

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 W. 4th Street, Suite 200, Los Angeles

FACT SHEET
WASTE DISCHARGE REQUIREMENTS
for
KAISER ALUMINUM AND CHEMICAL CORPORATION

NPDES Permit No.: CA0000892
Public Notice No.: 04-063

FACILITY ADDRESS

Kaiser Aluminum and Chemical Corp.
6250 E. Bandini Blvd,
Los Angeles, CA 90040

FACILITY MAILING ADDRESS

Kaiser Aluminum and Chemical Corp.
6250 E. Bandini Blvd,
Los Angeles, CA 90040
Contact: Robb Hendry
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I. Public Participation

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the above-referenced facility. As an initial step in the WDR process, the Regional Board staff has developed tentative WDRs. The Regional Board encourages public participation in the WDR adoption process.

A. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to:

Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Written comments pertaining to this proposed Board action must be submitted to the Regional Board staff no later than 5 p.m. on January 5, 2005. The Regional Board chair may exclude from the record written materials received after this date. (See Cal. Code Regs., tit. 23, § 648.4.)

B. Public Hearing

The Regional 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: January 27, 2005
Time: 9:00 a.m.
Location: Metropolitan Water District of Southern California, Board Room
700 North Alameda Street, Los Angeles, California.

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

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

C. Waste Discharge Requirements Appeals

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

State Water Resources Control Board, Office of Chief Counsel
ATTN: Elizabeth Miller Jennings, Senior Staff Counsel
1001 I Street, 22nd Floor
Sacramento, CA 95814

D. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special conditions, comments received, and other information are on file and may be inspected at 320 West 4th Street, Suite 200, Los Angeles, California 90013, at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Los Angeles Regional Board by calling (213) 576-6600.

E. 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 Board, reference this facility, and provide a name, address, and phone number.

II. Introduction

Kaiser Aluminum and Chemical Corporation (hereinafter Kaiser or Discharger), discharges wastewater to the Los Angeles River, a water of the United States. Wastes discharged from Kaiser are regulated by WDRs and a NPDES permit contained in Board Order No. 99-044 (NPDES Permit No. CA0000892). Order No. 99-044 expired on April 10, 2004.

Kaiser filed a report of waste discharge and applied for renewal of its WDRs and NPDES permit on March 18, 2004. The tentative Order is the reissuance of the WDRs and NPDES permit for discharges from Kaiser. A NPDES permit compliance evaluation inspection (CEI) was conducted on March 23, 2004, to observe operations and collect additional data to develop permit limitations and conditions.

III. Description of Facility and Waste Discharge

Kaiser is the owner and operator of an Aluminum Extrusion Plant (Facility) located at 6250 E. Bandini Boulevard, Los Angeles, California, and discharges up to 125,000 gallons per day (gpd) of a combination of wastewater and storm water from the Facility. Aluminum is melted, formed, cut, and packaged at the Facility. Extrusion consists of forcing a heated alloy billet through a die by pressure. The extruded aluminum is then sawed off and cooled through a contact cooling process (e.g., press heat treatment quench). After the product is cooled it is further strengthened through an aging process.

A portion of the industrial process water is discharged to the Los Angeles County Sanitation District's Publicly Owned Treatment Works (POTW). The waste streams discharged to the sanitary sewer and then to POTW include: a portion from the water softener and sand filter; new deburr and washer system; miscellaneous non-scope wastewater; die cleaning caustic system; oil-water separation system; and the industrial wastewater treatment system.

The wastewater discharge authorized by this permit includes reverse osmosis concentrate (from treating potable water), press heat treatment contact cooling water, aging oven bearing non-contact cooling water, and storm water runoff. Kaiser described contributing waste streams in supporting documentation for the permit renewal application. Reverse osmosis concentrate is the reject water from the reverse osmosis system. The source water is City of Commerce water that has been softened. Press heat treatment contact cooling water is used for cooling the extruded products; source water is reverse osmosis permeate. Aging oven bearing non-contact cooling water is the discharge from the fan bearings that serve the four aging ovens. The source water is City of Commerce water, and it is fed once-through the oven fans prior to discharge.

Wastewater from these processes is discharged to a storm drain on the property through Discharge Serial No. 001 (Latitude: 33° 59' 16", Longitude: 118° 08' 50"), and thence to the Los Angeles River, a water of the United States, at a point about 2,500 feet south of Firestone Boulevard, above the Estuary.

Kaiser stated in the supporting documentation that production over the permit term has been maintained at or near 1997 levels; however, based on reported data, wastewater discharged has decreased. The Discharger also requested that alternative equivalent concentration limitations be based on the long-term average production and water discharge values.

The renewal application package proposes a maximum discharge flow rate of 605,000 gpd. The maximum proposed process water flow is 125, 000 gpd and storm water flow is 480,000 gpd. The storm water flow is based on average rainfall (Two inches of rainfall in a 24 hour period) in last 10 years. The previous permit established a maximum flow rate of 125,000 gpd and storm water was not taken into consideration. Based on the site visit performed on March 23, 2004, Facility representatives stated that Kaiser currently discharges approximately 36,100 gpd of untreated wastewater. Data submitted by the Discharger for the period from 1999 through 2003 indicates that the Facility has an average discharge rate of 30,945 gpd since January 1999, but has discharged at rates of 125,000 gpd during the permit term. These volumes do not represent the discharge of aging oven bearing cooling water or storm water.

The Regional Board and the U.S. EPA have classified the Kaiser facility as a minor discharge.

