CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
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ORDER NO. R9-2008-0082
NPDES NO. CA0109193

WASTE DISCHARGE REQUIREMENTS FOR GENENTECH, INC. SAN DIEGO COUNTY

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

Table 1. Discharger Information

Discharger	Genentech, Inc.
Name of Facility	Genentech, Inc.
Facility Address	One Antibody Way
	Oceanside, CA 92056
	San Diego County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the Discharger from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Brine Waste	33° 9' 46" N	117° 23' 28" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	December 10, 2008
This Order shall become effective on:	January 1, 2009
This Order shall expire on:	January 1, 2014
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

I, John Robertus, 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, San Diego Region, on December 10, 2008.

John Robertus, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Genentech, Inc.
Name of Facility	Genentech, Inc.
Facility Address	One Antibody Way
	Oceanside, CA 92056
	San Diego County
Facility Contact, Title, and Phone	Joe Hess, EHS&S Manager, (760) 231-2491
Mailing Address	Same as Facility Address
Type of Facility	Pharmaceutical Manufacturing Facility
Facility Design Flow	0.155 MGD

II. FINDINGS

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

A. Background. Genentech, Inc. (hereinafter Discharger) is currently discharging pursuant to Order No. R9-2003-0140 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109193. The Discharger submitted a Report of Waste Discharge, dated June 9, 2008, and applied for a NPDES permit renewal to discharge various brine wastes at Discharge Point No. 001 from the Genentech facility at One Antibody Way, Oceanside, CA 92056 (hereinafter Facility). The application was deemed complete on July 9, 2008.

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.

Genentech develops targeted immunotherapies for cancer and autoimmune diseases. No wastes produced by or in conjunction with the biologics manufacturing processes (including cell culture production and harvesting, recovery and purification, and formulation) at the Facility will be regulated under this Order. All wastewater produced by the biologics manufacturing processes will be discharged to the City of Oceanside's (City) sanitary sewer system.

The Facility discharges up to 0.155 million gallons per day (MGD) of combined discharges from water softening and purification processes and other non-biologics maintenance activities (including vapor compression stills blowdowns) at the Facility. The combined waste discharges regulated under this NPDES permit will be routed to the Pacific Ocean through the Oceanside Ocean Outfall (OOO).

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves 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 other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** Under 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.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates 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, as provided in section 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994, and last amended on April 25, 2007, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the coastal waters of the Pacific Ocean are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; preservation of rare, threatened or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

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

Under section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On November 30, 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The 303 (d) list includes the following sections of Pacific Ocean shoreline within the proximity of the OOO as impaired for bacteria indicators: 0.5 miles of Pacific Ocean shoreline at the mouth of the San Luis Rey River; 1.1 miles of Pacific Ocean shoreline at the mouth of Loma Alta Creek; and 1.2 miles of Pacific Ocean shoreline at Buena Vista Creek. Impairment has been detected at the shorelines indicated above; however, the receiving waters in the immediate vicinity of the discharge point are not included on the current 303 (d) list.

The State Water Board adopted the *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 temperature objectives for coastal waters.

The requirements of this Order implement the applicable water quality control plans.

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 ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 6. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

In order to protect 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. (40 CFR § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) 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 effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations applied in the Order consist of restrictions on oil and grease, settleable solids, turbidity, and pH as specified in Table A of the Ocean Plan; total suspended solids based on BPJ; and a restriction on flow. These restrictions and requirements are discussed in section IV.B.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the 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 Basin 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 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically temperature) were adopted in the 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 on September 18, 1975 and are applicable water quality standards pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the Clean Water Act and the applicable water quality standards for purposes of the CWA.

L. **Antidegradation Policy**. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that 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. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

O. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order or have been removed. As discussed in detail in the Fact Sheet (Attachment F), relaxation or removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. **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 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. **Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

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

S. **Provisions and Requirements Implementing State Law.** The provisions/requirements in section VI.A.2 of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. **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. Details of notification are provided in the Fact Sheet of this Order.

U. 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.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R9-2003-0140 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste in a manner or to locations that have not been specifically authorized by this order and permit, or for which valid waste discharge requirements/NPDES permits are not in force, is prohibited.

B. The Discharger shall comply with all requirements of the Basin Plan Waste Discharge Prohibitions which are hereby included in this Order by reference.

C. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.

D. The dumping or deposition, from shore or from vessels, of oil, garbage, trash or other solid municipal, industrial, or agricultural waste directly into waters subject to tidal action or adjacent to waters subject to tidal action in any manner which may permit it to be washed into waters subject to tidal action, is prohibited.

E. The discharge of polychlorinated biphenyl compounds, such as those used for transformer fluid, is prohibited.

F. The bypassing of untreated wastes containing concentrations of pollutants in excess of those in Tables A or B of the Ocean Plan is prohibited, except under upset conditions, as described in Attachment D of this Order, Standard Provision I. H.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

The discharge of effluent to Discharge Point No. 001 shall be measured at Monitoring Location EFF-001 as described in Attachment E, Monitoring and Reporting Program, except as otherwise noted. The effluent limitations below are enforceable to the number of significant digits given in the effluent limitation.

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location No. EFF-001 as described in the attached MRP:

Table 7. Effluent Limitations Based on Table A of the Ocean Plan

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD			0.155		
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day[1]	32	52	--	--	97
Total Suspended Solids	mg/L	30	--	50	--	--
	lbs/day[1]	39	--	65	--	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	standard units	--	--	--	6.0	9.0

[1] The mass emission rate (MER) limit, in pounds per day, was calculated based on the following equation: MER (lb/day) = 8.34 x Q x C, where Q is the maximum allowable flow rate (in MGD) and C is the concentration (in mg/l).

b. The discharge of effluent from the Discharger's Facilities to Discharge Point No. 001, as monitored at Monitoring Location EFF-001, shall maintain compliance with the following effluent limitations:

Table 8. Effluent Limitations Based on the Ocean Plan

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chronic Toxicity[1]	TUc	--	88	--	--

[1] Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

c. Constituents that do not have reasonable potential or had inconclusive reasonable potential analysis results are referred to as performance goal constituents and assigned the performance goals listed in the following table. Performance goal constituents shall also be monitored at EFF-001, but the

results will be used for informational purposes only, not compliance determination

Table 9. Performance Goals Based on the Ocean Plan.

Parameter	Unit	Performance Goals			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Acute Toxicity	TUa	--	2.9	--	--

2. Interim Effluent Limitations

[Not Applicable]

B. Land Discharge Specifications

[Not Applicable]

C. Reclamation Specifications

[Not Applicable]

V. RECEIVING WATER LIMITATIONS

The discharge, by itself or jointly with any other discharge(s), shall not cause violation of the numerical water quality objectives established in Chapter II, Table B of the Ocean Plan.

The discharge, by itself or jointly with any other discharge(s), shall not cause a violation of the following applicable water quality objectives contained in the Basin Plan, Ocean Plan, and Thermal Plan. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

A. Surface Water Limitations

The discharge shall not cause the following in the Pacific Ocean.

1. Bacterial Characteristics

   a. Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Water Board, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

      i. 30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

         1) Total coliform density shall not exceed 1,000 per 100 ml;

         2) Fecal coliform density shall not exceed 200 per 100 ml; and

         3) Enterococcus density shall not exceed 35 per 100 ml.

      ii. *Single Sample Maximum:*

         1) Total coliform density shall not exceed 10,000 per 100 ml;

         2) Fecal coliform density shall not exceed 400 per 100 ml;

         3) Enterococcus density shall not exceed 104 per 100 ml; and

         4) Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

   b. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

   c. At all areas where shell fish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall

not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

d. For marine waters beyond the outer limit of territorial seas, the ocean water shall not exceed a 30-day geometric mean for enterococcus density of 35 per 100 ml and a single sample maximum of 104 per 100 ml.

2. Physical Characteristics

a. Floating particulates and grease and oils shall not be visible.

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

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

d. The rate of deposition of inert solids and the characteristics of inert solids in the ocean sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics

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

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

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

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

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

f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

4. Biological Characteristics

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

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

c. 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.

5. **Radioactivity**

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

6. **Elevated Temperature Requirements (Thermal Plan)**

a. Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.

b. Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.

c. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

B. Groundwater Limitations

[Not Applicable]

VI. PROVISIONS

A. Standard Provisions

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

2. **Regional Water Board Standard Provisions**. The Discharger shall comply with the following provisions:

   a. Compliance with Ocean Plan Discharge Prohibitions, summarized in Attachment G is required as a condition of this Order and permit.

   b. Compliance with Discharge Prohibitions contained in Chapter 4 of the Basin Plan, summarized in Attachment G, is required as a condition of this Order and permit.

   c. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and re-ratings, the certification report shall be prepared by the design engineer. For re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility capacity. The certification report shall:

      i. Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,

      ii. Certify the adequacy of each component of the treatment facility, and

      iii. Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

      The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

      i. The certification report is received by the Executive Officer,

      ii. The Executive Officer has received written notification of completion of construction (new treatment facilities and expansions only),

iii. An inspection of the facility has been made by staff of the Regional Water Board or their designated representatives (new treatment facilities and expansions only), and

iv. The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

d. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

e. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.

f. This Order expires on January 1, 2014, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.

g. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

h. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the Regional Water Board.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table B water quality objective.

b. This Order may be modified, revoked and reissued, or terminated for cause *including, but not limited to, the following;*

i. Violation of any terms or conditions of this Order.

ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact, or

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

The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order.

c. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

d. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (MLs) which are established in the Ocean Plan.

e. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load allocation (TMDL) for the receiving water.

f. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

g. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.

h. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

The Discharger may be requested to participate in special studies. Special studies differ from other elements of the monitoring program in that they are intended to be short-term and are designated to address specific research or management issues that are not addressed by the routine core monitoring elements.

a. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation or performance goal for toxicity specified in section IV.A.1, the Discharger shall conduct a Toxicity

Reduction Evaluation (TRE) defined in Attachment A. 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.

If the toxicity testing result shows an exceedance of the acute toxicity performance goal or chronic toxicity effluent limitation, the Discharger shall:

i. Take all reasonable measures necessary to immediately minimize toxicity; and

ii. Increase the frequency of the toxicity test(s) that showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

The additional toxicity tests will be incorporated into the semiannual discharge monitoring report and submitted to the Regional Water Board pursuant to Attachment E.

If the additional tests indicate that toxicity effluent limitations are being consistently violated (at least three exceedances out of six tests), the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) and a Toxic Identification Evaluation (TIE). Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in section IV.A.1 of this Order.

