California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

March 9, 2009

Mr. Remco Buis
Carnival Corporation & PLC
231 Windsor Way
Long Beach, CA 90802

WASTE DISCHARGE REQUIREMENTS
CARNIVAL CORPORATION & PLC, MAINTENANCE DREDGING (FILE NO. 09-003)

Dear Mr. Buis:

Reference is made to our letter of January 26, 2009, which transmitted copies of tentative waste discharge requirements (WDRs) and a receiving water monitoring program for dredging and disposal of dredged material from the Carnival Corporation Maintenance Dredging project within the Port of Long Beach, Los Angeles County.

In accordance with the California Water Code, this Board, at a public meeting held on March 5, 2009, reviewed the tentative requirements, considered all factors in the case and adopted Order No. R4-2009-0035 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 sent to the Regional Board, Attention: Information Technology Unit. Reference all technical monitoring reports required by this Order to our Compliance File No. 9491. We would appreciate it if you would not combine other reports, such as progress or technical reports, with your monitoring reports, but would submit each type of report as a separate document.

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

J. MICHAEL LYONS
Environmental Specialist IV

Enclosures

Cc: See attached mailing list

MAILING LIST

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)
Kenneth Wong, U.S. Army Corps of Engineers (Los Angeles)
Spencer Macneil, U.S. Army Corps of Engineers (Los Angeles)
Theresa Stevens, U.S. Army Corps of Engineers (Ventura)
Allan Ota, U.S. Environmental Protection Agency (San Francisco)
Jorine Campopiano, U.S. Environmental Protection Agency (Los Angeles)
Ken Corey, U.S. Fish and Wildlife Service (Carlsbad)
Bryant Chesney, National Marine Fisheries Service (Long Beach)
Kirsten James, Heal the Bay
Susie Santilena, Heal the Bay
Janna Watanabe, Port of Long Beach
Matthew Arms, Port of Long Beach
Richard Cameron, Port of Long Beach
Shelly Anghera, Weston Solutions, Inc.

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

ORDER NO. R4-2009-0035

WASTE DISCHARGE REQUIREMENTS
FOR
CARNIVAL CORPORATION & PLC
(MAINTENANCE DREDGING)
(FILE NO. 09-003)

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

1. Carnival Corporation & PLC (Carnival Corporation) has filed an application for Waste Discharge Requirements for maintenance dredging and disposal operations for its passenger terminal berth at Pier H, near the Queen Mary Terminal on the west side of Queensway Bay, within Long Beach Harbor, Los Angeles County (Figure 1). Maintenance dredging is required to deepen the berth prior to the arrival of the newest and largest cruise ship, Carnival Splendor, scheduled for a maiden call from the Carnival Cruise Terminal on March 29, 2009.

2. Carnival Corporation proposes to dredge a maximum of 3,000 cubic yards of sediment (Figure 2) to deepen the passenger terminal berth to -30 feet Mean Lower Low Water (MLLW). Existing depths in the area vary from approximately -28.5 to –31.5 feet MLLW. Carnival Corporation proposes to dispose of the dredged material at a constructed fill site within the Port of Long Beach. The material will be dried and temporarily stored at the northeast corner of Pier S. The Port of Long Beach, which manages the Pier S site, has proposed several Best Management Practices (BMPs) to ensure that dredged material will be retained at the Pier S temporary storage site and to prevent material from entering nearby harbor waters. Material placed within the drying area will be contained by silt fences and dust palliative to control sediment and wind erosion. Check dams and storm drain inlet protection will be placed in drainage ditches and at inlets tributary to the stockpile site. Stockpile management and spill prevention control BMPs will be incorporated to control the wet dredged material. Finally, a temporary construction entrance will be used for access into and egress from the site. After the material is dry, it will be transferred to Pier G or another approved project site within one year for beneficial reuse as construction fill.

