

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

**ORDER NO. R4-2004-0096**

**REVISED WASTE DISCHARGE REQUIREMENTS  
FOR  
RELIANT ENERGY MANDALAY, INC  
(EDISON CANAL MAINTENANCE DREDGING)  
(FILE NO. 01-032)**

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

1. Reliant Energy Mandalay, Inc. (Discharger) filed an application in 2001 for Waste Discharge Requirements for maintenance dredging of the Edison Canal located in Oxnard, Ventura County (Figure 1). Edison Canal was excavated in 1958 to provide a source of seawater for cooling of the Mandalay Steam Generating Plant's two 215 megawatt generators. Shoaling of the canal had reached a level such that the power plant was unable to pull sufficient volumes of cooling water during periods of minus tides, forcing the operator to reduce power production during such periods. During periods of extreme minus tides, the lack of cooling water forced the operator to take one of the generators completely off-line, further reducing power generation.
2. The Discharger proposed to dredge approximately 60,000 cubic yards of sediment from the Edison Canal. Dredging will be accomplished using either dragline, clamshell or hydraulic equipment.

If dredging is accomplished with dragline or clamshell equipment, the material will be dredged from the canal and placed into trucks for transportation to processing areas A or B (land sites on the Mandalay Power Generating Plant facility adjacent to the canal). It is estimated that dredging production rates will range between 300-500 cubic yards per day. Temporary berms will be constructed around the perimeter of the processing areas to control water. Excess water, if any, resulting from the processing operations will be directed in a temporary pipeline back into the canal (Area A) or will be mixed with generating plant cooling water and discharged into the ocean (Area B). However, most of the water content in the dredged sediments is expected to evaporate during the processing operation. The processing operation will consist of continually turning the material to expose it to wind and heat

If dredging is accomplished with hydraulic equipment, the material will be pumped to a mobile processing unit located adjacent to the canal or at processing area A or B. The production rate for the hydraulic method is estimated at 200 cubic yards per day. The

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mobile processing unit consists of a conditioning unit for screening the dredged material, mixing tanks for adding flocculants, centrifuges for separating the water from the solids, conveyors for discharging the dried material and a line for returning clear water to the canal.

The processed, dried dredged material will be placed in Processing Area B for disposal in a mound 15 to 20 feet high. The mound will be no higher than the beach sand dunes located to the west of Area B. The disposal site is in a coastal area with no underlying freshwater aquifers. Dried sediment must be removed from the Mandalay Power Generating Plant facility for possible re-use on agricultural lands or other uses within two years of initiation of the dredging project.

3. The area to be dredged extends east and south from the power plant intake structure to approximately 1500 feet south of West 5<sup>th</sup> Street. The canal will be dredged to a depth of -10 feet Mean Lower Low Water (MLLW), except that the portion between the intake structure and Harbor Boulevard will be dredged to -15 feet MLLW. To minimize any impacts to the tidal mud flats that have developed along the sides of the canal, dredging will be limited to a 20-foot width in the central channel of the canal (rather than the entire 40-foot width of the canal).
4. The Los Angeles Regional Water Quality Control Board adopted Order No. R4-2002-0106 on May 23, 2002, for maintenance dredging of up to 60,000 cubic yards of sediment from Edison Canal, located in Oxnard (Ventura County). The Discharger had dredged approximately 40,000 cubic yards of sediment from the canal as of March 1, 2004. Approximately 32,500 cubic yards of this material remained onsite within the disposal area at the Mandalay Power Generating Plant facility, while approximately 7,500 cubic yards of the material were removed and transported to Toland Landfill in Santa Paula.
5. The original 1998 survey of the canal had indicated that the Discharger would need to remove approximately 60,000 cubic yards of sediment to restore the desired depth profile to the canal. However, a pre-dredge survey conducted in 2002 indicated that the amount of material to be removed was greater than originally estimated, due to continued shoaling of the canal as a result of the input of additional sediments from adjacent farmlands. Consequently, the Discharger now needs to remove 75,000 cubic yards of sediment from the canal to achieve the same desired depth profile.
6. The Discharger has filed an application for revision of the Waste Discharge Requirements contained in Regional Board Order No. R4-2002-0106. The Discharger proposes to increase the total volume of sediment to be dredged by 15,000 cubic yards, increasing the overall dredging project from 60,000 cubic yards to 75,000 cubic yards. The 75,000 cubic yard total represents the maximum volume of sediment to

be dredged, including any material already dredged under Order No. R4-2002-0106. The Discharger also proposes to allow dredged material to remain onsite permanently in areas A and B, rather than removing material to an offsite location, provided that the onsite material is placed so as not to exceed a height of 20 feet or not to exceed the height of adjacent beach sand dunes, if these are less than 20 feet high. Mounds of dredged material will not be visible to recreational visitors on nearby beaches. Any material that cannot be retained onsite due to these height restrictions will be disposed of at a permitted facility or employed offsite for beneficial reuse.

- The Discharger collected sediment cores from 17 locations in the Edison Canal. Samples were combined to form composites representative of four sub-areas within the canal. These samples were analyzed for trace metal and trace organic concentrations, as well as grain size characteristics. The sediments were primarily fine-grained material (36% to 98% silt-clay), which would be unsuitable for re-use in beach replenishment. The concentrations of trace metals and trace organics are relatively low and below the levels that would be expected to produce adverse impacts on aquatic organisms.