Available Discharge Monitoring Reports (DMRs) submitted to the Regional Board include all quarterly monitoring reports for the years 1999, 2000, 2001, and 2002. In addition, the first, second, and third quarters of 2003 were available. Additional data, including the fourth quarter of 2003 were submitted in the NPDES permit renewal application. The available DMR data are summarized in the following table:

Pollutant	Units	Monthly Average Effluent Limitations	Daily Maximum Effluent Limitations	Minimum of Reported Values	Maximum of Reported Values
Flow	GPD	--	--	3,017	125,000
Temperature	°F	--	100	61	75
pH	S.U.	--	6.0 – 9.0	6.8	8.3
Total Dissolved Solids	mg/L	--	1,500	150	1,600
BOD ₅ 20°C	mg/L	20	60	0.0 ¹	8.6
Total Suspended Solids	mg/L	--	75	1	20
	lbs/day	29.1	61.25	0.000114	2.08
Oil and Grease	mg/L	--	15	5 ²	7.4
	lbs/day	17.9	29.9	0.0284 ³	0.189
Aluminum	µg/L	--	1,000	0.00011	0.61
	lbs/day	1.4	2.9	0.00	0.104

Pollutant	Units	Monthly Average Effluent Limitations	Daily Maximum Effluent Limitations	Minimum of Reported Values	Maximum of Reported Values
Cyanide	mg/L	--	200	0.02 ⁴	0.024
	lbs/day	0.06	0.13	0.00 ⁴	0.000757
Chromium (total)	µg/L	--	50	0.00001	0.025
	lbs/day	0.08	0.2	0.00	0.08
Zinc	µg/L	--	5,000	0.00005	0.1
	lbs/day	0.3	0.66	0.00	0.001
Arsenic	µg/L	--	50	0.01 ⁵	12
Cadmium	µg/L	--	10	0.01 ⁵	0.01
Copper	µg/L	--	1,000	0.01 ⁵	0.01
Lead	µg/L	--	50	0.005	8.4
Mercury	µg/L	--	2	0.001 ¹	0.002
Nickel	µg/L	--	100	0.02 ⁵	0.02
Selenium	µg/L	--	20	0.01 ²	0.01
Silver	µg/L	--	50	0.01 ⁵	0.01
Toxicity	%	⁶	70	0	100

- 1 Non-detect values of <1 were also reported.
- 2 Non-detect values of <5 were also reported.
- 3 Non-detect values of <5.1 were also reported.
- 4 Non-detect values of <0.02 were also reported.
- 5 Non-detect values of <10 were also reported.
- 6 For any three consecutive 96-hour static or continuous flow bioassay tests must be at least 90%, with no single test producing less than 70% survival.

Data submitted to the Regional Board by the Discharger indicates that the Discharger has exceeded effluent limitations for TDS, arsenic, lead, and toxicity. Limitations for TDS and toxicity are 1,500 mg/L, and no single test indicating less than 70 percent survival, respectively. The Discharger has reported values for TDS, and toxicity of 1,600 mg/L (August 14, 2002) and 0 percent survival (February 14, 2002), respectively. Identified violations are being evaluated for appropriate enforcement actions.

IV. Applicable Plans, Policies, and Regulations

The requirements contained in the proposed Order are based on the requirements and authorities contained in the following:

- A. The federal Clean Water Act (CWA). The federal Clean Water Act requires that any point source discharges of pollutants to a water of the United States must be done in conformance with an NPDES permit. NPDES permits establish effluent limitations that incorporate various requirements of the CWA designed to protect water quality.

- B. Code of Regulations, Title 40 (40 CFR) – Protection of Environment, Chapter I, Environmental Protection Agency, Subchapter D, Water Programs, Parts 122-125 and Subchapter N, Effluent Guidelines. These CWA regulations provide effluent limitations for certain dischargers and establish procedures for NPDES permitting, including how to establish effluent limitations for certain pollutants discharged by Kaiser.
- C. Code of Regulations, Title 40 (40 CFR) – Protection of Environment, Chapter I, Environmental Protection Agency, Subchapter D, Water Programs, Part 467 Effluent Limitation Guidelines and Standards for the Aluminum Forming Point Source Category. These regulations provide effluent guidelines for various constituents common in wastewaters from aluminum forming facilities. These guidelines were considered in the development of various effluent limitations established in this permit.
- D. On June 13, 1994, the Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). The Basin Plan contains water quality objectives and beneficial uses for inland surface waters and for the Pacific Ocean. The Basin Plan contains beneficial uses and water quality objectives for the Los Angeles River. The beneficial uses of the receiving water are:

Los Angeles River – Hydrologic Unit 405.15

Existing Uses: Groundwater recharge; water-contact recreation; non-contact water recreation; and warm freshwater habitat

Potential Uses: Municipal and domestic supply; industrial service supply; and wildlife habitat

Los Angeles River to Estuary – Hydrologic Unit 405.12

Existing Uses: Groundwater recharge; water-contact recreation; non-contact water recreation; warm freshwater habitat; marine habitat; wildlife habitat; and threatened, or endangered species

Potential Uses: Municipal and domestic supply; industrial service supply; industrial process supply; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting

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

- F. On May 18, 2000, the U.S. Environmental Protection Agency (U.S. EPA) promulgated numeric criteria for priority pollutants for the State of California [known as the *California Toxics Rule* (CTR) and codified as 40 CFR § 131.38]. In the CTR, U.S. EPA promulgated criteria that protect the general population at an incremental cancer risk level of one in a million (10^{-6}), for all priority toxic pollutants regulated as carcinogens. The CTR also provides a schedule of compliance not to exceed 5 years from the date of permit renewal for an existing discharger if the Discharger demonstrates that it is infeasible to promptly comply with effluent limitations derived from the CTR criteria.
- G. On March 2, 2000, State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP was effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through National Toxics Rule (NTR) and to the priority pollutant objectives established by the Regional Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by the U.S. EPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP was effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The SIP requires the dischargers' submittal of data sufficient to conduct the determination of priority pollutants requiring water quality-based effluent limitations (WQBELs) and to calculate the effluent limitations. The CTR criteria for freshwater or human health for consumption of organisms, whichever is more stringent, are used to develop the effluent limitations in this Order to protect the beneficial uses of the Los Angeles River in the vicinity of the discharge.
- H. 40 CFR section 122.44(d)(1)(vi)(A) requires the establishment of numeric effluent limitations to attain and maintain applicable narrative water quality criteria to protect the designated beneficial uses. Where numeric water quality objectives have not been established in the Basin Plan, 40 CFR section 122.44(d) specifies that water quality-based effluent limitations (WQBELs) may be set based on U.S. EPA criteria and supplemented, where necessary, by other relevant information to attain and maintain narrative water quality criteria to fully protect designated beneficial uses.
- I. State and Federal antibacksliding and antidegradation policies require that Regional Board actions to protect the water quality of a water body and to ensure that the waterbody will not be further degraded. The antibacksliding provisions are specified in sections 402(o) and 303(d)(4) of the CWA and in the Title 40 of the Code of Federal Regulations (40 CFR), section 122.44(l). Those provisions require a reissued permit to be as stringent as the previous permit with some exceptions where effluent limitations may be relaxed.
- J. Effluent limitations are established in accordance with sections 301, 304, 306, and 307 of the federal CWA, and amendments thereto. These requirements, as they are

met, will maintain and protect the beneficial uses of the Los Angeles River.

