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.

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I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B190104001
Discharger	**Las Virgenes Municipal Water District**
Name of Facility	**Tapia Water Reclamation Facility**
Facility Address	731 Malibu Canyon Road
	Calabasas, CA 91302
	Los Angeles County
Facility Contact, Title and Phone	~~David Lippman~~Brett Dingman,~~, Director, Facilities & Operations~~Water Reclamation Manager, (818) 251-2330~~221~~
Authorized Person to Sign and Submit Reports	John R. Mundy, General Manager (818) 251- 2100 David R. Lippman, Director of Facilities and Operations, (818) 251-2221
Mailing Address	4232 Las Virgenes Road Calabasas, CA 91302
Billing Address	**Same as above**
Type of Facility	**Publicly Owned Treatment Works**
Major or Minor Facility	**Major**
Threat to Water Quality	**1**
Complexity	**A**
Pretreatment Program	**Y**
Reclamation Requirements	**Yes**
Facility Permitted Flow	**16.1 Million Gallons per Day (MGD)**
Facility Design Flow	**16.1 MGD**
Watershed	**Malibu Creek and Los Angeles River Watersheds**
Receiving Water	**Malibu Creek and Los Angeles River**
Receiving Water Type	**Inland surface water**

A. Las Virgenes Municipal Water District (hereinafter Discharger or LVMWD) operates the Tapia Water Reclamation Facility (hereinafter Facility or Tapia WRF), a Publicly Owned Treatment Works (POTW). Tapia WRF is jointly owned by Las Virgenes and Triunfo Sanitation Districts (TrSD).

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

B. The Facility discharges wastewater to Malibu Creek and Los Angeles River, waters of the United States, and is currently regulated by Order No. R4-2005-0074 and National Pollutant Elimination System (NPDES) permit No. CA0056014, which was adopted on November 3, 2005 and expires on June 10, 2010. The discharge is also regulated by Time Schedule Order (TSO) No. R4-2005-0075, which was also adopted on November 3, 2005 and expired on May 17, 2010. The TSO required the Discharger make necessary modifications to treatment units that will allow the Discharger to achieve full compliance with permit (Order No. 2005-0075) final effluent limitations for nitrate and bis(2-ethylhexyl)phthalate prescribed in NPDES Order No. R4-2005-0074, and prescribed interim effluent limitations for nitrate and bis(2-ethylhexyl)phthalate for the Tapia WRF to comply with until the final compliance date of May 17, 2010.

C. The Discharger filed a report of waste discharge and submitted an application, dated December 7, 2009, for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit.

D. Regulatory background. This Permit/Order contain discharge prohibition, a carry-over requirement from previous permits. The following highlights the background information and provides the regulatory context for the discharge prohibition.

Prior to Order No. 2005-0075, LVMWD discharged tertiary-treated wastewater, from the Tapia WRF under two separate Orders. Order No. 97-135 regulated the discharges to Malibu Creek and Order No. 99-066 regulated the discharges to Arroyo Calabasas which is a tributary to Los Angeles River. Order No. 97-135 and Order No. 99-066 were adopted by this Regional Water Board on November 3, 1997, and July 8, 1999, respectively. Those Orders served as the permit under the National Pollutant Discharge Elimination System (NPDES No. CA0053619). There were amendments to both Order:

1. Order No. 97-135 (discharges to Malibu Creek): On April 13, 1998, the Regional Water Board adopted Order No. 98-030 amending Order No. 97-135. Again on December 9, 1999, the Regional Water Board adopted Order No. 99-142 amending Order No. 98-030.

    a. Order No. 98-030: Order No. 97-135 contains a provision prohibiting discharges from Tapia to Malibu Creek from May 1st to November 1st each year, except under certain conditions. Implementation of the prohibition under Order No. 97-135 was subject to further discussions among the Regional Water Board, National Marine Fisheries Service (NMFS), U.S. Fish and wildlife Service (USFWS), California Department of Fish and Game. After discussions among these departments, it was concluded that Las Virgenes apply for an incidental "take" permit as required by Endangered Species Act § 10(a)(1)(B). It was also recommended that a minimum flow of 2.5 ft^3/sec be maintained throughout the year to sustain endangered species.

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Also, extreme weather conditions in the winter of 1998 caused the Lagoon to remain open for an extended period. Heavy rains at that time also resulted in more runoff into the Malibu Creek and Lagoon and created a condition resulting in less demand for reclaimed water during the period the discharge prohibition was in effect.

To address these issues, the following revisions were made to the Order No. 97-135 through Order No. 98-030.

i The Discharger shall not discharge as otherwise permitted by these requirements to Malibu Creek at any of its discharge points commencing either: (a) May 1st of each calendar year, or (b) the first natural closure of Malibu Lagoon by sand buildup, whichever is later, through and including October 31st of each calendar year. This prohibition will not be in effect during any of the following events:

Discharge Prohibition:

a. Treatment plant upset or other operational emergencies;
b. Storm events; or
c. The existence of minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species.

~~II.~~ii. The Discharger shall submit an application for an Incidental Take Permit."

b. Order No. 99-142: On November 19, 1998, after a hearing on the petitions filed by the Discharger, the stake holders and the interested parties, the State Board adopted Order No. WQ 98-11 (remanded the Order No. 97-135) directing the Regional Water Board to make revisions consistent with the Findings and Conclusions in the remand order. As a result, the following are the revisions to Order No. 97-135, adopted through Order No. 99-142.

~~b.~~i. Two changes were made to Discharge Prohibition. The Discharge Prohibition was extended from April 15 to November 15; except during any of the following events: (No change in above mentioned exception 'a")

b. Storm events as determined by the Executive Officer; or

c. The existence of minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species as determined by the Executive Officer."

~~d.~~ii. Order No. 98-030 strengthened the permit Finding No. 27 found in the Order No. 97-135 to reflect State Board's conclusion that unseasonable freshwater inputs from Tapia and other sources cause the Lagoon to flood and/or breach when it otherwise would not.

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~~e.~~iii. Circumstances were defined under which exemptions to discharge prohibitions were allowed.

~~f.~~iv. Deleted a provision that otherwise would require the Discharger to apply for an Incidental Take Permit.

~~g.~~v. Changed the nitrate limitation as daily maximum from 10 mg/l to 8 mg/L.

~~h.~~vi. WQ 2001-03: The Discharger challenged the 8 mg/L limitation in a petition to the State Board dated January 7, 2000. The State Board upheld the petition, and on February 15, 2001, adopted Order No. WQ-2001-03, changing the final nitrate limitation back to 10 mg/L. The Order also stated that the Regional Water Board could, "after making adequate findings and otherwise complying with law" establish lower limitations in order to implement applicable water quality standards and protect beneficial uses in Malibu Creek and Lagoon.

~~B.~~2. Order No. 99-066 (discharges to Los Angeles River): During the discharge prohibition period for Malibu Creek and when there is no recycled water demand, the Discharger has the option to discharge up to 2 million gallons per day (mgd) of recycled water from Tapia WRF to the Los Angeles River. Order No. 99-066 contains a provision that allows the discharges from Tapia WRF to the Los Angeles River from May 1st to November 1st of each calendar year during the time the discharge prohibition applies to Malibu Creek. However, Order No. 98-030, adopted on April 13, 1998, was amended by Order No. 99-142 on December 9, 1999, to extend the discharge prohibition from May 1st through October 31st to April 15th though November 15th of each calendar year. Subsequently, the Discharger requested an amendment to the Order No. 99-066 to reflect the changed prohibition made on December 9, 1999.

Also, the Discharger submitted a workplan on February 15, 2000, to relocate the discharge outfall from Dry Canyon Creek to a lined portion of the Arroyo Calabasas Creek.

Order No. 00-046: On April 13, 2000, the Regional Water Board adopted Order No. 00-046 amending Order No. 99-066 and incorporated the requested changes. The discharge period was changed from May 1st through October 31st to April 15th through November 15th of each calendar year.

3. Order No. R4-2002-158: On September 26, 2002, the Regional Water Board adopted WDRs, Order No. R4-2002-158, for LVMWD, authorizing the discharge of tertiary-treated wastewater from its Tapia WRF to Percolation Ponds (Constructed Wetlands). The percolation ponds are located immediately adjacent to Malibu Creek near the Tapia WRF. LVMWD planned to rehabilitate the percolation ponds and convert them to constructed wetlands to treat a portion of Malibu Creek flows for

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the removal of pathogens and nutrients. Construction of the wetlands has been cancelled because the necessary permit could not be obtained from the California Coastal Commission.

II. FACILITY DESCRIPTION

The Discharger owns and operates the Tapia Water Reclamation Facility (Tapia WRF), a tertiary wastewater treatment plant located at 731 Malibu Canyon Road, Calabasas, CA 91302~~, California~~. Attachment B shows the location of the plant. The Tapia WRF currently serves an estimated population of 80,000 residents in western Los Angeles and eastern Ventura Counties (Agoura Hills, Calabasas, Hidden Hills, Thousand Oaks, Westlake Village) with a service area of over 109 square miles. The wastewater is a mixture of domestic, commercial, and industrial wastewater that is pre-treated pursuant to 40 C.F.R. part 403. The Tapia WRF has a design capacity of 16.1 million gallons per day (MGD). In 2008, on average, Tapia WRF processed 8.95 MGD and discharged 4.03 MGD* to Malibu Creek and less than 0.1 MGD* to the Los Angeles River, except for June and July, when there was no discharge. (*These values represent the total annual volume of effluent discharged divided by 365 days.) Tapia WRF recycled the remainder of the tertiary-treated wastewater.

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A. Description of Wastewater and Biosolids Treatment or Controls

1. The Tapia WRF uses the following process sequence: Coarse screening, grit removal, primary sedimentation, secondary treatment, tertiary treatment, chlorination, and dechlorination. For secondary treatment, Tapia employs an activated sludge process with nitrification and denitrification, followed by secondary clarification. Tertiary treatment includes coagulant addition, flocculation and physical filtration through a mono-media coal filter. Sodium hypochlorite solution is added for effluent disinfection, and sodium bisulfate is added for dechlorination. The return activated sludge (RAS), prior to returning to the secondary treatment system, undergoes a RAS treatment to facilitate nitrogen removal as well as to provide favorable conditions for the development of a facultative anaerobic biomass. Attachment C-1 shows the schematic of wastewater flow.

2. Primary and secondary sludges from the wastewater treatment at Tapia are pumped to the Rancho Las Virgenes Composting Facility (Rancho), also operated by Las Virgenes, located at 3700 Las Virgenes Road, approximately three miles north of Tapia. At Rancho, the sludge is anaerobically digested, ~~screened,~~ dewatered, and composted to be used as soil amendment in plant nurseries, sod farms, and landscapes. ~~Centrate from the composting facility is stored in a holding tank, and is returned within 24 hours via a sewage pipeline to the headworks at Tapia for treatment.~~ In the past, centrate has shown to be a significant source of nitrogen for Tapia WRF, adding to its challenge of achieving compliance with the nitrate effluent limitation. As of September 2009, Tapia WRF's centrate undergoes a treatment provided by the Centrate Treatment Unit (CTU), to remove nitrogen. The treatment provided by the CTU, which consists of two 800,000 gallon tanks connected to pumps

and blowers, consists of aeration, mixing, settling, and decanting. The CTU operation ~~also involves~~includes centrate flow pacing, so that the centrate flow can be spread out over 24 hours a day, seven days a week ~~instead of the current seven hours a day, five days a week~~. ~~It is expected that c~~Centrate treatment and flow pacing ~~will~~are expected to ~~his process would~~ level out the spikes in nitrogen concentrations ~~at~~ in the effluent ~~Tapia that are caused from~~due to untreated centrate return flows.~~,~~ ~~and This should~~ resulting in lower, more consistent nitrogen concentrations, as well as an increase in nitrogen removal efficiency.

Prior to 1993. the principal solids treatment route was aerobic digestion at Tapia and land application at the Rancho Las Virgenes Farm. After startup of the Rancho Las Virgenes Composting Facility in 1993, the solids were anaerobically digested, dewatered using centrifuges and then composted.

The individual wastewater treatment processes provided by Tapia WRF is further explained below:

a. *Primary sedimentation*. The main objective of primary sedimentation is to remove solids from the wastewater by gravity. The heavier solids (settleable solids) precipitate out and are scraped out of the primary sedimentation basin. The lighter solids float to the top and are skimmed off. However, some solids remain in suspension.

b. *NDN Activated sludge*. The activated sludge process is a treatment system in which the incoming wastewater is mixed with existing biological floc (microorganisms or activated sludge) in an aeration basin. Activated sludge converts non-settleable and dissolved organic contaminants into biological floc, which can then be removed from the wastewater with further treatment. The nitrification process converts ammonia nitrogen into nitrate plus nitrite nitrogen (inorganic nitrogen). The denitrification process converts the inorganic nitrogen into gaseous nitrogen, thus removing it from the wastewater.

c. *Secondary sedimentation with coagulation.* The main objective of secondary sedimentation is to remove biological floc from the wastewater. Chemicals, such as aluminum sulfate (alum), may be added as part of the treatment process to enhance solids removal. Alum causes the biological floc to combine into larger clumps (coagulate). This makes it easier to remove the floc.

d. *Inert media filtration*. The filtration process is used to remove or reduce suspended or colloidal matter from a liquid stream, by passing the water through a bed of graded granular material. Filters remove the solids that the secondary sedimentation process did not remove, thus, improving the disinfection efficiency and reliability.

e. *Chlorination*. In the past, gaseous chlorine was used as a disinfectant in the Tapia WRP. However, gaseous chlorine was replaced by liquid sodium hypochlorite. Disinfectant is added to the treated effluent prior to the filters to

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destroy bacteria, pathogens and viruses, and to minimize algal growth in the filters. Additional disinfectant may be dosed prior to the serpentine chlorine contact chamber.

f. *Dechlorination*. Prior to discharge, sodium bisulfite is added to the treated effluent to remove residual chlorine.

g. *Sludge*. ~~A portion of the waste activated sludge is aerobically digested and screened at Tapia and pumped to the Rancho Las Virgenes Farm, a 91-acre site located at 3240 Las Virgenes Road, for subsurface sludge injection~~. ~~If~~ no sludge ~~injection is being done at the Rancho Las Virgenes Farm, the~~ Typically, the waste activated sludge is sent~~, instead~~ to ~~,~~ the composting facility. Alternatively, sludge can be either aerobically digested at Tapia and pumped to the Rancho Las Virgenes Farm, a 91-acre site located at 3240 Las Virgenes Road, for subsurface sludge injection, or sludge can be anaerobically digested at Rancho Las Virgenes for subsurface sludge injection. Sludge injection has not occurred since 2003.

B. Discharge Points and Receiving Waters

1. The Tapia WRF discharges the tertiary-treated wastewater to Malibu Creek and the Los Angeles River, waters of the United States at the following locations. Tapia WRF discharges to Malibu Creek primarily during winter times and occasionally to the Los Angeles River between April 15 to November 15 when there is reduced demand on recycled water.~~.~~ Tapia's tertiary-treated effluent is reclaimed year-round for irrigation or industrial uses throughout the Malibu Creek Watershed and the excess is discharged directly into Malibu Creek. During summer months, discharge from the Tapia WRF to ~~Malibu Creek~~the Los Angeles River is significantly reduced due to increased sales of reclaimed water to irrigation customers. The discharge prohibition for Malibu Creek is described in greater detail under Section VI.A of the Fact Sheet.

Malibu Creek, Malibu Lagoon and Surfrider Beach (Malibu Beach):

Malibu Creek flows year round except during extended drought periods when flows in the Creek are minimal. The reach immediately above Malibu Lagoon usually dries each fall for periods ranging from a few weeks (wet years) to several months (dry years). The main stem of Malibu Creek originates as an overflow from Malibu Lake. Approximately one mile upstream from Tapia, Las Virgenes Creek joins Malibu Creek from the north. Malibu Creek passes through Malibu Creek State Park and the Tapia Segment of Malibu Creek State Park which is owned and operated by California Department of Parks and Recreation. Tapia discharges into Malibu Creek in the Monte Nido area at two points, one upstream and one downstream of the confluence with Cold Creek. Below Monte Nido, Malibu Creek courses through Malibu Canyon, spills over Rindge Dam, and emerges into a small alluvial plain, located adjacent to Sierra Retreat and the City of Malibu Civic Center. At its mouth, Malibu Creek forms a lagoon at the ocean shore. This area constitutes Malibu Lagoon State Park. The Surfrider Beach (Malibu Beach) is located adjacent to the Malibu Lagoon is owned by the ~~state~~State and managed by Los Angeles County.