3. A sediment characterization study was conducted in November 2008 to assess sediment quality in the passenger terminal berthing area. Core samples were collected at 3 locations (CT1, CT2, CT3) (Figure 2). Grain size analyses were

conducted for each individual core sample. Sediment from each of the three core samples was combined into a single composite sample for metals and organics analyses. However, organics analyses also were conducted on the sediment from one of the individual core samples (CT1) to provide additional information pertaining to contaminant levels within the proposed dredging footprint. Grain size and chemistry results are presented in Table 1 and Table 2.

Table 1. Grain size results for Carnival Passenger Terminal Berth.

Grain Size Constituent	Site CT1	Site CT2	Site CT3
Gravel	0.02 %	0.00 %	0.00 %
Sand	14.2 %	23.0 %	1.6 %
Silt	61.7 %	61.5 %	64.6 %
Clay	24.1 %	15.5 %	33.8 %

Table 2. Sediment chemistry results for Carnival Passenger Terminal Berth.

Constituent	Composite Sample (CT1+CT2+CT3)	Site CT1	Effects Range – Low (ER-L) Concentration	Effects Range – Median (ER-M) Concentration
Arsenic	10.66 ppm		8.2 ppm	70 ppm
Cadmium	0.777 ppm		1.2 ppm	9.6 ppm
Chromium	51.68 ppm		81 ppm	370 ppm
Copper	47.77 ppm		34 ppm	270 ppm
Lead	59.52 ppm		46.7 ppm	218 ppm
Mercury	0.12 ppm		0.15 ppm	0.71 ppm
Nickel	33.72 ppm		20.9 ppm	51.6 ppm
Selenium	0.278			
Silver	0.353		1 ppm	3.7 ppm
Zinc	132.9 ppm		150 ppm	410 ppm
Total Chlordane	0 ppm	14.6 ppb	0.5 ppb	6 ppb
Total DDTs	62.8 ppb	50.9 ppb	1.58 ppb	46.1 ppb
Total PCBs	18.3 ppb	57.7 ppb	22.7 ppb	180 ppb
Total PAHs	833.8 ppb		4,022 ppb	44,792 ppb

ppm = parts per million; ppb = parts per billion
DDTs = dichloro-diphenyl-trichloroethane
PCBs = polychlorinated biphenyls
PAHs = polynuclear aromatic hydrocarbons

4. Sediments were predominately fine-grained, consisting primarily of silt and clay material (ranging from 77.0 to 94.8 % at the three sites tested). Moderate levels of sediment contamination were present. Based on the composite sample, four metals (arsenic, copper, lead, nickel) exceeded the level at which potential toxicity effects could occur (effects range-low, or ER-L, threshold), but none of these metals exceeded the level at which toxicity effects would be probable (effects range-median, or ER-M, threshold). The concentration of total PAHs, total PCBs and total chlordane in the composite sample were below potential effects thresholds (ER-L). However, the concentration of total DDTs in the composite sample exceeded both the potential and probable effects thresholds (ER-L and ER-M).

   Analysis of one of the individual core samples from site CT1 indicated that concentrations of total chlordane and total PCBs were higher in this sample than in the composite sample representing all three sites sampled. The concentration of total PCBs exceeded the potential effects threshold (ER-L) and the concentration of total chlordane exceeded both the potential and probable effects threshold (ER-L and ER-M).

   The elevated sediment concentrations for certain constituents made it unlikely that the dredged material would pass the criterion for disposal at the offshore ocean disposal site (LA-2), so biological testing (sediment toxicity, bioaccumulation) was not conducted.

5. The United States Corps of Engineers (COE) anticipates issuing permit number SPL-2008-01095-TS for maintenance dredging in the vicinity of the Carnival Passenger Terminal Berth. This project is Categorically Exempt from the requirements of the California Environmental Quality Act in accordance with Article III, Class I (24) and I (14).

6. 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.

7. 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).

8. 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.

9. Dredging and disposal operations will be accomplished through the use of temporary equipment. The Waste Discharge Requirements imposed below will not result in any significant increase in energy consumption.