- K. Existing waste discharge requirements contained in Board Order No. 99-044, adopted by the Regional Board on May 27, 1999. In some cases, permit conditions (effluent limitations and other special conditions) established in the existing waste discharge requirements have been carried over to this permit.

V. Regulatory Basis for Effluent Limitations

The CWA requires point source discharges to control the amount of conventional, nonconventional, and toxic pollutants that are discharged into the waters of the United States. The control of the discharge of pollutants is established through NPDES permits that contain effluent limitations and standards. The CWA establishes two principal bases for effluent limitations. First, dischargers are required to meet technology-based effluent limitations that reflect the best controls available considering costs and economic impact. Second, they are required to meet Water Quality-Based Effluent Limitations (WQBELs) that are developed to protect applicable designated uses of the receiving water.

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

- A. Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.
- B. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- C. Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after 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) that 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 EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 of the NPDES 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.

If a reasonable potential exists for pollutants in a discharge to exceed water quality standards, WQBELs are also required under 40 CFR 122.44(d)(1)(i). WQBELs are established after determining that technology-based limitations are not stringent enough to ensure that state water quality standards are met for the receiving water. WQBELs are based on the designated use of the receiving water, water quality criteria necessary to support the designated uses, and the state's antidegradation policy. For discharges to inland surface waters, enclosed bays, and estuaries, the SIP establishes specific implementation procedures for determining reasonable potential and establishing WQBELs for priority pollutant criteria promulgated by U.S. EPA through the CTR and NTR, as well as the Basin Plan.

There are several other specific factors affecting the development of limitations and requirements in the proposed Order. These are discussed as follows:

1. Pollutants of Concern

The CWA requires that any pollutant that may be discharged by a point source in quantities of concern must be regulated through an NPDES permit. Further, the NPDES regulations require regulation of any pollutant that (1) causes; (2) has the reasonable potential to cause; or (3) contributes to the exceedance of a receiving water quality criteria or objective.

Kaiser operates an aluminum extrusion plant. Aluminum is formed and cut on-site. Contributing waste streams consist of reverse osmosis concentrate, press heat treatment contact cooling water, aging oven bearing non-contact cooling water, and storm water runoff. Typical pollutants present in these waste streams may include solids, oil and grease, biochemical oxygen demand, and metals.

Effluent limitations for Discharge Serial No. 001 in the previous permit were established for total dissolved solids, total suspended solids, BOD₅20^o C, oil and grease, aluminum, cyanide, chromium (total), arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, and zinc. Limitations for chromium, cyanide, zinc, aluminum, oil and grease, suspended solids, and pH were established based on the Aluminum Forming Point Source Category (40 CFR Part 467) effluent limitation guidelines and standards (ELGs). Further, storm water from the parking areas and storage areas located on-site may contribute to increased levels of total suspended solids, total dissolved solids, oil and grease, and the biochemical oxygen demand (BOD) in the receiving water, thus effluent limitations for these parameters had been established in the previous permit. The Development Document for Effluent Limitations Guidelines and Standards for the Aluminum Forming Point Source Category indicate cadmium, chromium, copper, lead, nickel, selenium, zinc, and aluminum are common in the wastewater discharged from these facilities and thus, are pollutants of concern. The bases for the inclusion of an effluent limitation for silver in the previous permit is uncertain, thus the

parameter will remain a pollutant of concern. As a result, TDS, BOD, TSS, oil and grease, aluminum, cyanide, chromium (total), arsenic, cadmium, copper, lead, nickel, mercury, selenium, silver, and zinc have been established as pollutants of concern in this permit.

The discharge of untreated industrial wastewater (i.e., contact cooling water) and storm water has the potential to affect the temperature of the receiving water body; therefore, an effluent limitation for temperature has been established in this permit.

2. Technology-Based Effluent Limitations

Kaiser is an aluminum forming and extruding facility. Aluminum is melted, extruded, aged, tempered, cut, and packaged on-site. 40 CFR Part 467 established effluent limitations and requirements for the direct discharges from aluminum forming facilities. The discharges from the Facility are subject to Subpart C (the Extrusion Subcategory) of the established ELGs for the Aluminum Forming Point Source Category. This subpart applies to discharges from core (extrusion die cleaning, dummy block cooling, stationary casting, artificial aging, annealing, degreasing, and sawing) and ancillary (operations performed on-site, following or preceding the extrusion operation) operations of the extrusion subcategory.

The age of the Kaiser Aluminum Extrusion Plant is such that both existing and new source standards apply. The casting facility began operations in 1991 and directs the discharge to the L.A. County Sanitary Sewer System, as such is subject to new source pretreatment standards not established in this permit. The extrusion operations were in place when the Aluminum Forming limitations were established and as such are subject to existing source standards based on BPT and BAT allowances. For the purpose of this permit, effluent limitations have been calculated according to existing source standards (40 CFR sections 467.32 and 467.33) for the discharges associated with the extrusion process.

The Discharger requested the following waste streams to be authorized under this permit: press heat treatment contact cooling water, reverse osmosis concentrate, non-contact oven bearing cooling water and storm water from the facility. The ELGs are applicable to specific discharges of press heat treatment contact cooling water and non-contact aging oven bearing cooling water. Discharges of reverse osmosis concentrate and storm water are not addressed in the established effluent guidelines. Additional pollutant allowances for the discharge of reverse osmosis concentrate and storm water are water quality-based. These allowances are discussed in Section V.4. of this permit.