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The Malibu Lagoon is closed by a sand bar during low flow months. The sandbar reduces the amount of Creek and Lagoon water directly reaching the surfzone at Surfrider Beach. The input of imported water into the Malibu Creek watershed has resulted in significant freshwater flows into Malibu Lagoon. The high water level in the Lagoon caused flooding of roads and properties in the Malibu Colony area and saturated the ground under the Cross Creek Shopping Center, which resulted in a septic tank overflow. Due to freshwater inputs, in the past, the sand bar was breached periodically by California Department of Parks and Recreation during the dry season by artificial means. Artificial breaching of the sandbar has now been prohibited by the Army Corps of Engineers because it resulted in lower water levels, increased tidal interaction, increased salinity and potential impacts on Lagoon fauna and flora. Rapid changes in salinity after breaching are a likely cause of low species diversity in Lagoon invertebrates. During winter months, the Lagoon is usually open to the ocean due to sustained flow in Malibu Creek.

The following are the discharge points to Malibu Creek:

B.a. Discharge PointSerial No. 001 - Primary Discharge Point to Malibu Creek.

Latitude: 34° 04' 55"
Longitude:118° 42' 28"

Discharge No.Point 001 is the primary discharge outfall into Malibu Creek, and is located adjacent to the treatment plantTapia WRF. Tertiary-treated effluent from the Tapia WRF's effluent pond is discharged through this outfall..

The Wwaste discharged to Malibu Creek from Discharge Point 001 shall be limited to winter months from November 16 through April 14 of each calendar year.

b. Discharge Serial NoPoint. 002 -- Recycled Water Reservoir No. 2 Outfall.

Latitude: 34° 08' 40"
Longitude: 118° 41' 50"

Discharge No.Point 002 is used to release surplus effluent from the Las VirgenesLVMWD's Reservoir Recycled Water Reservoir #2, which is an open reservoir used to temporarily stores tertiary-treated wastewater prior tofor distribution to the recycled water system. Reservoir #2 is an earthen structure surrounded by a perimeter fence. The outfall is connected to the Reservoir #2 overflow via an approximately 1,400-feet-long, 48-inch diameter pipeline. Reservoir #2, located behind the LVMWD headquarters building, has a holding capacity of 14.717 million gallons, which is less than a two-day supply during the high demand in summer. Effluent is pumped from the Tapia effluent pump station to Reservoir #2 through 16-inch diameter and 26-inch diameter recycled water pipelines.

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Overflow from ~~this~~ R~~r~~eservoir #2~~-~~ is discharged to Las Virgenes Creek, a tributary to Malibu Creek, near the ~~Las Virgenes Municipal Water District~~LVMWD headquarters building located at 4232 Las Virgenes Road in Calabasas. Discharges are infrequent from this outfall and are caused by rain events, during which s~~S~~torm water, including runoff from the surrounding areas, ~~-~~enters thi~~s~~e open reservoir and causes overflow. ~~Such discharges are unintentional and infrequent~~Therefore, discharge from this outfall may consist of a mixture of tertiary-treated effluent, storm water, loose solids from the earthen structure, and possible contributions from avian sources. In addition, Reservoir #2 may offer additional treatment benefits for the tertiary-treated effluent being stored, depending on the length of the storage time.

Under Order No. 2005-0074, LVMWD did not discharge through Discharge Point 002.

c. Discharge ~~Serial No.~~Point 003 - Above Los Angeles County Gauging Station.

Latitude: 34° 40' 40"
Longitude: 118° 42' 03"

Discharge ~~No.~~Point 003 is located along Malibu Creek, above the Los Angeles County Gauging Station RSW-MC13, and is approximately 2000 feet from the Tapia WRF's effluent pond. The intake structure is adjacent to the Discharge Point 001 intake structure. ~~0.2 miles downstream of Cold Creek and is no longer used routinely. No reclaimed water has been discharged at this location except during the storms of 1998. .~~ When Outfall 003 is used, flow from the effluent pond passes through a concrete flume and then into a 10-inch diameter dedicated pipeline, which conveys the flow to the Outfall 003. ~~This discharge location~~ Outfall 003 was established along with the percolation ponds to offer a bypass option in times of extremely high flow conditions to regulate flow and protect the pond structures. Discharge through this outfall is infrequent and last occurred in February 2005.

Los Angeles River Discharge:

~~Las Virgenes~~LVMWD moved Discharge ~~Serial No.~~Point 005 to a location further downstream, in a fully-lined section of the Arroyo Calabasas Creek to eliminate the potential impacts of the discharge on the soft-bottomed portions of Dry Canyon Creek. Order No. 99-066 was amended on April 13, 2000, through Order No. 00-046, to incorporate this new discharge location.

Discharge Point~~Serial No.~~ 005 – Discharge P~~p~~oint to Arroyo Calabasas Creek, a tributary to the Upper Los Angeles River.

Latitude: 34° 9' 21"
Longitude: 118° 38' 34"

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The Discharger uses Discharge Point 005 or Outfall 005 during the discharge prohibition period (April 15th to November 15th) to dispose of excess recycled water. Discharge from Outfall 005, which is a storm drain terminus that feeds into Arroyo Calabasas Creek, may consist of a mixture of tertiary-treated effluent from Reservoir #2 and from the suction header as well as flows from other sources conveyed through the storm drain. Since Reservoir #2 is an open reservoir of earthen structure, flows from the reservoir may contain rainwater (including stormwater runoff from the vicinity), contributions from avian sources, loose solids from the earthen structure, , in addition to the tertiary-treated effluent. As indicated above, Reservoir #2 may also offer additional treatment benefits for the tertiary-treated effluent being stored, depending on the length of the storage time.

The following describes the processes involved in conveying the tertiary-treated effluent from the Tapia WRF to Outfall 005. Effluent from the Tapia WRF is pumped via the Tapia effluent pump station to Reservoir #2 (using 16-inch diameter and 12-inch diameter recycled water pipelines) or directly to the recycled water pump station suction header and then to the recycled water distribution system. Water in Reservoir #2 is stored until it is fed to the recycled water pump station. Excess recycled water in the recycled water distribution system's pipeline is conveyed to an underground storm drain that eventually daylights into an open channel known as Arroyo Calabasas. The location where the storm drain daylights is near Valley Circle Blvd and the 101 Freeway. The location where the recycled water distribution system's pipeline connects to the underground storm drain is in Parkway Calabasas near the intersection with Park Sorrento.

A schematic of the conveyance of the effluent to the various Discharge Points is included in Attachment C-3.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows, according to the Report of Waste Discharge (ROWD):

Table F-2. Historic Effluent Limitations and Monitoring Data

(Unless otherwise noted, the effluent limitations in Table F-2 are applicable to all Discharge Points. "MC" (Malibu Creek) indicates that the effluent limitation is applicable to Discharge Points 001, 002, and 003 only. "LR" (Los Angeles River) indicates that the effluent limitation is applicable to Discharge Point 005 only.) "TSO" indicates the interim effluent limitations contained in the TSO Order No. 2005-0075. "PI" indicates the interim effluent limitations contained in Order No. 2005-0074.

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Parameter	Units	Effluent Limitation			Monitoring Data (From November. 2005 – To June 2009[1])		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Average Daily Discharge	Highest Daily Discharge
pH	Ph units	--	--	6.5 – 8.5	7.5 high 7.3 low	~~--~~7.2	7.7 high 6.5 low
Settleable solids	mL/L	0.1	--	0.2		<0.1	0.2
Total Suspended solids (TSS)	mg/L	5.0	--	10.0	<2.5	<1	5.6
Turbidity	mg/L	--	--	--	--	<1	3
Oil and grease	mg/L	5	--	10	18	<3	18
BOD_5 20°C	mg/L	10	--	20	<3	~~--~~<2.5	7.4
Dissolved oxygen	mg/L	--	--	--	13.8	~~7.8~~8.0	13.8
Total residual chlorine	mg/L	--	--	0.1	--	<0.1	<0.1
Temperature	°F	--	--	86	82 high 69 low	~~--~~7.1	81 high 75 low
Detergent (as MBAS)	mg/L	0.5 MC 0.5 LR	--	--	<0.1	<0.1	<0.1
Surfactant (CTAS)	mg/L	--	--	--	0.75	<0.2	0.75
Total Coliform	MPN/ 100 mL	--	--	--	--	<1.1	12
Fecal Coliform	MPN/ 100 mL	--	--	--	--	<1.1	2.2
E. Coli	MPN/ 100 mL	--	--	--	--	<1.1	1.1
Total dissolved solids	mg/L	2,000- MC 950- LR	--	--	1010	76~~88~~9	1010
Chloride	mg/L	500- MC 190- LR	--	--	177	144	177
Sulfate	mg/L	500- MC 300- LR	--	--	324	216	324
Boron	mg/L	2- MC 1.5- LR	--	--	0.7	0.4	0.7
Fluoride	mg/L	1.6- LR	--	--	0.80	0.47	0.80
Total ammonia as N	mg/L	~~3.1- MC~~ ~~2.3- LR~~*	--	~~9.2- MC~~*	0.3	<0.2	0.3
TKN	mg/L	--	--	--	1.2	0.7	1.2
Nitrate + Nitrite as N	mg/L	8- MC	--	--	16	10	16
Nitrite (as N)	mg/L	1- LR	--	--	0.03	<0.01	0.03

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

Parameter	Units	Effluent Limitation			Monitoring Data (From November. 2005 – To June 2009[1])		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Average Daily Discharge	Highest Daily Discharge
Nitrate (as N)	mg/L	8- LR 14.3-TSO	--		~~0.2~~16	~~--~~10	~~0.2~~16
Total Phosphorus	mg/L	3	--	4	4	3	4
Orthop~~P~~hosphate~~, Ortho as P~~	mg/L	--	--	--	3.1	2.7	~~7.5~~3.1
Salinity	mg/L	--	--	--	600	426	600
Perchlorate	µg/L	--	--	--	2	<2	2
1,4-Dioxane	µg/L	--	--	--	1.8	1.45	1.8
1,2,3-Trichloropropane	µg/L	--	--	--	0.058	~~0.012~~<0.015	0.058
MTBE	µg/L	--	--	--	<5	<3	<5
Dichlorobromomethane	µg/L	46 62-PI	--	64	78	34	78
Cyanide	µg/L	4.6 10-PI	--	9.9	10	<5	10
Selenium	µg/L	3.4 12-PI	--	9.5	3	<2	3
~~Dichlorobromomethane~~	~~µg/L~~	~~46~~	~~--~~	~~64~~	~~--~~	~~34~~	~~78~~
Mercury	µg/L	0.051 0.6-PI	--	0.151-MC 0.163-LR	0.2	<0.02	~~0.08~~ 0.2
Copper	µg/L	30-LR 17-LR	--	--	13	<7	13
Lead	µg/L	10-LR 22-LR 62-LR	--	32- LR	6	0.7~~<0.8~~	6
Cadmium	µg/L	4- LR 3.1--LR	--	12- LR	0.7	<0.4	0.7
Zinc	µg/L	159-LR	--	--	60	~~44~~	~~120~~60
Arsenic	µg/L	--	--	--	7	<2.5~~4~~	7
Chromium	µg/L	--	--	--	9	<1	9
Nickel	µg/L	--	--	--	7	~~34~~	7
Hardness (as $CaCO_3$)	mg/L	--	--	--	400	307	400
Bromoform	µg/L	--	--	--	3.6	<1.2	3.6
Dibromochloromethane	µg/L	--	--	--	32	<16~~5~~	32
Chloroform	µg/L	--	--	--	84	4~~0~~8	84
Methyl bromide	µg/L	--	--	--	1	<~~1~~0.8	1
Methylene chloride	µg/L	--	--	--	2.1	<0.~~7~~5	~~5~~2.1
Diethyl phthalate	µg/L	--	--	--	3.1	<~~4~~2	3.1

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Parameter	Units	Effluent Limitation			Monitoring Data (From November. 2005 – To June 2009[1])		
		Average Monthly	Ave. Weekly	Max. Daily	Highest Average Monthly Discharge	Average Daily Discharge	Highest Daily Discharge
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9- MC 4- LR 14-TSO		17- MC	20		20
Bromoform	µg/L	--	--	--	3.6		3.6
Chloroform	µg/L	--	--	--	68		68
Aldrin	µg/L	--	--	--	0.03		0.03
Alpha-BHC	µg/L	--	--	--	0.01		0.01
4,4'-DDE	µg/L	--	--	--	0.02		0.02
4,4'-DDD	µg/L	--	--	--	0.02		0.02
Dieldrin	µg/L	--	--	--	0.03		0.03
Endrin	µg/L	--	--	--	0.04		0.04
Heptachlor	µg/L	--	--	--	0.02		0.02
2,3,7,8-TCDD	ng/L	--	--	--	<0.0054	<0.00015	<0.0054

*Effluent limitations for total ammonia were not calculated in Order No. 2005-0074. Instead, Order No. 2005-0074 included a narrative that required the Discharger to comply with the updated ammonia water quality objectives in the Basin Plan, Table 3-3, which resulted from Resolution No. 2002-011 adopted by the Regional Water Board on April 25, 2002, based on effluent pH and temperature and receiving water ammonia nitrogen sample results.

All other priority pollutants were not detected in the effluent.

D. Compliance Summary

Monitoring data from November 5 2005 to JanuaryNovember 201009, indicate that the Discharger has consistently complied with the final and interim effluent limitations and interim effluent limitations of Order No. R4-2005-0074 , and with the interim effluent limitations in of its Time Schedule Order (TSO) No. R4-2005-0075, except for exceedances of: cyanide, residual chlorine, and turbiditywith the following exceptions. The Discharger also had two sewer spills associated with the collection system tributary treatment processes associated with to the Tapia WRF.

Exceedances of Effluent Limitations of Order No. R4-2005-0074

Total Dissolved Solids

- Average monthly limitation of 2,000 mg/L on February 25, 2009

Total Suspended Solids

- Average monthly limitation of 5 mg/L on February 25, 2009.

[bd1]

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Total Phosphorus

- Average monthly limitation of 3 mg/L on March 13, 2007 and February 29, 2008.

Dichlorobromomethane

- Interim average monthly limitation of 62 µg/L on September 2, 2009, and in January 2010.
- In addition to the exceedances of the interim limitation, the Discharger did not provide the required progress of special studies or concrete, specific actions undertaken to achieve final effluent limitation by May 18, 2010.

Exceedances of Effluent Limitations of Time Schedule Order No. R4-2005-0075

TSO No. R4-2005-0075 was adopted concurrently with the NPDES Ppermit~~,~~ Order No. R4-2005-0074 . This TSO required the Discharger to:

1. By May 18, 2010, achieve compliance with the nitrate and bis(2-ethylhexyl)phthalate interim limitations for the duration of the TSO, and with the final effluent limitations specified in Order No. R4-2005-0074.

2. Within 120 days after the adoption of this TSO (by March 5, 2004), pursuant to CWC section 13263.3, submit a pollution prevention plan (PPP) workplan with a time schedule for implementation for approval of the Executive officer; and

3. Submit a detailed workplan and quarterly progress reports of the Discharger's efforts to achieve compliance with the final effluent limitations for nitrate and bis(2-ethylhexyl)phthalate.

4. By March 27, 2006, submit a detailed workplan, detailing how the Discharger will increase diversion of its wastewater to the Los Angeles, and/or other diversion of wastewater, during the weeks following periods of extended rainfall, during which time there is no demand for recycled water and the prohibition is in place.