Within 30 days of completion of the TRE/TIE, the Discharger shall submit the results of the TRE/TIE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations/performance goals of this Order and prevent recurrence of exceedances of those limitations/performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

b. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a TRE workplan in accordance with TRE procedures established by the USEPA in the following guidance manuals.

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

ii. Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F).

iii. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080).

iv. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081).

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

3. **Best Management Practices and Pollution Prevention**

   [Not Applicable]

4. **Construction, Operation and Maintenance Specifications**

   [Not Applicable]

5. **Special Provisions for Municipal Facilities (POTWs Only)**

   [Not Applicable]

6. **Other Special Provisions**

   [Not Applicable]

7. **Compliance Schedules**

   [Not Applicable]

VII. COMPLIANCE DETERMINATION

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

A. Compliance with Average Monthly Effluent Limitation (AMEL).

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

B. Compliance with Average Weekly Effluent Limitation (AWEL).

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, and alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of noncompliance. The average of daily discharges over

the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Compliance with Maximum Daily Effluent Limitation (MDEL).

The MDEL shall apply to flow weighted 24-hour composite samples. If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Compliance with Instantaneous Minimum Effluent Limitation

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

E. Compliance with Instantaneous Maximum Effluent Limitation.

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

F. Compliance with Six-month Median Effluent Limitation.

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

G. Mass and Concentration Limitations.

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be "ND" or "DNQ", the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ".

H. 2005 California Ocean Plan Provisions for Table B Constituents.

1. Sampling Reporting Protocols

a. Dischargers must report with each sample result the reported ML and the laboratory's current Method Detection Limit (MDL).

b. Dischargers must also report results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

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

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

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

2. Compliance Determination

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

a. Compliance with Single-Constituent Effluent Limitations

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

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

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

c. Multiple Sample Data Reduction

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

d. Acute Toxicity

Compliance with the Acute Toxicity Performance Goal for Discharge Point No. 001 shall be determined using an established protocol, e.g., COP 2005, American Society for Testing Materials (ASTM), USEPA, American Public Heath Association, or State Water Board. Acute Toxicity shall be expressed in Toxic Units Acute (TU_a), where:

TU_a = 100/96-hr LC_{50}

and where LC_{50} is the Lethal Concentration 50%; the percent waste giving 50% survival of test organisms. LC_{50} shall be determined by static or continuous flow bioassay techniques using standard test species. 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% survival of the test species in 100% waste, the toxicity concentration shall be calculated by the following:

$TUa = \log(100-S)/1.7$

where S is the percent survival in 100% waste. If $S > 99$, TU_a shall be reported as zero.

e. Mass Emission Rate

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

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day, and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

f. Bacterial Standards and Analysis

i. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

Geometric Mean = $(C_1 \times C_2 \times \ldots \times C_n)^{1/n}$

Where n is the number of days samples were collected during the period and C is the concentration of bacteria (CFU/100 mL) found on each day of sampling.

ii. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU (colony-forming units). The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those listed in 40 CFR 136 or any improved method determined by the Regional Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, listed under 40 CFR 136, and any other method approved by the Regional Water Board.

g. Single Operational Upset

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

i. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

ii. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision H of Attachment D.

iii. For purposes outside of CWC section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and

the manner of counting violations, shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

iv. For purposes of CWC section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations shall be in accordance with CWC section 13385(f)(2).

ATTACHMENT A – DEFINITIONS

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)

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)

he 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.

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

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

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

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)
Sample results that are 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
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
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
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons
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
The sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

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

Initial Dilution
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 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
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.

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

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

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)
Those sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. 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)
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)
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)
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
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.

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

Significant Difference
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)
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
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)
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.

ATTACHMENT B – MAPS

Figure B-1. Facility Map

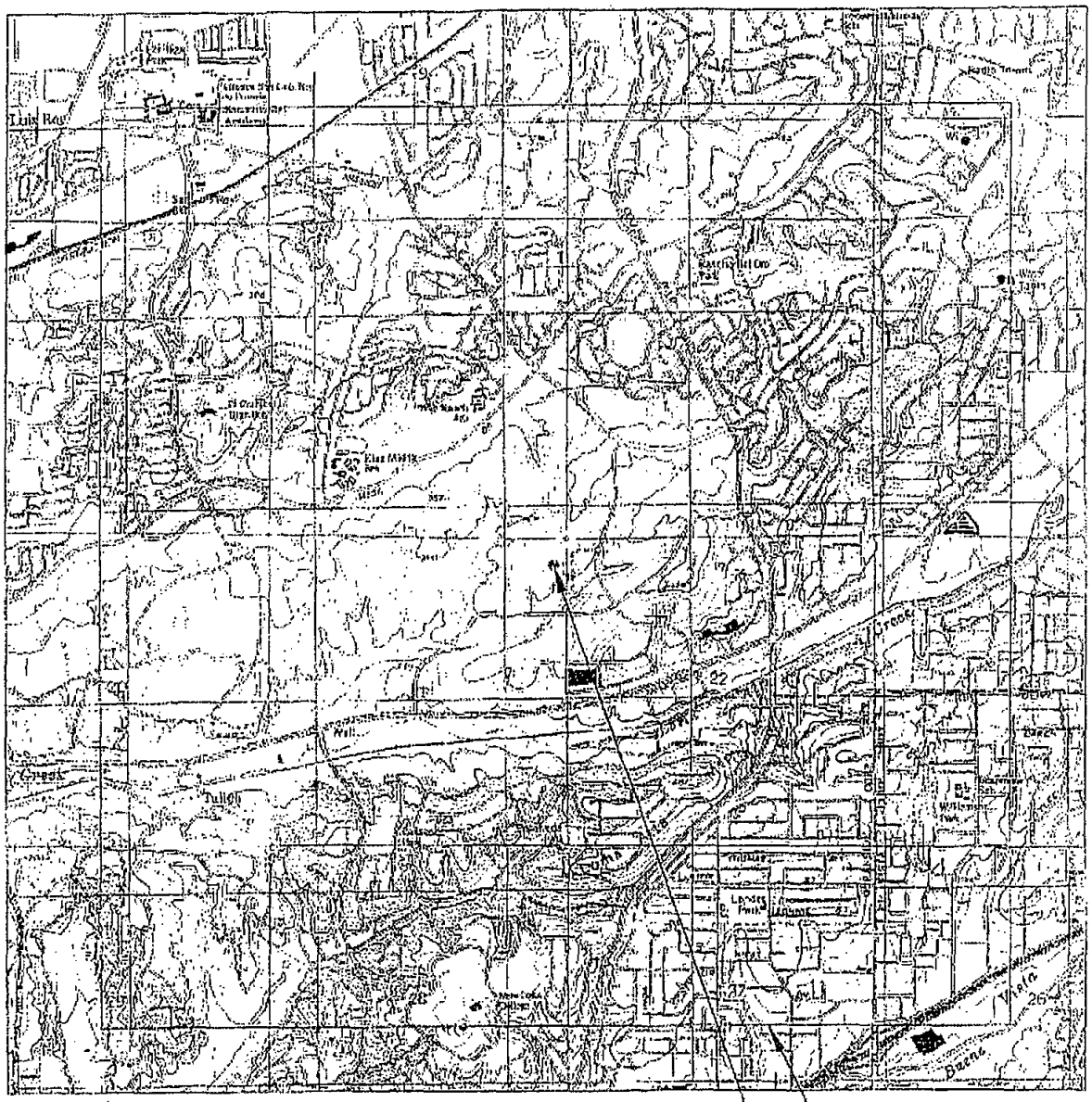
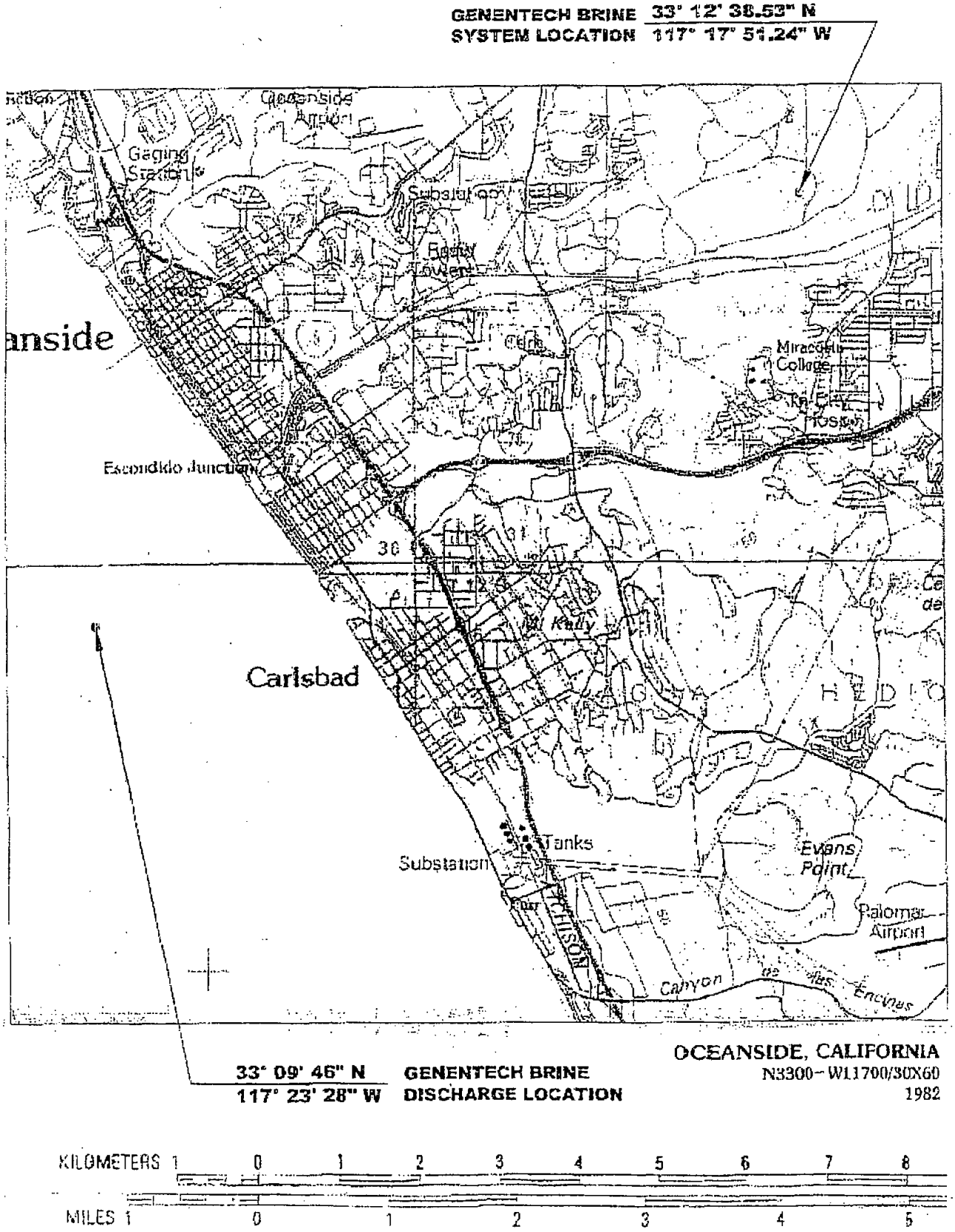
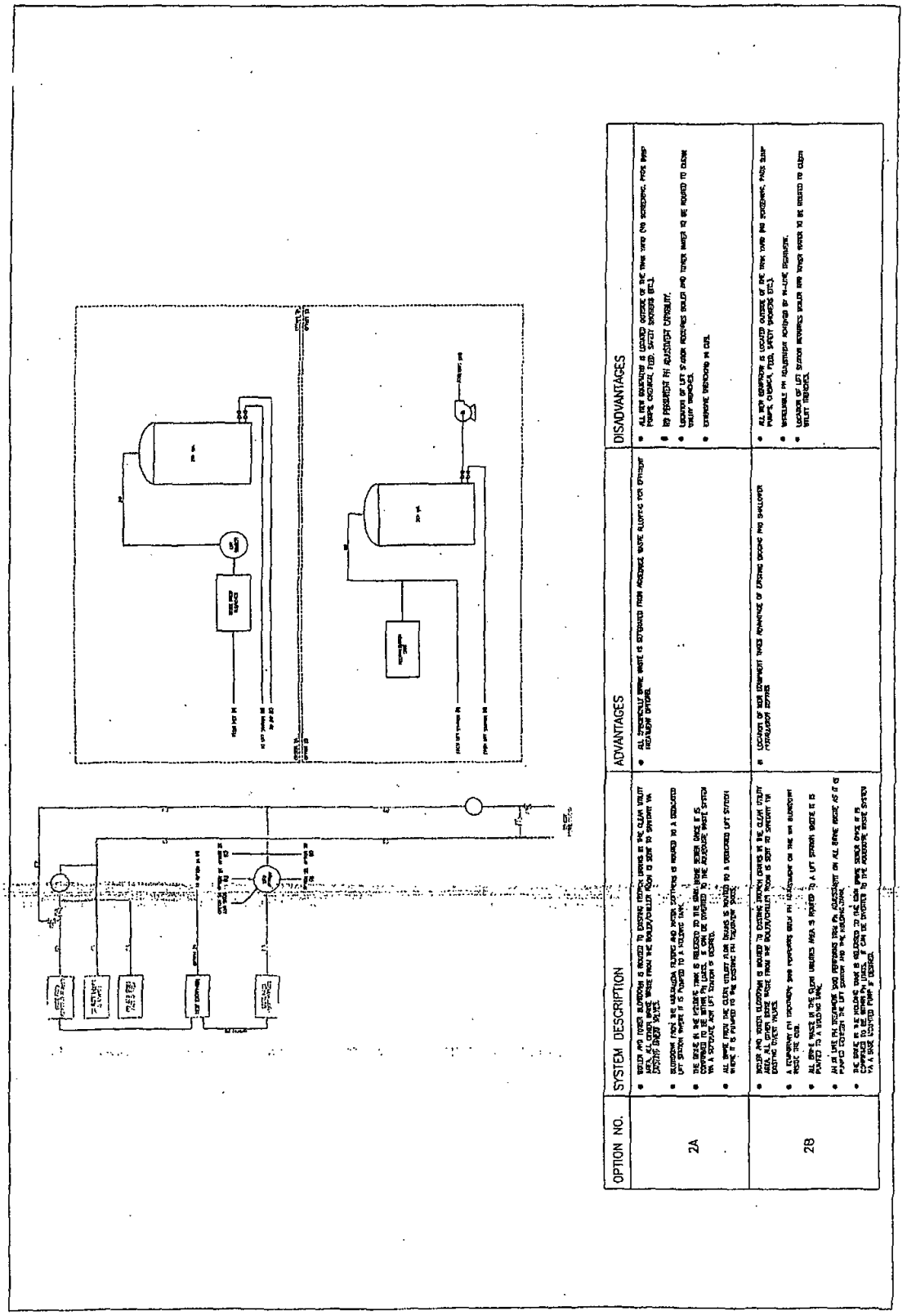


