

State of California
Regional Water Quality Control Board
San Diego Region

SUPPLEMENTAL
EXECUTIVE OFFICER SUMMARY REPORT
May 12, 2010

ITEM: 13

SUBJECT: NPDES Permit Termination: Dynegy South Bay LLC, South Bay Power Plant Discharge to San Diego Bay, Order No. R9-2004-00154, NPDES No. CA0001368 (Tentative Order No. R9-2010-0062) (Kristin Schwall, Chad Loflen, and Robert Pierce)

PURPOSE: The San Diego Water Board will receive testimony, technical evidence, and supporting documentation relevant to determining:

a) Whether South Bay Power Plant intake and discharge operations endanger human health or the environment and can only be regulated to acceptable levels by NPDES permit modification or termination [see 40 Code of Federal Regulations, section 122.64(a)(3)]; and

b) Whether any effects identified in Item a) above provide a sufficient basis for the San Diego Water Board to require that South Bay Power Plant discharges be terminated earlier than December 31, 2010 and prior to California Independent System Operators (CAISOs) release of Units 1 and 2 from "Reliability Must Run" (RMR) status.

DISCUSSION:

Current Receiving Water Quality Conditions

This information supplements, but does not replace or modify, the information provided in the EOSR provided with the first agenda mailing. The Water Quality Control Plan for the San Diego Basin (Basin Plan) designates San Diego Bay as an enclosed bay with multiple beneficial uses including, but not limited to, Industrial Service Supply (IND), Preservation of Biological Habitat of Special Significance (BIOL), Estuarine Habitat (EST), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE) and

Marine Habitat (MAR).¹ The South Bay Power Plant (SBPP) is located on the southeastern shore of southern San Diego Bay. South San Diego Bay is a relatively shallow basin (<12 ft) and is characterized by warm water temperatures, sluggish tidal currents, and elevated salinity. The Otay River flows into the south bay approximately one mile south of the SBPP and the Sweetwater River channel enters the bay about three miles north of SBPP. While San Diego Bay is still considered an estuarine system, freshwater inflow has been nearly eliminated by water diversion, utilization of groundwater, and infrequent runoff. The benthos is composed primarily of alluvial sediments, and habitats include eelgrass beds, mudflats, salt marsh and unvegetated subtidal areas. Due to the lack of freshwater inflows during most of the year, organisms in south San Diego Bay are typical of protected marine environments, with many species present that exhibit tolerances to increased temperatures and salinity. A variety of aquatic habitats are contained within the boundaries of South Bay and several important terrestrial habitats occur adjacent to its shore. The SBPP intake and discharge are separated in the south bay by a man-made peninsula, constructed of dredge spoils, which extends westward and south into San Diego bay. Chula Vista Wildlife Refuge is located on this peninsula. Tidal inlets within the reserve form wetland areas, and adjacent areas provide seasonal habitat for several species of nesting shorebirds including endangered California least terns *Sterna antillarum browni* and endangered western snowy plovers *Charadrius alexandrinus nivosus*. Channels have been dredged on both sides of the peninsula for the intake and discharge flows, which are located on the northeastern and southeastern side of the peninsula, respectively.

Additional information relevant to evaluating the effects on beneficial uses and water quality of south San Diego Bay caused by the currently configured SBPP are described below.

3) Temperature –Order No. R9-2004-00154 does not contain an effluent limitation for maximum discharge temperature, but does contain a limitation that the cooling water discharge shall not at any time exceed 25°F above that of the intake water. The 25°F maximum-at-any-time temperature difference was established to ensure compliance with the State Water Board’s Thermal Plan, which contains the following narrative water quality objective: Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

6) Eelgrass — Eelgrass beds are considered a critical component of the San Diego Bay food web. Much of the eelgrass primary productivity enters the food web as detritus, and eelgrass beds actively uptake nutrients, produce oxygen, stabilize sediments and slow current velocities. Fish and invertebrates use eelgrass beds as a refuge from predators, as a food source, and as nursery habitat. Eelgrass provides surfaces for egg attachment and sheltered locations for juveniles to hide and feed. Fish and invertebrates produced from these beds are ecologically, commercially, and recreationally important species, both as permanent bay residents and as oceanic species. Waterfowl, especially surf scoter, scaup, and brant are present in high

