibition to prevent thermal impacts to the receiving water.

B. Technology-Based Effluent Limitations

1. Scope and Authority

NPDES regulations at 40 CFR 122.44 (a) require that permits include applicable technology-based limitations and standards. Where the USEPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402 (a) (1) and USEPA regulations at 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit writer must consider specific factors outlined at 40 CFR 125.3.

The State Water Board, in Table A of the Ocean Plan, has also established technology based requirements for conventional pollutants (suspended and settleable matter, oil and grease, turbidity, and pH), which are applicable to this facility as an industrial discharger for which Effluent Limitations Guidelines have not been established.

2. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations applicable to Discharge Point 001 during Phases 1, 2, and 3 and established by the Order are summarized as follows.

Table F-6. Summary of Technology-Based Effluent Limitations

Parameter	Units	Monthly 30-Day Average	Weekly 7-Day Average	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	ml/L	1.0	1.5	3.0
TSS	mg/L	60 [1]	--	--
Turbidity	NTU	75	100	225
pH	s.u.	Within 6.0 to 9.0 at all times		

[1] 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 then 60 mg/L.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

NPDES regulations at 40 CFR 122.44 (d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

The process for determining “reasonable potential” for discharges to cause or contribute to an exceedance of a water quality standard and for calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters as specified in the Basin and Ocean Plans, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and in other applicable State and federal rules, plans, and policies, including applicable water quality criteria from the Ocean Plan.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44 (d) (1) (vi), using (1) USEPA criteria guidance under CWA section 304 (a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state’s narrative criterion, supplemented with other relevant information.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses for ocean waters of the Central Coast Region are established by the Basin Plan and the Ocean Plan and are described by Section II. (Findings) H of the Order.

Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. The water quality objectives from the Ocean Plan are incorporated as receiving water limitations into this Order. In addition, Table B of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health.

3. Determining the Need for WQBELs

Procedures for performing a Reasonable Potential Analysis (RPA) for ocean dischargers are described in Section III. C. and Appendix VI. of the Ocean Plan. The typical procedure is a statistical method that projects an effluent data set that accounts for long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of an existing effluent data set, and compares the 95th percentile concentration, at a 95 percent confidence level, with the applicable water quality criterion from Table B of the Ocean Plan. A finding of reasonable potential results when the 95th percentile concentration exceeds the applicable criterion.

When effluent data are not available, as in the circumstances of this facility, the Regional Water Board may decide that WQBELs are necessary after a review of such information as the facility or discharge type, solids loading, lack of dilution, potential toxic effects, fish tissue data, 303 (d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

Without recent effluent data, the Regional Water Board has determined that effluent limitations from the previous permit for all Ocean Plan Table B toxic pollutants will be retained but will be updated in this Order to reflect changes in water quality criteria established by the current (2005) Ocean Plan. The importance given to certain of the Table B pollutants (e.g., chlorine, whole effluent chronic toxicity, and the metals As, Cd, Cr^{+6}, Cu, Pb, Hg, Ni, Se, Ag, and Zn) by the Regional Water Board is reflected in the compliance monitoring frequencies established in the Monitoring and Reporting Program.

4. WQBEL Calculations

As described by Section III. C of the Ocean Plan, effluent limits for Table B pollutants are calculated according to the following equation.

$$Ce = Co + Dm (Co – Cs)$$

where:

Ce = the effluent limitation (µg/L)

Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

For this facility, Dm is unchanged from Order No. 01-030 (Dm = 33). Initial dilution is the process that results in the rapid and irreversible mixing of the discharge with ocean water at the outfall.

As site-specific water quality data are not available for the ambient water, in accordance with Table B implementing procedures, Cs equals zero for all pollutants, except the following:

Table F-7. Background Seawater Concentrations

Pollutant	Background Seawater Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Implementing provisions at Section III. C of the Ocean Plan requires that, in addition to concentration-based limits, effluent limitations for Table B pollutants be expressed in terms of mass. The Order therefore includes mass-based effluent limitations, which are based on flows of: 0.05, 25, and 60 mgd for Phases 1, 2, and 3 of operation, respectively.