Figure B-2. Brine System and Ocean Outfall Locations



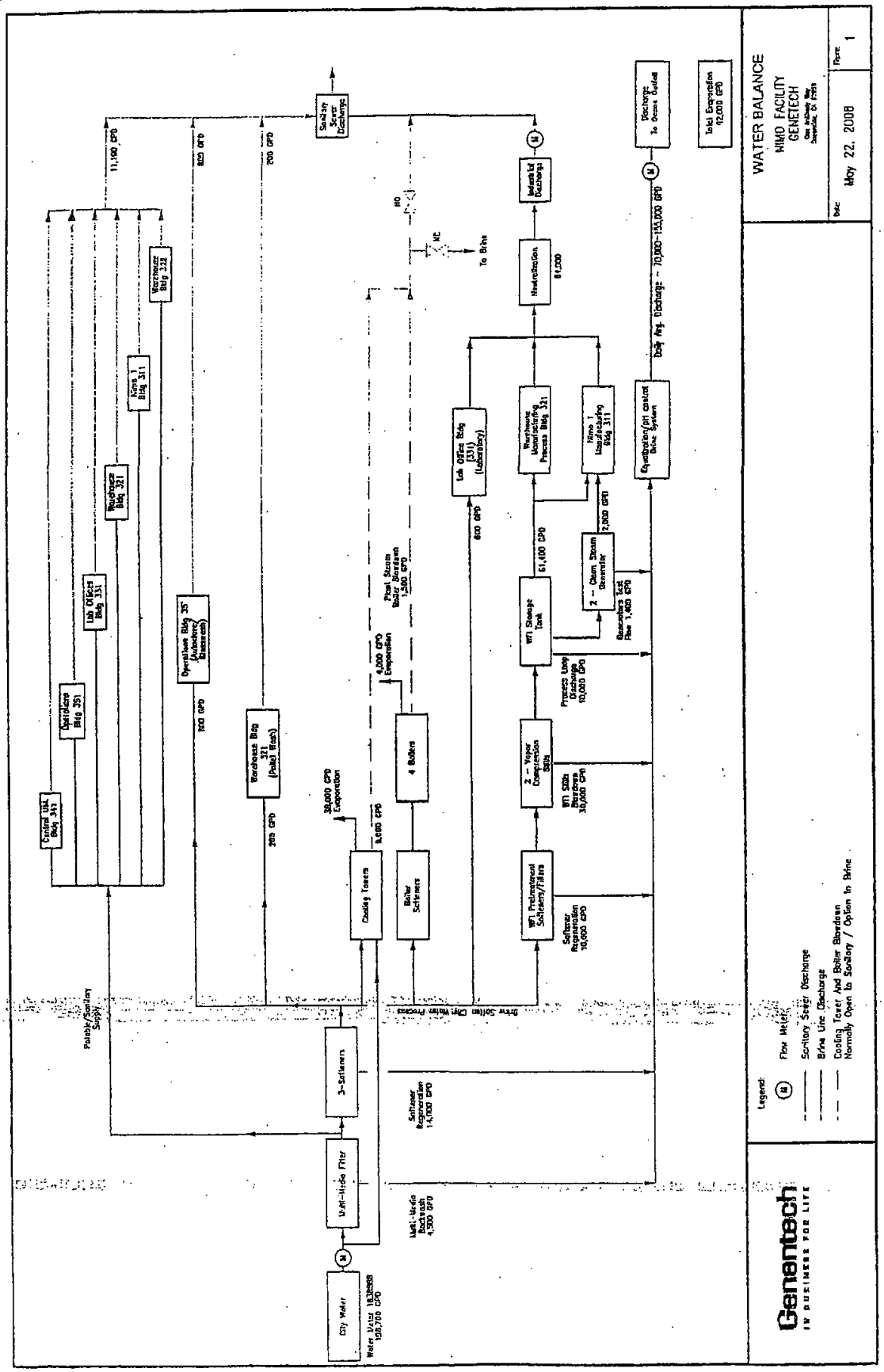
ATTACHMENT C – FLOW SCHEMATIC

Figure C-1. NIMO Brine Treatment System



OPTION NO.	SYSTEM DESCRIPTION	ADVANTAGES	DISADVANTAGES
2A	• BOILER AND TOWER BLOWDOWN IS ROUTED TO EXISTING TRENCH DRAINS IN THE CLEAN UTILITY AREA. ALL OTHER BRINE WASTE FROM THE BOILER/CHILLER ROOM IS SENT TO SEPARATE VIA DEDICATED DRAIN VALVES. • BLOWDOWN FROM THE HEMODIALYSIS FILTERS AND WATER softeners IS routed TO A DEDICATED LIFT STATION WHERE IT IS PUMPED TO A HOLDING TANK. • THE BRINE IN THE HOLDING TANK IS RELEASED TO THE SAN. SEWER ONCE IT IS CONFIRMED TO BE WITHIN PH LIMITS. IF CAN BE DIVERTED TO THE AQUEOUS WASTE SYSTEM VIA A SECONDARY LIFT STATION IF NEEDED. • ALL BRINE FROM THE CLEAN UTILITY PLANT BUILDING IS ROUTED TO A DEDICATED LIFT STATION WHERE IT IS PUMPED TO THE SANITARY SEWER.	• ALL SYNCHRONOUS BRINE WASTE IS SEPARATED FROM ANCILLARY WASTE FLOWING FOR EFFICIENT REMOVAL OPTIONS.	• ALL NEW BLOWDOWN IS LOCATED OUTSIDE OF THE TRAY DWD SCREENING, PADS SUMP PUMPS, CHEMICAL FEED, SAFETY SHOWERS ETC. • NO PROVISION FOR ADJUSTMENT CAPABILITY. • LOCATION OF LIFT STATION RECEIVES BOILER AND TOWER WASTE TO BE ROUTED TO CLEAN UTILITY TRENCHES. • EXTENSIVE TRENCHING IN CITY.
2B	• BOILER AND TOWER BLOWDOWN IS ROUTED TO EXISTING TRENCH DRAINS IN THE CLEAN UTILITY AREA. ALL OTHER BRINE WASTE FROM THE BOILER/CHILLER ROOM IS SENT TO SEPARATE VIA EXISTING DRAIN VALVES. • A TEMPORARY LIFT STATION WAS PROVIDED BELOW THE BLOWDOWN ON THE NW BLOWDOWN INSIDE THE CUBE. • ALL BRINE WASTE IN THE CLEAN UTILITIES AREA IS ROUTED TO A LIFT STATION WHERE IT IS PUMPED TO A HOLDING TANK. • ALL OF LIFE PH DEPENDS ON PERFORMING PH ADJUSTMENT ON ALL BRINE WASTE AS IT IS PUMPED FROM THE LIFT STATION AND THE HOLDING TANK. • THE BRINE IN THE HOLDING TANK IS RELEASED TO THE SAN. BRINE SEWER ONCE IT IS CONFIRMED TO BE WITHIN PH LIMITS. IF CAN BE DIVERTED TO THE AQUEOUS WASTE SYSTEM VIA A SECONDARY LIFT STATION IF NEEDED.	• LOCATION OF NEW EQUIPMENT TAKES ADVANTAGE OF EXISTING DRAINS AND SHALLOWER FOUNDATION DEPTHS.	• ALL NEW EQUIPMENT IS LOCATED OUTSIDE OF THE TRAY DWD AND SCREENING, PADS SUMP PUMPS, CHEMICAL FEED, SAFETY SHOWERS ETC. • INTERFERES WITH ADJUSTMENT ACTIVITIES BY IN-LINE PROCESSING. • LOCATION OF LIFT STATION RECEIVES BOILER AND TOWER WASTE TO BE ROUTED TO CLEAN UTILITY TRENCHES.

