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## Los Angeles Regional Water Quality Control Board

February 8, 2017

Mr. Richard D. Cameron  
Director of Planning and Environmental Affairs  
Port of Long Beach  
4801 Airport Plaza Drive  
Long Beach, CA 90815

### **WASTE DISCHARGE REQUIREMENTS NRG GENERATING STATION INTAKE STRUCTURE DEMOLITION (FILE NO. 16-134)**

Dear Mr. Cameron:

Reference is made to our letter of November 30, 2016, which transmitted copies of tentative waste discharge requirements (WDRs) and a receiving water monitoring program for dredging and disposal of dredged material from the Port of Long Beach NRG Generating Station Intake Structure Demolition project within Long Beach Harbor in Long Beach, Los Angeles County.

In accordance with the California Water Code, this Board, at a public meeting held on February 2, 2017, at 9:00 a.m., at the Metropolitan Water District Board Room, located at 700 N. Alameda St., Los Angeles, California, considered all factors in the case and adopted Order No. R4-2017-0044 relative to this waste discharge (copy enclosed). The Standard Provisions, which were sent to you with the tentative requirements, were adopted without change and are part of this order.

All monitoring reports should be submitted electronically to the Regional Board via the GeoTracker database system (<http://geotracker.waterboards.ca.gov>). Reference all technical monitoring reports required by this Order to our Compliance File No. 10298. Please do not combine reports – each should be submitted as a separate document.

Should you have any questions, please telephone me at (213) 576-6718.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Michael Lyons".

J. Michael Lyons  
Senior Environmental Scientist

Enclosures

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IRMA MUÑOZ, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4<sup>th</sup> St., Suite 200, Los Angeles, CA 90013 | [www.waterboards.ca.gov/losangeles](http://www.waterboards.ca.gov/losangeles)

♻️ RECYCLED PAPER

cc: Bill Orme, Non-point Source Unit, SWRCB  
Jennifer Fordyce, Office of Chief Counsel, SWRCB  
Larry Simon, California Coastal Commission (San Francisco)  
Bill Paznokas, California Department of Fish and Game (San Diego)  
Theresa Stevens, U.S. Army Corps of Engineers (Ventura)  
Allan Ota, U.S. Environmental Protection Agency (San Francisco)  
Melissa Scianni, U.S. Environmental Protection Agency (San Francisco)  
Carol Roberts, U.S. Fish and Wildlife Service (Carlsbad)  
Bryant Chesney, National Marine Fisheries Service (Long Beach)  
Steven Johnson, Heal the Bay  
Matthew Arms, Port of Long Beach  
Janna Watanabe, Port of Long Beach

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**ORDER NO. R4-2017-0044**

**WASTE DISCHARGE REQUIREMENTS  
FOR  
PORT OF LONG BEACH  
(NRG GENERATING STATION INTAKE STRUCTURE DEMOLITION)  
(FILE NO. 16-134)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

1. The Port of Long Beach (POLB) has filed an application for Waste Discharge Requirements for demolition and removal of the existing seawater intake structure used by the NRG Long Beach Generating Station in Long Beach Harbor, Los Angeles County.
2. The NRG Long Beach Generating Station is located within the Port of Long Beach directly north of the Gerald Desmond Bridge (Figure 1). The existing seawater intake structure, located near Pier S, S114, is no longer used by the NRG facility. This structure protrudes into the Back Channel, posing a significant navigational hazard to vessels. POLB proposes to demolish and remove portions of the concrete seawater intake structure to facilitate better navigational maneuverability for ship traffic in the Back Channel.

The seawater intake structure forebay is approximately 133 feet in width at its widest point and approximately 45 feet in length. The submerged portion of the intake structure is approximately 41 feet in width at its widest point and 20 feet in length. Project activities include partial demolition of the main intake structure's forebay, including all utilities and features topside and below water, partial demolition of the adjacent submerged intake structure, in-water removal or relocation of utilities, rock rip-rap and other debris within the project area, and slope stabilization and regrading or reshaping of adjacent rock slopes. After removal of the structures, permanent lighted buoys will be placed in the water for navigational safety. Construction activities are expected to be performed using waterborne equipment. Concrete will be broken into pieces by mechanical means using a concrete wire saw and/or an excavator with a breaker or bucket. It is estimated that 5,000 tons of concrete will be removed and loaded onto a scow, to be offloaded at Pier S for processing. Scrap steel will be recycled and rock will be crushed into miscellaneous road base. Non-recyclable debris and materials will be disposed of at upland facilities appropriate for the type of debris generated and in accordance with federal and state regulations.

