

California Regional Water Quality Control Board
Santa Ana Region
and
U. S. Environmental Protection Agency
Region IX

July 19, 2002

ITEM: 13

SUBJECT: Amendment to Order No. 98-5, NPDES No. CA0110604, Waste Discharge Requirements, Orange County Sanitation District, Reclamation Plant No. 1 and Treatment Plant No. 2, Orange County - Order No. R8-2002-0055

DISCUSSION:

Summary

On March 6, 1998, the Board adopted Order No. 98-5 and on May 6, 1998, the U.S. Environmental Protection Agency, Region 9 signed the NPDES permit No. CA0110604, renewing the waste discharge requirements for Orange County Sanitation District's (OCSD) ocean outfall discharge. Receiving water monitoring data indicate that the discharge has consistently complied with the bacterial limitations contained in Order No. 98-5, which were established to protect both nearshore and offshore waters¹. However, the data also indicate that the discharge plume has, on occasion, traveled closer to shore than predicted. Therefore, the discharge may pose a threat to water contact recreational uses. Regional Board staff recommends that Order No. 98-5 be amended to include disinfection requirements to address this threat. EPA agrees with this recommendation. The proposed amendment requires OCSD to implement disinfection facilities using sodium hypochlorite (chlorine bleach) and to dechlorinate using sodium bisulfite, since disinfection/dechlorination in this manner can be implemented most readily in the short-term. OCSD has not objected to the disinfection of the wastewater in this manner. OCSD is conducting an investigation of alternative long-term disinfection methods, which may lead to future modification of the disinfection requirements. In conjunction with incorporating chlorine disinfection requirements, it is necessary to amend the Order to specify limitations on chlorine residual. Further, since Order No. 98-5 was adopted, revisions to the acute toxicity limits and tests specified in the California Ocean Plan have occurred. The acute toxicity limits and test requirements specified in Order No. 98-5 implement the prior Ocean Plan and must be revised. If approved, this amendment to Order No. 98-5 would take effect on August 12, 2002, consistent with the schedule for completion and operational start-up of the disinfection facilities.

¹ Nearshore waters are within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline. Offshore waters are between the nearshore waters and the limit of ocean waters of the State (i.e., three miles from the shoreline.)

Disinfection/Chlorine Residual

Order No. 98-5 contains receiving water limits designed to protect the health of people who come in contact with ocean waters that may be affected by the OCSD effluent discharge. These limits implement the bacterial water-contact objectives specified in the 1997 California Ocean Plan, which was in effect at the time Order No. 98-5 was adopted. Specifically, Receiving Water Limitation D.1.a.1. requires that certain total and fecal coliform bacterial objectives shall be maintained within the nearshore zone and within the offshore zone to a depth of 10 feet to protect the water contact recreational use of those waters. The requirement to maintain the objectives to the 10-foot depth in offshore waters was based on the Regional Board's finding that it is the surface waters of the offshore zone to a depth of 10 feet that are used for water contact recreation². Due to the location of the outfall (at 55 m depth and approximately 8.2 km (5.1 miles) offshore of the Huntington Beach area, just north of the Santa Ana River) and the ocean characteristics around the outfall, disinfection of the wastewater has not been necessary to maintain compliance with these objectives.

In recent years, the waters off Huntington Beach have been plagued periodically with high concentrations of bacteria that have resulted in the posting and closure of the beaches to water-contact recreation. Numerous studies have been conducted to determine the source(s) of the problem. To date, none of these studies has directly linked the problem to OCSD's wastewater discharge. However, recent monitoring work conducted by OCSD has detected low levels of total coliform bacteria, related to the discharge plume, at the surface at a sampling station about three miles from shore. The results also showed plume-related bacteria within one half mile of shore in the deep waters of a submarine canyon (Newport Canyon). Although neither the limitations in Order No. 98-5 nor the A.B. 411 bacterial standards for beach waters³ were exceeded, Board staff believes that, based on these recent findings, it is prudent to require the disinfection of the wastewater, and to modify the bacterial limits contained in Order No. 98-5 to ensure that water-contact recreational activities in both offshore and nearshore ocean waters are not threatened by this discharge. This proposed amendment would require the implementation of disinfection facilities using sodium hypochlorite (chlorine bleach) and dechlorination facilities using sodium bisulfite, since disinfection/dechlorination in this manner can be most readily implemented in the short-term. Further, this proposed amendment would revise Receiving Water Limitation D.1.a.1. to require that the bacterial objectives shall be maintained throughout the water column in the offshore zone, rather than in only the top ten feet.