Figure C-2. NIMO Brine Flows



ATTACHMENT D – 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 Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; 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 yet 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 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); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (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)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (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, I.G.4, 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)(i)(A));

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

   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 122.41(m)(4)(i)(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 (24-hour notice). (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 Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 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 Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 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)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (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 Water Code. (40 CFR § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 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); Wat. Code, § 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 Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)

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

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

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

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative

may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (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 Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board 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 Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(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 Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in 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).)

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 section 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 CFR § 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 V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 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 CFR § 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 CFR § 122.42(a)(1)):

   a. 100 micrograms per liter (µg/L) (40 CFR § 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 CFR § 122.42(a)(1)(ii));

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

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR § 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 CFR § 122.42(a)(2)):

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

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (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. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points 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 points shall not be changed without notification to and the approval of the Regional Water Board. Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirement of Order No. R9-2008-0082.

B. 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 measurement 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 ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, or unless other test procedures are specified in Order No. R9-2008-0082 and/or in this MRP and/or by the Regional Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health or a laboratory approved by the Regional Water Board.

E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.

F. 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, or more frequently, to ensure continued accuracy of the devices.

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever

is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the Regional Water Board, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

H. Analysis for toxic pollutants, including acute and chronic toxicity, with performance goals based on water quality objectives of the California Ocean Plan shall be conducted in accordance with procedures described in the California Ocean Plan and restated in this MRP.

I. This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any USEPA approved, new, state water quality standards applicable to effluent toxicity.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point No.	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the brine discharge can be obtained, upstream of the City of Oceanside's 14" brine line prior to comingling with any other discharge.
- Receiving Water Monitoring Stations – [Not applicable]		
- Surf Zone Monitoring Stations – [Not applicable]		
- Near Shore Monitoring Stations – [Not applicable]		
- Offshore Monitoring Stations -		
--	A1 – A4	At the corners of a 1,000 ft x 1,000 ft square having one side parallel to shore and the intersection of its diagonals at the seaward end of the outfall
--	A5	At the seaward end of the outfall
--	B1	One mile down-coast from the outfall, and over the same depth contour as Station A5
--	B2	One mile up-coast from the outfall, and over the same depth contour as Station A5
- Biological Transects -		
--	T0	At the 20, 40, 60, and 80 ft depth contours along the transect located 50 ft down-coast of and parallel to the outfall
--	T1	At the 20, 40, 60, and 80 ft depth contours along the transect located 1 mile down-coast of and parallel to the outfall
--	T2	At the 20, 40, 60, and 80 ft depth contours along the transect located 1.5 miles up-coast of and parallel to the outfall

III. INFLUENT MONITORING REQUIREMENTS

[Not Applicable]

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor effluent at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flowrate	MGD	recorder/totalizer	Continuous[2]	[1]
OCEAN PLAN TABLE A PARAMETERS				
Oil and Grease	mg/L	grab	Semi-annual	[1]
Total Suspended Solids	mg/L	24-hr composite	Semi-annual	[1]
Settleable Solids	ml/L	grab	Semi-annual	[1]
Turbidity	NTU	grab	Semi-annual	[1]
pH	standard units	grab	Semi-annual	[1]
OCEAN PLAN TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr composite	Semi-annual	[1]
Chromium (VI)[3]	µg/L	24-hr composite	Semi-annual	[1]
Copper, Total Recoverable	µg/L	24-hr composite	Semi-annual	[1]
Nickel, Total Recoverable	µg/L	24-hr composite	Semi-annual	[1]
Zinc, Total Recoverable	µg/L	24-hr composite	Semi-annual	[1]
Cadmium, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Lead, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Mercury, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Selenium, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Silver, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Cyanide, Total (as CN)[4]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Ammonia Nitrogen, Total (as N)	µg/L	24-hr composite	Once in 5 years[13]	[1]
Phenolic Compounds (nonchlorinated)	µg/L	24-hr composite	Once in 5 years[13]	[1]
Phenolic Compounds (chlorinated)	µg/L	24-hr composite	Once in 5 years[13]	[1]
Endosulfan[5]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Endrin	µg/L	24-hr composite	Once in 5 years[13]	[1]
HCH[6]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Radioactivity	pci/l	24-hr composite	Once in 5 years[13]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
OCEAN PLAN TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NON CARCINOGENS				
Acrolein	µg/L	grab	Once in 5 years[13]	[1]
Antimony, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Bis (2-chloroethoxy) Methane	µg/L	24-hr composite	Once in 5 years[13]	[1]
Bis (2-chloroisopropyl) Ether	µg/L	24-hr composite	Once in 5 years[13]	[1]
Chlorobenzene	µg/L	grab	Once in 5 years[13]	[1]
Chromium (III)	µg/L	24-hr composite	Once in 5 years[13]	[1]
Di-n-butyl Phthalate	µg/L	24-hr composite	Once in 5 years[13]	[1]
Dichlorobenzenes[7]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Diethyl Phthalate	µg/L	24-hr composite	Once in 5 years[13]	[1]
Dimethyl Phthalate	µg/L	24-hr composite	Once in 5 years[13]	[1]
4,6-dinitro-2-methylphenol	µg/L	24-hr composite	Once in 5 years[13]	[1]
2,4-dinitrophenol	µg/L	24-hr composite	Once in 5 years[13]	[1]
Ethylbenzene	µg/L	grab	Once in 5 years[13]	[1]
Fluoranthene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Hexachlorocyclopentadiene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Nitrobenzene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Thallium, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Toluene	µg/L	grab	Once in 5 years[13]	[1]
Tributyltin	µg/L	24-hr composite	Once in 5 years[13]	[1]
1,1,1-trichloroethane	µg/L	grab	Once in 5 years[13]	[1]
OCEAN PLAN TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	grab	Once in 5 years[13]	[1]
Aldrin	µg/L	24-hr composite	Once in 5 years[13]	[1]
Benzene	µg/L	grab	Once in 5 years[13]	[1]
Benzidine	µg/L	24-hr composite	Once in 5 years[13]	[1]
Beryllium, Total Recoverable	µg/L	24-hr composite	Once in 5 years[13]	[1]
Bis (2-chloroethyl) Ether	µg/L	24-hr composite	Once in 5 years[13]	[1]
Bis (2-ethlyhexyl) Phthalate	µg/L	24-hr composite	Once in 5 years[13]	[1]
Carbon Tetrachloride	µg/L	grab	Once in 5 years[13]	[1]
Chlordane	µg/L	24-hr composite	Once in 5 years[13]	[1]
Chlorodibromethane	µg/L	24-hr composite	Once in 5 years[13]	[1]
Chloroform	µg/L	grab	Once in 5 years[13]	[1]
DDT[8]	µg/L	24-hr composite	Once in 5 years[13]	[1]
1,4-dichlorobenzene	µg/L	grab	Once in 5 years[13]	[1]
3,3'-dichlorobenzidine	µg/L	24-hr composite	Once in 5 years[13]	[1]
1,2-dichloroethane	µg/L	grab	Once in 5 years[13]	[1]
1,1-dichloroethylene	µg/L	grab	Once in 5 years[13]	[1]
Dichlorobromomethane	µg/L	grab	Once in 5 years[13]	[1]
Dichloromethane	µg/L	grab	Once in 5 years[13]	[1]
1,3-dichloropropene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Dieldrin	µg/L	24-hr composite	Once in 5 years[13]	[1]
2,4-dinitrotoluene	µg/L	24-hr composite	Once in 5 years[13]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
1,2-diphenylhydrazine	µg/L	24-hr composite	Once in 5 years[13]	[1]
Halomethanes[9]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Heptachlor	µg/L	24-hr composite	Once in 5 years[13]	[1]
Heptachlor Epoxide	µg/L	24-hr composite	Once in 5 years[13]	[1]
Hexachlorobenzene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Hexachlorobutadiene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Hexachloroethane	µg/L	24-hr composite	Once in 5 years[13]	[1]
Isophorone	µg/L	24-hr composite	Once in 5 years[13]	[1]
N-nitrosodimethylamine	µg/L	24-hr composite	Once in 5 years[13]	[1]
N-nitrosodi-N-propylamine	µg/L	24-hr composite	Once in 5 years[13]	[1]
N-nitrosodiphenylamine	µg/L	24-hr composite	Once in 5 years[13]	[1]
PAHs[10]	µg/L	24-hr composite	Once in 5 years[13]	[1]
PCBs[11]	µg/L	24-hr composite	Once in 5 years[13]	[1]
1,1,2,2-tetrachloroethane	µg/L	grab	Once in 5 years[13]	[1]
TCDD equivalents[12]	µg/L	24-hr composite	Once in 5 years[13]	[1]
Tetrachloroethylene	µg/L	grab	Once in 5 years[13]	[1]
Toxaphene	µg/L	24-hr composite	Once in 5 years[13]	[1]
Trichloroethylene	µg/L	grab	Once in 5 years[13]	[1]
1,1,2-trichloroethane	µg/L	grab	Once in 5 years[13]	[1]
2,4,6-trichlorophenol	µg/L	24-hr composite	Once in 5 years[13]	[1]
Vinyl Chloride	µg/L	grab	Once in 5 years[13]	[1]

1 As required under 40 CFR 136.

2 Combined effluent flow shall be determined continuously for a 24-hour period on a semiannual basis.

3 Dischargers may, at their option, meet this limitation (or apply this performance goal) as a total chromium limitation (or performance goal).