November 28, 2016

To facilitate the demolition and removal operations, maintenance dredging will be performed within and around the structures. A maximum of 1,500 cubic yards of sediment will be removed to a maximum depth of -52 feet mean lower low water (plus a 2-foot overdredge allowance to -54 feet mean lower low water). Dredging is expected to be performed by clamshell and barge. Silt curtains may be deployed during demolition activities, if necessary, to minimize turbidity.

POLB's first priority would be to beneficially reuse the dredged material within the Middle Harbor confined disposal facility (Figure 2). If this option is available, the dredged material would be transported by barge from the dredging area and disposed of within this fill site.

However, demolition of the NRG Generating Station Intake Structure may occur prior to the commencement of the next phase of fill operations within the Middle Harbor confined disposal facility. In this case, POLB would dispose of the dredged material by trucking it to an upland landfill. The dredged material would be placed at Pier S for temporary storage and processing (Figure 2), where standard best management practices would be utilized to ensure retention of the dredged material on the site. The dried dredged material would be transported to one of the following upland landfills: Chiquita Canyon Sanitary Landfill (Castaic), Republic Service Sunshine Canyon Landfill (Sylmar), Alpha Olinda Landfill (Brea) or Otay Landfill (Chula Vista) for disposal. POLB may request written approval from the Executive Officer for disposal of the dried material at an alternate regulated landfill.

3. A sediment characterization study was conducted in 2012. Seven samples were collected within the main intake structure forebay and four samples were collected outside the structure (Figure 3). Four composite samples (NRG Composite, NRG-A, NRG-A Bottom, and NRG-B) were created from the cores and sediment chemistry and effluent elutriate chemistry analyses were performed on each composite.
4. The sediment characterization results (Table 1) showed that the material to be dredged for the NRG Generating Station Intake Structure Demolition project is predominantly fine-grained material (81.52 – 96.28 % silt-clay). Several metals exceeded the concentration thresholds for which toxicity to aquatic organisms may be possible (Effects Range-Low, or ERL, thresholds) in one or more composite samples, including arsenic, cadmium, copper, lead, nickel, silver and zinc. Mercury concentrations exceeded the threshold for which toxicity to aquatic organisms would be likely (Effects Range-Median, or ERM threshold). Total PAHs and total PCBs exceeded the ERL thresholds in one composite, and DDT exceeded the ERL threshold in two composites.

The predominantly fine-grained material is not suitable for beneficial reuse for beach replenishment, which requires the use of sandy material to be successful. However, the physical and chemical results indicate that the dredged material would be suitable for beneficial reuse within the POLB Middle Harbor confined disposal facility, or for disposal at a regulated landfill site, namely Chiquita Canyon Sanitary Landfill (Castaic), Republic Service Sunshine Canyon Landfill (Sylmar) or Otay Landfill (Chula Vista).

5. Since all of the constituents were well below the total threshold limit concentrations (TTLC) and thus would not be classified as hazardous waste, the sediments would be suitable for disposal within a confined disposal facility, namely the POLB Middle Harbor fill site. Dried material also would be suitable for disposal at Chiquita Canyon Sanitary Landfill (Castaic), Republic Service Sunshine Canyon Landfill (Sylmar) or Otay Landfill (Chula Vista), subject to approval by the landfill facility.
6. The United States Corps of Engineers (COE) issued Permit No. 2008-01097 and Permit No. 2013-00475 for the NRG Generating Station Intake Forebay Demolition Project.
7. The Port of Long Beach issued a Categorical Exemption under Section 15301, Class I, for the NRG Generating Station Intake Forebay Demolition project on September 24, 2012.
8. The Regional Board adopted a revised Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties on June 13, 1994. The Water Quality Control Plan contains water quality objectives for Los Angeles-Long Beach Harbor. The requirements contained in this Order as they are met will be in conformance with the goals of the Water Quality Control Plan.
9. The beneficial uses of Los Angeles-Long Beach Harbor (All Other Inner Areas) are: industrial process supply, navigation, water contact recreation (potential), non-contact water recreation, commercial and sport fishing, marine habitat, shellfish harvesting (potential), and preservation of rare, threatened or endangered species (one or more species utilize waters or wetlands for foraging and/or nesting).
10. With proper management of the dredging and disposal operations, the project is not expected to release significant levels of contaminants to the Harbor waters or other State waters nor adversely impact beneficial uses.