Based on the types of discharges specified by the Discharger to be authorized under this permit, and found by the Regional Board to be addressed by the established ELGs, the allowances for Core and the ancillary operation of press heat treatment contact cooling water (BPT and BAT allowances) were used in calculating effluent

limitations. The allowances designated as Core in 40 CFR Part 467 Subpart C are applicable to discharges from extrusion die cleaning, dummy block cooling, stationary casting, artificial aging, annealing, degreasing, and sawing activities. The discharge of aging oven non-contact cooling water is included in the Core subcategory. In addition to the Core subcategory, allowances for ancillary operations have been established in the effluent guidelines for operations that are not included in Core, but are performed on-site, following or preceding the extrusion operation. Ancillary operations defined in 40 CFR Part 467 Subpart C include: direct chill casting, press or solution heat treatment, cleaning or etching, degassing, and extrusion press hydraulic fluid leakage. The allowances established under the ancillary operation of press heat treatment contact cooling water are applicable to the discharge of press heat treatment contact cooling water from the Facility.

As stated in 40 CFR section 467.02, the production normalizing mass for each core or ancillary operation is the mass (off-kgg or off-lb) processed through that operation. The term off-kilogram (off-pound) is defined as the mass of aluminum or aluminum alloy removed from a forming or ancillary operation at the end of a process cycle for transfer to a different machine or process. The Discharger has supplied production data from January 1999 through December 2003. The Discharger has reported production data in terms of Press Billets and Press Saw. The Discharger stated data reported as Press Billets refers to the total amount of product (i.e., aluminum) extruded. Further, the Discharger stated that data presented as Press Saw refers to the amount of product to be cut into final product (portions of the extruded product is recycled). The Discharger reported in the permit renewal application 176,000 off-lbs of product under Press Billets, and 130,000 off-lbs of product under Press Saw. Allowances for Core are based on 130,000 off-lbs of product (only finished product is aged). Allowances for the ancillary operation of press heat treatment contact cooling water were based on 176,000 off-lbs of product based on the fact that this is the mass that best represents the amount of aluminum or aluminum alloy removed from the forming and ancillary operation at the end of the process cycle for transfer to a different machine or process (the product is either transferred for sawing or to be recasted/recycled).

For discharges of aging oven non-contact cooling water and press heat treatment contact cooling water effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) were calculated for oil and grease, suspended solids, and pH (40 CFR section 467.32). Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT) were calculated for chromium, cyanide, zinc, and aluminum (40 CFR section 467.33), because the BAT allowances for chromium, cyanide, zinc, and aluminum were more stringent than the BPT allowances for these parameters. 40 CFR section 467.33 does not establish allowances for oil and grease, suspended solids, and pH. Maximum daily and monthly average mass-based limitations for the aging oven non-contact cooling water and press heat treatment contact cooling water

discharges from the Kaiser Facility were calculated using the following formula:

Total Mass-based limitation =

Core mass-based limitations + Ancillary Operation (for press treatment contact cooling water) mass-based limitations

Based on 40 CFR Part 467.32 and 419.33(c), the BPT/BAT effluent limitation is equal to:

For aging oven non-contact cooling water (core) mass limitation = Production off-pounds (million off-lbs) X Allowance specified in ELGs – 40 CFR Part 467, Subpart C, “Core” (lbs/million off-lbs)

For press heat treatment contact cooling water (ancillary) mass limitation = Production off-pounds (million off-lbs) X Allowance specified in ELGs – 40 CFR Part 467, Subpart C, “Press Heat Treatment Contact Cooling Water” (lbs/million off-lbs)

Please see Attachment A for specific effluent guideline calculations.

40 CFR 122.45(f)(2) states, pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations. Further, the Discharger requests in the NPDES permit renewal application that equivalent concentration limitations be established based on the long-term average discharge flow value. To account for pollutant loading in the upper range of the permitted flow, and based on based on 40 CFR 122(f)(2), concentration-based effluent limitations have been established in this permit in addition to mass-based effluent limitations based on a maximum flow of 125,000 gpd. Please see Attachment A for calculations.

The previous permit established mass-based limitations as required under the effluent guidelines (40 CFR Part 467) for total suspended solids (TSS), oil and grease, aluminum, cyanide, total chromium, and zinc. The corresponding concentration-based effluent limitations do not appear to be equivalent concentration limitations based on the mass-based limitations, but were applied independently, as water quality-based effluent limitations.

Effluent limitations established by 40 CFR Part 467 for chromium, cyanide, zinc, aluminum, oil and grease, and suspended solids are mass-based. Concentration-based effluent limitations may be calculated based on the established mass based limitations using the following formula:

Concentration in mg/L = (Mass limitation in lbs/day)/(8.34 X Discharge Flow in mgd)

Where:

lbs/day = mass-based effluent limitation established in 40 CFR Part 467.

8.34 = conversion factor.

mgd = total wastewater flow in million gallons per day.

In addition to mass-based limitations, the ELGs (40 CFR section 467.32) establish an effluent limitation for pH between 7 and 10.

The previous permit for the Kaiser facility requires the Discharger to develop and implement a *Storm water Pollution Prevention Plan* (SWPPP). The SWPPP outlines site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into surface waters. Due to the fact that storm water discharges occur at the facility, this permit will require that Kaiser update and continue to implement their SWPPP for all locations storm water may contact prior to discharge, with a concerted emphasis on material storage areas.

3. Water Quality-Based Effluent Limitations

As specified in 40 CFR section 122.44(d)(1)(i), permits are required to include WQBELs for toxic pollutants (including toxicity) that are or may be discharged at levels which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses for 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 U.S. EPA water quality criteria contained in the CTR and NTR). The specific procedures for determining reasonable potential for discharges from the Kaiser facility, and if necessary for calculating WQBELs, are contained in the SIP.

The CTR contains both saltwater and freshwater criteria. According to 40 CFR section 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The CTR criteria for freshwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Los Angeles River, a water of the United States in the vicinity of the discharge.