4 If a 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 (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometalic 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 136, as revised May 14, 1999.

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

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

7 Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

8 DDD (dichlorodiphenyldichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDT (dichlorodiphenyltrichloroethane) represent the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

9 Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

10 PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,1,2-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorine; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

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

[12] TCDD equivalents represent the sum of 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 by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

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 CDD	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

[13] Data shall be submitted with the Report of Waste Discharge 180 days prior to this Orders expiration date.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall conduct acute and chronic toxicity testing on effluent samples collected at Effluent Monitoring Station EFF-001 in accordance with the following schedule and requirements:

Table E-3. Whole Effluent Toxicity Testing

Test	Unit	Sample	Minimum Test Frequency
Acute Toxicity	TU_a	24-Hr Composite	Semi-annual
Chronic Toxicity	TU_c	24-Hr. Composite	Semi-annual

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012).

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

A screening period for chronic toxicity shall be conducted every other year, using a minimum of three test species with approved test protocols, from the following list (from the California Ocean Plan). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used

for the semi-annual testing if the most sensitive species is the same as found previously to be most sensitive. Control and dilution water should be receiving water or lab water as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

Table E-4. Approved Test for 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 shell development; percent survival	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
shrimp, *Homesimysis costata*	percent survival; growth	1	a, c
shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silversides, *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. USEPA 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. USEPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler 9eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

[Not Applicable]

VII. RECLAMATION MONITORING REQUIREMENTS

[Not Applicable]

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

Receiving water and sediment monitoring in the vicinity of the OOO shall be conducted as specified below. Station location, sampling, sample preservation and analyses, when not specified, shall be by methods approved by the Executive Officer. The monitoring program may be modified by the Executive Officer at any time.

The receiving water and sediment monitoring program may be conducted jointly with the City of Oceanside, and any other agencies/dischargers utilizing the OOO.

During monitoring events, if possible, sample stations shall be located using a land-based microwave positioning system or a satellite positioning system such as GPS. If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified.

A. Off Shore Water Quality Monitoring

1. *Intensive Monitoring*

The intensive off shore water quality monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. This monitoring data will assist Regional board staff in the evaluation of the Report of Waste Discharge. The intensive off shore water quality monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.A Effluent Limitations of Order No. R9-2008-0082.

Table E-5 Off Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	-	-	monthly
Dissolved Oxygen	mg/L	Grab[1]	monthly
Light Transmittance	percent	Instrument[1]	monthly
pH	pH units	Grab[2]	monthly
Temperature	F°	Instrument[3]	monthly

[1] At the surface, mid-depth, and bottom
[2] At the surface.
[3] 1-meter intervals, surface to bottom

IX. OTHER MONITORING REQUIREMENTS

A. *Benthic Monitoring*

The monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. This monitoring data will assist Regional board staff in the evaluation of the Report of Waste Discharge. The sediment monitoring specified below is also required if the Executive Officer determines that the effluent does not at all times comply with Section IV.A

Effluent Limitations of Order No. R9-2008-0082. Benthic monitoring shall be conducted at all off shore monitoring stations.

1. **Sediment Characteristics.** Analysis shall be performed on the upper 2 inches of core

Table E-6. Sediment Monitoring Requirements

Parameter	Units	Type of Sample	Minimum Frequency
Particle Size Distribution	mg/kg	core	Semi-annual
Arsenic, Total Recoverable	mg/kg	core	Annual
Chromium, Total Recoverable	mg/kg	core	Annual
Copper, Total Recoverable	mg/kg	core	Annual
Nickel, Total Recoverable	mg/kg	core	Annual
Zinc, Total Recoverable	mg/kg	core	Annual

2. **Infauna.** Samples shall be collected with a Paterson, Smith-McIntyre, or orange-peel type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a one-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

Table E-7. Infauna Monitoring Requirements

Parameter	Units	Minimum Frequency
Benthic Biota	Identification and enumeration	3 grabs, semi-annually

B. Additional Biological Monitoring

1. **Demersal Fish and Macroinvertebrates.** The monitoring specified below is required during the 12-month period beginning July 1, 2008 through June 30, 2009, and must be submitted by August 31, 2009. The monitoring data will assist Regional Water Board staff in the evaluation of the Report of Waste Discharge.

Table E-8. Demersal Fish and Macroinvertebrates Monitoring Requirements

Parameter	Units	Minimum Frequency
Biological Transects	Identification and enumeration	Annual

In rocky or cobble areas, a 30-meter band transect, one meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) recording of water temperature (may be measured from a boat) and estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom; (2) recording of general bottom

description; (3) enumeration by estimate of the larger plants and animals in the band transect area; (4) development of a representative photographic record of the sample area; and (5) within each band, three one-quarter meter square areas shall be randomly selected, and all macroscopic plant and animal life shall be identified within each square to as low a taxon as possible, and measured.

For each epifauna and infauna, size frequency and distribution shall be shown for at least the three numerically largest populations identified to the lowest possible taxon and appropriate graphs showing the relationship between species frequency and population shall be plotted from each sample.

C. Kelp Bed Monitoring

The Discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum aerial extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary shall be photographed on the same day. The images produced by the surveys shall be presented in the form of 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown. The aerial extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

D. Regional Monitoring

The Discharger may be required to participate in regional monitoring activities coordinated by the Southern California Coastal Water Project (SCCWRP). The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of effort will be provided to the Executive Officer and USEPA for approval.

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. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of this MRP shall include, as a minimum, 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, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).

   c. A description of the sample collection and preservation procedures used in the survey.

   d. A description of the specific method used for laboratory analysis.

   e. An in-depth discussion of the results of the survey. All tabulations and computations shall be explained.

   f. Detailed statistical analyses of all data. Methods may include, but are not limited to, various multivariate analyses such as cluster analysis, ordination, and regression. The Discharger should also conduct additional analyses, as appropriate, to elucidate temporal and spatial trends in the data.

3. The Discharger shall report all instances of noncompliance not reported under Attachment D, sections III, V, and VI of this Order No. R9-2008-0082 at the time monitoring reports are submitted.

4. By February 1 of each year, the Discharger shall submit an annual report to the Regional Water Board and USEPA Region 9 that contains 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 taken, or which may be needed to bring the discharge into full compliance with the requirements of Order No. R9-2008-0082 and this MRP.

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 Self-Monitoring Reports (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 Web site 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

pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with semi-annual SMR
Monthly	January 1, 2009	First day of calendar month through last day of calendar month	Submit with semi-annual SMR
Semi-annually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	February 1

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

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

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

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ 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 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. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above 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).

6. 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:

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

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

7. 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:

9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

C. Discharge Monitoring Reports (DMRs)

[Not Applicable]

D. Other Reports

1. The Discharger shall report the results of any acute and chronic toxicity testing, TRE/TIE in accordance with Special Provisions – VI.C. of this Order.

ATTACHMENT F – FACT SHEET

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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.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	9 000001103
Discharger	Genentech, Inc.
Name of Facility	Genentech, Inc.
Facility Address	One Antibody Way
	Oceanside, CA 92056
	San Diego County
Facility Contact, Title and Phone	Joe Hess, EHS&S Manager
Authorized Person to Sign and Submit Reports	Jami DeBrango-Palumbo, Director Facilities Operations and Services
Mailing Address	Same as above
Billing Address	Same as above
Type of Facility	Pharmaceutical Manufacturing Facility
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	B
Pretreatment Program	N/A
Reclamation Requirements	N/A
Facility Permitted Flow	0.155 million gallons per day (MGD)
Facility Design Flow	0.155 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean (via the Oceanside Ocean Outfall or OOO)
Receiving Water Type	Ocean waters

A. Genentech, Inc. (hereinafter Discharger) is the owner and operator of the Genentech facility at One Antibody Way, Oceanside, CA 92056 (hereinafter Facility), a pharmaceutical manufacturing facility.

For the purposes of this Order, references to the "discharger" or "permittee" in

applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater from water treatment and equipment blowdown processes to the OOO which discharges to the Pacific Ocean, a water of the United States. The Facility is currently regulated by Order No. R9-2003-0140, which was adopted on August 13, 2003 and expired on August 13, 2008. Addendum No. 1 to Order No. R9-2003-0140 was adopted on February 8, 2006. Addendum No. 1 transferred responsibility of Order No. R9-2003-0140 from IDEC Pharmaceuticals Corporation to Genentech, Inc. The name of the facility was changed from New IDEC Manufacturing Operations (NIMO) to Genentech NIMO Facility.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for renewal of its NPDES permit June 9, 2008. The ROWD identifies the facility name as Genentech, Inc.

II. FACILITY DESCRIPTION

Genentech develops targeted immunotherapies for cancer and autoimmune diseases. Unlike conventional drugs that are produced through chemical systhesis, protein products must be produced by living cells. Biologics manufacturing involves the large-scale culturing and purification of these special cells that can produce the desired protein product. Genentech drug substances are recombinant protein products. The mammalian cell lines utilized during production have the ability to express high levels of the target proteins and be cultured in suspension. The steps that constitute drug manufacturing include:

(1) Cell culture production and harvesting,
(2) Recovery and purification, and
(3) Formulation.

The cell culture operation is the start of the production process. Cell culture operations are commonly referred to as fermentation operations. The cell culture/fermentation at the Facility uses stainless steel vessels ranging from 7 to 4,000 gallons in working volume. Fermentation involves sequential transfer of the cell suspension from one vessel to another as cell density and volume increase. At the appropriate point in the process, the culture is terminated, and the liquid containing the target protein is harvested from the host cells.

The objective of purification is to separate the target protein from the other substances present in the liquid recovered from the cell culture operation. The purification process consists of multiple chromatographic and filtration steps. During purification a variety of buffer solutions are used.

Formulation is the final step in the drug substance manufacturing process. The primary objective of the formulation process is to dilute the drug substance into the final carrier solution. Following formulation, the purified product is held as a bulk liquid until such time that it is filled into sealed vials that will be delivered to the point of use.