Effluent limitations for the Table B pollutants are tabulated in Section IV. A. 1 of this Order.

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

Implementing provisions of section III. C. of the Ocean Plan express a preference for chronic toxicity limitations when the minimum initial dilution of a discharge is less than 100:1, and therefore, the Regional Water Board is establishing effluent limitations for chronic, not acute, whole effluent toxicity for the facility.

D. Final Effluent Limitations

Final, technology-based and water quality-based effluent limitations established by the Order are discussed in sections IV.B. and IV.C. of this fact sheet.

1. Satisfaction of Anti-Backsliding Requirements

The Order retains both technology and water quality based effluent limitations established by the previous permit, and therefore, applicable anti-backsliding provisions of the Clean Water Act and of NPDES regulations are satisfied.

2. Satisfaction of Antidegradation Policy

The Order does not authorize increases in the concentration or mass of pollutants discharged from the facility, and therefore, is consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 CFR 131.12 and by State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS, settleable solids, turbidity; oil and grease, and pH. Restrictions on these pollutants are discussed in section IV. B of the Fact Sheet. In addition, this Order contains effluent limitations more stringent than the minimum, technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Final, technology and water quality-based effluent limitations are summarized in sections IV. A of the Order.

E. Interim Effluent Limitations

The Order does not establish interim effluent limitations and schedules for compliance with final limitations. Interim limitations are authorized only in certain circumstances, when immediate compliance with newly established final WQBELs is not feasible. Interim effluent limitations are not authorized for WQBELs, which are based on water quality criteria of the Ocean Plan.

F. Land Discharge Specifications

This section of the standardized permit is not applicable.

G. Reclamation Specifications

This section of the standardized permit is not applicable.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Receiving water limitations within the proposed Order generally include the receiving water limitations of the previous Order; however, these limitations have been supplemented and modified to reflect all applicable, general water quality objectives of the Ocean Plan (2005).

B. Groundwater

Groundwater limitations established by the Order include general objectives for groundwater established by the Basin Plan for the Central Coast Region.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

NPDES regulations at 40 CFR 122.48 require all NPDES permits to specify recording and reporting of monitoring results. CWC sections 13267 and 13383 authorize the Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. Following is the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Intake seawater monitoring is established by the Order for pH, temperature, turbidity, specific conductivity, settleable solids, TDS, and Ocean Plan Table B metals to allow comparison with effluent concentrations and thereby determine whether significant amounts of pollutants are being added to seawater that is discharged from the facility.

B. Effluent Monitoring

Effluent monitoring is required for all pollutants and pollutant parameters which have effluent limitations established in section IV.A. of the Order. In addition some effluent monitoring is required to provide further characterization of discharges from this facility.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Section III. C. 3. c. (4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. This Order includes routine monitoring requirements for chronic toxicity in the MRP (Attachment E) as specified in the Ocean Plan.

Chronic toxicity is to be calculated using the following formula:

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

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 Ocean Plan.

D. Receiving Water Monitoring

1. Surface Water

The Order requires the Discharger to participate in a receiving water monitoring program. The Discharger has indicated a willingness to participate in a regional monitoring program in the Monterey Bay, such as CCLEAN. The receiving water monitoring program may be revised based on program development.

2. Groundwater

This section of the standardized permit template is not applicable.

E. Other Monitoring Requirements

1. Video Tape Survey of Diffuser and Diffuser Area

The requirements of this provision are retained from the previous permit. A video tape reconnaissance survey of the diffuser and diffuser area shall be conducted annually. Surveys shall occur during periods of safe diving conditions and water clarity conducive to good video taping. The surveys shall include the diffuser and bottom area within at least 20 feet on each side of the diffuser. The videotape shall be submitted to the Regional Water Board and shall be accompanied by a diver narrative describing bottom conditions, any fish or macroinvertebrates, and any apparent effects of the outfall.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

NPDES regulations at 40 CFR 122.41 (a) (1) and (b - n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25 (a) (12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR123.25, this Order omits federal conditions that address enforcement authority

specified in 40 CFR 122.41 (j) (5) and (k) (2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387 (e).