5. By March 3, 2006, submit the results of the study on alternatives to discharging to Malibu Creek.

~~1. Achieve compliance with the final effluent limitations for nitrate (as N) and bis(2-ethylhexyl)phthalate contained in Order No. R4-2005-0074 by May 18, 2010;~~

~~2. Submit a detailed work plan by March 27, 2006, and quarterly progress reports of the Discharger's efforts to achieve compliance with the final effluent limitations for nitrate (as N) and bis(2-ethylhexyl)phthalate contained in Order No. R4-2005-0074.~~

Monitoring data from November 2005 to December 2009 indicate that the Discharger has ~~consistently~~ complied with the interim effluent limitations of Order No. R4-2005-0075, ~~except for the following incidental exceedances~~with the following exceptions:

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~~Total Dissolved Solids~~
~~Monthly average limitation of 2,000 mg/L on February 25, 2009~~
~~Total Suspended Solids~~
~~C.Monthly average limitation of 5 mg/L on February 25, 2009.~~

~~[bd2]~~
~~Nitrite and~~ Nitrate as N

- ~~Monthly a~~Average monthly limitation of 14.3 mg/L on March 31~~8~~, 2006.
- Maximum daily limitation of 15.4 mg/L on March 8, 2006.

~~8 mg/L on March 8, 2006, March 31, 2006, October 7, 2008 and December 2, 2008~~
~~Total Phosphorus~~
~~2.Monthly average limitation of 3 mg/L on March 13, 2007 and February 29, 2008.~~

Bis(2-ethylhexyl)phthalate

~~3.~~• Monthly average limitation of ~~3~~ 14 mg/L on January 31, 2006, and February 28, 2006.

Sanitary Sewer Overflows (SSO) and Spills

In accordance with applicable permits, the Discharger has reported a sewage spill incident in the Las Virgenes Municipal Water District collection system over the years. The State Water Resources Control Board's CIWQS SSO database) reported two spills (total volume of 700 gallons, of which 600 gallons were recovered) for all sewers maintained by the Discharger, between 2006 and 2010.

The first spill occurred on February 25, 2008, as a result of one of the anaerobic digesters overflowing due to a faulty level sensor. To address this issue, the digester level measurement system has since been replaced and the alarm set at a lower level. The Facility's routine inspections include visual observation of the digester levels to check for proper operation.

The second spill occurred on October 28, 2009, at the Centrate Treatment Unit, as a result of an improper flow meter reading, which caused a drain valve to fully open and overwhelm the sewer system. The improper flow meter reading was due to air in the liquid. To prevent a similar malfunction in the future, a SCADA lock has been installed on the controls to the system so that the valve would not open during aeration.

Appropriate enforcement is being evaluated by the Regional Water Board.

Discharge to Malibu Creek via Discharge Point 001 during Discharge Prohibition Period (April 16 to November 15th of each calendar year).

1. The Discharger provided the necessary notifications to the Regional Water Board when the Malibu Creek level dropped below ~~25~~2.5 cfs at the Malibu Creek Gauging Station and discharged recycled water from the Tapia Reclamatin Facility during the discharge prohibition period, under the authorization of the Executive Officer of the Regional Water Board, as follows:

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~~4.~~• A total of 2,808,066 gallons in October 2009.
~~5.~~• A total of 5,437,681 gallons in September 2009.
~~6.~~• A total of 921, 012 gallons in July 2009.
~~7.~~• A total of 0.59 million gallons in September 2008
~~8.~~• A total of 0.55 million gallons in September 2007.

2. A failure on a recycled water transmission main resulted in a temporary 1.43 million gallons of discharge of fully treated effluent to Malibu Creek on September 25th and 26th, 2008. The transmission main conveys treated recycled water from the Tapia WRF to the distribution system for beneficial reuse and diverts flow away from Malibu Creek druing the Malibu Creek discharge prohibition period.

E. Planned Changes

The recent major upgrade at the Tapia WRF ~~was~~ included a set of three facilities, which was completed and began operation in September 2009, for the purpose of enhancing nitrogen removal in the wastewater effluent. The facilities include the Biological Nutrient Reduction (BNR) Facility, Return Activated Sludge (RAS) Treatment Unit, and Centrate Treatment Unit. The upgrade was necessary for the Discharger to achieve compliance with nitrate effluent limitation in R4-2005-0075. The Discharger is in the process of evaluating treatment options to achieve compliance with dichlorobromomethane and total trihalomethane.

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 an 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 California Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under California 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.

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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 Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 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. In addition, the Basin Plan implements State Water Resources Control Board (hereinafter, the State Water Board or SWRCB) Resolution No. 88-63, which established ~~state~~State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Malibu Creek and Los Angeles River are as follows:

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Table F-3a. Basin Plan Beneficial Uses – Surface Waters

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Las Virgenes Creek (Hydro Unit 404.22)	Existing: Water contact recreation (REC-1)[1]; noncontact water recreation (REC-2); warm freshwater habitat (WARM); wild life habitat (WILD); rare, threatened, or endangered species (RARE); and wetland habitat (WET)[3] Potential: Municipal and domestic water supply (MUN) [4]; cold freshwater habitat (COLD); migration of aquatic organisms (MIGR)[2]; and spawning, reproduction, and/or early development (SPWN).
001-003	Malibu Creek (Hydro Unit 404.21)	Existing: REC-1[1]; REC-2; WARM; COLD; WILD; RARE; MIGR[2]; SPWN; and WET[3] Potential: MUN [4].
001-003	Malibu Lagoon (Hydro Unit 404.21)	Existing: Navigation (NAV); REC-1[1]; REC-2; estuarine habitat (EST); marine habitat (MAR); WILD; RARE [5]; MIGR[2]; SPWN; and WET[3].
001-003	Malibu Beach (Surfrider Beach) (Hydro Unit 404.21)	Existing: NAV; REC-1[1]; REC-2; commercial and sport fishing (COMM); MAR; WILD; MIGR[2]; SPWN [6]; and shellfish harvesting (SHELL) [7].
005	Los Angeles River upstream of Figueroa Street (Hydro Unit 405.21)	Existing: groundwater recharge (GWR); REC-1[1]; REC-2; WARM; WILD; and WET[3]. Potential: MUN[4] ; and industrial service supply (IND).
005	Los Angeles River downstream of Figueroa Street (Hydro Unit 405.15)	Existing: GWR; REC-1[1]; REC-2; and WARM Potential: MUN[4] ; IND; and WILD.
005	Los Angeles River to Estuary (Hydro Unit 405.12)	Existing: GWR; REC-1[1]; REC-2; RARE; WARM; MAR; WILD; and RARE. Potential: MUN[4] ; IND.; industrial process supply (PROC); MIGR; SPWN; and SHELL.
005	Los Angeles River Estuary (Hydro Unit 405.12)	Existing: IND; NAV; REC-1[1]; REC-2; COMM; EST; MAR; WILD; RARE [5]; MIGR; SPWN; and WET. Potential: SHELL.

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Footnote:

[1]. The Los Angeles County Department of Public Works posted signs prohibiting access to the Los Angeles River. However, there is public contact in the downstream areas;

hence, the quality of treated wastewater discharged to both Malibu Creek and the Los Angeles River must be such that no health hazard is created.

[2]. Aquatic organisms utilize estuary and coastal wetland, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

[3]. This wetland habitat may be associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

[4]. The potential municipal and domestic supply (p* MUN) beneficial use for the waterbody is consistent with the State Water Resources Control Board Order No. 88-63 and Regional Water Board Resolution No. 89-003; however, the Regional Water Board has only conditionally designated the MUN beneficial use of the surface water and at this time cannot establish effluent limitations designed to protect the conditional designation.

[5]. One or more rare species utilize estuary and coastal wetlands for foraging and/or nesting.

[6]. Most frequently used grunion spawning beaches. Other beaches may be used as well.

[7]. Areas exhibiting large shellfish populations include Malibu, Point Dume, Point Fermin, white Point and Zuma Beach.

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The beneficial uses of the receiving ground waters are as follows:

Table F-3b. Basin Plan Beneficial Uses – Ground Waters

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 - 003	Santa Monica Mountains-Southern Slopes (DWR Basin No.[1] 4-22)	Malibu Valley Existing Beneficial Uses: Agricultural supply (AGR). Potential Beneficial Uses: MUN; and IND.
005	San Fernando Valley Basin (DWR Basin No.[1] 4-12)	West of Highway 405 Existing Beneficial Uses: MUN, IND, PROC, and AGR. East of Highway 405 (overall) Existing Beneficial Uses: MUN; IND; PROC; and AGR. Narrows area (below confluence of Verdugo Wash with the Los Angeles River) Existing Beneficial Uses: MUN; IND; PROC; and AGR.
005	Los Angeles Coastal Plain (DWR Basin No.[1] 4-11)	Central Basin Existing Beneficial Uses: MUN; IND; PROC; and AGR. West Coast Basin Existing Beneficial Uses: MUN; IND; PROC; and AGR.

Footnote:
[1]. Basins are numbered according to DWR Bulletin No. 118-80 (DWR, 1980).

Requirements of this Order implement the Basin Plan.

Ammonia Water Quality Objective (WQO). The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. On December 1, 2005, Resolution No. 2005-014, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise the Early Life Stage Implementation Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) for Protection of Aquatic Life,* was adopted by the Regional Water Board. Resolution No. 2005-014 was approved by the State Water Board, the Office of Administrative Law, and USEPA on July 19, 2006, August 31, 2006, and April 5, 2007, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

On June 7, 2007, the Regional Water Board adopted Resolution No. 2007-005, Amendments to the Water Quality Control Plan – Los Angeles Region – To Incorporate Site-Specific Objectives for Select Inland Surface Waters in the San Gabriel River, Los Angeles River and Santa Clara River Watersheds. This amendment to the Basin Plan incorporates site-specific 30-day average objectives for ammonia along with corresponding site-specific early life stage implementation provisions for select waterbody reaches and tributaries in the Santa Clara, Los Angeles, and San Gabriel River watersheds. The State Water Board, OAL, and USEPA approved this Basin Plan amendment on January 15, 2008, May 12, 2008, and March 30, 2009, respectively. Resolution No. 2007-005 became effective on April 23, 2009.

Chloride WQO. The 1994 Basin Plan contained water quality objectives for chloride in Table 3-8. However, the chloride objectives for some waterbodies were revised on January 27, 1997, by the Regional Board, with the adoption of Resolution No. 97-02, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters*. Resolution No. 97-02 was approved by the State Board, the Office of Administrative Law, and USEPA on October 23, 1997, January 9, 1998, and February 5, 1998,

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respectively, and are now in effect. The chloride WQO was revised from 150 mg/L to 190 mg/L, for the following segments of the Los Angeles River:

a. Between Sepulveda Flood Control Basin and Figueroa Street (including Burbank Western Channel only), and

b. Between Figueroa Street and the estuary (including Rio Hondo below Santa Ana Freeway only).

The final effluent limitations for chloride prescribed in this Order are based on the revised chloride WQOs and apply at the end of pipe.

~~i.~~2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the ~~state~~State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

~~ii.~~3. **State Implementation Policy.** On March 2, 2000, the State Water 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 became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

~~iii.~~4. **Alaska Rule.** ~~On March 30, 2000,~~ USEPA has revised its regulation that specifies when new and revised ~~state~~State and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (~~also known as the~~hereinafter 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.

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iv.5. **Antidegradation Policy.** 40 C.F.R. §Part 131.12[2] requires that the stateState water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. This Resolution 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 part 40 C.F.R. §131.12 and State Water Board Resolution No. 68-16.

6.i. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations partand 40 C.F.R. § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisionsand require that effluent limitations, permit conditions, and standards in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations and conditions may be relaxed.

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

On October 25, 2006, the State Water Board adopted a revised CWA 303(d) list. The 2006 303(d) list was partially approved by the USEPA on November 30, 2006. However, on March 8, 2007, USEPA partially disapproved the State's 303(d) list, by disapproving the State's omission of impaired waters that met federal listing regulations or guidance. USEPA is adding 64 waters and 37 associated pollutants to the State's 303(d) list. On June 28, 2007, USEPA transmitted the final approved 2004-2006 Section 303(d) List, which serves as the State's most recent list of impaired waterbodies. The list (hereinafter referred to as the 303(d) List) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific impaired waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources.

Malibu Creek:

[1] Cyanide showed Tier 1 reasonable potential in that the maximum effluent concentration of cyanide exceeded the applicable water quality objective exceeded the applicable water quality objective

[2] The mass emission rates are based on the plant design flow rate of 16.1 MGD, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

[3] Antimony, cadmium, total trihalomethanes, perchlorate, and iron had RP to contribute to an exceedance of the MCL-based Basin Plan WQO, using the TSD RP method in table R2.

[4] Total trihalomethanes is the sum of concentrations of the trihalomethane compounds: bromodichloromethane, bromoform, chloroform, and dibromochloromethane. This limitation is based on the Basin Plan WQO incorporation of MCLs by reference. Total trihalomethanes had RP contribute to an exceedance of the MCL-based Basin Plan WQO.

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Malibu Beach, Malibu Creek, Malibu Lagoon, Malibu Lagoon Beach (Surfrider Beach) are on the 2006 303 (d) List. The following pollutants/stressors, from point and non-point sources, were identified as impacting the receiving waters:
(For footnotes, see following page.)

1. Malibu Beach - Hydrologic Unit 404.21:
DDT (Fish consumption advisory for DDT)[a]; and indicator bacteria[b].

2. Malibu Creek - Hydrologic Unit 404.21:

Coliform bacteria[b]; Fish barriers (Fish passage)[a]; nutrients (algae)[a]; scum/foam-unnatural[a]; sedimentation/siltation[a]; selenium[a]; sulfates[a]; and trash[a].

3. Malibu Lagoon - Hydrologic Unit 404.21:

Benthic community effects[a]; coliform bacteria[b]; eutrophic[a]; pH (possible sources might be septic systems, storm drains, and birds) [a]; shellfish harvesting advisory; swimming restrictions[a]; and viruses (enteric)[a].

4. Malibu Lagoon Beach (Surfrider Beach) - Hydrologic Unit 404.21:

Coliform bacteria[b]; DDT (Fish consumption advisory for DDT)[a]; and PCBs (Fish consumption advisory for PCBs)[a].

Los Angeles River:

Los Angeles River, Los Angeles River Estuary, and their tributaries are on the 2006 303(d) List. The following pollutants/stressors, from point and non-point sources, were identified as impacting the receiving waters:

1. Los Angeles River Reach 4 (Sepulveda Drive to Sepulveda Dam) – Hydrologic Unit 405.21:
Ammonia[b]; coliform bacteria[a]; copper[b]; lead[b]; nutrients (algae) [b]; and trash[a].

2. Los Angeles River Reach 3 (Figueroa Street to Riverside Drive) – Hydrologic Unit 405.21:
Ammonia[b]; copper[b]; lead[b]; nutrients (algae) [b]; and trash[a].

3. Los Angeles River Reach 2 (Carson to Figueroa Street) – Hydrologic Unit 405.15: Ammonia[b]; coliform bacteria[a]; copper[b]; lead[b]; nutrients (algae) [b]; oil[a]; and trash[a].

4. Los Angeles River Reach 1 (Estuary to Carson Street) – Hydrologic Unit 405.12: Ammonia[b]; cadmium[b]; coliform bacteria[a]; copper, dissolved[b]; cyanide[a]; diazinon[a]; lead[b]; nutrients (algae) [b]; pH[a]; trash[a]; and zinc, dissolved[a].

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5. Los Angeles River Estuary (Queensway Bay) – Hydrologic Unit 405.12:

Chlordane (sediment; historical use of pesticides and lubricants)[a]; DDT (sediment; historical use of pesticides and lubricants)[a]; lead (sediment; historical use of pesticides and lubricants), PCBs (sediment; historical use of pesticides and lubricants)[a]; sediment toxicity[a]; trash[a]; and zinc (sediment)[a].

The Regional Water Board adopted the 2008 303(d) list of impaired waterb~~d~~odies on July 16, 2009, and submitted the list to the State Water Board for approval.