Table 1. Sediment Characteristics (2012) –  
 NRG Generating Station Intake Structure Demolition.

Parameter	NRG Composite	NRG-A	NRG-A Bottom	NRG-B	Sediment Screening thresholds
Grain size: Sand	18.48 %	3.72 %	4.60 %	13.4 %	
Grain size: Silt	67.74 %	60.68 %	64.15 %	58.34 %	
Grain size: Clay	13.78 %	35.61 %	31.25 %	28.26 %	
Silver	Non-detect	1.58 ppm	0.763	Non-detect	ERL = 1 ppm ERM = 3.7 ppm
Arsenic	16.9 ppm	11.6 ppm	9.07 ppm	14.2 ppm	ERL = 8.2 ppm ERM = 70 ppm
Cadmium	1.14 ppm	2.35 ppm	0.961 ppm	0.916 ppm	ERL = 1.2 ppm ERM = 9.6 ppm
Chromium	71.2 ppm	61.0 ppm	33.2 ppm	46.1 ppm	ERL = 81 ppm ERM = 370 ppm
Copper	142 ppm	119 ppm	72.1 ppm	96.1 ppm	ERL = 8.2 ppm ERM = 70 ppm
Mercury	0.877 ppm	1.45 ppm	1.03 ppm	0.798 ppm	ERL = 0.15 ppm ERM = 0.71 ppm
Nickel	38.1 ppm	30.9 ppm	33.8 ppm	27.5 ppm	ERL = 20.9 ppm ERM = 51.6 ppm
Lead	93.9 ppm	104 ppm	71.5 ppm	67.3 ppm	ERL = 46.7 ppm ERM = 218 ppm
Selenium	0.763 ppm	0.749 ppm	Non-detect	Non-detect	No available thresholds
Zinc	282 ppm	374 ppm	176 ppm	199 ppm	ERL = 150 ppm ERM = 410 ppm
Total DDT	19 ppb	1.8 ppb	Non-detect	9.6 ppb	ERL = 1.58 ppb ERM = 46.1 ppb
Total PCB	91 ppb	12 ppb	3.5 ppb	Non-detect	ERL = 22.7 ppb ERM = 180 ppb
Total PAH	4,300 ppb	2,000 ppb	1,047 ppb	569 ppb	ERL = 4022 ppb ERM = 44792 ppb

ppm = parts per million; ppb = parts per billion; DDT = dichloro-diphenyl-trichloroethane; PCB = polychlorinated biphenyls; PAH = polynuclear aromatic hydrocarbons; ERL – Effects Range-Low; ERM= Effects Range-Median

The Regional Board has notified the Port of Long Beach and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

IT IS HEREBY ORDERED that the Port of Long Beach, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Requirements

1. The removal and placement of dredged/excavated material shall be managed such that the concentrations of toxic pollutants in the water column, sediments or biota shall not adversely affect beneficial uses.
2. Enclosed bay and estuarine communities and populations, including vertebrate, invertebrate and plant species, shall not be degraded as a result of the discharge of waste.
3. The natural taste and odor of fish, shellfish or other enclosed bay and estuarine resources used for human consumption shall not be impaired as a result of the discharge of waste.
4. Toxic pollutants shall not be discharged at levels that will bioaccumulate in aquatic resources to levels which are harmful to human health.
5. There shall be no acute toxicity or chronic toxicity in ambient waters as a result of the discharge of waste.
6. Dredging, excavation or disposal of dredge spoils shall not cause any of the following conditions in the receiving waters:
  - a. The formation of sludge banks or deposits of waste origin that would adversely affect the composition of the bottom fauna and flora, interfere with the fish propagation or deleteriously affect their habitat, or adversely change the physical or chemical nature of the bottom.
  - b. Turbidity that would cause substantial visible contrast with the natural appearance of the water outside the immediate area of operation.