Some water quality criteria are hardness dependent. The Discharger provided hardness data for the receiving water (the Los Angeles River) as part of their required CTR monitoring. Hardness data submitted for the period from September 2001 through February 2003 ranged from 65 mg/L to 550 mg/L as CaCO₃. The lowest hardness value (collected on February 14, 2003), representing the most conservative

approach for establishing criteria, used for evaluating reasonable potential was a value of 65 mg/L as CaCO₃.

a. *Reasonable Potential Analysis (RPA)*

The Regional Board has conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality objectives outlined in the CTR, NTR, as well as the Basin Plan. To conduct the RPA, the Regional Board has identify the maximum observed effluent concentration (MEC) for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

- i. Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.
- ii. Trigger 2 – If $MEC < C$ and backgroundwater quality (B) > C, a limitation is needed.
- iii. Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Board to conduct the RPA. Upon review of the data, and if the Regional Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. Data for Discharge Serial No. 001 were provided by the facility for seven samples for the period from September 2001 through February 2003. In addition, samples for certain priority pollutants were collected as required by their existing permit. All these data were used to perform the RPA and are summarized in Attachment B.

Based on the RPA, there is reasonable potential to exceed water quality standards at Discharge Serial No. 001 for copper, lead, mercury, selenium,

zinc, and bis(2-ethylhexyl)phthalate. Thus, effluent limitations and monitoring requirements for copper, lead, mercury, selenium, zinc, and bis(2-ethylhexyl)phthalate have been established. Further, the previous limitations for cadmium, nickel, and silver have been revised. The previous limitations of 1 mg/L, 0.1 mg/L, and 5 mg/L respectively, exceeded the applicable water quality criteria for aquatic life. If existing effluent limitations for cadmium, nickel, and silver were carried over, allowing these potential maximum concentrations would immediately violate state water quality criteria. Since these parameters are still considered pollutants of concern in Kaiser's discharge, new WQBELs for cadmium, nickel and silver have been established based on CTR criteria.

b. Calculating WQBELs

If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one of three procedures contained in Section 1.4 of the SIP. These procedures include:

- i. If applicable and available, use of the wasteload allocation (WLA) established as part of a total maximum daily load (TMDL).
- ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).
- iii. Where sufficient effluent and receiving water data exist, use of a dynamic model which has been approved by the Regional Board.

c. Impaired Water Bodies in 303 (d) List

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

The U.S. EPA approved the State's 2002 303(d) list of impaired water bodies on July 25, 2003. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2002 303(d) list and have been scheduled for TMDL development.

The 2002 State Board's California 303(d) List classifies the Los Angeles River (Reach 2) as impaired. The pollutants of concern include ammonia, high coliform count, lead, nutrients (algae), odors, oil, and scum/foam.

The Trash TMDL for the Los Angeles River Watershed, was adopted by the Regional Board on September 19, 2001. It designates Waste Load Allocations for Permittees and Co-Permittees of the Los Angeles County Municipal Storm water Permit that are located within (entirely or partially) the Los Angeles River Watershed. Waste Load allocations are based on a phased reduction from the estimated current discharge over a 10-year period until the final Waste Load Allocation (currently set at zero) is met. Because the discharge from this Facility is comprised of process water (i.e., contact and non-contact cooling water), reverse osmosis concentrate, and some storm water from an aluminum forming facility, it is not likely to contribute trash to the Los Angeles River Watershed. However, because the facility discharges to the Los Angeles County municipal separate storm sewer system, Los Angeles County may invoke requirements on the Facility in order to meet the waste load allocation.

d. *Whole Effluent Toxicity*

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

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. The existing permit contains acute toxicity limitations and monitoring requirements. Annual acute toxicity data for the years 1997 through 2003 were submitted by the facility to the Regional Board. All tests resulted in 100 percent survival rates with the exception of a sample taken in February 2002, which resulted in 0% survival.

In accordance with the Basin Plan, acute toxicity limitations dictate that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. Consistent with Basin Plan requirements, this Order includes acute toxicity limitations.

4. Specific Rationale for Each Numerical Effluent Limitation

Section 402(o) of the Clean Water Act and 40 CFR section 122.44(l) require that effluent limitations standards or conditions in re-issued permits are at least as stringent as in the existing permit. The Regional Board has determined that reasonable potential exists for all priority pollutants that are regulated under the current permit; therefore effluent limitations have been established for these pollutants (i.e., arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, zinc, cyanide, and chromium). Therefore, existing effluent limitations for some of the regulated pollutants are carried over to this permit. Further, the concentration-based effluent limitations for total dissolved solids, BOD, total suspended solids, oil and grease, and aluminum are based on the limitations contained in Order No. 99-044.

40 CFR Part 467 establishes effluent limitations and requirements for the Aluminum Forming point source category (ELGs). As discussed previously, the discharges of aging oven non-contact cooling water and press heat treatment contact cooling water are addressed in 40 CFR Part 467, Subpart C (Extrusion). The ELGs establish an effluent limitation for pH. Further, the ELGs establish mass-based effluent limitations for chromium, cyanide, zinc, aluminum, oil and grease, and suspended solids based on the amount of aluminum produced (i.e., extruded). The Discharger provided production data with the permit renewal application; these data were used to develop mass-based effluent limitations for discharges from core and ancillary operations. Data submitted for the period from 1999 through 2003 indicate that an average daily production of 176,000 pounds of aluminum press billets are directed through the press heat treatment process (producing the discharge of contact cooling water), and that an average daily production of 130,000 pounds of aluminum press saw are directed through the aging oven process (producing the discharge of non-contact cooling water). The total mass-based limitation was obtained by combining the limitations for core processes and ancillary processes.

Order No. 99-044 established mass-based effluent limitations for chromium, cyanide, zinc, aluminum, oil and grease, and suspended solids based on the ELGs; however, it is unclear as to the production values used in the calculations. In addition, the Discharger stated the Facility has maintained at or near 1997 production levels during the permit term.