Footnotes:
[a] TMDL requirements status: [a] is requiring TMDLs.
[b] TMDL requirements status: [b] is being addressed by USEPA-approved TMDL.

E. Other Plans, Polices and Regulations

1. **Sources of Drinking Water Policy**. On May 19, 1988, the State Water Board adopted Resolution No. 88-63, *Sources of Drinking Water (SODW) Policy*, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with State Water Board's SODW policy, on March 27, 1989, the Regional Water Board adopted Resolution No. 89-03, *Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B).*

   Consistent with Regional Water Board Resolution No. 89-03 and State Water Board Resolution No. 88-63, in 1994 the Regional Water Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Water Board's enabling resolution] until the Regional Water Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Water Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Water Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.

2. **Secondary Treatment Regulations**. Part 133 of 40 C.F.R. establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations,

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established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

3. **Storm Water**. [Reserved for future storm water conditions].

4. **Sanitary Sewer Overflows**. The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Water Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

   The requirements contained in this Order in Sections VI.C.3.b, VI.C.4, and VI.C.5.c.6. are intended to be consistent with the requirements in the SSO WDR. The Regional Water Board recognizes that there are areas of overlapping interest between the NPDES permit conditions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittee under the SSO WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b, VI.C.4, and VI.C.5.c.6 of this Order, provided that any more specific or stringent provisions enumerated in this Order, have also been addressed.

5. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA), to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about the Malibu Creek and Los Angeles River Watersheds and other watersheds in the region can be obtained from the Regional Water Board's web site at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/index.shtml#Watershed.

6. **Relevant Total Maximum Daily Loads**. A Total Maximum Daily Load (TMDL) is a determination of the amount of a pollutant, from point, non-point, and natural background sources, including a margin of safety that may be discharged to a water quality-limited water body. Section 303(d) of the CWA established the TMDL process. The statutory requirements are codified at 40 C.F.R. part 130.7. TMDLs must be developed for the pollutants of concern, which impact the water quality of water bodies on the 303(d) List.

   a. Malibu Creek TMDL

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1. Bacteria TMDL for Malibu Creek discharge. According to the TMDL schedule, under the amended consent decree, Heal the Bay, Santa Monica Bay Keeper, et al. v. Browner, et al. (March 23, 1999), a bacteria TMDL needed to be established by March 22, 2003. On December 13, 2004, the Regional Water Board adopted Resolution No. 2004-019R, *Amendment to the Water Quality Control Plan for the Los Angeles Region to incorporate a Total Maximum Daily Load for Bacteria in the Malibu Creek Watershed* (hereinafter Malibu Creek bacteria TMDL). The TMDL was approved by the State Water Board, OAL, and USEPA on September 22, 2005, December 1, 2005, and January 10, 2006, respectively, and became effective on March 23, 2004.

2. Nutrient TMDL for Malibu Creek discharge established by EPA. A nutrient TMDL for Malibu Creek for total nitrogen and total phosphorous was developed and established by EPA in March 2003. The EPA TMDL included a numeric target of 1 mg/L for total nitrogen during the summer (April 15 to November 15) to control algal biomass, and a winter numeric target of 8 mg/L, based on the Basin Plan numeric objective of 10 mg/L (with an implicit 20% margin of safety). EPA also established a 0.1 mg/L numeric target for total phosphorous during the summer and no target during winter months. The USEPA's TMDL finds that because there is a discharge prohibition during the summer months, discharge will have an insignificant effect on average summer loads and that it is therefore unnecessary to account for them in the cumulative loading allowed under the TMDL. ~~The USEPA has made it clear that the Regional Water Board can determine the most appropriate water quality objectives for nutrients during the prohibition period~~. Furthermore, USEPA stated in the TMDL, on page 41 under "Tapia's Direct Discharge" section, "The State should ensure that these discharges do not result in exceedances of any applicable water quality standards." Therefore, considering the episodic nature of Tapia WRF's discharges between April 15th and November 15th and the discharge's insignificant effect on average summer loads, the summer ~~water quality objective~~effluent limitation ~~for nutrient~~ nitrate+nitrite (as N) effluent limitation will be set at 8 mg/L, the same as the winter nitrate+nitrite (as N) effluent limitation~~objective~~ . This is also consistent with- Order No. 2005-0074, which included a summer nitrate+nitrite (as N) effluent limitation of 8 mg/L for Tapia WRF.

3. Trash TMDL. On May 1, 2008, the Regional Water Board adopted Resolution No. 2008-007, *Amendment to the Basin Plan for the Los Angeles Region to Incorporate a Trash TMDL for Malibu Creek Watershed (Trash TMDL*). The Trash TMDL was approved by the State Water Board, OAL, and USEPA on March 17, 2009, June 16, 2009, and June 29, 2009, respectively, and became effective on July 7, 2009.

b. Los Angeles River TMDL

According to the Los Angeles River TMDL schedule, under the amended consent decree, Heal the Bay, Santa Monica Bay Keeper, et al. v. Browner, et al. (March

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23, 1999), the trash, nitrogen, and metals TMDLs for the Los Angeles River must be completed by March 2001, March 2003, and March 2004, respectively. The coliform TMDL for Los Angeles Harbor is scheduled for completion by March 2006.

1. Nitrogen Compounds TMDL. On July 10, 2003, the Regional Water Board adopted Resolution No. 2003-009, *Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds and Related Effects in the Los Angeles River (Nitrogen Compounds TMDL*). On November 19, 2003, the State Board approved the *Nitrogen Compounds TMDL*. However, on December 4, 2003, the Regional Water Board revised the Nitrogen Compound TMDL by adopting Resolution No. 2003-016*, Revision of Interim Effluent Limits for Ammonia in the Amendment to the Water Quality Control Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds and Related Effects in the Los Angeles River*. Resolution No. 2003-016 only revised the portion of the Nitrogen Compounds TMDL containing interim limits for total ammonia as nitrogen, for the Glendale and Tillman WRPs. All other portions of the TMDL remained unchanged. The *Nitrogen Compounds TMDL* went into effect on March 23, 2004, when the Regional Water Board filed the Notice of Decision with the California Resources Agency.

2. Trash TMDL. On January 25, 2001, the Regional Water Board adopted Resolution No. 01-006. However, on September 19, 2001, the Regional Water Board reconsidered Resolution No. 01-006 and adopted Resolution No. 2001-013, *Amendment to the Basin Plan for the Los Angeles Region to Incorporate a TMDL for Trash in the Los Angeles River (Trash TMDL*), which supercedes Resolution No. 01-006. On February 19, 2002, the State Board adopted Resolution No. 02-038, approving the Regional Water Board's Trash TMDL.

   The TMDL subsequently was approved by the State Water Quality Control Board on February 19, 2002 and by OAL on July 16, 2002. Since the State Board and OAL failed to approve the TMDL in time to meet the relevant federal consent decree, USEPA promulgated its own Trash TMDL. Upon approval of the Regional Water Board's TMDL by OAL, USEPA approved the Regional Water Board's LA River Trash TMDL on August 1, 2002, and deemed it to have superseded the TMDL promulgated by USEPA.

   The City of Los Angeles and the County of Los Angeles both filed petitions and complaints in the Los Angeles Superior Court challenging the LA River Trash TMDL. Subsequent negotiations led to a settlement agreement, which became effective on September 23, 2003. The Court of Appeal rejected the claims litigated by the cities, but found that the Water Board did not adequately complete the environmental checklist. The Court therefore affirmed a writ of mandate issued by the trial court, which

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orders the Water Board to set aside and not implement the TMDL until it has been brought into compliance with CEQA.

On June 6, the Regional Water Board set aside the TMDL and Resolution No. 01-013 which established it, pursuant to the writ of mandate. On June 28, 2006, a CEQA scoping meeting was conducted. Regional Water Board staff revised the CEQA checklist in response to comments received; prepared a Basin Plan Amendment to incorporate the LA River Trash TMDL; and, have scheduled the item for Board adoption at the October 24, 2006 public hearing, which was cancelled. A new hearing schedule is not available.

3. Metals TMDL. On June 2, 2005, the Regional Water Board adopted Resolution No. R2005-006, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Metals for the Los Angeles River and its Tributaries* (*LA River Metals TMDL*). The LA River Metals TMDL contains Waste Load Allocations (WLA) for copper, lead, cadmium, and zinc. Therefore, numerical water quality based effluent limitations for these constituents have been prescribed in this permit. On October 20, 2005, the State Board approved the *LA River Metals TMDL* by adopting Resolution No. 2005-0077. On December 9, 2005 and December 22, 2005, respectively, OAL and USEPA approved the *LA River Metals TMDL*. It went into effect on January 11, 2006, when the Certificate of Fee Exemption was filed with the California Department of Fish and Game.

On February 16, 2006, the Cities of Bellflower, Carson, Cerritos, Downey, Paramount, Santa Fe Springs, Signal Hill, and Whittier (Cities) filed a petition for a writ of mandate challenging many aspects of the Los Angeles River Metals TMDL and the Ballona Creek Metals TMDL. (*Cities of Bellflower et al v. SWRCB et al*, Los Angeles Superior Court No. BS101732) On May 24, 2007, the Los Angeles County Superior Court adopted the third of three rulings with respect to the writ petition. Collectively, all challenges to the TMDLs were rejected, except for one CEQA claim. The Court ruled that the State Water Board and Regional Water Boards (collectively, the Water Boards) should have adopted and circulated an alternatives analysis that analyzed alternatives to the project. The Court issued its writ of mandate, directing the Water Boards to adopt an alternative analysis that analyzed feasible alternatives to the TMDLs, and to reconsider the TMDLs accordingly.

After considering the alternative analysis, the Regional Water Board found that the TMDL as originally proposed and adopted was appropriate. The Regional Water Board further found that nothing in the alternatives analysis nor any of the evidence generated, presents a basis for the Regional Water Board to conclude that it would have acted differently when it adopted the TMDLs had the alternative analysis been prepared

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and circulated at that time. Thus, on September 6, 2007, the Regional Water Board adopted Resolution No. R2007-014, which reestablished the metals TMDL for the Los Angeles River in substantially its original form. Resolution No. R2007-014, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Metals for the Los Angeles River, supersede Resolution No. R05-006, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Metals for the Los Angeles River and its Tributaries (LA River Metals TMDL), adopted by the Regional Board on June 2, 2005. The Metals TMDL was approved by the State Water Board, with the adoption of Resolution No. 2008-0046. On October 14, 2008 and October 29, 2008, respectively, OAL and USEPA approved the LA River Metals TMDL. It went into effect on October 29, 2008.

On May 7, 2009, the Regional Water Board adopted Resolution No. 09-003, which voided and set aside Resolution Nos. R05-006 and R05-007 as required by the writ of mandate in the matter of *Cities of Bellflower et al v. SWRCB*.

The numeric limitations are consistent with the WLAs and provisions of the TMDL. "EPA's interpretation of 40 C.F.R. § 122.44(d)(1)(vii)(B) is that available waste load allocations must be incorporated into corresponding permit effluent limitations, irrespective of reasonable potential." It assigns wasteload allocations (a portion of the loading capacity of the receiving water) to each identified priority pollutant source of waste. Wasteload allocations for select metals in a TMDL were calculated by taking the median hardness, referenced in the TMDL staff report, and adjusting the CTR chronic or acute criteria according to Section 1.4.1 and Appendix 3 of the SIP. These TMDL wasteload allocations were not expressed with averaging periods in the TMDL.

Therefore, NPDES permit writers must take the extra step of expressing the assigned wasteload allocations as WQBELs by using the calculation procedures in Section 1.4 of the SIP. This is consistent with the LA River Metals TMDL implementation element. Calculating end of pipe effluent limitations will ensure that the in-stream concentrations of each metal meet water quality standards.

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IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: Part 122.44(a) requires that permits include applicable technology-based limitations and standards; and Part 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

Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater from Discharge Points 001, 002, 003, and 005 only, with the following discharge prohibition for Malibu Creek.. It does not authorize any other types of discharges.

1. **Discharge Prohibition for Malibu Creek**
   a. Santa Monica Bay Watershed includes Santa Monica Bay and the surrounding land area that drains naturally into the Bay, including the Malibu Creek Watershed. The Creek flows through a steep-sided canyon to Malibu Lagoon and Surfrider Beach. The Santa Monica Bay Restoration Commission, formerly known as Santa Monica Bay Restoration Project (SMBRP), developed the *Santa Monica Bay Restoration Plan* (BRP) that serves as the blueprint for the restoration and enhancement of the Bay. The Regional Water Board plays a leading role in the implementation of the plan. Two of the proposed priorities of the plan are reduction of pollutants of concern at the source (which includes municipal wastewater treatment plants) and implementation of mass emission caps on some of the pollutants of concern.

   b. The Malibu Creek Watershed Advisory Council (Council) became part of the Santa Monica Bay Restoration Project as a BRP implementing committee. As part of overall watershed management, the Council has identified the reduction of freshwater flows to the Lagoon, reduction of nutrients to the Creek and Lagoon, protection of human health in the Creek, Lagoon, and surfzone, and restoration of a fully functioning Lagoon, as high priorities. Previous investigations conducted for the SMBRP showed pathogens were detected in summer runoff at four storm drain or channel locations. Possible sources of pathogen contamination include pet and livestock feces, illicit sewer connections to the storm drains, leaking sewer lines, malfunctioning septic systems, and improper waste disposal by recreational vehicles, campers or transients. Additional potential sources of human pathogens in nearshore waters include sewage overflows into storm drains, small boat waste discharges, and bathers.

   c. The *Malibu Creek Watershed Natural Resources Plan* completed in July 1995 by the Natural Resources Conservation Service (NRCS) demonstrated significant increases in flow in Malibu Creek from urban runoff. The U.S. Fish and Wildlife Service listed the Tidewater Goby (*Eucyclogobius newberry*) as an endangered species in February 1994. On August 18, 1997, the National Marine Fisheries Service listed the Southern California Steelhead Trout (*Oncorhynchus mykiss*) as an endangered species. The tidewater goby historically existed in Malibu

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Lagoon but died out in the 1950's. A tidewater goby population was successfully reintroduced to the Lagoon on April 5, in 1991. Population surveys conducted by the Resource Conservation District of the Santa Monica Mountains and UCLA show that the Goby population has remained stable since their reintroduction. Malibu Creek has the southernmost known sustained run of steelhead trout in North America.

d. Los Angeles County Lifeguards prefer reduced flow to the Lagoon and thus less time with an open sandbar during the dry season because of a standing riptide current that developed around the mouth of the Creek opening, and because they cannot drive emergency vehicles across the Creek mouth area to provide emergency service to the west side of Surfrider Beach.

e. To minimize the contribution of Tapia's discharge to the excess freshwater flow into Malibu Lagoon (which leads to elevated Lagoon level and frequent breaching of the sandbar once, or if, the sandbar has formed), thus impacting both wildlife and human health beneficial uses, this Order continues to enforce the existing discharge prohibition from April 15 to November 15 of each calendar year, the time period of heaviest recreational use and historically-lowest freshwater flows in the watershed

2. **Discharge Prohibition Exemption for Malibu Creek**

a. A provision in this Order prohibits discharges from Tapia WRF to Malibu Creek from April 15 to November 15 of each calendar year from all discharge points, except under certain conditions. These conditions include:

1. Treatment plant upset or other operational emergencies;
2. Storm events as determined by the Executive Officer; or
3. The existence of minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species as determined by the Executive Officer.

For purposes of the prohibition, the exemptions are defined in the Order.