- c. Discoloration outside the immediate area of operation.
- d. Visible material, including oil and grease, either floating on or suspended in the water or deposited on beaches, shores, or channel structures outside the immediate area of operation.
- e. Objectionable odors emanating from the water surface.
- f. Depression of dissolved oxygen concentrations below 5.0 mg/l at any time outside the immediate area of operation.
- g. Any condition of pollution or nuisance.

B. Provisions

- 1. The Discharge Requirements specified above are valid only for dredging of a maximum of 1,500 cubic yards of sediment and disposal within the POLB Middle Harbor Confined Disposal Facility, or disposal at the Chiquita Canyon Sanitary Landfill (Castaic), Republic Service Sunshine Canyon Landfill (Sylmar), Alpha Olinda Landfill (Brea) or Otay Landfill (Chula Vista), or disposal at an alternate regulated landfill upon written approval by the Executive Officer. POLB shall comply with the criteria in Order No. R4-2011-0052 (Disposal and Onsite Use of Non-Designated/Non-Hazardous Contaminated Soils and Related Wastes at Municipal Solid Waste Landfills) and meet the acceptance criteria established by the operator of the landfill(s) chosen for disposal.
- 2. POLB shall notify the Regional Board immediately by telephone of any adverse conditions in receiving waters or adjacent areas resulting from the removal of dredge materials or disposal operations; written confirmation shall follow within one week.
- 3. A copy of this Order shall be made available at all times to project construction personnel.
- 4. POLB shall provide the following information to the Regional Board:
  - a. A copy of the final permit issued by the United States Corps of Engineers for the dredge and disposal operations.
  - b. The scheduled date of commencement of each dredging and disposal

operation at least one week prior to initiation of dredging.

- c. Notice of termination of dredging and disposal operations, within one week following the termination date.
5. POLB shall submit, under penalty of perjury, technical reports to the Regional Board in accordance with specifications prepared by the Executive Officer.
6. In accordance with section 13260(c) of the Water Code, POLB shall file a report of any material change or proposed change in the character, location, or volume of the waste.
7. These requirements do not exempt POLB from compliance with any other laws, regulations, or ordinances which may be applicable and they leave unaffected any further restraint on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
8. In accordance with Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into waters of the State are privileges, not rights.
9. This Order includes Attachment N: "Standard Provisions, General Monitoring and Reporting Requirements" ("Standard Provisions") and the attached Monitoring and Reporting Requirements, both of which are incorporated herein by reference. If there is any conflict between provisions stated hereinbefore and said "Standard Provisions", those provisions stated hereinbefore prevail. If there is any conflict between requirements stated in the attached Monitoring and Reporting Program and said "Standard Provisions", the former shall prevail.
10. This Order fulfills the requirements for a Clean Water Act Section 401 Water Quality Certification for the proposed project. Pursuant to section 3860 of title 23 of the California Code of Regulations (23 CCR), the following three standard conditions shall apply to this project:
  - a. this certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and Article 6 (commencing with 23 CCR section 3867);

- b. this certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought;
- c. this certification is conditioned upon total payment of any fee required pursuant to 23 CCR division 3, chapter 28, and owed by the applicant.

11. This Order shall expire on June 30, 2020.

I, Samuel Unger, P.E., Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on February 2, 2017.



SAMUEL UNGER, P.E.  
Executive Officer

Figure 1. Location of NRG Intake Structure Demolition Project



Figure 1.  
Location of the NRG Demolition Project within Long Beach Harbor.