OCSD has not objected to the proposed disinfection requirements. Temporary chlorination/dechlorination facilities are expected to be operational by August 12, 2002. OCSD is conducting an evaluation of alternative, long-term disinfection strategies. The temporary chlorination/dechlorination facilities may eventually be supplanted by a more permanent solution, which may include use of an alternative disinfection agent. Revision of the disinfection requirements can be considered in the future, if warranted by the results of OCSD's investigations.

² The Ocean Plan stipulates that the bacterial objectives apply to the nearshore zone and to those areas outside that zone used for water contact sports, as determined by the Regional Board.

³ These standards include total and fecal coliform, as well as enterococcus, another type of bacterial indicator. The Ocean Plan and A.B 411 standards for total and fecal coliform are very similar.

OCSD's stated operational goal with the disinfection process is to achieve both the Ocean Plan bacterial objectives (as reflected in Order No. 98-5) and the A.B. 411 bacterial standards at the boundary of the Zone of Initial Dilution (ZID) of the discharge. The ZID is approximately a 60-meter radius around the outfall. In light of this, while the proposed amendment would require that compliance with bacterial objectives be achieved throughout the nearshore and offshore zones, it may be appropriate in the future to consider extending the zone of compliance beyond the limit of offshore waters, perhaps to the ZID. To provide data needed to make this determination, this amendment would require the discharger to submit a proposal for an appropriate investigation. The discharger would be required to implement the investigation upon the Executive Officer's approval. It may be noted that this investigation would be expected to include analyses for enterococcus as well as total and fecal coliform so that conformance with A.B. 411 standards can also be evaluated⁴. These data will be considered in the upcoming renewal of Order No. 98-5, which is expected to be considered in 2003, and may result in a revision of the area in which compliance with bacterial objectives is to be achieved.

Wastewater disinfection with chlorine usually produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life. Since disinfection with chlorine was not contemplated at the time Order No. 98-5 was issued, the permit does not contain any limits on the amount of chlorine residual that may be in the effluent. In conjunction with the amendment of Order No. 98-5 to include requirements for disinfection using chlorine, Order No. 98-5 must be amended to add chlorine residual limits.

The California Ocean Plan contains receiving water limits for chlorine residual for the protection of marine aquatic life. The proposed amendment would incorporate effluent limits into Order No. 98-5 that are based on these Ocean Plan water quality objectives.

Acute Toxicity

Order No. 98-5 contains effluent limits and testing requirements for acute toxicity that are based on the 1997 Ocean Plan, which was in effect at the time of permit adoption. The 1997 Ocean Plan specified the use of freshwater test organisms to determine compliance with acute toxicity limits.

⁴ The proposed amendment does not require compliance with the A.B. 411 standards, but instead relies on the bacterial objectives in the Ocean Plan. The Ocean Plan may be revised in the future to include enterococcus objectives; in that case, further amendment of the Order would be necessary. There are also practical considerations that make it unreasonable to impose enterococcus limits at this time. Given holding time considerations, an alternative to the approved standard method would have to be utilized for the numerous samples collected offshore. The use of this alternative method is appropriate for research investigations but not for compliance purposes.

The Ocean Plan has been revised since Order No. 98-5 was adopted. The current version of the Ocean Plan became effective on December 3, 2001 (2001 Ocean Plan). The new Ocean Plan revised the procedures to develop acute toxicity limits in permits and changed the testing protocols for determining compliance with those limits. Acute toxicity effluent limits are now to be based on the acute toxicity water quality objective that is specified in the Ocean Plan. In addition, the Ocean Plan now requires the use of marine test species instead of freshwater species when measuring compliance.

The proposed amendment would revise the acute toxicity effluent limits and testing procedures in Order No. 98-5 to conform to those specified in the 2001 Ocean Plan.