#### Sediment Characteristics – Edison Canal Maintenance Dredging

Parameter	Area 1	Area 2	Area 3	Area 4
Silver	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
Arsenic	1.47 ppm	1.72 ppm	1.55 ppm	1.93 ppm
Cadmium	0.48 ppm	0.60 ppm	0.57 ppm	0.47 ppm
Chromium	18.2 ppm	15.8 ppm	15.6 ppm	15.5 ppm
Copper	40.6 ppm	32.3 ppm	33.2 ppm	28.5 ppm
Mercury	0.07 ppm	0.17 ppm	0.05 ppm	0.04 ppm
Nickel	19.6 ppm	17.3 ppm	16.7 ppm	18.2 ppm
Lead	16.5 ppm	16.6 ppm	14.2 ppm	11.5 ppm
Selenium	0.78 ppm	0.77 ppm	0.78 ppm	0.63 ppm
Zinc	83.5 ppm	75.5 ppm	71.8 ppm	62.5 ppm
Total DDT	199 ppb	126 ppb	445 ppb	319 ppb
Total PCB	< 20 ppb	< 20 ppb	< 20 ppb	< 20 ppb
Total PAH	71 ppb	199 ppb	60 ppb	138 ppb

Ppm = parts per million; ppb = parts per billion; DDT = dichloro-diphenyl-trichloroethane; PCB = polychlorinated biphenyls; PAH = polynuclear aromatic hydrocarbons

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 the Edison Canal Estuary. 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 the Edison Canal Estuary waters are: industrial service supply, water contact recreation, non-contact water recreation, marine habitat, wildlife habitat, and preservation of rare and endangered species.
10. The County of Ventura filed a Notice of Exemption (Categorical Exemption under California Code of Regulations, title 14, section 15304(g)) for the Edison Canal maintenance dredging project on February 26, 2001, pursuant to Public Resources Code section 21000 et seq.
11. With proper management of the dredging and disposal operations, the project is not expected to release significant levels of contaminants to the estuary waters or other State waters nor adversely impact beneficial uses.
12. 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. Implementation of the proposed maintenance dredging project will allow the Discharger to increase power generation at the Mandalay Power Generating Plant facility by eliminating operating restrictions imposed by an inadequate cooling water supply during periods of low tides.

The Regional Board has notified the Discharger 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 Reliant Energy Mandalay, Inc., 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, in particular those identified in Finding Number 6 above.
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. Return water discharged to the canal shall not exceed a solids concentration of 1.0 ml per liter.
7.
  - a. Dredged material shall be disposed of temporarily in areas A and B, as proposed by the Discharger, provided that the material is placed so as not to exceed a height of 20 feet or not to exceed the height of adjacent beach sand dunes, if these are less than 20 feet high. Mounds of dredged material shall not be visible to recreational visitors on nearby beaches.
  - b. The Discharger shall remove at least 15,000 cubic yards of dredged material from areas A and B by October 30, 2004.
  - c. The Discharger shall remove all dredged material in its entirety from Areas A and B by August 31, 2006.
8. 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.
  - a. The above specifications are valid only for dredging and disposal of a maximum volume of 75,000 cubic yards of sediment, including the volume of sediments previously dredged and disposed of pursuant to the requirements and provisions of Regional Board Order No. R4-2004-0106.
  - b. Within 45 days, the Discharger shall provide a detailed plan, for approval by the Executive Officer, which has a schedule for placement of any additional dredged material and subsequent removal in conformance with the requirements in 7.b and 7.c. above.
  - c. All dredged material shall be removed to an appropriate site for disposal or re-use.
- 2. The Discharger 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; written confirmation by the Discharger to the Regional Board shall follow within one week.
- 3. A copy of this Order shall be made available at all times to project construction personnel.

4. The Discharger shall provide the following information to the Regional Board:
  - a. A copy of the final permit issued by the Department of the Army for the dredge and disposal operations.
  - b. The scheduled date of commencement of each dredging operation and an engineering plan and profile of the excavation and the disposal site at least two weeks prior to commencement.
  - c. Notice of termination of the operation, within one week following the termination date.
5. The Discharger shall conduct the monitoring required and comply with the reporting requirements outlined in the attached Monitoring and Reporting Program, which is incorporated by reference as part of these Waste Discharge Requirements.
6. In accordance with section 13260(c) of the Water Code, the Discharger 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 the Discharger 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.
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"), which is 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 23 CCR article 6 (section 3867 et seq.);
  - 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 chapter 28 and owed by the applicant.
11. The Discharger shall modify the Storm Water Pollution Prevention Plan for the Mandalay Power Generating Plant facility, if necessary, to incorporate any measures required to ensure containment of the dried dredged material at the disposal site.
12. This Order shall expire on August 31, 2006.
13. This Order rescinds the requirements and provisions of Regional Board Order No. R4-2002-0106, except for enforcement purposes.

I, Dennis A. Dickerson, 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 June 10, 2004.

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DENNIS A. DICKERSON  
Executive Officer

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