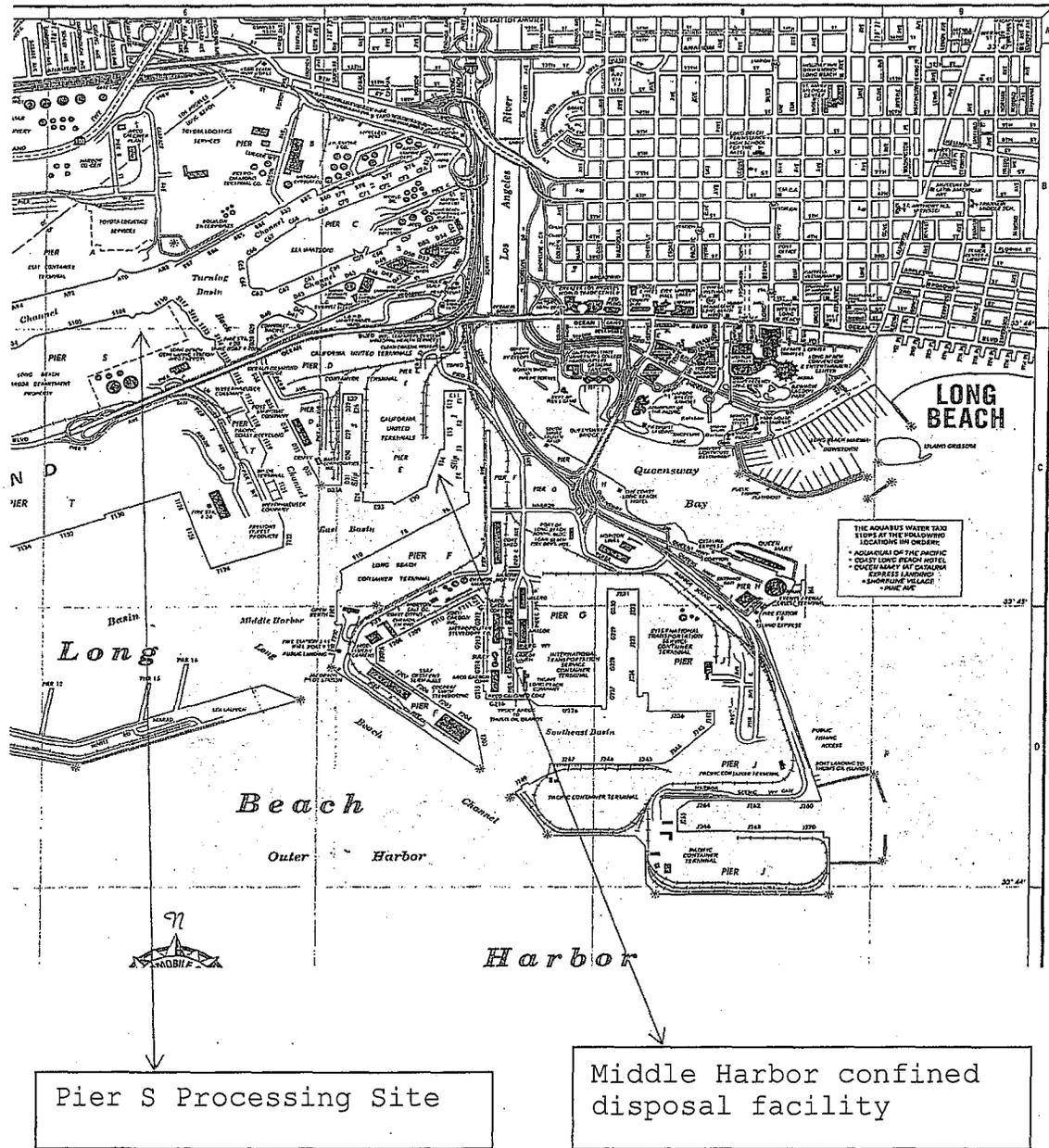


Figure 2.  
Location of the Pier S processing site and Middle Harbor confined disposal facility.