RECOMMENDATION:

Adopt Order No. R8-2002-0055, as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
U.S. Army District, Los Angeles, Corps of Engineers, Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
State Department of Health Services, Carpenteria – John Curphey
State Department of Health Services, Carpenteria - Jeff Stone
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
Orange County Water District - Nira Yamachika
Santa Ana Watershed Project Authority - Joseph Grindstaff
Surfrider Foundation, Huntington/Long Beach Chapter
Orange County Coastkeeper- Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Dr. Jack Skinner
City of Anaheim
City of Brea
City of Buena Park
Costa Mesa Sanitary District
City of Cypress
City of Fountain Valley
City of Fullerton
City of Garden Grove
City of Huntington Beach
Irvine Ranch Water District
City of La Habra
City of La Palma

County Sanitation Districts of Los Angeles County
City of Long Beach
Rossmoor/Los Alamitos Area Sewer District
Midway Cities Sanitation District
City of Newport Beach
City of Orange
City of Placentia
City of Santa Ana
City of Seal Beach
City of Stanton
Sunset Beach Sanitary District
City of Tustin
City of Villa Park
City of Westminster
Yorba Linda Water District
Naval Weapons Station Seal Beach
Air Forces Reserve Center Los Alamitos

California Regional Water Quality Control Board
Santa Ana Region
and
U.S. Environmental Protection Agency
Region IX

Order No. R8-2002-0055

Amending Order No. 98-5, NPDES No. CA0110604

Waste Discharge Requirements
And
Authorization to Discharge under the
National Pollutant Discharge Elimination System
for
Orange County Sanitation District's
Reclamation Plant No.1 and Treatment Plant No. 2
Orange County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board), and the U.S. Environmental Protection Agency (hereinafter EPA) find that:

1. On March 6, 1998, the Board adopted Order No. 98-5 and on May 6, 1998, the U.S. Environmental Protection Agency, Region 9 signed the NPDES permit No. CA0110604, renewing the waste discharge requirements for the County Sanitation Districts of Orange County (now known as Orange County Sanitation District, hereinafter OCSD or discharger) ocean outfall discharge of combined primary and secondary treated wastewater from its Reclamation Plant No. 1 and Treatment Plant No. 2.
2. Order No. 98-5 contains receiving water limits designed to protect the health of people who come in contact with the ocean waters (both nearshore and offshore waters¹) that may be affected by the OCSD effluent discharge. Receiving Water Limitation D.1.a.1. requires that certain bacterial objectives shall be maintained within the nearshore zone and within the offshore zone to a depth of 10 feet to protect the water contact recreational use of those waters. The requirement to maintain the objectives to the 10-foot depth in offshore waters was based on the Regional Board's finding that the waters in the top 10 feet of the offshore zone are used for water contact recreation. Due to the location of the outfall (at 55 m depth and approximately 8.2 km (5.1 miles) offshore of the Huntington Beach area, just north of the Santa Ana River) and the ocean characteristics around the outfall, disinfection of the wastewater has not been necessary to maintain compliance with these objectives. The discharge consistently meets these receiving water limits, as shown by receiving water monitoring data.

¹ *Nearshore waters are within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline. Offshore waters are between the nearshore waters and the limit of ocean waters of the State (i.e., three miles from the shoreline.)*

