



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

May 31, 2013

Mr. Enrique C. Zaldivar, Director
City of Los Angeles, Bureau of Sanitation
Terminal Island Water Reclamation Plant 1149
S. Broadway 9th Floor
Los Angeles, CA 90015

**REVISED DUE DATE FOR SPECIAL STUDY MICROBIAL WATER QUALITY ASSESSMENT
IN LOS ANGELES HARBOR RELATIVE TO THE TERMINAL ISLAND WATER
RECLAMATION PLAN DISCHARGE, RESOLUTION NO. R12-005.**

Dear Mr. Zaldivar:

Order No. R4-2010-0071, which serves as Waste Discharge Requirements and a National Pollutant Discharge Elimination System (NPDES) permit for the Terminal Island Water Reclamation Plant, includes requirements for a special study to assess the microbial water quality in the Los Angeles Harbor relative to discharge from your facility.

As described in Resolution No. R12-005, the results of the special study were due on May 15, 2013. On May 3, 2013, we received a request from Ms. Kay Yamamoto, via electronic media, to revise the due date to May 31, 2013. Ms. Ioannice Lee provided additional information about the request, stating that the delay was due to an error in calculation. Materials summarizing the project results, to date, were received before the report due date on May 14, 2013 and are attached below. Further, these preliminary results were provided before our most recent meeting with your operations team on May 15, 2013.

It is in the interest of the Regional Board's oversight responsibilities that the due date for the microbial water quality assessment be revised to May 31, 2013.

If you have questions, feel free to contact Elizabeth Erickson at (213) 576 6665.

Sincerely,

A handwritten signature in cursive script that reads "Samuel Unger".

Samuel Unger, P.E.
Executive Officer

Enclosures:
Resolution R12-005
Attachment A

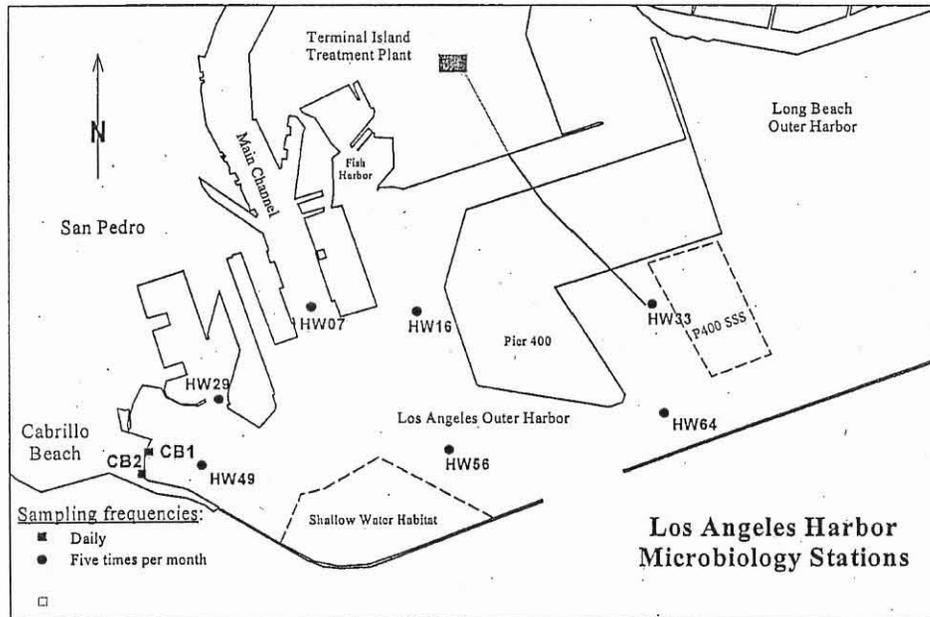
MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

Attachment A

Re: Resolution No. R12-005, Terminal Island Water Reclamation Plant Special Study update

So far, the data shows that bacterial densities and exceedances are elevated in wet weather when compared to dry weather and that the number of single-sample exceedances correlates well with annual rainfall. Annual single-sample, dry-weather exceedances are low for most sites, with most exceedances at station HW33, located at the mouth of the TIWRP outfall. The number of annual, dry-weather, single-sample exceedances for total coliforms and *Enterococcus* at LA Harbor weekly monitoring sites from 1996 through 2011 was never greater than one exceedance. Stations HW33 (at the discharge pipe) and HW64 (south of Pier 400) were the only sites to have more than one annual exceedance for fecal coliforms (*E. coli*) for the sixteen-year period. This indicates that the vast majority of exceedances in the monitoring area may be due to storm water runoff and not TIWRP plant effluent. However, the geometric mean exceedances were calculated incorrectly and need to be re-calculated and assessed before the report can be completed.