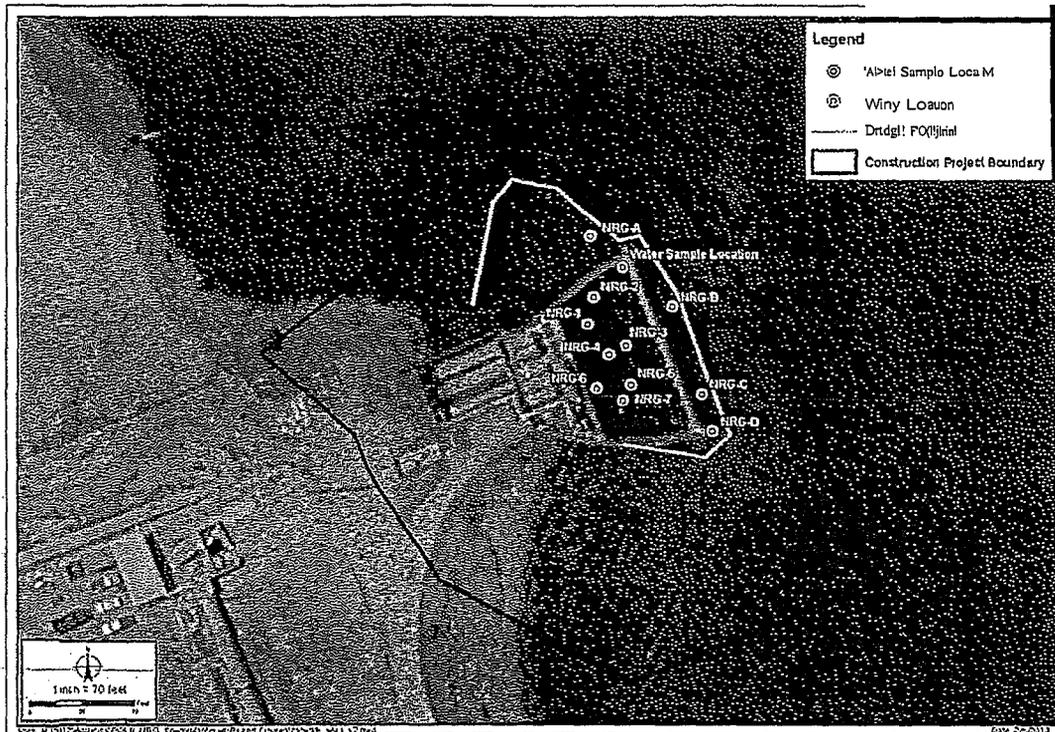


Figure 3.  
Sampling stations for 2012 Sediment Characterization Study.

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM NO. 10298  
FOR  
PORT OF LONG BEACH  
(NRG GENERATING STATION INTAKE STRUCTURE DEMOLITION)  
(FILE NO. 16-134)**

1. Receiving Water Monitoring

The following sampling protocol shall be undertaken by the Port of Long Beach (POLB) during the proposed dredging project. Sampling for the receiving water monitoring shall commence at least one week prior to the start of the dredging and fill operations and continue at least one week following the completion of all such operations. Sampling shall be conducted a minimum of once a week at Stations A through D during dredging operations (twice per week during the first two weeks of dredging operations). Sampling shall be conducted down current of the dredge sites at least one hour after the start of dredging operations. All receiving water monitoring data shall be obtained via grab samples or remote electronic detection equipment. Receiving water samples shall be taken at the following stations:

<u>Station</u>	<u>Description</u>
A	30.5 meters (100 feet) up current of the dredging operations, safety permitting.
B	30.5 meters (100 feet) down current of the dredging operations, safety permitting.
C	91.5 meters (300 feet) down current of the dredging operations.
D	Control site (area unaffected by dredging operations).

The following shall constitute the receiving water monitoring program:

Water Column

<u>Monitoring Parameters</u>	<u>Units</u>	<u>Station</u>	<u>Frequency</u>
Dissolved oxygen <sup>1</sup>	mg/l	A-D	Weekly <sup>2</sup>
Light transmittance <sup>1</sup>	% Transmittance	" "	"
pH <sup>1</sup>	pH units	" "	"
Suspended solids <sup>3</sup>	mg/l	" "	"

<sup>1</sup>Measurements shall be taken throughout the water column (at a minimum, at 2-meter increments).

<sup>2</sup>During the first two weeks of dredging, stations shall be sampled two times per week.