The proposed Order establishes mass-based effluent limitations for chromium, cyanide, zinc, aluminum, oil and grease, and suspended solids based on the BPT and BAT allowances in 40 CFR Part 467, Subpart C, for discharges resulting from core and ancillary operations (i.e., press heat treatment contact cooling water). The mass-based limitations are applicable to the process wastewater discharge and are enforceable at the point in the discharge prior to the combination with storm water (ELGs provide allowances for specific waste streams, and do not provide allowances for discharges of storm water and reverse osmosis concentrate). The intent of establishing technology-based effluent limitations is to require a minimum level of

treatment for point sources based on available technologies to meet established effluent limitations. Mass-based limitations serve to control the amount of pollutant entering the process waste streams.

It is unclear as to the volume of storm water added to the waste stream, and therefore, mass-based limitations cannot be developed for certain pollutants at the end of the pipe.

The previous Order established concentration-based limitations for conventional and nonconventional pollutants and certain metals. In the previous permit, for the constituents addressed in the ELGs, the concentration-based effluent limitations appear to most likely be water quality-based. Further, it appears that concentration-based limitations for total suspended solids, oil and grease, aluminum, cyanide, chromium, and zinc in the previous Order are not equivalent concentration limitations, but were applied independently of the mass-based limitations established in the ELGs.

The proposed Order also establishes concentration-based effluent limitations for conventional, nonconventional pollutants, and certain metals. Concentration-based effluent limitations are established and enforceable for the combined discharge of process water and storm water to ensure that water quality standards, designed to protect water quality, are attained in the receiving water body. Compliance with concentration-based effluent limitations at the end-of-pipe is determined to be protective of water quality. Concentration-based limitations are established based on the most stringent criteria from the previous Order, equivalent concentration limitations, and CTR water quality criteria.

For total dissolved solids and BOD, concentration-based effluent limitations are based on the limitations included in the existing Order. The maximum daily effluent limitation for BOD has been revised based on current limitations for conventional pollutants contained in other NPDES permits recently issued by the Regional Board.

In addition to the aforementioned concentration-based limitations, the Regional Board is implementing the CTR and SIP to establish WQBELs. In some cases, more stringent effluent limitations are required for regulated pollutants that show reasonable potential to exceed water quality standards. For those that do show reasonable potential based on monitoring data and for which existing effluent limitations exist (i.e., copper, lead, mercury, selenium, and zinc), a comparison between existing permit limitations and CTR-based WQBELs was made and the most stringent concentration-based limitation included in the Order. In addition, as stated previously, the Regional Board has determined that reasonable potential exists for previously regulated pollutants. Therefore, a comparison between existing permit limitations for these pollutants (i.e., arsenic, cadmium, nickel, silver, and cyanide) and CTR-based WQBELs was made and the most stringent concentration-based limitation included in the Order. This comparison between existing effluent limitations and CTR-based limitations was made to ensure that Kaiser's permit limitations are in compliance with applicable water quality

standards (including CTR water quality criteria). For cadmium, copper, lead, mercury, nickel, selenium, silver, zinc, and cyanide, the CTR-based WQBELs were more stringent and are established in the proposed Order. For arsenic, the existing concentration limitation was more stringent, and is included in the proposed Order. Effluent limitations for bis(2-ethylhexyl)phthalate have been established based on CTR water quality criteria. WQBELs have been determined according to the procedures specified in the SIP, and are based on the criteria in the CTR. WQBELs were established utilizing hardness data from the receiving water sampled on February 14, 2003 (65 mg/L as CaCO₃).

Equivalent concentration limitations were calculated for total suspended solids, oil and grease, aluminum, cyanide, chromium, and zinc. These limitations were based on the maximum flow provided by the Discharger, 125,000 gpd, compared to the existing permit limitations and CTR-based WQBELs, and the most stringent concentration-based limitation included in the Order. As stated previously, for cyanide and zinc, CTR-based WQBELs are established, since they are more stringent than the equivalent concentration limitations and existing permit limitations. Daily maximum concentration-based effluent limitations for oil and grease, aluminum and chromium established in the previous permit were more stringent than the calculated equivalent concentration limitations. Thus, the MDELs from the previous permit have been carried over for oil and grease, aluminum and chromium.

Equivalent concentration effluent limitations were based on the following formula:

$$\text{Effluent limitation (mg/L)} = \text{mass (lbs/day)} / (8.34 \times \text{flow rate (MGD)})$$

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

In compliance with 40 CFR section 122.45(d), permit limitations shall be expressed, unless impracticable, as both average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs). It should be noted that the existing Order did not include AMELs for most pollutants. Due to the absence of AMELs in the existing permit for cadmium, hexavalent chromium, copper, lead, mercury, nickel, selenium, silver, zinc, and cyanide, AMELs were calculated according to the requirements in the CTR and SIP. Further, the existing AMEL for BOD is carried over to the proposed Order. The proposed Order establishes an AMEL for total suspended solids which represents the equivalent concentration limitations based on the allowances in 40 CFR Part 467. The Regional Board has determined that AMELs are not required for oil and grease, total dissolved solids, aluminum, arsenic, and chromium; therefore, the proposed Order does not establish AMELs for these parameters.

The previous permit established a pH limitation of 6 to 9. This is inconsistent with the ELGs that establish pH effluent limitations of 7 to 10. The Basin Plan establishes a pH effluent limitation of 6.5 to 8.5. The pH effluent limitations in this permit have been based on the more stringent, upper and lower ranges established in the Basin Plan and 40 CFR 467.32. The more stringent level, for the purposes of this permit, is the upper and lower ranges closer to neutral (7 S.U.). Thus the upper range of the pH limitation is based on the Basin Plan with an upper limitation of 8.5 S.U. The lower range of the pH limitation is based on the ELGs which establishes a lower pH range of 7.0 S.U.

The temperature effluent limitation has been established based on the Regional Board's interpretation of the Thermal Plan.

The existing permit contains acute toxicity limitations and monitoring requirements. This Order will require Kaiser to continue to monitor the discharge for acute toxicity.