3. In recent years, the waters off Huntington Beach have been plagued periodically with high concentrations of bacteria that have resulted in the posting and closure of the beaches to water-contact recreation. Numerous studies have been conducted to determine the source(s) of the problem. To date, none of these studies has directly linked the problem to OCS D's wastewater discharge. However, recent monitoring work conducted by OCS D has detected low levels of total coliform bacteria, related to the discharge plume, at the surface at a sampling station about three miles from shore. The results also showed plume-related bacteria within one half mile of shore in the deep waters of a submarine canyon (Newport Canyon). Although neither the limitations in Order No. 98-5 nor the bacterial standards for beach waters² established by the Department of Health Services (DHS) pursuant to Assembly Bill (A.B.) 411 were exceeded, it is prudent to require disinfection of the wastewater using sodium hypochlorite as the disinfection agent, and dechlorination of the wastewater using sodium bisulfite, since disinfection/dechlorination in this manner can be implemented most readily in the short-term. Further, it is prudent to modify the bacterial limits contained in Order No. 98-5 to ensure that water-contact recreational activities in both offshore and nearshore ocean waters are not threatened by this discharge. This proposed amendment requires the implementation of chlorination (using sodium hypochlorite)/dechlorination (using sodium bisulfite) facilities, and revises Receiving Water Limitation D.1.a.1. to require that the bacterial objectives shall be maintained throughout the water column in the offshore zone, rather than in only the top ten feet..
4. OCS D has not objected to disinfection/dechlorination of the wastewater and, at least initially, will use, sodium hypochlorite (bleach) as the disinfection agent. Sodium bisulfite will be used to dechlorinate the wastewater. These interim facilities are expected to commence operations by August 12, 2002. OCS D is conducting an evaluation of long-term disinfection alternatives, which may result in recommendations for future revision of the chlorination/dechlorination requirements to implement an alternative disinfection strategy.
5. Wastewater disinfection with chlorine usually produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life. Since disinfection with chlorine was not contemplated at the time Order No. 98-5 was issued, the permit does not contain any limits on the amount of chlorine residual that may be in the effluent. In conjunction with the amendment of Order No. 98-5 to include requirements for disinfection using chlorine, Order No. 98-5 must be amended to add chlorine residual limits.

² *These standards include total and fecal coliform, as well as enterococcus, another type of bacterial indicator. The Ocean Plan and A.B. 411 standards for total and fecal coliform are very similar.*

6. OCSD's stated operational goal with the disinfection process is to achieve both the Ocean Plan bacterial objectives (as reflected in Order No. 98-5) and the A.B. 411 bacterial standards at the boundary of the Zone of Initial Dilution (ZID) of the discharge. The ZID is approximately a 60-meter radius around the outfall. In light of this, while the proposed amendment would require that compliance with bacterial objectives be achieved throughout the nearshore and offshore zones, it may be appropriate in the future to consider extending the zone of compliance beyond the limit of offshore waters, perhaps to the ZID. To provide data needed to make this determination, this amendment would require the discharger to submit a proposal for an appropriate investigation. The discharger would be required to implement the investigation upon the Executive Officer's approval. It may be noted that this investigation would be expected to include analyses for enterococcus as well as total and fecal coliform so that conformance with A.B. 411 standards can also be evaluated³. These data will be considered in the upcoming renewal of Order No. 98-5, which is expected to be considered in 2003, and may result in a revision of the area in which compliance with bacterial objectives is to be achieved.
7. Order No. 98-5 also specified acute toxicity limits and test requirements based on the 1997 Ocean Plan. The acute toxicity requirements in the 1997 Ocean Plan were based on best available technology. Since the adoption of Order No. 98-5, the 1997 Ocean Plan has been revised. A new Ocean Plan became effective on December 3, 2001 (2001 Ocean Plan). The new Ocean Plan revised the procedures to develop acute toxicity limits in permits and changed the testing protocols for determining compliance with those limits. Acute toxicity effluent limits are now to be based on the acute toxicity water quality objective that is specified in the Ocean Plan. In addition, the Ocean Plan now requires the use of marine test species instead of freshwater species when measuring compliance. It is appropriate to revise the acute toxicity limits and testing protocols specified in Order No. 98-5 to be consistent with the 2001 Ocean Plan.
8. On July 17, 2002, the Orange County Sanitation District Board of Directors approved a resolution stating that it is the District's policy to treat all wastewater discharges into the ocean to secondary treatment standards. To implement this policy the resolution directs District's staff to proceed immediately with the planning, design, and implementation of treatment methods that will assure compliance with Federal Clean Water Act secondary treatment standards, and to expeditiously negotiate appropriate permit terms and conditions.

³ *The proposed amendment does not require compliance with the A.B. 411 standards, but instead relies on the bacterial objectives in the Ocean Plan. The Ocean Plan may be revised in the future to include enterococcus objectives; in that case, further amendment of the Order would be necessary. There are also practical considerations that make it unreasonable to impose enterococcus limits at this time. Given holding time considerations, an alternative to the approved standard method would have to be utilized for the numerous samples collected offshore. The use of this alternative method is appropriate for research investigations but not for compliance purposes.*