Receiving Water Limitations - water contact standards (REC-1)

Single Sample Limits shall not exceed

- 10,000 total coliform bacteria/100 ml, or
- 400 fecal coliform/*E.coli* bacteria/100 ml, or
- 104 *Enterococcus* bacteria/100 ml, or
- 1,000 total coliform bacteria/100 ml, if the ratio of fecal/total coliform exceeds 0.1

Rollin 30-day Geometric Mean Limits shall not exceed

- 1,000 total coliform bacteria/100 ml, or
- 200 fecal coliform/*E.coli* bacteria/100 ml, or
- 35 *Enterococcus* bacteria/100 ml

State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. R12-005
Approving the City of Los Angeles' Proposed Special Study for the
Terminal Island Water Reclamation Plant

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds that:

1. The Regional Water Board adopted Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit (Order No. R4-2010-0071) for the Terminal Island Water Reclamation Plant on May 6, 2010.
2. The NPDES permit contains a requirement for the City of Los Angeles (City) to consult annually with the Regional Water Board to determine the need for special studies. Detailed scopes of work for proposals shall be presented to obtain Regional Water Board approval and to inform the public. Special studies are focused on refined questions regarding specific effects or development of monitoring techniques and are anticipated to be of short duration and/or small scale, although multiyear studies also may be needed. Questions regarding effluent or receiving water quality, discharge impacts, ocean processes in the area of the discharge, or development of techniques for monitoring the same, arising out of the results of core or regional monitoring, may be pursued through special studies.
3. On December 20, 2011, representatives from the City met with Regional Water Board staff to discuss the following proposed special study for 2012: Evaluation of Microbiological Monitoring Effort in Los Angeles Harbor Receiving Waters.
4. Regional Water Board staff believe that the proposed special study fulfills the requirements of the NPDES permit and recommend that it be approved by the Regional Water Board.

THEREFORE, BE IT RESOLVED THAT:

1. The Regional Water Board believes that the following proposed special study for 2012: Evaluation of Microbiological Monitoring Effort in Los Angeles Harbor Receiving Waters merits approval.

April 5, 2012

Resolution No. R012-005

Approving the City of Los Angeles' Proposed Special Study for the Terminal Island Water Reclamation Plant

2. The Regional Water Board hereby approves the City of Los Angeles' special study proposal.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on April 5, 2012.

Samuel Unger

Samuel Unger, P.E.

Executive Officer

City of Los Angeles
Bureau of Sanitation
Terminal Island Water Reclamation Plant (TIWRP)

Special Study Proposal
*Microbiological Water Quality Assessment in Los Angeles Harbor Relative to the
Terminal Island Water Reclamation Plant Discharge: 1996-2011*

Introduction:

The microbiological impact of the Terminal Island Wastewater Treatment Plant (TIWRP) discharge to the Los Angeles Harbor receiving waters and Inner Cabrillo Beach shoreline has been studied through many years of monitoring. Via annual and biennial assessments of fecal indicator bacteria data for LA Harbor receiving water, Inner Cabrillo Beach shoreline, and two water quality studies conducted in 1999 by the Environmental Monitoring Division of the Bureau of Sanitation, City of Los Angeles (CLAEMD), it has been determined that TIWRP effluent, has exhibited no detectable microbiological impact to the Cabrillo Beach shoreline.