~~D.~~b. The Discharger has submitted a "Rain Impact Analysis" (February 1999) and updated analysis (May 2005) to determine the impact of rain events on Tapia inflows and recycled water demand (i.e., how long it takes for recycled water demand to return to normal). The analysis also includes the spray field recovery time under both short-term rain events during the prohibition, and long-term winter rain events during unusually wet winters (average rainfall exceeding the 90th percentile of rainfall since 1993). These parameters are contingent on the magnitude and timing of rain event(s) and the evapotranspiration. The analysis showed that it takes approximately four days (with 0.43 inches of rain) for recycled water demand to return to pre-rain capacity. Following extremely wet winters, recycled water demand and spray field recovery times depend directly on the volume of rainfall received and plant water demand (evapotranspiration) following the cessation of winter storms. When plant water demand is less than

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the cumulative rainfall, soils are still saturated on April 15, impacting both recycled water demand and spray field absorption capacity. These impacts end when cumulative plant water demand exceeds cumulative rainfall, and varies from one to several weeks after April 15th depending on the severity of winter rain events.

If Las Virgenes cannot reuse all of the effluent during rain events, Discharger has the option and is encouraged to discharge to the Los Angeles River.

Based on the foregoing, this Order allows storm events during the prohibition as an exemption to the discharge prohibition when the storm intensity is over 0.4 inch at the Plant rain gauge. Subject to conditions in the Order and those in Attachment SW-1, the Executive Officer may grant approval to discharge when the storm intensity is <0.4 inches at the Plant rain gauge.

C. In the past, The National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service, and California Department of Fish and Game have expressed concern over the summer discharge prohibition because it may cause adverse modification of habitat for the Southern California Steelhead Trout and other potential impacts to aquatic life.

Las Virgenes contracted Entrix, Inc., to undertake a study on the minimum streamflow in Malibu Creek with respect to the steelhead trout habitat. The study entitled "*Minimum Flow Recommendations for Malibu Creek*" (Entrix, Inc., 1999), recommends that a minimum streamflow be maintained in Malibu Creek and discussed three levels of streamflow – 2.5, 3.5 and 4.5 cfs and the quantity of aquatic habitat associated with each. NMFS evaluated the three alternative flow levels and in a letter to the Regional Water Board dated April 12, 2000, and discussed the advantages and disadvantages of the three levels of streamflow.

While NMFS contended that the lower streamflow alternatives, 2.5 and 3.5 cfs, would likely result in less stream habitat for steelhead trout than the 4.5 cfs alternative, they also pointed out that these lower flow alternatives might be beneficial by producing lower water velocities which would favor the formation of cool water refuge in pools. However, most importantly, each alternative is likely to eliminate late-summer, low-flow days.

Most years flows are sufficient to preclude the need to augment stream flows. However, in 2004 flows fell below the recommended thresholds in late summer, and Tapia released surplus recycled water for 22 days to augment stream flows, terminating the release upon the onset of rain on October 9th. This release, which followed the 2.5 cfs minimum flow criteria, failed to achieve flows of 2.5 cfs at the County gauging station, but field observations and measurements verified that the augmentation was sufficient to sustain creek flows in the reach below Rindge Dam and to re-wet a 100 m dry section of the creek immediately above Cross Creek Road without causing either a breach of Malibu Lagoon or a rise in the Lagoon's elevation.

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This Order therefore allows discharge from Tapia during the prohibition period to maintain a streamflow of 2.5 cfs at the Los Angeles County gagging station F-130-R. This flow is likely to eliminate late-summer, low flow days in the reach from Rindge Dam to Cross Creek Road in Malibu Creek the section of Malibu Creek occupied by steelhead trout, while minimizing flows into Malibu Lagoon. It also requires Las Virgenes to monitor the Creek flow so that the 2.5 cfs flow can be maintained in this reach through augmentation from Tapia.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the discharger to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level--referred to as "secondary treatment"--that all POTWs were required to meet by July 1, 1977. More specifically, Section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in Section 304(d)(1). Based on this statutory requirement, EPA developed national secondary treatment regulations which are specified in 40 C.F.R. part 133. These technology- based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of five-day biochemical oxygen demand, total suspended solids, and pH.

Section 301(b) of the CWA and implementing USEPA permit regulations at part 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 discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125.3.

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2. **Applicable Technology-Based Effluent Limitations**

This facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5 20^oC$, TSS, and pH. However, all technology-based effluent limitations from the previous Order No. R4-2005-0074 are based on tertiary-treated standards. These effluent limitations have been carried over from the previous order to avoid backsliding. Further, mass-based effluent limitations are based on a design flow rate of 16.1 MGD. The removal efficiency for BOD and TSS is set at the minimum level attainable by secondary treatment technology.

The following Table summarizes the technology-based effluent limitations applicable to the Facility:

Summary of Technology-based Effluent Limitations
Discharge Point 001

Table F-4. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$BOD_5 20℃$	mg/L	10	--	20	--	--
	lbs/day *	1,343	--	2,686	--	--
Total Suspended solids (TSS)	mg/L	5.0	--	10.0	--	--
	lbs/day *	671	--	1,343	--	--
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

* The mass emission rates are based on the plant design flow rate of 16.1 MGD, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

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C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and part 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed starting from Section IV.C.2.b.

Part 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~~State criterion or policy interpreting the ~~state~~State's narrative criterion, supplemented with other relevant information, as provided in part 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~~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 establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the Malibu Creek and Los Angeles River affected by the discharge have been described previously in this Fact Sheet and in the WDR findings.

b. The Basin Plan also specifies narrative and numeric water quality objectives applicable to surface water as shown in the following discussions.

i. Table R1 summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for this Order.

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ii. Biochemical Oxygen Demand (BOD) and Suspended solids

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration.

Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 C.F.R., Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

a. the monthly average shall not exceed 30 mg/L; and,
b. the 7-day average shall not exceed 45 mg/L.

The Tapia WRF provides tertiary treatment, as such, the limits in the permit are more stringent than secondary treatment requirements. The Plant will achieve solids removal rates that are better than secondary-treated wastewater by adding a coagulant to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the 7-day average, and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions under apply. Those limits were all included in the previous permit and the Tapia WRF has been able to meet all three limits (monthly average, the 7-day average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the Tapia WRF also has a percent removal requirement for these two constituents. In accordance with 40 C.F.R. parts 133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

iii. pH

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. The effluent limitation for pH which reads, "the wastes discharged shall at all times be within the range of 6.5 to 8.5," is taken from

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the Basin Plan (page 3-15) which reads" the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.

iv. Settleable solids

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short-term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order Nos. 95-078 and R2005-0074) and the Tapia WRF has been able to meet both limits.

v. Oil and Grease

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, "Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses."

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. Both limits were included in the previous permit and the Tapia WRF has been able to meet both limits.

vi. Residual chlorine

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Disinfection of wastewaters with chlorine produces chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limitation for residual chlorine is based on the Basin Plan (page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses."

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

vii. Total Dissolved Solids, Sulfate, and Boron

The limits for total dissolved solids, sulfate, and boron are based on Basin Plan Table 3-8 (page 3-13), for Malibu Creek Watershed and Los Angeles River Watershed. .

viii. Fluoride

The existing permit effluent limitation of 1.6 mg/l for fluoride was developed for the Los Angeles River discharge based on the Basin Plan incorporation of Title 22, *Drinking Water Standards,* by reference, for the protection of GWR. It is practicable to express the limitation as a monthly average, since fluoride is not expected to cause acute effects on beneficial uses.

ix. Methylene Blue Activated Substances (MBAS)

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface and ground waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of both surface and ground waters.

Given the nature of the facility (a POTW) which accepts domestic washwater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for prohibition of floating material such as foams and scums. Therefore an effluent limitation is required.

The discharge from the Tapia WRF may have reasonable potential to contribute to an exceedance of the 0.5 mg/L WQO. The 0.5 mg/L concentration (which has been determined to be protective of beneficial uses and the aesthetic quality of waters) is based on the Department of Public Health's (formerly known as the Department of Health Services) secondary Maximum Contaminant Level (MCL) from Title 22 of the California Code of

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Regulations (CCR), and on the Basin Plan WQO (p.3-11) which reads, "Waters shall not have MBAS concentrations greater than 0.5 mg/L in waters designated MUN." While the wastewater from this POTW is not directly discharged into a MUN designated surface water body, eventually it will percolate into unlined reaches of the Los Angeles River [via ground water recharge designated beneficial use (GWR)] to ground water designated for MUN beneficial use. In addition, the Basin Plan states that "Ground water shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Therefore, the secondary MCL should be the MBAS limitation for this discharge to protect ground water recharge and the MUN use of the underlying ground water, while also protecting surface waters from exhibiting scum or foaming.

Since the Basin Plan objective is based on a secondary MCL, it is practicable to have a monthly average limitation in the permit, rather than a daily maximum.

x. Total Inorganic Nitrogen

Total inorganic nitrogen is the sum of Nitrate-nitrogen and Nitrite-nitrogen. High nitrate levels in drinking water can cause health problems in humans. Infants are particularly sensitive and can develop methemoglobinemia (blue-baby syndrome). Nitrogen is also considered a nutrient. Excessive amounts of nutrients can lead to other water quality impairments, including eutrophication. The nitrite-N limitation of 1 mg/L is based on the Basin Plan WQO located on Page 3-11.

1. **Algae**. Reaches of the Malibu Creek are 303(d) listed for algae. Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

   The 303(d) listing for algae is being addressed by applying the narrative WQO for biostimulatory substances, "Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses," and other relevant information to arrive at a mass based-limitation intended to be protective of the beneficial uses, pursuant to 40 C.F.R. §122.44(d). Total nitrogen will be the indicator parameter intended to control algae, pursuant to 40 C.F.R. § 122.44(d)(1)(vi)(C).

2. **Concentration-based Limitation -** The effluent limitation for nitrate plus nitrite (NO2-N + NO3-N) of 8 mg/L for the Discharge Points 001, 002, and

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003 (Malibu Creek) is based on the 2003 USEPA's Malibu Creek Nutrients TMDL Waste Load Allocation assigned to the Tapia WRF. The effluent limitations for nitrate plus nitrite (NO2-N + NO3-N) of 8 mg/L, nitrite of 1 mg/L, and nitrate of 8 mg/L for the Discharge Point 005 (Los Angeles River) are based on the waste load allocations established for the Tapia WRF for these constituents in the Nitrogen Compounds TMDL for the Los Angeles River, Resolution No. 2003-009.

ii. Mass-based Limitation – The mass emission rates are based on the plant design flow rate of 16.1 mgd.

xi. Ammonia Nitrogen

1. Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. [There is groundwater recharge in these reaches]. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

2. **Los Angeles River Ammonia**. On July 10, 2003, the Regional Water Board adopted Resolution No. 2003-009, *Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds and Related Effects in the Los Angeles River (Nitrogen Compounds TMDL*). On November 19, 2003, the State Board approved the *Nitrogen Compounds TMDL*. However, on December 4, 2003, the Regional Water Board revised the Nitrogen Compound TMDL by adopting Resolution No. 2003-016*, Revision of Interim Effluent Limits for Ammonia in the Amendment to the Water Quality Control Plan for the Los Angeles Region to Include a TMDL for Nitrogen Compounds and Related Effects in the Los Angeles River*. Resolution No. 2003-016 only revised the portion of the Nitrogen Compounds TMDL containing interim limits for total ammonia as nitrogen, for the Glendale and Tillman WRPs. All other portions of the TMDL remained unchanged. The *Nitrogen Compounds TMDL* went into effect on March 23, 2004, when the Regional Water Board filed the Notice of Decision with the California Resources Agency. Average monthly and

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maximum daily effluent limitations of 2.3 mg/L and 10.1 mg/L, respectively, are assigned to the Tapia WRF, based on the waste load allocations established for the Tapia WRF for these constituents in the Nitrogen Compounds TMDL for the Los Angeles River, Resolution No. 2003-009.

3. **Malibu Creek Ammonia.** The 1994 Basin Plan contained water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board, with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of Aquatic Life*. Resolution No. 2002-011 was approved by the State Water Board, OAL, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively, and is now in effect.

   On December 1, 2005, the Regional Water Board adopted Resolution No. 2005-014, An Amendment to the *Water Quality Control Plan for the Los Angeles Region* to Revise Early Life Stage Implementation Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) for Protection of Aquatic Life. This amendment contains ammonia objectives to protect Early Life Stages (ELS) of fish in inland surface water supporting aquatic life. This resolution was approved by the USEPA on April 5, 2007. This amendment revised the implementation provision included as part of the freshwater ammonia objectives relative to the protection of ELS of fish in inland surface waters.

   The procedures for calculating the ammonia nitrogen effluent limitation based on Basin Plan amendment is discussed below:

   (1) One-Hour Average Objective

   The USEPA approval letter dated June 19, 2003, of the 2002 Ammonia Basin Plan Amendment, stated that the acute criteria are dependent on pH and whether sensitive coldwater fish are present. The Facility's immediate receiving waterbody has "COLD" and "MIGR" beneficial use designation. Therefore, the one-hour average objective is dependent on pH and fish species (salmonids present or absent) but not on temperature.

   For waters designated COLD or MIGR, the one-hour average concentration of total ammonia as nitrogen (in mg N/L) shall not exceed the values in Table 3-1 (amended on April 25, 2002) of the Basin Plan or as described in the equation below:

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$$\text{One-hour Average Concentration} = \frac{0.275}{1+10^{7.204-\text{pH}}} + \frac{39}{1+10^{\text{pH}-7.204}}$$

The 90th percentile of effluent pH is 8.1. Use of the 90th percentile pH to set effluent limitations is appropriate because of the shorter time scale of the one-hour average. It is conservative, because it is overprotective 90% of the time. Additionally, there is little variability in the effluent pH data. Using the pH value of 7.5 in the formula above, the resulting One-hour Average Objective is equal to 13.3 mg/L.

(2) 30-Day Average Objective

Early life stage of fish is presumptively present and must be protected at all times of the year unless the water body is listed in Table 3-X of the Basin Plan (in Resolution No. 2005-014) or unless a site-specific study is conducted, which justifies applying the ELS absent condition or a seasonal ELS present condition. Ojai Valley WWTP discharges into the Ventura River, which is not listed in Table 3-X. Therefore, this waterbody will be designated "ELS Present" condition. For freshwaters subject to the "Early Life Stage Present" condition, the thirty-day average concentration of total ammonia as nitrogen (in mg N/L) shall not exceed the values in Table 3-2 of the Basin Plan or as described in the equation below:

$$\text{30-day Average Concentration} = \left(\frac{0.0577}{1+10^{7.688-\text{pH}}} + \frac{2.487}{1+10^{\text{pH}-7.688}} \right) * MIN\left(2.85, 1.45 * 10^{0.028*(25-T)} \right)$$

Where T = temperature expressed in ºC.

The 30-day average objective[3] is dependent on pH, temperature, and the presence or absence of early life stages of fish. The 50th percentile of effluent pH and temperature is 7.2 pH and 22°C, respectively. Use of the 50th percentile pH and temperature is appropriate to set the 30-day average objective, because the 30-day average represents more long-term conditions. Additionally, there is little variability in the effluent pH data, and the 30-day objective is primarily dependent upon

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[3] This is the current Basin Plan definition of the 30-day average objective, according to the Ammonia Basin Plan Amendment, Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use designations for protection of "Aquatic Life*," adopted by the Los Angeles Regional Water Quality Control Board on April 25, 2002. It was amended by Resolution No. 2005-014, adopted by the Regional Board on December 1, 2005 and was approved by the USEPA on April 5, 2007. This new Resolution implements ELS Provision as described under "implementation", subparagraph 3. In this Resolution, the Discharger's receiving waterbody is designated as ELS present.

pH. Using the Discharger's monitoring data in the formula above, the resulting 30-Day Average Objective is equal to 3.3 mg/L.

(3) Translation of Ammonia Nitrogen Objectives into Effluent Limitations

In order to translate the water quality objectives for ammonia as described in the preceding discussions into effluent limitations, the Implementation Provisions of the 2002 Basin Plan Amendment, Section 5 – Translation of Objectives into Effluent Limits, was followed and was discussed below. This method is similar to the method contained in "Policy for Implementation of Toxics Standard for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000). The method is also consistent with that outlined in the US EPA "Technical Support Document for Water Quality-based Toxics Control (1991).

Step 1 – Identify applicable water quality criteria.