A. Description of Wastewater

No wastes produced by or in conjunction with the biologics manufacturing processes (including cell culture production and harvesting, recovery and purification, and formulation) at the Facility will be regulated under this Order. All wastewater produced by the biologics manufacturing processes will be discharged to the City of Oceanside's (City) sanitary sewer system.

This Order regulates the discharge of 0.155 million gallons per day (MGD; maximum flow rate) of combined discharges from water softening and purification processes and other non-biologics maintenance activities (including vapor compression stills blowdowns) at the Facility. The waste streams associated with these processes and activities and flow rates are listed below:

Table F-2. Brine/Wastewater Stream Descriptions and Flow Rates

Wastewater Stream Description	Flow Range (GPD)
1. Primary City Water Treatment	
Multimedia Filter	4,500-10,000
Softeners	14,000-28,000
2. Pretreatment of Water for Injection (WFI), Softeners/Filters:	10,000-24,000
3. WFI process loop discharge	10,000-24,000
4. WFI vapor compression stills	30,000-63,000
Clean Steam Generators	1,400-6,000
Total	70,000-155,000

A description of the processes and activities regulated under this Order and characterization of wastewater generated from these activities is discussed below:

1. Primary City Water Treatment

The sources of wastewater generated from the primary City water treatment include backwashing and rinsing of the triplex multimedia filter (MMF) and triplex softener unit serving the primary City water treatment train. A brine waste is also generated from the regeneration of the softener resin with a concentrated brine solution. A total of approximately 4,500-10,000 GPD of wastewater is generated from the backwashing and rinsing of the MMF. A total of approximately 14,000-28,000 GPD of brine and wastewater is generated from the triplex softener unit backwashing, softener regeneration, and rinsing processes. The total dissolved solids (TDS) found in the waste brine includes high levels of sodium, calcium, and magnesium, chlorides, and sulfates.

2. Pretreatment of Water for Injection

The sources of wastewater generated from the Water for Injection (WFI) pretreatment system include backwashing and rinsing of the simplex carbon filter and softener units serving the WFI pretreatment train and from the regeneration of the softener resin with a concentrated brine solution. The total wastewater flow from the WFI pretreatment process is 10,000-24,000 GPD. The pollutants contained in the brine generated from the WFI pretreatment system are similar to those found in the brine from the primary City water treatment system. The pollutants include sodium, calcium, magnesium, and other salts.

Another waste stream generated from the WFI pretreatment system is from the draining of clean steam generators serving the WFI system. A small volume of water (300 GPD) is drained from the steam generators during periodic testing and maintenance activities of the units. The flow is essentially ultra clean WFI water with low TDS and total suspended solids (TSS) levels and non-detectable toxic priority pollutants. This water is combined with the waste brine flows generated from the WFI pretreatment streams.

3. Water WFI Process Loop Discharge

The WFI Storage tank has a process loop that discharges 10,000-24,000 GPD.

4. Vapor Compression Stills Blowdowns

The WFI vapor compression stills at the Facility are subject to daily blowdowns for maintenance purposes. A total of 30,000-63,000 GPD of blowdown water is released from the vapor compression stills. TDS in the blowdowns ranges from 2,000 to 3,000 mg/L, mainly consisting of calcium, magnesium, and sodium salts, chlorides, sulfates, carbonates, and silica.

5. Combined Brine Wastewater Equalization and pH Control

Combined wastewater gravity drains to a 3,000 gallon lift station. This station has four different liquid sensors that control the system. At 1,200 gallons, the wastewater is pumped into one of two 20,000 gallon holding tanks. In these holding tanks equalization is achieved via comingling.

Once one of the 20,000 gallon equalization tanks reaches 15,000 gallons, a valve is closed and the other tank begins to fill. Each tank has a mixer. The mixers move the wastewater through the pH adjustment skid where the pH is monitored. As the wastewater is routed to the adjustment skid, sensors assess the pH. If the wastewater is outside of the 6.0 – 9.0 s.u. range, phosphoric acid or sodium hydroxide is added to adjust the pH up or down respectively. Once the pH has been adjusted, the wastewater is re-routed back to the 20,000 gallon equalization tank for further comingling. The pH is continuously checked.

Once the pH is within the acceptable range, a valve is opened and the wastewater is discharged. Discharge is pumped through a stainless filter housing that may lower

the TSS levels and filter media that act as an oil interceptor device. This filter housing is an insurance step to capture residual solids or oil that may make its way into the wastewater. From the filter housing, the wastewater is routed to the brine line. Wastewater flow and temperature are monitored prior to final discharge to the City of Oceanside brine line, which discharges through the OOO.

B. Discharge Points and Receiving Waters

1. The Facility is shown in Attachment B, a part of this Order.

2. The Facility is located in the City of Oceanside in North San Diego County. The Facility is in the Ocean Ranch Corporation Center at 1950 Corporate Center Dr, Oceanside, CA 92056. The facility site is located in Section 16, T11S, R4W, SBB&M, in the *Loma Alta Hydrologic Area* (904.10) of the *Carlsbad Hydrologic Unit* (904.00).

3. Wastewater is discharged to the OOO and then to the Pacific Ocean through Discharge Point No. 001 located at latitude 33° 9' 46" N, longitude 117° 23' 28" W.

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

Effluent limitations contained in Order No. R9-2003-0140 for discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order No. R9-2003-0140 are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data

Effluent Constituent	Units	Effluent Limitations			Monitoring Data (From January 2001 to December 2007		
		Monthly Average (30-day)	Daily Maximum	Instantaneous Maximum	Highest Monthly Average	Highest Daily Maximum	Highest Instantaneous Maximum
Flow	MGD	--	0.155	--	--	0.086	--
Oil and Grease	mg/L	25	75	--	22	22	--
	lbs/day	33	100	--	10.7	10.7	--
Total Suspended Solids	mg/L	30	50	--	37	37	--
	lbs/day	40	67	--	18	18	--
Settleable Solids	ml/L	1.0	3.0	--	0.2	0.2	--
Turbidity	NTU	75	225	--	1.5	1.5	--
pH	pH units	--	--	6.0 – 9.0	--	--	9.21
Acute Toxicity	TUa	--	2.7	--	--	1.5	--
Chronic Toxicity	TUc	--	81	--	--	81	--

D. Compliance Summary

1. The Discharger reported an exceedance of its pH upper limit based on sampling performed on May 18, 2005. The Regional Water Board issued a Staff Enforcement Letter to the Discharger on June 8, 2005.

E. Planned Changes

[Not Applicable]

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 section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting

Requirements of this Order implement the Basin Plan.

2. **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 ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-5. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting

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

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

   Requirements of this Order specifically implement the Thermal Plan.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). 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.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality 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 must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[1] section 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

Under section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On November 30, 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The 303 (d) list includes the following sections of Pacific Ocean shoreline within the proximity of the OOO as impaired for bacteria indicators:

1. 0.5 miles of Pacific Ocean shoreline at the mouth of the San Luis Rey River

2. 1.1 miles of Pacific Ocean shoreline at the mouth of Loma Alta Creek

3. 1.2 miles of Pacific Ocean shoreline at Buena Vista Creek

Impairment has been detected at the shorelines indicated above; however, the receiving waters in the immediate vicinity of the OOO discharge point are not included on the current 303 (d) list.

E. Other Plans, Polices and Regulations

[Not Applicable]

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.

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. Order No. R9-2003-0140 listed many of the Basin Plan and Ocean Plan prohibitions. The Basin Plan and Ocean Plan prohibitions are incorporated by reference in this Order. Prohibitions III.D and III.E are retained from Order No. R9-2003-0140 and require the Discharger to comply with the Basin Plan prohibitions.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR section 125.3.

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

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

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

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

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

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

a. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on April 21, 2005, which became effective on February 14, 2006. The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table A of the Ocean Plan establishes technology-based effluent limitations for industrial discharges for which ELGs have not been established pursuant to sections 301, 302, 304, or 306 of the federal CWA. Because the Facility does not discharge *process wastewater* as defined by the federal regulations at 40 CFR 122.2 and 40 CFR 439.1(m)(2), it is not covered under the ELGs established at 40 CFR Part 439 (Pharmaceutical Manufacturing *Point Source Category). Therefore, Table A of the Ocean Plan is applicable to* the discharge

Numeric effluent limitations based on Table A of the Ocean Plan are established in this Order. Table A requirements are summarized below:

Table F-6. Ocean Plan Numeric Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Instantaneous Maximum
Oil and Grease	mg/L	25	40	75
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	standard units	--	--	[1]

[1] Within limits of 6.0 – 9.0 at all times.

b. The Ocean Plan does not provide a specific effluent limitation value for total suspended solids (TSS) that is specific to the type of discharge from the Facility. The TSS limitation in Table A of the Ocean Plan is designed for POTWs which remove large amounts of TSS from their influent. Furthermore, there are no established Effluent Limitation Guidelines (ELGs) for TSS contained in discharges from the non-biologic manufacturing processes (softener resin backwash, regeneration, rinse, and blowdowns of cooling towers and other equipment) at the Facility. For Order No. R9-2003-0140, Regional Water Board staff conducted a review of TSS effluent limitations contained in the NPDES permit for several facilities that discharge to the ocean in the San Diego Region. It was evident based on that review that most POTWs (including the City's La Salinas and San Luis Rey treatment plants) and industrial facilities (power plants,

water softening plants etc.) are capable of achieving a monthly average TSS level of 30 mg/L and a daily maximum TSS level of 50 mg/L in their effluent. Therefore, Order No. R9-2003-0140 incorporated those TSS effluent limitations, based on BPJ. This Order carries over the TSS requirements established in Order No. R9-2003-0140 based on BPJ.

c. Based on the Discharger's description of the discharge the Discharger has a maximum flow rate of 0.155 MGD. Therefore, based on BPJ, this Order carries over the daily maximum effluent limitation for flow of 0.155 MGD from Order No. R9-2003-0140.

d. Order No. R9-2003-0140 includes mass-based effluent limitations for oil & grease and total suspended solids that were calculated based on the maximum effluent flow (0.155 MGD). This Order continues the application of mass-based effluent limitations for oil & grease and total suspended solids. The mass-based effluent limitations established in Order No. R9-2003-0140 were calculated based on the maximum effluent flow, in accordance with 40 CFR 122.45(f)(2)(ii), which states limitations may be established based on anticipated flow. The limitations established in Order No. R9-2003-0140 have been carried over to this Order.