The following table presents the effluent limitations and specific rationales for pollutants that are expected to be present in the discharge of reverse osmosis concentrate press heat treatment contact cooling water, aging oven bearing non-contact cooling water, and storm water runoff through Discharge Serial No. 001 (Latitude 33° 59' 16", Longitude 118° 08' 50"):

Pollutant	Units	Average Monthly	Maximum Daily	Rationale ¹
Temperature	°F	86		TP
pH	S.U.	7.0 – 8.5		BP, ELG
Total dissolved solids	mg/L	--	1,500	E
BOD ₅ @ 20°C	mg/L	20	30	E, BPJ
Total suspended solids	mg/L	26.84 ²	56.41 ²	ELG
	lbs/day	27.98	58.81	
Oil and grease	mg/L	--	15	ELG, E, BPJ
	lbs/day	17.21	28.69	
Aluminum	mg/L	--	1	ELG, E
	lbs/day	1.32	2.67	
Cyanide	µg/L	4.3	8.5	ELG, CTR, SIP
	lbs/day	0.05	0.12	
Chromium (total)	µg/L	--	50	ELG, E
	lbs/day	0.075	0.18	
Arsenic ³	µg/L	--	50	E
Cadmium ³	µg/L	1.4	2.8	CTR, SIP
Copper ³	µg/L	4.6	9.3	CTR, SIP
Lead ³	µg/L	1.5	3	CTR, SIP

Pollutant	Units	Average Monthly	Maximum Daily	Rationale ¹
Mercury	µg/L	0.051	0.102	CTR, SIP
Nickel ³	µg/L	29.7	59.5	CTR, SIP
Selenium	µg/L	4.1	8.2	CTR, SIP
Silver ³	µg/L	0.96	1.9	CTR, SIP
Zinc ³	µg/L	41.5	83.2	ELG, CTR, SIP
	lbs/day ²	0.041	0.086	
Bis(2-ethylhexyl)Phthalate	µg/L	5.9	11.8	CTR, SIP
Acute Toxicity	% survival	⁴		E, BP

¹ TP – Thermal Plan; BP – Limitations are established in the Basin Plan; CTR, SIP - Water quality-based effluent limitations established based on the procedures in the SIP; E - Existing permit limitation, BPJ – Best Professional Judgement; ELG – Effluent limitations and requirements for the Aluminum Forming point source category (40 CFR Part 467, Subpart C).

² Equivalent concentration limitations for pollutants are based on a maximum discharge flow rate of 125,000 gpd.

³ Effluent limitations for these metals are expressed as total recoverable.

⁴ For any three consecutive 96-hour static or continuous flow bioassay tests must be at least 90%, with no single test producing less than 70% survival (more information can be found in Section I.B.3.a. of the tentative permit.)

5. Compliance Schedule

Based on effluent monitoring data submitted by the Discharger, a comparison between the MEC and calculated AMEL values shows that the Discharger may be unable to consistently comply with effluent limitations established in the proposed Order for copper, lead, selenium, zinc, mercury, and bis(2-ethylhexyl)phthalate. Hence, interim limitations have been prescribed for these constituents. As a result, the proposed Order contains a compliance schedule that allows the Discharger up to 3 years to comply with the revised effluent limitations. Within 1 year after the effective date of the Order, the Discharger must prepare and submit a compliance plan that describes the steps that will be taken to ensure compliance with applicable limitations.

40 CFR section 131.38(e) provides conditions under which interim effluent limitations and compliance schedules may be issued. The SIP allows inclusion of an interim limitation with a specific compliance schedule included in a NPDES permit for priority pollutants if the limitation for the priority pollutant is CTR-based. Because the CTR-based effluent limitations for copper, lead, selenium, zinc, mercury, and bis(2-ethylhexyl)phthalate appear infeasible for the Discharger to achieve at this time, interim

limitations for copper, lead, selenium, zinc, mercury, and bis(2-ethylhexyl)phthalate are contained in this Order.

The SIP requires that the Regional Board establish other interim requirements such as requiring the discharger to develop a pollutant minimization plan and/or source control measures and participate in the activities necessary to achieve the final effluent limitations. These interim limitations shall be effective until [DATE], after which, the Discharger shall demonstrate compliance with the final effluent limitations.

Pursuant to the SIP (Section 2.2.1, Interim Requirements under a Compliance Schedule), when compliance schedules are established in an Order, interim limitations must be included based on current treatment facility performance or existing permit limitations, whichever is more stringent to maintain existing water quality. There are insufficient data to perform a meaningful statistical analysis to develop interim limitations. Order No. 99-044 contains effluent limitations for copper, lead, selenium, zinc, and mercury. For copper, selenium, zinc, and mercury the MEC is more stringent than the existing effluent limitation; therefore, the MEC will serve as the interim effluent limitation concentration for these constituents. For lead, the existing permit limitations are more stringent than the MEC; therefore, the current effluent limitations will serve as the interim effluent limitation concentration for these constituents. Order No. 99-044 does not contain effluent limitations for bis(2-ethylhexyl)phthalate; therefore, the MEC serves as the basis for the interim effluent limitation. It should be noted that the Board might take appropriate enforcement actions if interim limitations and requirements are not met.

From the effective date of this Order until December 31, 2007, the discharge of effluent from Discharge Serial No. 001 in excess of the following is prohibited:

Pollutant (units)	Daily Maximum Concentration	Rationale¹
Copper ($\mu\text{g/L}$) ²	65	MEC
Lead ($\mu\text{g/L}$) ²	50	EL
Selenium ($\mu\text{g/L}$)	8.9	MEC
Zinc ($\mu\text{g/L}$) ²	85	MEC
Mercury ($\mu\text{g/L}$)	0.49	MEC
Bis(2-ethylhexyl)Phthalate ($\mu\text{g/L}$)	6.99	MEC

¹MEC – Based on the maximum effluent concentration reported by the facility.

EL – Based on the existing effluent limitation contained in Order No. 99-044.

² Discharge limitations for these metals are expressed as total recoverable.

According to the SIP, pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. Selenium and mercury have strong bioaccumulative

properties and can cause adverse human health impacts. Because the RPA determined that selenium and mercury could exceed the applicable criteria, this permit requires that the Discharger develop and implement a pollution minimization plan for selenium and mercury. Described in detail in Section 2.4.5.1 of the SIP, pollutant minimization includes: monitoring for potential sources of the pollutants, quarterly monitoring of the pollutant, control strategy, control measure implementation, and an annual status report sent to the Regional Board.