B. Special Provisions

1. Reopener Provisions

The Order may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any new State water quality objectives that are approved by the USEPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

2. Special Studies and Additional Monitoring Requirements

The Order requires the facility to maintain a Toxicity Reduction Work Plan. When toxicity monitoring measures chronic toxicity above the effluent limitation established by the Order, the Discharger is required to resample and retest. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements, or whether other measures are warranted.

3. Best Management Practices and Pollution Prevention

Pollution minimization requirements are based on section III. C. 9 of the Ocean Plan. The Discharger is required to develop a Pollutant Minimization Program only if required to do so in writing by the Executive Officer.

4. Construction, Operation, and Maintenance Specifications

This section of the standardized permit template is not applicable.

5. Special Provisions for Municipal Facilities (POTWs Only)

This section of the standardized permit template is not applicable.

6. Other Special Provisions

a. Discharges of Storm Water

The Order does not address discharges of storm water from the facility, except to require coverage by and compliance with applicable provisions of General Permit No. CAS000001 - *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*.

b. Phase 1 Discharge Characterization Study.

During Phase 1 of operations, the Discharger is required to more completely characterize its discharge. Although the Regional Water board understands the discharge to be simply calcium and magnesium depleted seawater, this additional characterization work is designed to provide more data regarding the Ocean Plan Table B pollutants, and to look for pollutants attributable to stack gases from the Moss Landing Power Plant and/or to residuals of the precipitation process which will remove calcium and magnesium from seawater. Effluent monitoring during Phase 1 will include analysis for such pollutants as 1,3-butadiene, acetaldehyde, formaldehyde, naphthalene, propylene oxide, xylenes, and total organic carbon (TOC) – pollutants not included in Table B of the Ocean Plan but sometimes present in air emissions from natural gas-fired power plants. (USEPA, *AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Tables 3.1 - 2a and 3.1 – 3, (Fifth Edition, 1995).

Although the Regional Water Board does not anticipate these pollutants to be present within the discharge, this analysis is required to ensure protection of the receiving water. Certain other pollutants (acrolein, benzene, ethylbenzene, PAHs, toluene, and lead) may also be present in air emissions of gas fired power plants; however, these pollutants are listed in Table B of the Ocean Plan.

7. Compliance Schedules

The Order does not establish interim effluent limitations and schedules of compliance with final limitations.

VIII. PUBLIC PARTICIPATION

The Central Coast Regional Water Quality Control Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger 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. Notification was provided in Moss Landing, California and through publication in the Monterey Herald on December 26, 2008. Additionally, the draft waste discharge requirements were mailed to interested parties on December 19, 2008.

B. Written Comments

The Central Coast Regional Water Quality Control (Water Board) received the following comment letters by 5:00 p.m. on January 26, 2009:

1. Support letter from Monterey Bay Aquarium Research Institute

2. Support letter from Moss Landing Marine Laboratories
3. Support letter from Monterey County Supervisor Mr. Louis Calcagno
4. Authorization letter from Monterey Bay National Marine Sanctuary

C. Public Hearing

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

Date: **March 19-20, 2009**
Time: **8:30 a.m.**
Location: **Watsonville City Council Chambers**
275 Main Street – 4th Floor
Watsonville, CA 95076

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 permit. 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/centralcoast/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any person aggrieved by this action of the Central Coast Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of the order, except that if the thirtieth day following the date of the order falls on a Saturday, Sunday, or state holiday, the petition must be received by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (805) 549-3147.

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 the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Peter von Langen at (805) 549-3688 or PvonLangen@waterboards.ca.gov.