The Regional Board has notified Carnival Corporation & PLC 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 Carnival Corporation & PLC, 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 3,000 cubic yards of sediment, temporary disposal at Pier S in Long Beach Harbor for dewatering and drying, and permanent disposal as constructed fill at Pier G in Long Beach Harbor, as proposed by Carnival Corporation.

2. Carnival Corporation shall request written approval from the Executive Officer of the Regional Board for permission to dispose of the dredged material at any location other than Pier S or Pier G within Long Beach Harbor.

3. Carnival Corporation 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, disposal operations; written confirmation shall follow within one week.

4. A copy of this Order shall be made available at all times to project construction personnel.

5. Carnival Corporation 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.

6. Carnival Corporation shall submit, under penalty of perjury, technical reports to the Regional Board in accordance with specifications prepared by the Executive Officer.

7. In accordance with section 13260(c) of the Water Code, Carnival Corporation shall file a report of any material change or proposed change in the character, location, or volume of the waste.

8. These requirements do not exempt Carnival Corporation from compliance with any other laws, regulations, or ordinances which may be applicable: they do not legalize this waste discharge, 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.

9. 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.

10. 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.

11. 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.

12. This Order shall expire on December 31, 2009.

13. Carnival Corporation shall employ Best Management Practices (for example, the use of silt fences, dust palliative, check dams, storm drain inlet protection, and spill prevention controls) as needed to ensure that dredged material will be retained at the Pier S temporary storage site and to prevent material from entering nearby harbor waters via stormwater runoff, wind erosion or other pathways. Carnival Corporation shall transfer the dried material from the Pier S temporary storage site to the Pier G disposal site or another approved project site for beneficial reuse as construction fill within one year after dredging has been completed.

I, Tracy J. Egoscue, 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 March 5, 2009.

Chief Deputy E.O.