Table F-7. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day[1]	32	52	--	--	97
Total Suspended Solids	mg/L	30	--	50	--	--
	lbs/day[1]	39	--	65	--	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	standard units	--	--	--	6.0	9.0

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 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.

40 CFR 122.44(d)(1)(i) mandates 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, 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, as provided in section 122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Coastal Waters of the Pacific Ocean contained in the Basin Plan are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving waters.

b. For all ocean waters of the State, the Ocean Plan establishes the beneficial uses summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. Table B of the Ocean Plan establishes numeric water quality objectives that are applicable to all discharges within the jurisdiction of the Ocean Plan.

Representative monitoring of the Facility's discharge was conducted at Discharge Point No. 001 and submitted in semi-annual reports for years 2003, 2004, 2005, 2006, and 2007.

An RPA was conducted for the Facility's discharges to the OOO using available data from December 2004-December 2007, for a total of eight sampling events. Constituents that were reported in detectable concentrations in the effluent were compared to the applicable water quality objectives from Table B of the Ocean Plan. These criteria were used in conducting the RPA for this Order. The Pacific Ocean background concentrations that were used in the RPA were obtained from Table C of the Ocean Plan.

c. The Thermal Plan establishes water quality objectives for discharges of Thermal and Elevated Temperature Waste to Coastal and Interstate Waters and Enclosed Bays and Estuaries. Thermal waste is defined as "Cooling water and industrial process water used for the purpose of transporting heat." Elevated temperature waste is defines as "Liquid, solid, or gaseous material including thermal waste discharge at a temperature higher than the natural temperature of receiving

water. Irrigation return water is not considered elevated temperature waste for the purpose of this plan."

3. Determining the Need for WQBELs

a. Order No. R9-2003-0140 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the Ocean Plan. For Order No. R9-2008-0082, the need for effluent limitations based on water quality objectives in Table B of the Ocean plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised Technical Support Document for Water Quality-based Toxics Control (TSD; EPA/505/2-90-001, 1991) and the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited number of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the reasonable potential analysis can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause is included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analysis, Regional Water Board has determined that only chronic toxicity resulted in Endpoint 1, thereby requiring an effluent limit. In addition, chromium, nickel, and zinc resulted in Endpoint 3 because some of the method detection limits were not low enough to determine whether an exceedance had occurred. Therefore this Order includes monitoring requirements for chromium, nickel, and zinc.

Table F-8. Summary of RPA Results

Parameter	Units	MEC[1]	Cs[2]	Co[3]	Dm[4]	RPA Endpoint
Chronic Toxicity	TUc	81	0	1	87	Endpoint 1
Chromium, Total Recoverable	µg/L	<60	0	2	87	Endpoint 3
Nickel, Total Recoverable	µg/L	<50	0	5	87	Endpoint 3
Zinc, Total Recoverable	µg/L	<50	8	20	87	Endpoint 3

NA – Not Available
1 MEC = Maximum Effluent Concentration
2 Cs = Background concentration, as established in the Ocean Plan
3 Co = Water Quality Objective, as established by Table B of the Ocean Plan

4. WQBEL Calculations

a. Vapor compression still blowdown, and clean steam generator test flows are considered new discharges of elevated temperature wastes. Order No. R9-2003-010 incorrectly contained an effluent limitation of "Not more than 20° F greater than natural temperature of receiving waters", which is a requirement for Thermal Waste and does not apply to this facility. The effluent limitation for temperature from Order No. R9-2003-010 is being removed and the applicable receiving water limitations for elevated temperature wastes are incorporated.

The specific water quality objective for elevated temperature waste to coastal waters for new discharges contained in the Thermal Plan states that "*elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.*" This water quality objective is established as a WQBEL for discharges of compression still blowdown and clean steam generator test flows from Discharge Point No. 001 and is based on the requirements of the Thermal Plan.

b. From the Table B water quality objectives of the Ocean Plan, effluent limitations are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$Ce = Co + Dm (Co - Cs)$ where,
Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (ug/L)
Cs = background seawater concentration
Dm = minimum probably initial dilution expressed as parts seawater per part wastewater

The performance goal for acute toxicity is calculated according to the following equation:

$Ce = Co + (0.1)\ Dm\ (Co - Cs)$

Where all variable are as indicated above. This equation applies only when Dm > 24.

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure.

c. Prior to issuance of Order No. R9-2003-0140, the State Water Board had determined the minimum initial dilution factor, Dm, for the OOO to be 82 to 1. This determination was based on 24 diffuser ports being open and a flowrate of 21.3 MGD although, at the time, the total permitted flowrate through the OOO was only 20.9 MGD. When USMC Camp Pendleton and Genentch, Inc. applied for NPDES permits to discharge through the OOO in 2003, the dilution factor was recalculated by the State Water Board and was found not significantly different from the previous Dm. Based on the 2003 calculation, Order No. R9-2003-0140 included a Dm of 80. In 2005, the initial dilution factor, Dm, for the OOO was again recalculated for Order No. R9-2005-0136 (San Luis Rey and La Salina Wastewater Treatment Plants, which discharge to the OOO) in order to account for the expansion of the City of Oceanside's San Luis Rey Wastewater Treatment Plant and the addition of discharges from USMC Camp Pendleton and the Facility. The new recalculated Dm was determined as 87 using the USEPA approved computer modeling application Visual Plumes with the UM3 model. The Dm that was determined for the OOO in 2005 of 87 is applied to the effluent limits established in this Order.

d. Table C of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table B implementing procedures, Cs equals zero for all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-9. Pollutants Having Background Concentrations

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

e. As examples, performance goals for copper and lead are determined as follows:

Water quality objectives from the Ocean Plan for copper and lead are:

Table F-10. Example Parameter Water Quality Objectives

Pollutant	6-Month Median	Daily Maximum	Instantaneous Maximum
Copper (µg/L)	200	2,100	5,700
Lead (µg/L)	400	2,000	4,100

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations/performance goals are calculated as follows before rounding to two significant digits.

Copper

Ce = 200 + 87 (200 – 2) = 90 µg/L (6-Month Median)
Ce = 2,100 + 87 (2,100 – 2) = 880 µg/L (Daily Maximum)
Ce = 5,700 + 87 (5,700 – 2) = 2,500 µg/L (Instantaneous Maximum)

Lead

Ce = 400 + 87 (400 – 0) = 180 µg/L (6-Month Median)
Ce = 2,000 + 87 (2,000 – 0) = 700 µg/L (Daily Maximum)
Ce = 4,100 + 87 (4,100 – 0) = 1,800 µg/L (Instantaneous Maximum)

Based on the implementing procedures described above, effluent limitation have been calculated for all Table B pollutants from the California Ocean Plan and incorporated into Order No. R9-2008-0082.

The WQBELs that are retained have been changed to reflect the revised dilution factor.

f. Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

Lbs/day = Permitted Flow(MGD) x Pollutant Concentration (mg/L) x 8.34

In accordance with 40 CFR 122.45(b)(2)(ii), the anticipated maximum flow of 0.155 MGD, is used as the reasonable measure of actual flow for the Facility.

g. A summary of the WQBELs established in Order No. R9-2008-0082 is provided below:

Summary of Water Quality-based Effluent Limitations
Discharge Point No. 001

Table F-11. Summary of Water Quality-based Effluent Limitations

Parameter	Unit	Water Quality-Based Effluent Limitations			
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chronic Toxicity[1]	TUc	NA	88	NA	--

[1] Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

5. Whole Effluent Toxicity (WET)

a. Provisions at Section III.C of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors below 100. In addition, an RPA was conducted based on data collected from December 2004 to December 2007 indicates that the discharge has a reasonable potential to exceed water quality objectives for chronic toxicity. Based on methods of the Ocean Plan, a maximum daily effluent limitation of 88 TUc for chronic toxicity is required.

b. There is no requirement to monitor for acute toxicity for discharges with minimum initial dilution factors below 100. Order No. R9-2003-0140 included an effluent limitation for acute toxicity. The effluent limitation has been removed based on the RPA analysis; however, a performance goal for acute toxicity of 2.9 TUa is established based on "Equation 2" provided in Section III.C.3.b in the Ocean Plan. Semi-annual acute toxicity monitoring is carried over from Order No. R9-2003-0140.

D. Final Effluent Limitations

1. Final Effluent Limitations

Table F-12. Summary of Effluent Limitations for Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD			0.155		
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day[1]	32	52	--	--	97
pH	pH units	--	--	--	6.0	9.0
Chronic Toxicity	TUc	--	--	88	--	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0
Total Suspended Solids	mg/L	30	--	50	--	--
	lbs/day[1]	39	--	65	--	--
Turbidity	NTU	75	100	--	--	225

2. Satisfaction of Anti-Backsliding Requirements

The Effluent limitation for chronic toxicity in this Order is less stringent than the limitation in Order No. R9-2003-0140. As described in Section IV.C.2.b, the Regional Water Board recalculated the initial dilution of the OOO using the USEPA approved computer modeling application Visual Plumes with the UM3 model. The new initial dilution is 87, compared to the previous value of 80. In accordance with the effluent limit calculations prescribed in the Ocean Plan, the higher initial dilution value results in less stringent calculated effluent limitations. However, the higher effluent limitations are based on identical values in Table B of the Ocean Plan and are the result of more dilution being available at the OOO discharge point, not a reduction in water quality. Therefore, the effluent limitations in this Order meet State and federal anti-backsliding requirements.

The Effluent limitation for temperature has been removed. The temperature limitations contained in Order No. R9-2003-0140 applied to thermal waste and were not appropriate for this facility. 40 CFR 122.44(l)((B)(2) allows less stringent limitations in cases in which the Administrator determines that technical mistakes or misinterpretations of the law were made in issuing the permit. This Order has been revised to contain the applicable receiving water limitations for elevated temperature waste.

3. Satisfaction of Antidegradation Policy

Waste Discharge Requirements for the Discharger must conform with federal and state antidegradation policies provided at 40 CFR 131.12 and in State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the Regional Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), Antidegradation Policy Implementation for NPDES Permitting.

a. Technology-Based Effluent Limitations.

The technology-based effluent limitations are at least as stringent as the previous effluent limitations, and no degradation of the receiving water is expected.

b. Water Quality Based Effluent Limitations.