The Discharger also will be required to develop and implement a compliance plan that will identify the measures that will be taken to reduce the concentrations of copper, lead, zinc, and bis(2-ethylhexyl)phthalate in their discharge. This plan should evaluate options to achieve compliance with the revised permit limitations. These options can include, for example, evaluating the need for a treatment system and identifying and eliminating sources of pollution.

6. Monitoring Requirements

The previous *M&RP* No. CI-6010 for Kaiser, required monthly monitoring for total flow and temperature; quarterly monitoring for pH, oil and grease, TSS, TDS, BOD, aluminum, cyanide, chromium (total), and zinc; and annual monitoring for arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, and acute toxicity. The monitoring of other priority pollutants, provided as an attachment to the M&RP, was required once during the life of the permit.

The Regional Board sent a letter to Kaiser requiring the monitoring of priority pollutants regulated in the CTR. Quarterly monitoring of the effluent and receiving water was required for the period from September 2001 through February 2003.

Monitoring requirements are discussed in greater detail in Section III of the M&RP No. CI-6010. As described in the M&RP, monitoring reports must be submitted quarterly.

a. Effluent Monitoring

To demonstrate compliance with effluent limitations established in the permit, and to assess the impact of the discharge to the beneficial uses of the receiving waters, this Order carries over the existing monitoring requirements for most parameters. Monitoring monthly for total waste flow and temperature are required to ensure compliance with established effluent limitations. Further, the Discharger is required to measure and report the flow prior to and following the point where storm water enters the discharge. Monitoring quarterly for pH, oil and grease, TSS, TDS, BOD, aluminum, cyanide, and chromium is required to ensure compliance with established effluent limitations. Annual monitoring for arsenic, cadmium, nickel, silver, and acute toxicity is required to determine compliance with established effluent limitations.

Monitoring data during the previous permit term suggest that the Discharger has the potential to exceed the CTR water quality criteria for aquatic life for copper, lead, selenium, zinc, mercury, and bis(2-ethylhexyl)phthalate. Therefore, the Board is establishing a monthly monitoring frequency for copper, lead, selenium, zinc, mercury, and bis(2-ethylhexyl)phthalate, to demonstrate compliance with the new CTR-based effluent limitations.

In addition, this Order carries over the annual monitoring requirement for acute toxicity.

At least two monitoring event between October – May shall be conducted during a storm event.

Effluent monitoring for parameters with effluent limitations based on the ELGs (i.e., total suspended solids, oil and grease, aluminum, cyanide, total chromium, and zinc) shall be monitoring at a location at which all industrial waste streams have converged, however prior to the introduction of reverse osmosis condensate and storm water (Sample Point 001). The total combined effluent shall be monitored at the point of discharge into the storm drain (Sample Point 002) for the remaining parameters (i.e., temperature, pH, total dissolved solids, BOD, arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, bis(2-ethylhexyl)phthalate, acute toxicity, and chronic toxicity).

The effluent monitoring program for the discharge of untreated industrial wastewater (press heat treatment contact cooling water, aging oven non-contact cooling water, and reverse osmosis concentrate) and storm water from Discharge Serial No. 001 (Latitude 33° 59' 16" and Longitude 118° 08' 50") is presented in Section III of the associated *M&RP* (No. CI-6010).

b. Receiving Water Monitoring

The Discharger is required to monitor the receiving water for the California Toxics Rule priority pollutants, to determine reasonable potential. Pursuant to the California Water Code, section 13267, the Discharger is required to submit data sufficient for: (1) determining if WQBELs for priority pollutants are required, and (2) to calculate effluent limitations, if required. The SIP requires that the data be provided. Therefore, the Discharger shall conduct the following monitoring program for the receiving water for all California Toxics Rule priority pollutants. The results of monitoring for reasonable potential determination shall be submitted in accordance with Section I.A of the *M&RP*. Receiving water sampling shall be conducted at the same time as the effluent sampling. The receiving water monitoring location shall be within 50 feet upstream of the discharge point into the receiving water (Los Angeles River).

Monitoring requirements for receiving water are discussed in greater detail in Section V and VI of the *M&RP*.

c. *Effluent and Receiving Water Monitoring for Reasonable Potential Determination*

As discussed earlier, the Regional Board issued in 2001 that required the Discharger to monitor for priority pollutants regulated in the CTR, and submit the data. As discussed previously, the Discharger has submitted effluent data for the period from September 2001 to February 2003 and these data were used to conduct the RPA. The SIP states that the Regional Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

This permit will combine the periodic reporting requirements of the SIP with the existing permit monitoring requirements. The Regional Board is requiring, as part of the *M&RP*, that the Discharger conduct annual effluent monitoring for the priority pollutants (except for 2,3,7,8-TCDD) for which there are no effluent limitations established in the permit. In addition, the Regional Board is requiring that the Discharger conduct receiving water monitoring for the priority pollutants, annually, and at the same time effluent samples are collected. Further, the Discharger must analyze pH, salinity, and hardness of the receiving water concurrent with the analysis for the priority pollutants.

The Regional Board is requiring, as part of the *M&RP*, that the Discharger conduct effluent monitoring for 2,3,7,8 TCDD, twice during the permit term (once during the 2nd year of the permit and once during the 4th year) of the permit term. The SIP requires monitoring for 2,3,7,8-TCDD and the 17 congeners listed in the Section VI of the *M&RP*. The Discharger is required to calculate Toxic Equivalence (TEQ) for each congener by multiplying its analytical concentration by the appropriate Toxicity Equivalence Factors (TEF).

This monitoring shall occur at the following locations:

- Effluent discharge point (Discharge Serial No. 001).
- Receiving water. The monitoring stations shall be at 50 feet upstream from the discharge point (i.e., storm drain) to the Los Angeles River.

The required pollutants, monitoring frequency, and type of sample of the effluent and receiving water to fulfill this requirement are listed in Section VI of the *M&RP*.

d. Storm water Monitoring

The Discharger is required to measure and record the rainfall each day of the month. Also, the Discharger shall implement the Storm water Pollution Prevention Plan Requirements (SWPPP) as enumerated in Attachment M of the WDR Order No. R4-2005-0008.