Effluent pH and temperature are used to calculate effluent ammonia limits. This is appropriate when using the translation procedure, because the translation procedure uses variability in ammonia effluent concentrations to set the limits from the objectives. Additionally, conditions in the effluent may be significantly different than conditions in the receiving water. Use of effluent data to set effluent ammonia limits will ensure that ammonia water quality objectives are met in the effluent at all times, even in the case where effluent conditions are less favorable than receiving water conditions. Additional receiving water monitoring and compliance determinations will be required in addition to the effluent limits, to ensure that ammonia water quality objectives are met in the receiving water at all times.

From the Discharger's effluent, the following data are summarized below:

pH = 7.5 at 90th percentile
pH = 7.2 at 50th percentile
Temperature = 22°C at 50th percentile

The receiving water is classified as Waters Designated COLD and MIGR.

From Table 3-1 of the Basin Plan, when pH is equal to 7.5;

One-hour Average Objective = 13.28 mg/L

From Table 3-2 of the Basin Plan, when pH = 7.2 and temperature = 22°C;

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30-day Average Objective = 3.33 mg/L

From Basin Plan amendment;

4-day Average Objective = 2.5 times the 30-day average objective.
4-day Average Objective = 2.5 X 3.33 = 8.32 mg/L

Ammonia Water Quality Objectives (WQO) Summary:

One-hour Average = 13.28 mg/L
Four-day Average = 8.32 mg/L
30-day Average = 3.33 mg/L

Step 2 – For each water quality objective, calculate the effluent concentration allowance (ECA) using the steady-state mass balance model. Since mixing has not been allowed by the Regional Water Board, this equation applies:

ECA = WQO

Step 3 – Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjust for variability. By using Table 3-6, calculated CV (i.e., standard deviation/mean for ammonia), the following are the Effluent Concentration Allowance.

ECA multiplier when CV = 0.6

One-hour Average = 0.321
Four-day Average = 0.527
30-day Average = 0.784

Using the LTA equations:

$LTA_{1\text{-hour/99}} = ECA_{1\text{-hour}} \times ECA\ multiplier_{1\text{-hour99}} = 13.28 \times 0.321 = 4.26$ mg/L

$LTA_{4\text{-day/99}} = ECA_{4\text{-day}} \times ECA\ multiplier_{4\text{-day99}} = 8.22 \times 0.527 = 4.38$ mg/L

$LTA_{30\text{-day/99}} = ECA_{30\text{-day}} \times ECA\ multiplier_{30\text{-day99}} = 3.22 \times 0.784 = 2.60$ mg/L

Step 4 – Select the (most limiting) of the LTAs derived in Step 3 (LTA_{min})

$LTA_{min} = 2.60$ mg/L

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Step 5 – Calculate water based effluent limitation MDEL and AMEL by multiplying LTA_{min} as selected in Step 4, with a factor (multiplier) found in Table 3-7.

Monthly sampling frequency (n) is once per month or less, and the minimum LTA is the $LTA_{1\text{-day}/99}$, therefore n = 30, CV = 0.6.

MDEL multiplier = 1.19
AMEL multiplier = 3.56

$MDEL = LTA_{min} \times MDEL\ multiplier_{99} = 2.60 \times 1.19 = 3.1$ mg/L

$AMEL = LTA_{min} \times AMEL\ multiplier_{95} = 2.60 \times 3.56 = 9.2$ mg/L

Table 5. Translated Ammonia Effluent Limitations

Constituent	MDEL (mg/L)	AMEL (mg/L)
Ammonia Nitrogen	3.1	9.2

~~c.~~xii. Phosphorus

Excess phosphorous is a cause for algal bloom and eutrophication, as well as decrease in dissolved oxygen. The nexus to water quality is that both receiving water bodies are impaired for nutrients. Therefore, the permit includes a limitation for phosphorus based upon the existing permit limitation, based upon antidegradation, and as translation of the Basin Plan narrative "Biostimulatory substances include excess nutrients (nitrogen, phosphorus) and other compounds that stimulate aquatic growth. In addition to being aesthetically unpleasant (causing taste, odor, or color problems), this excessive growth can also cause other water quality problems. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses". This limitation reflects performance data of the plant, and as such no additional treatment is needed to comply with the limitation. Thus, there is no "economic consideration" needed.

~~d.~~xiii. Coliform Bacteria

According to Attachment A to Resolution No. 2004-019R, discharges from Tapia WWRF along with effluent irrigation, and general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the waste load allocations (WLAs) for these discharges are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. The three time periods include: 1) summer dry-weather (April 1 to October 31); 2)

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winter dry-weather (November 1 to March 31); and 3) wet-weather (defined as days of 0.1 inch of rain or more plus three days following rain event).

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

i. Effluent Limitations:

- The 7 day median number of total coliform organisms at some point in the treatment process shall not exceed a Most Probable Number (MPN) or Colony Forming Unit (CFU) of 2.2 per 100 milliliters, and
- The number of total coliform organisms shall not exceed an MPN or CFU of 23 per 100 milliliters in more than one sample within any 30-day period.
- The number of total coliform bacteria shall not exceed an MPN or CFU of 240 per 100 milliliters in any sample.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements for disinfected tertiary recycled water under the Title 22 of the California Code of Regulations, as established by the Department of Public Health (formerly known as the Department of Health Services). These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

ii. Receiving Water Limitation

- Geometric Mean Limits
  - *E. Ceoli* density shall not exceed 126/100 mL.
  - Fecal coliform density shall not exceed 200/100 mL.
- Single Sample Limits
  - *E.~~coli~~ Coli* density shall not exceed 235/100 mL.
  - Fecal coliform density shall not exceed 400/100 mL.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Water Board on October 25,

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2001. The Resolution was approved by State Water Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

xiv. Temperature

USEPA document, *Quality Criteria for Water 1986* [EPA 440/5-86-001, May 1, 1986], also referred to as the *Gold Book*, discusses temperature and its effects on beneficial uses, such as recreation and aquatic life.

- The Federal Water Pollution Control Administration in 1967 called temperature "a catalyst, a depressant, an activator, a restrictor, a stimulator, a controller, a killer, and one of the most important water quality characteristics to life in water." The suitability of water for total body immersion is greatly affected by temperature. Depending on the amount of activity by the swimmer, comfortable temperatures range from 20°C to 30°C (68 °F to 86 °F).

- Temperature also affects the self-purification phenomenon in water bodies and therefore the aesthetic and sanitary qualities that exist. Increased temperatures accelerate the biodegradation of organic material both in the overlying water and in bottom deposits which makes increased demands on the dissolved oxygen resources of a given system. The typical situation is exacerbated by the fact that oxygen becomes less soluble as water temperature increases. Thus, greater demands are exerted on an increasingly scarce resource which may lead to total oxygen depletion and obnoxious septic conditions. Increased temperature may increase the odor of water because of the increased volatility of odor-causing compounds. Odor problems associated with plankton may also be aggravated.

- Temperature changes in water bodies can alter the existing aquatic community. Coutant (1972) has reviewed the effects of temperature on aquatic life reproduction and development. Reproductive elements are noted as perhaps the most thermally restricted of all life phases, assuming other factors are at or near optimum levels. Natural short-term temperature fluctuations appear to cause reduced reproduction of fish and invertebrates.

The Basin Plan lists temperature requirements for the receiving waters. Based on the requirements of the Basin Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information

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available that indicates that the 100°F temperature which was formerly used in permits was not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective. It is impracticable to use a 7-day average or a 30-day average limitation for temperature, because it is not as protective as of beneficial uses as a daily maximum limitation is. A daily maximum limitation is necessary to protect aquatic life and is consistent with the fishable/swimmable goals of the CWA.

xv. Turbidity

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 5 Nephelometric turbidity units (NTUs) more than 5 percent of the time (72 minutes) during any 24 hour period; and (b) 2 NTUs at any time," is based on the Basin Plan's incorporation by reference of Title 22 and the definition of filtered wastewater. In comparison to other POTWs in this region, the turbidity limitation for the Tapia WRF is consistent with those of POTWs which have filtration as part of their treatment process. The limitation, therefore reflects what the technology (of choice by the Discharger) is designed to achieve.

xvi. Radioactivity

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. Section 301(f) of the CWA contains the following statement with respect to effluent limitations for radioactive substances: "Notwithstanding any other provisions of this Act it shall be unlawful to discharge any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters." Chapter 5.5 of the California Water Code contains a similar prohibition under section 13375, which reads as follows: "The discharge of any radiological, chemical, or biological warfare agent into the waters of the ~~state~~State is hereby prohibited." However, rather than give a hard and fast absolute prohibition on radioactive substances, Regional Water Board staff have set the following effluent limitation for radioactivity: "Radioactivity of the wastes discharged shall not exceed the limits specified in Title 22, Chapter 15, Article 5, Section 64443, of the California Code of Regulations, or subsequent revisions." The limitation is based on the Basin Plan incorporation of Title 22, *Drinking Water Standards,* by reference, to protect beneficial uses. Therefore, the accompanying Order will retain the limitation for radioactivity.

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xvii. Arsenic, Perchlorate, Bis(2-ethylhexyl)phthalate, and Total trihalomethanes

The previous Order did not contain effluent limitations for arsenic, perchlorate, and total trihalomethanes. Based on the monitoring data for Tapia WRF, from November 2005- January 2010, it was determined that the discharge to Los Angeles River (based on its groundwater recharge beneficial use) had a reasonable potential (RP) to contribute to an exceedance of the WQO for these constituents as well as bis(2-ethylhexyl)phthalate. The effluent limitations for arsenic, perchlorate, ~~and~~ total trihalomethanes, and the average monthly effluent limitation for bis(2-ethylhexyl)phthalate (for Discharge Point 005 only) are based on the Basin Plan WQOs incorporation of Title 22 maximum contaminant levels (MCLs) by reference on page 3-18 for the protection of the MUN beneficial use of groundwater. The MCLs for arsenic (10 µg/L), ~~cadmium (5 µg/L), and~~ perchlorate (6 µg/L), bis(2-ethylhexyl)phthalate (4 µg/L) and total trihalomethanes (80 µg/L) are listed in Table 64431-A of Section 64431 of Title 22 of the CCR.

Total trihalomethanes is the sum of concentrations of the trihalomethane compounds: bromodichloromethane, bromoform, chloroform, and dibromochloromethane. Although many of the Basin Plan's WQOs for the protection of the MUN beneficial use are based on the incorporation of Title 22 MCLs by reference, the MCLs for disinfection byproducts (Table 64533-A of Section 64533 of Title 22) were not referenced on pages 3-8 or 3-18 of the Basin Plan. Despite that omission, Regional Board staff believe that it is relevant to use the MCL for total trihalomethanes to protect human health. Total trihalomethanes are produced at the ~~Saugus WRP~~ Tapia WRF as by-products of the disinfection process. ~~Although the individual trihalomethanes~~Dichlorobromomethane ~~did not~~ triggered a RP to exceed the criteria, and the sum of the individual trihalomethanes concentrations ~~did have~~also demonstrated a RP to contribute to an exceedance of the 80 µg/L MCL. Regional Water Board staff used best professional judgment, the Title 22 MCL, and the Federal USEPA MCL for total trihalomethanes, to translate the following Basin Plan narrative WQOs into a numeric limitation:

"Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use," and

"Ground waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use."

xviii. Cadmium, Copper, Lead, Selenium, and Zinc

The Tapia WRF did not have RP for cadmium, copper, lead, selenium, and zinc. However, because the Los Angeles River Metals TMDL contains both dry weather and wet weather wasteload allocations for both nonpoint and point

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sources, the Order contains effluent limitations for these constituents. The effluent limitations were ~~derived using a translation of~~developed using effluent-specific coefficients of variation (CVs) and the applicable **wet and dry weather** wasteload allocations (WLAs)~~,~~ contained in Resolution No. R2007-014, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Metals for the Los Angeles River, adopted by the Regional Board on September 6, 2007. ~~The translation procedure used a 50-percentile site- specific hardness values of downstream receiving water station R2 to determine the appropriate CTR WQO for hardness-dependent metals (i.e. cadmium, copper, lead, and zinc). In addition, the translation procedure applied t~~The effluent limitations were developed in a manner consistent with the procedures in Section 1.4 of the State Water Resources Control Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) (hereinafter, SIP). This is consistent with the implementation provision in the Attachment A to Resolution No. R2007-014. Resolution No. R2007-0014. See Table R-3 for derivation of effluent limitations for cadmium, copper, lead, selenium, and zinc. ~~In using the SIP procedures, the lowest applicable WQO was expressed as total recoverable, and where applicable, adjusted for hardness. A spreadsheet (Table R3) was used to calculate the total recoverable CTR criteria. Hardness values from samples collected in the receiving water upstream of the discharge point are typically averaged and used to determine the appropriate CTR WQO for those hardness-dependent metals. The 50-percentil receiving water (downstream) hardness of 299 mg/L was similar to the 50-percentil effluent harness value of 292 mg/L.~~

The California Toxic Rule (CTR) and State Implementation Policy (SIP) specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority pollutants. The Technical Support Document (TSD) specifies the procedures to conduct reasonable potential analyses for non-priority pollutants.

3. **Determining the Need for WQBELs**

The Regional Water Board developed WQBELs for ammonia-nitrogen, nitrite-nitrogen, nitrate-nitrogen, nitra~~i~~te plus nitrite as nitrogen, and chloride based upon Total Maximum Daily Loads (TMDLs). The effluent limitations for these pollutants were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The Regional Water Board developed water quality-based effluent limitations for these pollutants pursuant to part 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis. The Regional Water Board has determined that the WQBEL is consistent with the assumptions of the TMDL. Similarly, compliance with the effluent limitation

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will satisfy the requirements of the TMDL. Similarly, the SIP at Section 1.3 recognizes that reasonable potential analysis is not appropriate if a TMDL has been developed.

In accordance with Section 1.3 of the SIP, the Regional Water Board 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 Water 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~~State water quality standard. Regional Water Board staff mainly focused on the effluent data set generated since the effective date of the existing NPDES Order, and on the receiving water data from November 2005 to January 2010. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. In conducting the RPA, the Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background concentration in the receiving water 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:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limitation is needed.

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 Water Board to conduct the RPA. Upon review of the data, and if the Regional Water 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 regulated in the CTR for which data are available. Based on the SIP RPA, there was reasonable potential for the Discharge to contribute to an exceedance of the CTR criteria for mercury, dichlorobromomethane, bis(2-ethylhexyl) phthalate, aldrin, and alpha-BHC. Based on the TSD RPA, there was reasonable potential for the discharge to the Los Angeles River to contribute to an exceedance of the federal MCL for arsenic and total trihalomethanes, and perchlorate, and of the California MCL for perchlorate.

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4. **WQBEL Calculations**

a. **Calculation Options**. Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include:

- Use WLA from applicable TMDL
- Use a steady-state model to derive Maximum Daily Effluent Limits and Average Monthly Effluent Limits.
- Where sufficient data exist, use a dynamic model which has been approved by the State Water Board.

b. **SIP Calculation Procedure**. Section 1.4 of the SIP requires the step-by-step procedure to "adjust" or convert CTR numeric criteria into Average Monthly Effluent Limitations (AMELs) and Maximum Daily Effluent Limitations (MDELs), for toxics. A table providing the calculation for all applicable WQBELs for this Order is provided in Table R1 of this Order.

Step 3 of Section 1.4 of the SIP (page 8) lists the statistical equations that adjust CTR criteria for effluent variability.

Step 5 of Section 1.4 of the SIP (page 10) lists the statistical equations that adjust CTR criteria for averaging periods and exceedance frequencies of the criteria/objectives. This section also reads, "For this method only, maximum daily effluent limitations shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations.

A sample calculation for lead:

Step 1: Identify applicable water quality criteria.

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Freshwater Aquatic Life Criteria:
CMC = 358.91 µg/L
CCC = 13.99 µg/L and
Human Health Criteria for Organisms only is narrative (CTR page 31712, column D2).

Step 2: Calculate effluent concentration allowance (ECA)

ECA = Criteria in CTR, since no dilution is allowed.