The WQBELs contained in this Order have been modified from Order No. R9-2003-0140, due to a recalculation of the OOO initial dilution factor and removal of

an effluent limitation after a reasonable potential analysis. In accordance with the State Water Board's Administrative Procedures Update, the Regional Board assessed the potential impact of the modified effluent limitations on existing water quality and the need for an antidegradation analysis as follows:

i. Recalculation of OOO Initial Dilution Factor

The new recalculated Dm of 87, which is based on an OOO total permitted flow rate of 29.055 MGD, is an increase over the previous permit's Dm of 80 which was based on the permitted total flowrate in 2000 through the OOO of 21.3 MGD. The new Dm of 87 used in the calculation of WQBELs and performance goals in this Order results in a relaxation of the WQBEL for chronic toxicity in this Order compared to the those in Order No. R9-2003-0140 and also reflects an expansion of the zone of initial dilution (ZID), both of which may indicate a lowering of water quality.

Based on the revised initial dilution, an approximate increase of 6 percent has been granted in the chronic toxicity effluent limitation. Based on this small percentage, this lowering of water quality is not expected to be significant and is not expected to cause adverse effects to the overall receiving water. Furthermore, the calculation of 6 percent assumes that the effluent will contain chronic toxicity at the level of the effluent limitation, whereas historical effluent data for the discharge through the OOO indicate that the level of chronic toxicity is considerably lower. For these reasons, the Regional Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the recalculation of initial dilution factor and consequent relaxation of effluent limitations and performance goals.

The recalculation of Dm at the current permitted total flowrate of 29.055 MGD also indicated that the zone of initial dilution (ZID) expands to 78.5 feet from the outfall diffuser which is approximately 20 feet greater compared to the ZID if the total flowrate was the previous total permitted flowrate of 20.9 MGD. The ZID is recognized as the mixing zone in the receiving water where water quality objectives may be exceeded however adverse effects to the overall receiving water body must be prevented. The computer model results indicate that lowering of water quality may occur in the area up to five feet from the outfall diffuser by an increment not greater than 200% of the WQO for a given constituent and by an increment not greater than 50 % of the WQO in the area five feet to 78.5 feet from the outfall diffuser. In addition to being spatially limited, the incremental lowering of water quality in the ZID is expected to be temporally limited because, as explained previously, the concentrations of a given constituent in the effluent discharged through the OOO have historically been considerably lower than the effluent limitations except for exceptional circumstances of short-term duration. For these reasons, the lowering of water quality within the ZID is not expected to be significant and is not expected to cause adverse effects to the overall receiving water; therefore, the Regional Water Board has determined that an antidegradation analysis is

not required to consider the possible impacts resulting from the recalculation of the initial dilution factor, and the expansion of the ZID.

ii. Removal of Effluent Limitations after an RPA.

An effluent limitation was not included in this Order for acute toxicity, for which reasonable potential to exceed the water quality objectives was not indicated following a reasonable potential analysis although the previous permit included an effluent limitation for acute toxicity. The procedures for conducting the reasonable potential analysis are explained elsewhere in this Fact Sheet. For acute toxicity, a performance goal was included which will indicate the level of discharge at which possible water quality impacts may be significant. The removal of effluent limitations by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for constituents without effluent limitations, the existing water quality is expected to be maintained. For these reasons, the Regional Water Board has determined that an antidegradation analysis is not required to consider the possible impacts resulting from the removal of effluent limitations following a RPA.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations applied in the Order consist of restrictions on oil and grease, settleable solids, turbidity, and pH as specified in Table A of the Ocean Plan; TSS based on BPJ; and a restriction on flow. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

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. The scientific procedures for calculating the individual water quality-based effluent limitations 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 Basin 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 section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Performance Goals

Constituents that do not have reasonable potential are listed as performance goals in this Order. Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the Regional Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the Regional Water Board may coordinate such actions with the next permit renewal.

The following table lists the performance goals established by Order No. R9-2008-0082. A minimum probable initial dilution factor of 87 was used in establishing the performance goals.

Table F-13. Performance Goals Based on the Ocean Plan.

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Acute Toxicity	TUa	--	2.9	--	--

F. Interim Effluent Limitations

[Not Applicable]

G. Land Discharge Specifications

[Not Applicable]

H. Reclamation Specifications

[Not Applicable]

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations in this Order are derived from the water quality objectives for ocean waters established by the Basin Plan, Ocean Plan, and Thermal Plan.

B. Groundwater

[Not Applicable]

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

[Not Applicable]

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving water.

2. Continuous effluent flow monitoring has been established to determine the volume of effluent being discharged from the Facility into the OOO.

3. Semi-annual monitoring for all constituents having effluent limitations has been retained from Order No. R9-2003-0140 in order to determine compliance with effluent limitations. These constituents are acute toxicity, chronic toxicity, oil & grease, pH, settleable solids, total suspended solids, and turbidity.

4. Semi-annual monitoring for chromium, nickel, and zinc has been retained from Order No. R9-2003-0140 because the RPA for these constituents resulted in Endpoint 3, which requires continued monitoring as established in the Ocean Plan. In addition, this Order includes a reopener clause so that effluent limitations may be established if continued monitoring results in a reasonable potential to exceed applicable water quality objectives.

5. Semi-annual monitoring for arsenic and copper has been retained from Order No. R9-2003-0140 to continue to ensure that pollutants contained in Table B of the Ocean Plan that have the potential to be present in the water used by the Facility do not pose a threat to water quality.

C. Whole Effluent Toxicity Testing Requirements

The Discharger shall conduct acute and chronic toxicity testing on 24-hour composite effluent samples collected at Effluent Monitoring Station EFF-001, as defined in Section II of the MRP (Attachment E). Acute and chronic toxicity are required to be monitored semi-annually.

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012).

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

A screening period for chronic toxicity shall be conducted every other year beginning with the calendar year 2009, using a minimum of three test species with approved test protocols, from the following list (from the Ocean Plan, 2005). Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the semi-annual testing. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

D. Receiving Water Monitoring

1. Offshore Water Quality Monitoring

To determine compliance with water quality objectives of the Ocean Plan and to determine if discharges cause significant impacts to water quality within the zone of initial dilution, and beyond the zone of initial dilution, Attachment E establishes a schedule of monitoring at seven off-shore locations.

For the sample period of July 2001 through August of 2004, no samples collected at any of the seven off shore water quality monitoring stations showed elevated bacteria levels exceeding water quality objective of the Ocean Plan. Most sample results were below the method detection limit for the period of review.

The monitoring requirements from MRP No. R9-2003-0140 have been maintained unchanged for this Order.

2. Groundwater

[Not Applicable]

E. Other Monitoring Requirements

The Monitoring and Reporting Program (MRP) included as Attachment E requires receiving water and sediment monitoring in the vicinity of the Oceanside Ocean Outfall (OOO). The MRP specifies that the receiving water and sediment monitoring program for the OOO may be conducted jointly by the Discharger with the City of Oceanside, and

any other agencies/dischargers utilizing the OOO. Joint monitoring results can be submitted by other participating agencies, such as the City of Oceanside, on behalf of the discharger if all of the monitoring conditions specified in this Order are met. Also, the discharger shall include a statement in the corresponding SMR that clearly identifies the agency submitting results for receiving water and sediment monitoring as well as the sampling event date(s).

Order No. R9-2005-0136 (*Waste Discharge Requirements for the City of Oceanside San Luis Rey and La Salina Wastewater Treatment Plants Discharge to the Pacific OceanVia the Oceanside Ocean Outfall*) and Order No. R9-2006-0002 (*Waste Discharge Requirements for the Fallbrook Public Utility District Wastewater Treatment Plant No. 1 Discharge to the Pacific Ocean via the Oceanside Ocean Outfall*) require users of the OOO to conduct extensive nearshore, offshore, and surfzone water quality monitoring of parameters, in the vicinity of the OOO. Parameters that are monitored include temperature, dissolved oxygen, pH, light transmittance, and bacteria. Monitoring of sediment for toxic metals and other priority compounds and identification and enumeration of benthic biota is also required. Furthermore, Order Nos. R9-2005-0136 and R9-2006-0002 also require biological monitoring of demersal fish, macroinvertebrates, and kelp beds at various monitoring stations in the vicinity of the OOO diffuser and at designated reference areas. The biological monitoring is intended to assess the populations of marine communities, bioaccumulation of toxic pollutants, and to determine weather a significant difference exists between populations near the OOO diffuser and those in the reference areas.

The receiving water and sediment monitoring requirements specified in Attachment E are similar to those specified in Order Nos. R9-2005-0136 and R9-2006-0002. Only those receiving water, sediment, and biological parameters that are impacted by or attributable to the discharge from the Facility, are included in the MRP.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

40 CFR section 122.41(a)(1) and (b) through (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. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

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

b. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

   i. Violations of any terms or conditions of this Order

   ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.

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

c. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

d. This Order may be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

e. This Order may be re-opened and modified, to incorporate additional limitations, prohibitions, and requirements, based on the results of additional monitoring required by the MRP.

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

2. Special Studies and Additional Monitoring Requirements

[Not Applicable]

3. Best Management Practices and Pollution Prevention

[Not Applicable]

4. **Construction, Operation, and Maintenance Specifications**

   [Not Applicable]

5. **Special Provisions for Municipal Facilities (POTWs Only)**

   [Not Applicable]

6. **Other Special Provisions**

   [Not Applicable]

7. **Compliance Schedules**

   [Not Applicable]

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for Genentech, Inc. 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 published in the San Diego Union Tribune on August 4, 2008 and posted on the Regional Boards Web Site on August 7, 2008.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on November 26, 2008.

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:	**December 10, 2008**
Time:	**9:00 AM**
Location:	Regional Water Quality Control Board

Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, CA 92123

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

Please be aware that dates and venues may change. Our Web address is http://www.swrcb.ca.gov/rwqcb9/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the Regional Water Board' s address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (858) 467-2952.

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 Michelle Mata at (858) 467-2981.

ATTACHMENT G – SUMMARY OF DISCHARGE PROHIBITIONS CONTAINED IN THE OCEAN PLAN AND BASIN PLAN

I. Ocean Plan Discharge Prohibitions

A. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

B. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.

C. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.

D. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B [of the Ocean Plan] is prohibited.

II. Basin Plan Discharge Prohibitions

A. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.

B. The discharge of waste to land, except as authorized by WDRs of the terms described in Water Code section 13264 is prohibited.

C. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.

D. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Water Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State DHS and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

E. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

F. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Water Board.

G. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Water Board.

H. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the Regional Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

I. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

J. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code section 13264, is prohibited.

K. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

L. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

M. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Water Board.

N. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

O. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

P. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.

Q. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at MLLW is prohibited.

R. The discharge of treated sewage from vessels, which do not have a properly functioning USCG certified Type 1 or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at MLLW is prohibited.