9. This amendment requires disinfection of the wastewater using sodium hypochlorite and sodium bisulfite. The use of these chemicals in the treatment process may result in low levels of these substances, or their byproducts, in the wastewater discharge. Discharges of these chemicals in conformance with the terms and conditions of Order No. 98-5, as amended by Order No. R8-2002-0055, may result in calculable but likely not measurable changes in the quality of the receiving waters. Discharges in conformance with Order No. 98-5, as amended by Order No. R8-2002-0055, would not result in adverse impacts to beneficial uses, including marine habitat. The discharge of these chemicals, and any resultant minor changes in water quality, would be of maximum benefit to the people of the State. Public use of ocean waters potentially affected by the OCSD's discharge is a significant part of the local and State economy. The application of these chemicals is being required as an immediate, short-term means of minimizing the threat to public health and water contact recreation beneficial uses of ocean waters posed by the discharge. It is the only option that OCSD can implement immediately. Therefore, the proposed amendment is consistent with state and federal antidegradation policies.

OCSD is currently undertaking a Capital Improvement Project *Effluent Pathogen Reduction Alternative Plan* Study that will review numerous chemical and non-chemical options for future pathogen reduction of the treated effluent. The study will include a detailed environmental impact analysis of all alternatives. Appropriate changes to the disinfection requirements will be considered based on the results of this study.

10. In accordance with Water Code Section 13389 of the California Water Code, the amendment of Order No. 98-5, NPDES No. CA0110604, is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13 of the Public Resources Code.
11. On June 19, 2002, the Regional Board and the U.S. Environmental Protection Agency notified the discharger and other interested agencies and persons of their intent to amend/modify the waste discharge requirements and authorization to discharge under the National Pollutant Discharge Elimination System (NPDES) for the discharge and provided them with an opportunity to submit their written views and recommendations.
12. The Regional Board and the EPA, in a public hearing on July 19, 2002 will hear and consider all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 98-5 shall be amended as follows:

1. Discharge Specification A.1.b. - Delete limitations for acute toxicity as follows (Language deleted is shown in double strike out type):

b. Major Wastewater Constituents and Properties Limitations

Constituent	Units	30-day Average	7-day Average	Maximum at any time
Grease and oil	mg/l lbs/day ⁵	25 61,500	40 98,400	75 184,000
Suspended Solids	n/a	As 30-day average, 75% removal from influent stream or 60 mg/l, whichever rate is higher		
Settleable Solids	ml/l	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	units	Within 6.0 to 9.0 at all times		
Acute Toxicity	TUa	1.5	2.0	2.5

2. Discharge Specification A.1.d. - Add limitations for total residual chlorine and acute toxicity as follows (Language added is in bold type and highlighted):

d. Toxic Materials Limitations for the Protection of Marine Aquatic Life

Constituent	Units	6-month Median	Daily Maximum	Instantaneous Maximum
Total Residual Chlorine	mg/l	0.36	1.45	10.86
Acute Toxicity	TUa	n/a	5.7	n/a
Chronic Toxicity	TUc	n/a	181	n/a
Radioactivity	Not to exceed limitations specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 32069 30253 of the CCR			

3. Acute and Chronic Whole Effluent Toxicity Requirements B.1.a. - Revise as follows (Language added is in bold type and highlighted, language deleted is shown in double strike out type):

⁵ Mass emission rates based on a projected end-of-permit annual average influent flow of 295 MGD.

a. Test Species and Methods

The discharger shall conduct monthly tests with the following vertebrate and invertebrate species for the first three tests. After this screening period, quarterly tests shall be conducted with the most sensitive species.

- 1) Vertebrate: ~~Fathead Minnow, Pimephales promelas~~ **Silverside, *Menidia beryllina*.**
- 2) Invertebrate: ~~Water flea, Ceriodaphnia dubia~~ **Pacific Mysid, *Holmesimysis costata*.**

Every year, the discharger shall re-screen during one quarterly test, at different times than the prior year(s) and continue to monitor with the most sensitive species.

For ***Holmesimysis costata*** ~~*Ceriodaphnia dubia*~~, the presence of acute toxicity shall be estimated using a 96-hour static test, as specified in ***Short – Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95-136, August 1995)*** ~~*Methods for Estimating the Acute Toxicity of Effluents to Freshwater and Marine Organisms, (EPA/600/4-90/027F, 1993)*~~. For ***Menidia beryllina*** ~~*Pimephales promelas*~~, the presence of acute toxicity shall be estimated using a 96-hour static test, as specified in ***Methods for Measuring the Acute Toxicity of Effluents to Aquatic Organisms (EPA/600/4-90/027F, 1993)*** ~~*(EPA-600/4-85-013, 1985)*~~.