Step 3: Determine long-term average (LTA) discharge condition

i. Calculate CV:

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CV = Standard Deviation/Mean
= 3.2

ii. ECA multiplier when CV = 3.2:

Acute = 0.09
Chronic = 0.137

iii. Using the LTA equations, determine LTA:

$LTA_{acute/99}$ = ECA_{acute} x ECA $multiplier_{acute/99}$ = 358.91 x 0.09 = 32.30 µg/L

$LTA_{chronic/99}$ = $ECA_{chronic}$ x ECA $multiplier_{chronic/99}$ = 13.991 x 0.137 = 1.92 µg/L

Step 4: Select the lowest LTA in Step 3.

LTA_{min} = 1.92 µg/L

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE, by multiplying LTA_{min} as selected in Step 4, with a factor (multiplier) found in Table 2 of SIP.

Monthly sampling frequency (n) is four per month or less, and the minimum LTA is the $LTA_{chronic/99}$, therefore, n = 4, CV = 3.2.

MDEL multiplier = 11.1
AME: multiplier = 3.38

MDEL = LTA_{min} x MDEL $multiplier_{99}$ = 1.92 x 11.1 = 21.27 µg/L

AMEL = LTA_{min} x AMEL $multiplier_{95}$ = 1.92 x 3.38 = 6.48 µg/L

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

N/A, no numeric human health criteria.

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

i. Lowest AMEL = 6.48 µg/L (Based on aquatic life protection)

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ii. Lowest MDEL = 21.27 µg/L (Based on aquatic life protection)

c. **Mass based limits**. 40 C.F.R. part 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 C.F.R. part 122.45(f)(2) allows the permit writer, at the writer's discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

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Summary of Water Quality-based Effluent Limitations*
Discharge Points 001, 002, 003 and 005

Table F-5. Summary of Water Quality-based Effluent Limitations

Effluent Limitations Applicable to Discharge Points 001, 002, 003, and 005						
Parameter	**Units**	**Effluent Limitations**				
		Average Monthly	**Average Weekly**	**Max. Daily**	**Instanta-neous Minimum**	**Instanta-neous Max.**
Mercury	µg/L	0.051 5.1E-2	--	0.10	--	--
	lbs/day[10]	0.0068 6.8E-3	--	0.013 1.3E-2	--	--
Cyanide	µg/L	4.2	--	8.5	--	--
	lbs/day[10]	0.56	--	1.1	--	--
Aldrin	µg/L	0.00014 1.4E-4	--	0.0003 3.0E-4	--	--
	lbs/day[10]	1.9xE-5	--	4.0xE-5	--	--
Alpha-BHC	µg/L	0.013 1.3E-2	--	0.026 2.6E-2	--	--
	lbs/day[10]	0.0017 1.7E-3	--	0.0035 3.5E-3	--	--
Dichlorobromomethane	µg/L	46	--	85	--	--
	lbs/day[10]	6.2	--	11	--	--
4,4'-DDE	µg/L	5.9E-4	--	1.2E-3	--	--
	lbs/day[10]	7.9E-5	--	1.6E-4	--	--
4,4'-DDD	µg/L	8.4E-4	--	1.7E-3	--	--
	lbs/day[10]	1.1E-4	--	2.3E-4	--	--
Dieldrin	µg/L	1.4E-4	--	3.0E-4	--	--
	lbs/day[10]	1.8E-5	--	4.0E-5	--	--
Endrin	µg/L	4.3E-2	--	8.6E-2	--	--
	lbs/day[10]	5.8E-3	--	1.2E-2	--	--
Heptachlor	µg/L	2.1E-4	--	4.0E-4	--	--
	lbs/day[10]	2.8E-5	--	5.4E-5	--	--

Effluent Limitations Applicable to Discharge Points 001, 002, and 003 ONLY						
Parameter	**Units**	**Effluent Limitations**				
		Average Monthly	**Average Weekly**	**Max. Daily**	**Instanta-neous Minimum**	**Instanta-neous Max.**
Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	--	15	--	--
	lbs/day[10]	0.79	--	2.0		
Total Ammonia	mg/L	3.1	--	9.2	--	--

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	lbs/day[10]	4.2xE2	--	1.2xE3		
Nitrate + Nitrite as Nitrogen	mg/L	8	--	--	--	--
	lbs/day[10]	1.1xE3	--			
Total Phosphorus (Summer- April 15th- November 15th)	mg/L	3				
	lbs/day[10]	4.0E2				
Total Phosphorus (Winter- November 15th - April 14th)	mg/L	3		4		
	lbs/day[10]	4.0E2		5.4E2		

Effluent Limitations Applicable to Discharge Point 005 ONLY

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Max. Daily	Instanta-neous Minimum	Instanta-neous Max.
Bis(2-Ethylhexyl)Phthalate	µg/L	4	--	15	--	--
	lbs/day[10]	0.54	--	2.0		
Total Ammonia as N	mg/L	2.3	--	10.1	--	--
	lbs/day[10]	~~0.31~~ 3.1E2		1.36E3		
Nitrate + Nitrite as Nitrogen	mg/L	8 [6]		--	--	--
	lbs/day[10]	1.1 xE3				
Nitrite as Nitrogen	mg/L	1 [6]	--	--	--	--
	lbs/day[10]	1.3 xE2				
Nitrate as Nitrogen	mg/L	8 [6]	--	--	--	--
	lbs/day[10]	1.1 xE3				
Total phosphorus	mg/L	3				
	lbs/day[10]	4.0E2				
Arsenic	µg/L	10	--	--	--	--
	lbs/day[10]	1.3	--	--	--	--
Perchlorate	µg/L	6	--	--	--	--
	lbs/day[10]	0.81	--	--	--	--
Total trihalomethanes	µg/L	80	--	--	--	--
	lbs/day[10]	11	--	--	--	--
Cadmium (wet weather)	µg/L	1.1~~5.0~~	~~--~~	3.1~~7.9~~	~~--~~	~~--~~
	lbs/day[10]	0.1~~0.67~~	~~--~~	0.4~~0.1~~	~~--~~	~~--~~
Copper (wet weather) [7]	µg/L	11~~21~~	~~--~~	17~~32~~	~~--~~	~~--~~
	lbs/day[10]	1.5~~2.9~~	~~--~~	2.3~~4.3~~	~~--~~	~~--~~

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Lead (wet weather)	µg/L	2311	---	6220	---	---
	lbs/day[10]	3.11.5	---	8.32.7	---	---
Zinc (wet weather)	µg/L	1202.3xE2	---	1603.0xE2	---	---
	lbs/day[10]	1631	---	2140	---	---
Copper (dry weather)	µg/L	2721	---	4132	---	---
	lbs/day[10]	3.62.9	---	5.54.3	---	---
Lead (dry weather)	µg/L	1311	---	3520	---	---
	lbs/day[10]	1.71.5	---	4.72.7	---	---
Selenium (dry weather)	µg/L	4.14.5	---	8.29.0	---	---
	lbs/day[10]	0.550.6	---	1.11.2	---	---

5. **Whole Effluent Toxicity (WET)**

The permit contains effluent limitations for toxicity based on the Basin Plan. Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in Tapia WRF effluent, or could have synergistic or additive effects. Also, because numeric limits for certain toxic constituents that did not show RP have been removed, the acute toxicity limitation may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts.

Of the 83165 chronic toxicity tests conducted from JanuaryJune 2003 2006 to December 20097, 14 singles tests exceeded 1 TU_C and the monthly median TUc of 1 was exceeded 12 times. Acute toxicity testing results from the same period did not exceed any acute toxicity requirements. Regional Water Board staff determined that, pursuant to the SIP, reasonable potential exists for toxicity. As such, the permit contains effluent limitations for toxicity.

The toxicity numeric effluent limitations are based on:

a. 40 C.F.R. part 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;

b. 40 C.F.R. part 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent limits using numeric water quality criterion;

c. Basin Plan objectives and implementation provisions for toxicity;

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d. USEPA Regions IX & X Guidance for Implementing Whole Effluent Toxicity Programs Final May 31, 1996;

e. Whole Effluent Toxicity (WET) Control Policy July 1994; and,

f. Technical Support Document (several chapters and Appendix B).

The circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Water Resources Control Board (State Water Board) in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until Phase II of the SIP is adopted. In the mean time, the State Water Board replaced the numeric chronic toxicity limitation with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar narrative chronic toxicity effluent limitation, with a numeric trigger for accelerated monitoring. Phase II of the SIP has been adopted, however, the toxicity control provisions were not revised.

On January 17, 2006, the State Water Board Division of Water Quality held a California Environmental Quality Act (CEQA) scoping meeting to seek input on the scope and content of the environmental information that should be considered in the planned revisions of the Toxicity Control Provisions of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). However, the Toxicity Control Provisions of the SIP continue unchanged.

This Order contains a reopener to allow the Regional Water Board to modify the permit, if necessary, consistent with any new policy, law, or regulation. Until such time, this Order will have toxicity limitations that are consistent with the State Water Board's precedential decision.

a. Acute Toxicity Limitation:

The Dischargers may test for acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

b. Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the

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Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity. The monthly median trigger of 1.0 TU_c for chronic toxicity is based on *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). In cases where effluent receives no dilution or where mixing zones are not allowed, the I.0 TU_c chronic criterion should be expressed as a monthly median. The "median" is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limitation: using 2.0 TUc as the maximum daily limitation; or using a statistical approach outlined in the TSD to develop a maximum daily effluent limitation.

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D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of the average monthly effluent limitation (AMEL) of dichlorobromomethane. The AMEL of dichlorbromomethane was derived using the effluent-specific CV (calculated based on the effluent monitoring data from 2006 to 2009), in a manner consistent with the procedures in Section 1.4 of the State Water Resources Control Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) (hereinafter, SIP). The resulting average monthly effluent limitation of 85 µg/L is higher than the AMEL of 64 µg/L contained in Order No. 2005-0074. ~~for fluoride, copper, mercury, cyanide, and acrylonitrile~~. ~~The effluent limitations for these pollutants are deleted because the past effluent monitoring data did not show reasonable potential to exceed the applicable water quality objectives.~~ This relaxation of effluent limitation~~s~~ is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

On October 28, 1968, the State Water Board adopted Resolution No. 68-16, *Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Water Boards. The State Water Board has, in State Water Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 C.F.R.~~,~~ ~~Part~~ §131.12) require that all permitting actions be consistent with the federal antidegradation policy. Together, the State and Federal policies are designed to

ensure that a water body will not be degraded resulting from the permitted discharge. The provisions of this Order are consistent with the antidegradation policies.

3. **Stringency of Requirements for Individual Pollutants**

This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of ~~both~~ technology-based and water quality-based effluent limitations~~ for individual pollutants~~. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (5-day) (BOD_5), total suspended solids (TSS), and pH, and percent removal of BOD_5 and TSS, which implement the minimum, applicable federal technology-based requirements for POTWs. ~~BOD, TSS, pH, and percent removal of BOD and TSS~~. Restrictions on BOD, TSS and pH are discussed in Section IV.B. of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. The Regional Board has considered the factors in California Water Code section 13241 in establishing these requirements.

Water quality-based effluent limitations 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. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to part 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under ~~state~~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 part 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 and the applicable water quality standards for purposes of~~by the CWA.

This Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. Specifically, this Order includes performance-based effluent limitations for TSS and BOD_5 that are more stringent than the federal secondary treatment standards. The previous Order contains these performance-based effluent limits for TSS and BOD_5, with which the Discharger has consistently complied. The monthly average and the daily maximum limits cannot be relaxed because none of the exceptions under the Anti-backsliding Policy apply.

In addition, this Order includes effluent limitations for bis(2-ethylhexyl)phthalate for the Discharge Point 005 that is more stringent than applicable federal standards, but

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that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including this limitation for the Discharge Point 005 is that the Los Angeles River (the receiving water body) is listed for ground water recharge, and therefore, California Code of Regulations, Title 22 Maximum Contaminant Levels (California MCL) is applicable. The California MCL for bis(2-ethylhexyl)phthalate is more stringent than the USEPA MCL and more stringent than the CTR criteria. The monthly average effluent limitation for bis(2-ethylhexyl)phthalate is the only limitation more stringent than the federal requirements. Therefore, an economic analysis should be done for bis(2-ethylhexyl)phthalate.

Also, the Regional Water Board has considered the factors in Water Code section 13241. According to section 13241 of the CWC, the factors to be considered by a Regional Water Board in establishing water quality objectives include, but are not necessarily be limited to, all of the following:

(a) Past, present, and probable future beneficial uses of water.
(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
(d) Economic considerations.
(e) The need for developing housing within the region.
(f) The need to develop and use recycled water.

Regional Water Board staff have considered all of the above factors.

The proposed Order is protective of all beneficial uses of surface waters (using CWA) and ground water (using CWC);

The environmental characteristics of the discharge and of the watershed in which the facility is located have been taken into consideration.

Limitations, which could reasonably be achieved, have been placed in the Order to protect the water quality of the immediate receiving waters and those located downstream of the discharge point;

Economic considerations have also been provided:

1. **Economic Analysis**. The technical and economic feasibility of regulating MCLs is evaluated as part of the MCL development and adoption process by the California Department of Public Health (formerly known as the Department of Health Services), a sister agency. The technical feasibility includes an evaluation of commercial laboratories' ability to analyze for and detect the chemical in drinking water, the costs of monitoring, and the costs of treatment required for pollutant removal.

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2. **Requirements under future WRR Order for Recycling**
The Tapia WRF's treatment system includes filtration and disinfection; therefore, its effluent should be able to comply with the current California MCLs for inorganic and organic chemicals.

3. **Similar Facilities**. Other POTWs in Region 4 have similar NPDES permit requirements. When Regional Water Board staff was preparing the first set of permits that would implement the SIP and the CTR, they asked the State Water Board, Division of Water Quality's Standard Development Section to prepare an economic analysis of the cost of complying with the California Toxics Rule for the five Los Angeles County Sanitation District (LACSD) inland POTWs in the San Gabriel River Watershed. The State Water Board contracted Sciences Applications International Corporation (SAIC) to prepare the economic analysis. Their report titled, *Potential Costs of Complying with the California Toxics Rule for Five Los Angeles County Sanitation District Facilities* (March 21, 2001), presented a worst case scenario and a most likely control scenario for all five facilities. Of the five LACSD POTWs, the smallest is the Pomona WRP, with a 15 MGD capacity. For the Pomona WRP, the worst case control scenario would require the use of Granular Activated Carbon (GAC), with a construction cost of about $12 Million, and an operation costs of $387,000 per year. The most likely control scenario required implementation of a source control or pollutant minimization program, a plant study for process optimization, and an improved coagulant chemical addition process, at a cost of $141,000 per year. Although the focus of the study was to consider CTR-based limits, the study did include consideration of the 4 µg/L MCL-based limitation for Bis(2-ethylhexyl)phthalate. The LACSD plants have focused on source control and techniques to achieve compliance with their permit limitations. In the case of Bis(2-ethylhexyl)phthalate, using cleaner sampling techniques has made a big difference in eliminating the amounts of detects (or false positives) obtained. The clean hands technique involved using gloves and bottles that were free of phthalates, for example using teflon and glassware. In no case did any of the LACSD POTWs have to install costly treatment systems for the removal of CTR-based or MCL-based pollutants.

Regional Water Board staff conclude that additional treatment units would not be required to meet the effluent limitation for bis(2-ethylhexyl)phthalate contained in the accompanying Order, in light of the above considerations as well as the fact that the most recent set of monitoring data (2009) does not indicate that the Discharger would have difficulty in achieving this effluent limitation. The Discharger may conduct an economic analysis and submit it to the Regional Water Board for consideration, during the public comment period, if so desired.

The Discharger has not submitted any economic information to indicate what the cost of complying with this Order would be. As discussed in other sections of the Fact Sheet, the individual pollutant restrictions are reasonably necessary to protect beneficial uses identified in the Basin Plan, and the economic information related to costs of compliance are not sufficient, in the Regional Water Board's determination,

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to justify failing to protect beneficial uses. The Regional Water Board adopted on November 3, 2005, a Time Schedule Order that included an interim limitation for bis(2-ethylhexyl)phthalate, and the requirement to achieve full compliance with the final limitation for bis(2-ethylhexyl)phthalate by May 17, 2010. Therefore, it is not appropriate to issue another Time Schedule Order.