TRACY J. EGOSCUE
Executive Officer

\jml

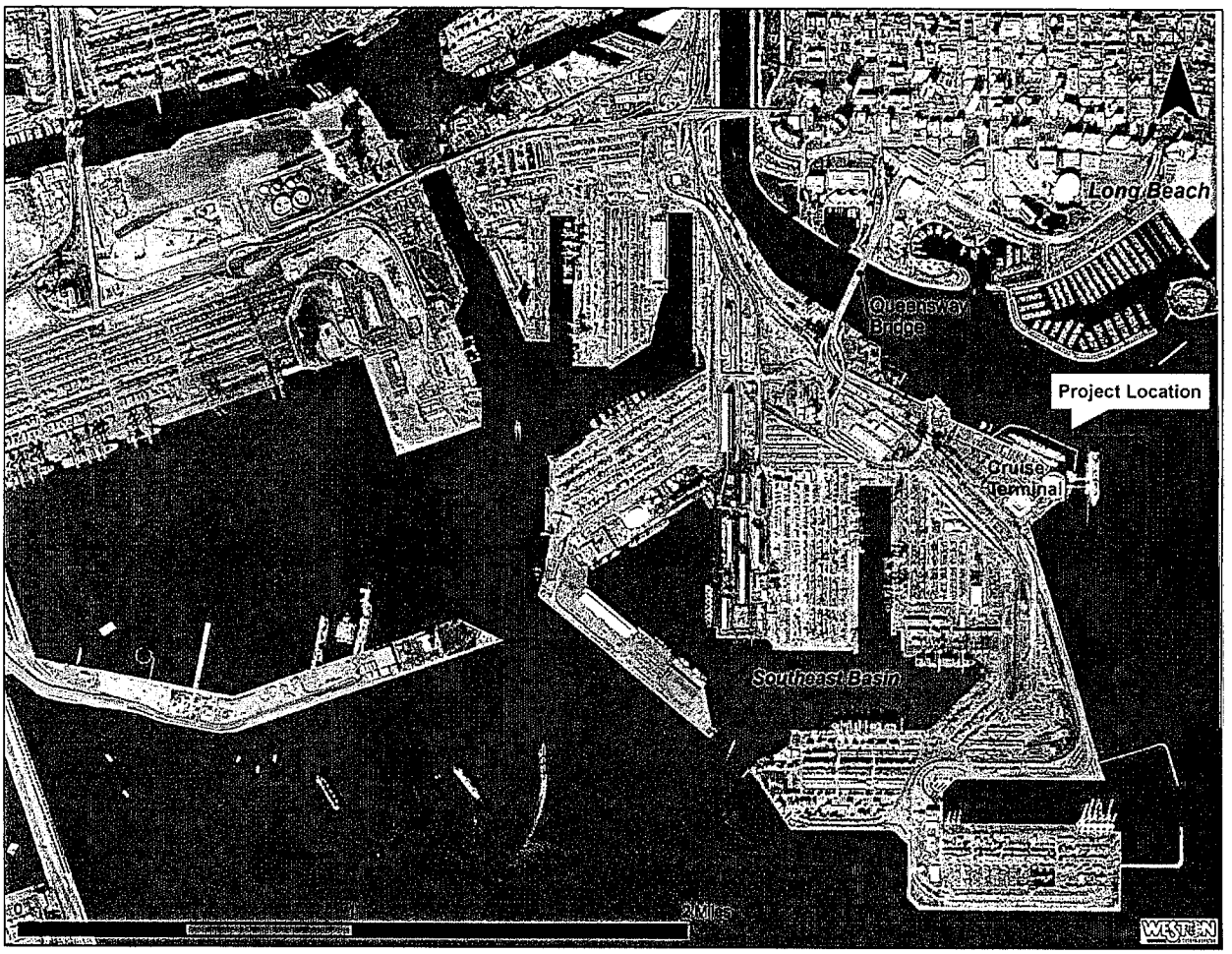

Figure 1. Location map for Carnival Passenger Terminal Berth Maintenance Dredging in Long Beach Harbor.