4. Acute and Chronic Whole Effluent Toxicity Requirements B.1.b. - Revise as follows (Language added is in bold type and highlighted, language deleted is in double strike out type):

b. Definition of Acute Toxicity

Acute toxicity in effluents shall be measured using a multi-concentration test, consisting of a control and a minimum of five effluent concentrations. The tests are designed to provide dose-response information, expressed as the percent effluent concentration that is lethal to 50 percent of the test organisms (LC50) within the prescribed period of time (24-96 hours). Test results shall be reported in TUa, where TUa = 100/LC50. For this discharge, acute toxicity is defined by an exceedance of an acute toxicity effluent limitation specified in Discharge Specification A.1.**d** ~~b~~.

5. Receiving Water Limitations D.1.a.1) - Revise as follows (Language added is in bold type and highlighted, language deleted is in double strike out type):

1) Water-Contact Standards

Within the Nearshore **and** Zone, ~~and within the Offshore Zones to a depth of 10 feet, but including all kelp beds,~~ the following bacterial objectives shall be maintained throughout the water column:

6. Required Notices and Reports - Add new paragraph number 10. as follows:

10. Within 30-days of the effective date of this Order, the discharger shall file with the Regional Board a written proposal to conduct an investigation of the effects of the discharge on the bacterial quality of the ocean waters between the zone of initial dilution (ZID) boundary and offshore waters. This investigation shall be designed to collect data needed to evaluate whether and where compliance with the bacterial limitations in this Order and the bacterial standards established by the DHS pursuant to A.B. 411 can be consistently achieved. The proposal shall include time schedules for conducting the investigations.

7. Provisions - Revise paragraph H.5 as follows (Language added is in bold type and highlighted):

5. The discharger shall comply with M&RP No. 98-5. Revision by the Executive Officer of required total residual chlorine monitoring and reporting may be necessary to confirm that the discharger is in compliance with the requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the frequency of monitoring. Reduction in the frequency of monitoring for total residual chlorine shall be considered only under the following circumstances:

a. Reduction of daily monitoring to once weekly monitoring can be considered for approval by the Executive Officer when the effluent monitoring data for the last 2 months show compliance with effluent limitations.

b. Reduction of weekly monitoring to monthly monitoring can be considered for approval by the Executive Officer when the effluent monitoring data for the last 4 months show compliance with effluent limitations.

c. Reduction of monthly monitoring to quarterly monitoring can be considered for approval by the Executive Officer when the effluent monitoring data for the last 6 months show compliance with effluent limitations.

d. Should any of the daily, weekly, monthly, or quarterly monitoring show effluent concentrations above the effluent limit, the frequency of monitoring for total chlorine residual shall be increased to daily or weekly as directed by the Executive Officer.

8. Provision - Add new paragraph number 22. as follows:

22. The discharger shall install and implement chlorination (using sodium hypochlorite) and dechlorination (using sodium bisulfite) facilities for the disinfection of the wastewater. By March 1, 2003, the discharger shall submit a report that describes the results of the discharger's investigation of alternative disinfection methods and the plan and schedule for pilot testing of selected alternatives. The discharger shall implement this plan upon approval by the Regional Board's Executive Officer. This Order shall be reopened to reconsider the disinfection requirements upon completion of this investigation.

9. Provision - Add new paragraph number 23. as follows:

23. Upon approval of the investigation program required in Required Notices and Reports G.10. above, the discharger shall implement the program.

10. Provision - Add new paragraph number 24. as follows:

24. As Noted in Finding No. 8, the District's Board of Directors has adopted a resolution to upgrade all wastewater discharges into the ocean to secondary treatment standards. The Board adopts this Amendment, in part, in recognition of that determination.

In the event that the District determines at any time following adoption of this Amendment to treat its ocean discharges at a level less stringent than secondary standards, this Order shall be reopened and the issue of disinfection shall be reconsidered in its entirety.