<sup>3</sup>Mid-depth shall be sampled

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Water column light transmittance values from Stations C and D shall be compared for the near surface (1 meter below the surface), for mid-water (averaged values throughout the water column, excluding the near surface and bottom) and for the bottom (1 meter above the bottom). When the difference in % light transmittance between stations C and D (for the near surface, mid-water or bottom) is 30% or greater, water samples shall be collected at mid-depth (or the depth at which the maximum turbidity occurs) and analyzed for trace metals, DDTs, PCBs and PAHs. At a minimum, one set of water samples shall be collected and analyzed for these chemical constituents during the maintenance dredging operation.

In the event that the water column light transmittance values from Stations C and D exceed the 30% trigger described above, POLB shall conduct the standard water quality monitoring described above for three consecutive days following the date of exceedance of the trigger. POLB shall notify the Regional Board, the California Coastal Commission, the United States Environmental Protection Agency and the United States Army Corps of Engineers within 24 hours following observance of a transmissivity exceedance. POLB shall investigate whether the exceedance of the monitoring trigger threshold is due to obvious dredging operational problems and can be corrected easily and quickly. However, if the turbidity problem persists or recurs, POLB shall look for other causes of the problem and evaluate whether additional, more aggressive best management practices are required to eliminate the exceedances; this evaluation shall be performed in consultation with the four regulatory agencies listed above.

Color photographs shall be taken at the time of sampling to record the presence and extent of visible effects of dredging operations. These photographs shall be submitted with the receiving water monitoring reports.

POLB shall provide Regional Board staff with a receiving water monitoring program field schedule at least one week prior to initiating the program. Regional Board staff shall be notified of any changes in the field schedule at least 48 hours in advance.

## 2. Observations

The following receiving water observations shall be made and logged daily during dredging or excavating operations:

- a. Date and time;
- b. Direction and estimated speed of currents;
- c. General weather conditions and wind velocity;
- d. Tide stage;
- e. Appearance of trash, floatable material, grease, oil or oily slick, or other objectionable materials;
- f. Discoloration and/or turbidity;
- g. Odors;
- h. Depth of dredge operations during previous day;
- i. Amount of material dredged the previous day;
- j. Cumulative total amount of material dredged to date.

### 3. General Provisions

All sampling, sample preservation, and analyses shall be performed in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" promulgated by the United States Environmental Protection Agency.

All chemical analyses shall be conducted at a laboratory certified for such analysis by the California Department of Public Health, Environmental Laboratory Accreditation Program (ELAP), or approved by the Executive Officer.

POLB shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to insure accuracy of measurements, or shall insure that both activities will be conducted by third parties under POLB supervision.

A grab sample is defined as an individual sample collected in fewer than 15 minutes. All samples shall be representative of the waste discharge under normal operating conditions.

### 5. Reporting

Monitoring reports shall be submitted within 10 days following each weekly sampling period. In reporting, POLB shall arrange the monitoring data in tabular form so that dates, time, parameters, test data, and observations are readily discernible. The data shall be summarized to demonstrate compliance with the waste discharge requirements. A final report, summarizing the results of the weekly monitoring and reporting the total volume discharged, shall be submitted within one month of completion of the project.

Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

Each monitoring report must affirm in writing that:

All analyses were conducted at a laboratory certified for such analyses by the California Department of Public Health or approved by the Executive Officer and in accordance with current EPA guidelines or as specified in the Monitoring Program.

For any analysis performed for which no procedure is specified in the EPA guidelines or in the Monitoring Program, the constituent or parameter analyzed and the method or procedure used must be specified in the report.

### 6. General Provisions for Reporting

For every item where the requirements are not met, POLB shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
at \_\_\_\_\_.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)"

These records and reports are public documents and shall be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

Monitoring and Reporting Program No. 10298  
Port of Long Beach  
NRG Generating Station Intake Structure Demolition

Order No. R4-2017-0044

Ordered by:

A handwritten signature in cursive script that reads "Samuel Unger". The signature is written in black ink and is positioned above the printed name.

Samuel Unger, P.E.  
Executive Officer

Date: February 2, 2017