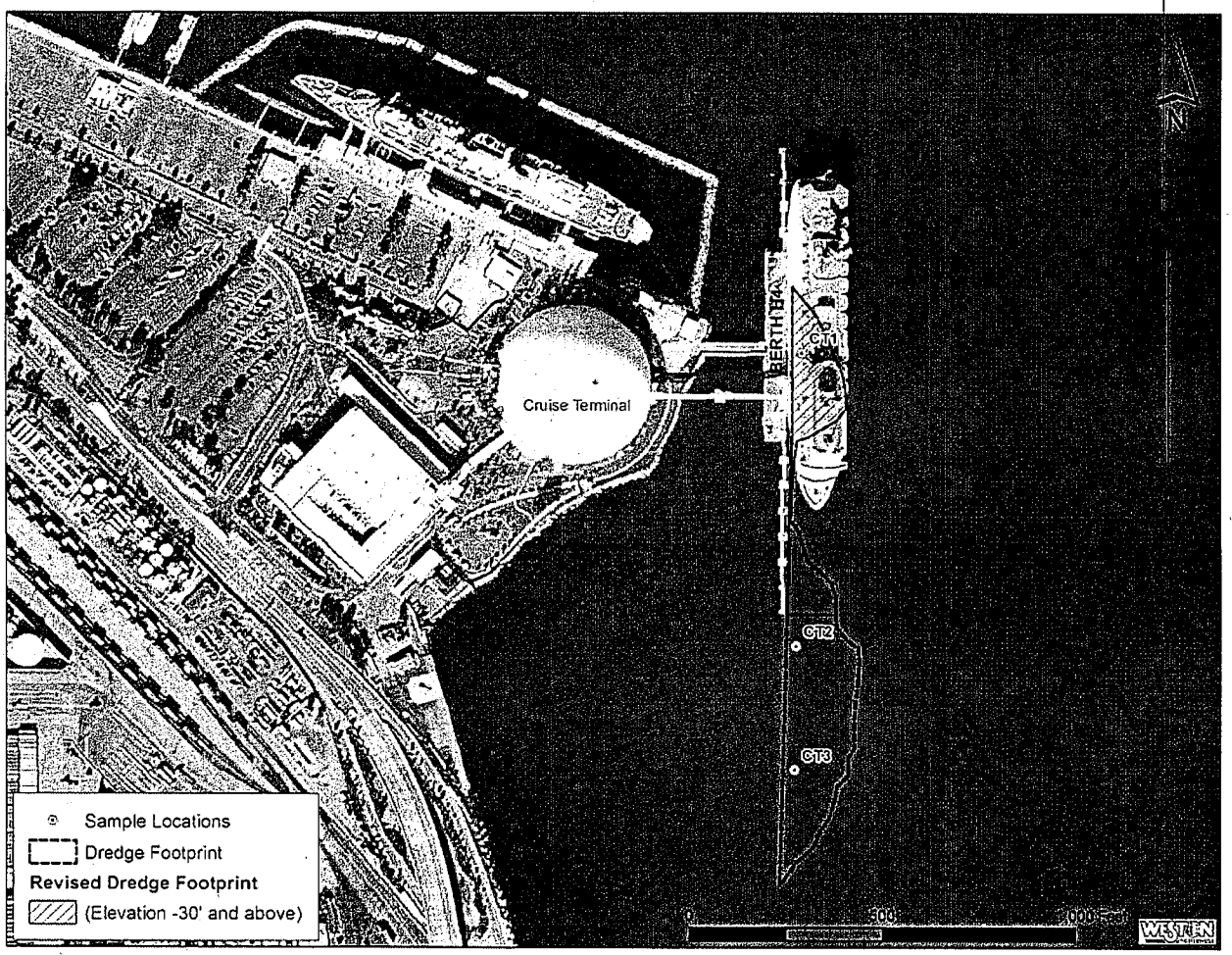

Figure 2. Areas to be dredged for Carnival Passenger Terminal Berth Maintenance Dredging in Long Beach Harbor.

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

MONITORING AND REPORTING PROGRAM NO. 9491
FOR
CARNIVAL CORPORATION & PLC
(MAINTENANCE DREDGING)
(FILE NO. 09-003)

1. Receiving Water Monitoring

The following sampling protocol shall be undertaken by the Carnival Corporation & PLC (Carnival Corporation) 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 during 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:

Station	Description
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 not affected by dredging operations).

The following shall constitute the receiving water monitoring program:

Water Column Monitoring

Parameters	Units	Station	Frequency
Dissolved oxygen[1]	mg/l	A-D	Weekly[2]
Light transmittance[1]	% Transmittance	" "	"
pH[1]	pH units	" "	"
Suspended solids[3]	mg/l	" "	"

[1]Measurements shall be taken throughout the water column (at a minimum, at 2-meter increments).
[2]During the first two weeks of dredging, stations shall be sampled two times per week.
[3]Mid-depth shall be sampled.

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). If the difference in % light transmittance between stations C and D for the near surface or 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, Carnival Corporation shall conduct the standard water quality monitoring described above for three consecutive days following the date of exceedance. Carnival Corporation 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 the transmissivity exceedance. Carnival Corporation shall investigate whether the exceedance is due to obvious dredging operational problems and can be corrected easily and quickly. However, if the turbidity problem persists or recurs, the Carnival Corporation 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.

Carnival Corporation 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 State Department of Health Services, Environmental Laboratory Accreditation Program (ELAP), or approved by the Executive Officer.

Carnival Corporation 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 Carnival Corporation 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.

4. Reporting

Monitoring reports shall be submitted within 10 days following each weekly sampling period. In reporting, Carnival Corporation 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 Department of Health Services or approved by the Executive Officer and in accordance with current EPA guidelines or as specified in the Monitoring Program.

For any analysis preformed 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.

5. General Provisions for Reporting

For every item where the requirements are not met, Carnival Corporation 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.

Ordered by:

Chief Deputy E.O. for
TRACY J. EGOSCUE
Executive Officer

Date: March 5, 2009