11. Monitoring and Reporting Program No. 98-5, Influent and Effluent Monitoring - Revise paragraph B.2. and Table (table partially shown with the new changes) as follows (Language added is in bold type and highlighted, language deleted is in double strike out type):

2. The following constituents shall be monitored in the influent and effluent, except for settleable solids, turbidity, pH, **total residual chlorine**, acute toxicity, chronic toxicity, radioactivity, and TCDD equivalents which shall be monitored only in the effluent.

settleable solids	ml/l	grab	daily	monthly
Total Residual Chlorine	mg/l	Grab	Taken every three hours	monthly
turbidity	NTU	24 hr. composite	monthly	monthly

1,2-diphenylhydrazine	ug/l	24 hr. composite	monthly	monthly
Halomethane ⁸	ug/l	grab	Weekly for the first month and monthly thereafter quarterly	Monthly quarterly
Heptachlor ⁹	ug/l	24 hr. composite	monthly	monthly

12. Monitoring and Reporting Program No. 98-5, Receiving Water Monitoring requirement D.1.b. - Revise the paragraph immediately following the subject title "Offshore Water Quality Monitoring" and add new paragraph as follows (Language added is in bold type and highlighted, language deleted is in double strike out type):

Offshore water quality monitoring data are used to determine compliance with receiving water limitations, State water quality standards, and to assist in the interpretation of biological data. The Ocean Plan establishes quantitative water quality objectives for dissolved oxygen, light transmittance, and pH, as well as qualitative objectives for floating particulates, grease and oil, and discoloration of the ocean surface. The Regional Board has determined that the surface waters of the Offshore Zone, to a depth of 10 ft, are used for water contact recreation, ~~and that The Ocean Plan bacterial standards apply to in these waters.~~ **However, the Regional Board and EPA have determined that it is appropriate to apply bacterial standards throughout the water column in the offshore zone to assure that the discharge does not pose a threat to water contact recreational uses.**


13. Monitoring and Reporting Program No. 98-5, Receiving Water Monitoring requirement D.1.b. - Revise the paragraph between Table RWM-1- and Table RWM-2 as follows (Language added is in bold type and highlighted, language deleted is in double strike out type):

At each station, a secchi disk shall be used to assess transparency, and visual observations of surface waters shall be noted. Temperature, salinity, pH, dissolved oxygen (DO), light transmittance, photosynthetic active radiation (PAR), and chlorophyll-a shall be measured at 1 m intervals throughout the entire water column to 2 m above the bottom at each station using a CTD with attached meters (for pH, DO, light transmittance, PAR, chlorophyll-a). All station depths shall be surveyed for actual bottom depth. At stations greater than 75 m, profiles shall be sampled to a maximum depth of 75 m. Grab samples for ammonia-nitrogen, total coliform organisms, and *Escherichia coli* shall be collected at discrete depths from 1 m below surface, 5 m, 10 m, 15 m, etc., to 2 m above the bottom or to a maximum depth of 60 m. For the purposes of determining compliance with Receiving Water Limitation D.1.a.1.b, five samples for total coliform organisms, ~~and~~

Escherichia coli shall be collected ~~at 1 m below the surface~~ at six stations (~~8, 4, 4, 4, 0,~~
~~4, 4, 4, 4, 2, and C2~~) (2403, 2303, 2203, 2103, 2104 and C2) at discrete depths listed
in Table RWM-1 to a maximum depth of 60 m. For the purpose of developing
information, five samples for enterococci shall be collected at six stations (2403,
2303, 2203, 2103, 2104, and C2) at discrete depths listed in Table RWM-1 to a
maximum depth of 60m.


14. All other conditions and requirements of Order No. 98-5 shall remain unchanged.
15. This Order shall take effect on August 12, 2002.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of Order No. R8-2002-0055 adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 19, 2002.



Gerard J. Thibeault
Executive Officer
California Regional Water Quality Control Board
Santa Ana Region

I, Alexis Strauss, Director, do hereby certify that the foregoing is a full, true, and correct copy of modifications to NPDES Permit No. CA0110604 adopted by the U. S. Environmental Protection Agency Region IX, on July 19, 2002.



Alexis Strauss, Director
Water Division
U. S. Environmental Protection Agency
Region IX