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Summary of Final Effluent Limitations

Table F-6. Summary of Final Effluent Limitations

Final Effluent Limitations Applicable to Discharge Points 001, 002, 003, and 005							
Parameter	**Units**	**Effluent Limitations**					**Basis**
		Average Monthly	**Average Weekly**	**Max. Daily**	**Instantaneous Minimum**	**Instantaneous Max.**	
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	10	--	20	--	--	Existing
	lbs/day[4]	1.3~~X~~E3	--	2.7~~x~~E3	--	--	calculated
Total Suspended Solids	mg/L	5.0	--	10	--	--	Existing
	lbs/day [10]	6.7~~x~~E2	--	1.3~~x~~E3	--	--	Calculated
pH	standard units	--	--	--	6.5	8.5	Existing
Settleable Solids	ml/L	0.1	--	0.2	--	--	Existing
Oil and grease	mg/L	5	--	10	--	--	Existing
	lbs/day[10]	6.7~~x~~E2		1.3~~x~~E3	--	--	Calculated
Total Residual Chlorine	mg/L	--	--	0.1	--	--	Existing
MBAS	mg/L	0.5	--	--	--	--	Existing
	lbs/day[10]	67	--	--	--	--	Calculated
Mercury	µg/L	~~0.051~~ 5.1E2	--	0.10	--	--	CTR/SIP
	lbs/day[10]	~~0.0068~~ 6.8E-3	--	~~0.013~~ 1.3E-2	--	--	Calculated
Cyanide	µg/L	4.2		8.5			
	lbs/day[10]	0.56		1.1			
Aldrin	µg/L	~~0.00014~~ 1.4E-4	--	~~0.0003~~ 3.0E-4	--	--	CTR/SIP
	lbs/day[10]	1.9~~x~~E-5	--	4.0~~x~~E-5	--	--	Calculated
Alpha-BHC	µg/L	~~0.013~~ 1.3E-2	--	~~0.026~~ 2.6E-2	--	--	CTR/SIP
	lbs/day[10]	~~0.0017~~ 1.7E-3	--	~~0.0035~~ 3.5E-3	--	--	Calculated

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[4] The mass emission rates are based on the plant design flow rate of 16.1 MGD, and are calculated as follows: Flow(MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Dichlorobromomethane	µg/L	46	--	85	--	--	CTR/SIP
	lbs/day[10]	6.2	--	11	--	--	Calculated
4,4'-DDE	µg/L	5.9E-4	--	1.2E-3			
	lbs/day[10]	7.9E-5	--	1.6E-4			
4,4'-DDD	µg/L	8.4E-4	--	1.7E-3			
	lbs/day[10]	1.1E-4	--	2.3E-4			
Dieldrin	µg/L	1.4E-4	--	3.0E-4			
	lbs/day[10]	1.8E-5	--	4.0E-5			
Endrin	µg/L	4.3E-2	--	8.6E-2			
	lbs/day[10]	5.8E-3	--	1.2E-2			
Heptachlor	µg/L	2.1E-4	--	4.0E-4			
	lbs/day[10]	2.8E-5	--	5.4E-5			

Final Effluent Limitations Applicable to Discharge Points 001, 002, and 003 ONLY

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max. Daily	Instantaneous Minimum	Instantaneous Max.	
Total dissolved solids	mg/L	2000	--	--	--	--	Existing
	lbs/day[10]	2.7~~x~~E5	--	--	--	--	Calculated
Chloride	mg/L	500	--	--	--	--	Existing
	lbs/day[10]	6.7~~x~~E4	--	--	--	--	Calculated
Sulfate	mg/L	~~300~~ 500	--	--	--	--	Existing
	lbs/day[10]	~~16260~~ 6.7E4	--	--	--	--	Calculated
Boron	mg/L	2	--	--	--	--	Existing
	lbs/day[10]	2.7~~x~~E2	--	--	--	--	Calculated
Total Ammonia	mg/L	3.1	--	9.2	--	--	Basin Plan
	lbs/day[10]	4.2~~x~~E2		1.2~~x~~E3			Calculated
Nitrate + Nitrite as Nitrogen (NO_3-N + NO_2-N)	mg/L	8	--	--	--	--	USEPA-established TMDL
	lbs/day[10]	1.1~~x~~E3					Calculated
Total Phosphorus (Summer- April 15th – November 15th)	mg/L	3	--	--	--	--	Existing
	lbs/day[10]	4.0~~x~~E2					Calculated
Total Phosphorus (Winter- November 16th – April 14th)	mg/L	3	--	4	--	--	Existing
	lbs/day[10]	4.0E2		5.4E2			Calculated

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Bis(2-Ethylhexyl)Phthalate	µg/L	5.9	--	15	--	--	CTR/SIP
	lbs/day[10]	0.79	--	2.0	--	--	Calculated

Final Effluent Limitations Applicable to Discharge Point 005 ONLY

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Max. Daily	Instantaneous Minimum	Instantaneous Max.	
Total dissolved solids	mg/L	950	--	--	--	--	Existing
	lbs/day[10]	1.3~~x~~E5	--	--	--	--	Calculated
Chloride	mg/L	190	--	--	--	--	Existing
	lbs/day[10]	2.6~~x~~E4	--	--	--	--	Calculated
Sulfate	mg/L	300	--	--	--	--	Existing
	lbs/day[10]	4.0~~x~~E4	--	--	--	--	Calculated
Boron	mg/L	1.5	--	--	--	--	Existing
	lbs/day[10]	2.0~~x~~E2	--	--	--	--	Calculated
Fluoride	mg/L	1.6	--	--	--	--	Existing
	lbs/day[10]	2.2~~x~~E2	--	--	--	--	Calculated
Total Ammonia as N	mg/L	2.3	--	10.1	--	--	TMDL
	lbs/day[10]	~~0.31~~ 3.1E2		1.36E4			Calculated
Nitrate + Nitrite as Nitrogen (NO_3-N + NO_2-N)	mg/L	8 [6]		--	--	--	TMDL
	lbs/day[10]	1.1 ~~x~~E3					Calculated
Nitrite as Nitrogen (NO_2-N)	mg/L	1 [6]	--	--	--	--	TMDL
	lbs/day[10]	1.3 ~~x~~E2					Calculated
Nitrate as N (NO_3-N)	mg/L	8 [6]	--	--	--	--	TMDL
	lbs/day[10]	1.1 ~~x~~E3					Calculated
Total Phosphorus	mg/L	3	--	4	--	--	Existing
	lbs/day[10]	4.0 ~~x~~E2	--	8.0 ~~x~~E2	--	--	Calculated
Arsenic	µg/L	10	--	--	--	--	Title 22 MCL/ TSD
	lbs/day[10]	1.3	--	--	--	--	Calculated
Perchlorate	µg/L	6	--	--	--	--	Title 22 MCL/ TSD
	lbs/day[10]	0.81	--	--	--	--	Calculated
Total trihalomethanes	µg/L	80	--	--	--	--	Title 22 MCL/ TSD
	lbs/day[10]	11	--	--	--	--	Calculated

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Cadmium (wet weather)	µg/L	~~5.0~~ 1.1	--	~~7.9~~ 3.1	--	--	TMDL
	lbs/day[10]	~~0.67~~ 0.1	--	~~0.1~~ 0.4	--	--	Calculated
Copper (wet weather)	µg/L	~~21~~ 11	--	~~32~~ 17	--	--	TMDL
	lbs/day[10]	~~2.9~~ 1.5	--	~~4.3~~ 2.3	--	--	Calculated
Lead (wet weather)	µg/L	~~11~~ 23	--	~~20~~ 62	--	--	TMDL
	lbs/day[10]	~~1.5~~ 3.1	--	~~2.7~~ 8.3	--	--	Calculated
Zinc (wet weather)	µg/L	~~2.3xE2~~ 1.20E2	--	~~3.0xE2~~ 158	--	--	TMDL
	lbs/day[10]	~~31~~ 16.1	--	~~40~~ 21.3	--	--	Calculated
Copper (dry weather)	µg/L	~~21~~ 27	--	~~32~~ 41	--	--	TMDL
	lbs/day[10]	~~2.9~~ 3.6	--	~~4.3~~ 5.5	--	--	Calculated
Lead (dry weather)	µg/L	~~11~~ 13	--	~~20~~ 35	--	--	TMDL
	lbs/day[10]	~~1.5~~ 1.7	--	~~2.7~~ 4.7	--	--	Calculated
Selenium (dry weather)[8]	µg/L	~~4.5~~ 4	--	~~9.0~~ 8	--	--	~~AMEL- Title 22 MCL/ TSD; MDEL- CTR/SIP~~ TMDL
	lbs/day[10]	0.6	--	~~1.2~~ 1	--	--	Calculated
Bis(2-Ethylhexyl)Phthalate	µg/L	4	--	15	--	--	AMEL- Title 22 MCL/ TSD; MDEL- CTR/SIP
	lbs/day[10]	0.54	--	2.0	--	--	Calculated

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E. Interim Effluent Limitations – ~~N/A~~Not Applicable.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
~~Total trihalomethanes~~	~~µg/L~~	~~2.9xE2~~	~~--~~	~~--~~	~~--~~

F. Land Discharge Specifications

Not Applicable.

G. Reclamation Specifications

The discharger currently recycles treated effluent and plans on increasing the amount of water it recycles. The production, distribution, and reuse of recycled water for direct, non-potable applications are presently regulated under Water Reclamation Requirements (WRR) Order No. 87-48, adopted by this Regional Water Board on April 27, 1987.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order.

B. Groundwater

Limitations in this Order must protect not only surface receiving water beneficial uses, but also, the beneficial uses of underlying groundwater where there is a recharge beneficial use of the surface water. In addition to a discharge to surface water, there is discharge that can impact groundwater. Sections of the Malibu Creek and Los Angeles River, near the Tapia WRF discharge point, are designated as GWR beneficial use. Surface water from the Malibu Creek and Los Angeles River percolates into the Groundwater Basins listed in Table F-3b of this fact sheet. Since groundwater from these Basins is used to provide drinking water to the community, the groundwater aquifers should be protected. The existing groundwater monitoring program is being retained.

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VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Part 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize 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~~State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring is required:

- To determine compliance with the permit conditions for BOD_5 20°C and suspended solids removal rates;
- To assess treatment plant performance;
- To assess the effectiveness of the Pretreatment Program (once a pretreatment program is in place); and,
- As a requirement of the Pollution Minimization Program

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed Monitoring and Reporting Program (Attachment E). This provision requires compliance with the Monitoring and Reporting Program, and is based on 40 C.F.R. parts 122.44(i), 122.62,122.63, and 124.5. The Monitoring and Reporting Program is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board policies. The Monitoring and Reporting Program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the facility, will be required as shown on the proposed Monitoring and Reporting Program (Attachment E) and as required in the SIP. Monitoring requirements are largely unchanged from the previous Order. However, the frequency of monitoring has been

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reduced for those pollutants which no longer have effluent limits, due to the fact that there is no longer any reasonable potential for those pollutants to cause or contribute to an exceedance. Semi-annual monitoring for priority pollutants in the effluent is required in accordance with the Pretreatment requirements.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the TMDL WLA for toxicity, consistent with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and a 1.0 TUc numerical value for chronic toxicity, to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water.

2. Groundwater – Not Applicable.

E. Other Monitoring Requirements

1. Watershed Monitoring and Bioassessment Monitoring

The goals of the Watershed-wide Monitoring Program including the bioassessment monitoring for the Malibu Creek and Los Angeles River Watershed are to:

- Determine compliance with receiving water limits;
- ~~1.~~ Monitor trends in surface water quality;
- ~~2.~~ Ensure protection of beneficial uses;
- ~~3.~~ Provide data for modeling contaminants of concern;
- ~~4.~~ Characterize water quality including seasonal variation of surface waters within the watershed;
- ~~5.~~ Assess the health of the biological community; and
- ~~6.~~ Determine mixing dynamics of effluent and receiving waters in the estuary.

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VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

B. Special Provisions

1. Reopener Provisions

This provision is based on 40 C.F.R. part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. **Constituents of Emerging Concern (CEC) Special Study** – The Discharger shall initiate an investigation of CECs in the Discharger's effluent by conducting a special study The requirements of the CEC Special Study are included under Attachment E (MRP, section VII.A)

b. **Antidegredation Analysis and Engineering Report for Proposed Plant Expansion.** This provision is based on the State Water Resources Control Board Resolution No. 68-16. The intent of Resolution No. 68-16 was to ensure that, when the quality of some waters of the State is higher than that established by the adopted policies, such higher quality be maintained to the maximum extent possible. The resolution states that an activity, which produces or may produce an increased volume of waste, as in the case of increased wastewater treatment plant capacity, is required to meet waste discharge requirements, which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water

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quality consistent with maximum benefit to the people of the State will be maintained. Consistent with the intent of the Resolution No. 68-16, this provision requires the Discharger to clarify in writing, in the event of a planned plant capacity augmentation, that the projected increased volume of discharge will be accompanied by the addition of new treatment system(s) to ensure that higher water quality will be maintained. This provision requires the Discharger to report specific time schedules for the plant projects. This provision requires the Discharger to submit report to the Regional Water Board for approval.

~~b~~c. **Operations Plan for Proposed Expansion.** This provision is based on Section 13385(j)(1)(D) of the California Water Code and allows a time period not to exceed 90 days in which the Discharger may adjust and test the treatment system(s). This provision requires the Discharger to submit an Operations Plan describing the actions the Discharger will take during the period of adjusting and testing to prevent violations.

d.~~c.~~ **Treatment Plant Capacity.** The treatment plant capacity study required by this Order shall serve as an indicator for the Regional Water Board regarding Facility's increasing hydraulic capacity and growth in the service area.

e. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation for toxicity as specified in this Order/Permit, the Discharger shall conduct a TRE as detailed in section V of the MRP (Attachment E). The TRE will help the Discharger identify the possible source(s) of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level.

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

a. Spill Clean-Up Contingency Plan (SCP)

Since spills or overflows are a common event in the POTW service area, this Order/Permit requires the Discharger to review and update, if necessary, SCP after each incident. The Discharger shall ensure that the up-to-date SPC is readily available to the sewage system personnel at all times and that the sewage personnel are familiar with it.

b. Pollutant Minimization Program.

This provision is based on the requirements of Section 2.4.5 of the SIP.

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

This provision is based on the requirements of 40 C.F.R. 122.41(e) and the previous Order.

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

   a. **Biosolids Requirements.** To implement CWA Section 405(d), on February 19, 1993, USEPA promulgated 40 C.F.R. part 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Discharger to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Discharger is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Water Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.

   b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to Section 307 of the CWA; 40 C.F.R. parts 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

   c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

      The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

      Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The Discharger must comply with both the General Order and this Order.

6. **Other Special Provisions**

   Not applicable.

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7. **Compliance Schedules – Not Applicable.**

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided by posting a notice in a newspaper of local circulation and by posting a notice at the Tapia WRF.

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 **noon (12 PM)** on **May 7, 2010**.

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: June 3, 2010
Time: 9:00 AM
Location: Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, California

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

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

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Water Board must be directed to staff.

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E. Parties to the Hearing

The following are the parties to this proceeding:

~~3.~~1. The applicant/permittee
~~4.~~2. Regional Water Board Staff
3. Heal the Bay

Any other persons requesting party status must submit a written or electronic request to staff not later than [20] business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than **noon (12 PM)** on **May 7, 2010**.

Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at **9:00 a.m**. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 30 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of [15] business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

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If there should not be a quorum on the scheduled date of this meeting, all cases will be automatically continued to the next scheduled meeting on **July 8, 2010**. A continuance will not extend any time set forth herein.

H. 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

I. 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 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 (213) 576-6600.

J. 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.

K. Additional Information

Requests for additional information or questions regarding this order should be directed to Dr. Cathy Chang at (213) 576-6760.

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