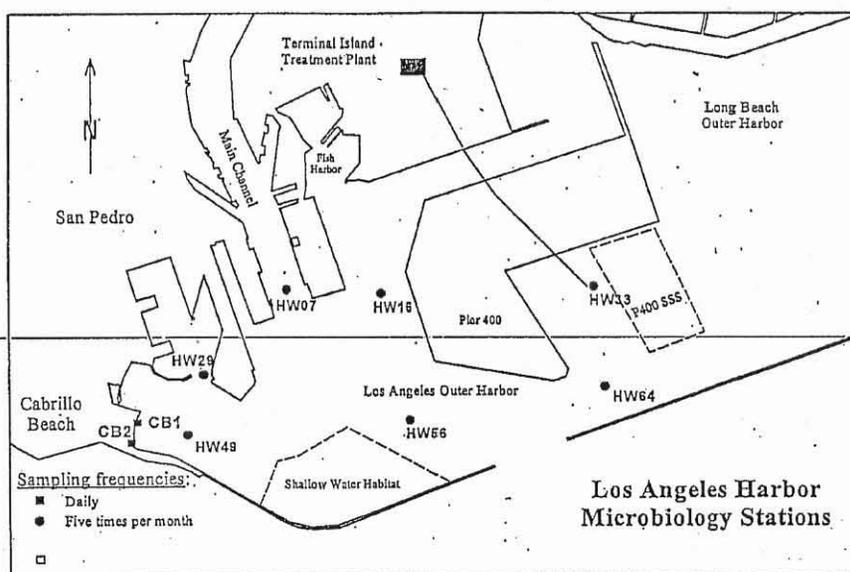
TIWRP was originally built in 1935 with a treatment process comprised of preliminary and primary treatments with the effluent discharged into the Harbor. TIWRP was upgraded from primary to secondary treatment using an activated sludge process in 1977, and was further upgraded to tertiary treatment in 1996. TIWRP treatment processes include wastewater and advanced wastewater processing with microfiltration and reverse osmosis; the startup of the new process began in January 1997. In addition to the upgrade in treatment processes, the TIWRP outfall was relocated due to the construction of Pier 400 in 1996. The goal of this study is to assess the microbiological impact of the discharge on the receiving waters through a surfeit of data ranging from 1996 through 2011 and to determine whether bacteriological water quality conditions have deteriorated, remained stagnant, or improved since the start up of tertiary treatment in 1996 and relocation of the outfall.

TIWRP NPDES sites targeted for the study are listed and mapped below, along with their coordinates.

LA Harbor weekly microbiological monitoring sites

Station Number	Latitude	Longitude
HW07	33° 43' 21" N	118° 16' 12" W
HW16	33° 43' 20" N	118° 15' 42" W
HW29	33° 42' 57" N	118° 16' 38" W
HW33	33° 43' 19.6" N	118° 14' 36.2" W
HW49	33° 42' 40" N	118° 16' 43" W
HW56	33° 42' 44" N	118° 15' 32.7" W
HW64	33° 42' 53.5" N	118° 14' 30.7" W

TIWRP outfall in the Los Angeles Harbor



Objectives:

The City has historically produced LA Harbor microbiology assessment reports based on data from annual and biennial periods, but has never assessed or searched for trends from data covering a fifteen-year span. The purpose of this study is to assess and present data, ranging from 1996 to 2011, to confirm whether bacteriological water quality conditions have improved, remained stagnant, or deteriorated since the startup of tertiary treatment process, the addition of Pier 400, and the re-location of the TIWRP outfall.

Benefits:

Although it would be ideal to assess data from the start of microbiological monitoring in LA Harbor receiving waters, data from earlier monitoring periods (pre-1996) has either been lost or is not electronically available and would be difficult to impossible to input and organize.

The benefit of assessing available data is the determination of improvement, or lack of, in bacteriological water quality conditions in the Harbor receiving waters since the

aforementioned changes. To our knowledge, an assessment of this magnitude has never been done in this area.

Approach:

An assessment of more than 15 years of CLAEMD, LA Harbor receiving-water microbiological data ranging from January 1996 to December 2011 is proposed. Data will include geometric mean densities of fecal indicator bacteria targets [total and fecal coliform (including *E. coli*) and enterococcus] from two methods of organism detection (membrane filtration and chromogenic substrate). Assessment of geometric mean and bacterial-standards exceedances data will be summarized in a CLAEMD Special Study report.

Project Duration:

This study will take approximately one year to complete with a start date of May 15, 2012 and anticipated completion by May 15, 2013.

Deliverables:

Progress reports will be submitted quarterly, with the first report to be submitted August 15, 2012. A final assessment report with the results of the study and a summary of geometric-mean concentrations and bacterial-standards exceedances of target organisms from 1996 to 2011 will be submitted to the CLAEMD project manager for submission to the Regional Water Quality Control Board by May 15, 2013.

Collaborators:

None