¹ See Table 2-3 of the Water Quality Control Plan for the San Diego Basin for the full list of assigned beneficial uses.

numbers in late fall and winter. Black brant, in particular, rely heavily on eelgrass of central and south Bay as they are one of the few birds that consume it directly. The amount, if any, of preclusion of eelgrass caused by the discharge under current maximum discharge conditions of 225 MGD is unknown, but is predicted to be less than the amount caused by flows of 601 MGD, primarily in areas west of the discharge channel. The historic distribution of eelgrass in the southern portion is also unknown, as no quantitative information on bed distribution has been submitted to date from the time period before the SBPP came into operation absent other discharges to the bay.

8) Turtles - Dr. Jeffrey Seminoff, Director for the Marine Turtles Research Program for U.S. National Marine Fishery Service, testified before the San Diego Water Board in 2009 that SBPP has not had any ill effect on the Eastern Pacific Green Sea Turtles which reside in the Bay, and that expedited closure of the plant will not benefit the turtles. He also testified that the turtles will remain in San Diego Bay, with or without the warm water associated with the power plant discharge.

9) Entrainment and Impingement of Marine Organisms - The species that are prominently impinged and entrained are important to the overall ecosystem of south San Diego Bay, as they fill important ecological roles near the base of the food web.

Clean Water Act Section 303(d) Listing

As part of San Diego Water Board staff's analysis on the condition of the receiving water subject to the discharge from the SBPP, it was considered that all of San Diego Bay is currently listed as impaired for PCBs. San Diego Bay is on the list for development of a Total Maximum Daily Load (TMDL) for PCBs by 2019. San Diego Bay sediments in the central and northern bay area are known to contain elevated concentrations of PCBs from past discharges in that area of the bay and are considered one of the probable sources of the PCB impairment. The SBPP discharge located in the south bay area is not at this time considered a significant potential source of the PCB impairment. As part of the TMDL development process, a bay-wide PCB source analysis will be conducted to identify the amount and point of origin of all PCB discharges into San Diego Bay. With exception of the San Diego Bay-wide listing for PCBs, South San Diego Bay is not listed as an impaired water body under Clean Water Act Section 303(d) for any other pollutant.

Background

A written Responses to Comments document (Supporting Document 29) and an Errata Sheet (Supporting Document 30) have been prepared and sent to the Discharger, designated parties and interested persons by letter dated May 6, 2010 (Supporting Document 28).

Once-Through Cooling

On May 4, 2010, the State Water Resources Control Board (State Water Board) adopted a final Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-through Cooling or OTC Policy). The OTC Policy, which requires approval by the Office of Administrative Law (OAL) before it

becomes effective, establishes technology-based standards to implement CWA section 316(b), intended to reduce harmful effects on marine and estuarine life associated with cooling water structures at 19 existing coastal power plants, including SBPP. The adopted OTC Policy differs from the proposed policy in many important ways, including with respect to the following provisions.

First, the State Water Board has assumed responsibility from the Regional Water Boards for all NPDES actions for existing power plants subject to the Policy, including actions to reissue, modify, revoke or terminate such permits. (Supporting Document 31, ¶ 1.N.) The State Water Board would hold hearings for decisions affecting the NPDES permits in the affected regions (see ¶ 3.C.). It is anticipated that Regional Water Board staffs, however, would continue to be responsible for drafting the permits in conjunction with the State Water Board's Division of Water Quality and would continue enforcing adopted permits. Therefore, once the OTC Policy becomes effective, Regional Water Boards will no longer have jurisdiction to make decisions regarding NPDES permits for existing power plants subject to the Policy.

Second, the State Water Board modified the provisions applicable to decisions to suspend final compliance schedules for affected facilities when the California Independent System Operator (CAISO) determines that continued operation of an existing power plant is necessary to maintain grid reliability. Under the draft policy, the State Water Board was required to make a finding of overriding considerations based upon compelling evidence in order to refuse to implement the CAISO's determination. The final OTC Policy instead provides that the State Water Board shall "afford significant weight to the recommendations of the CAISO" in deciding whether to implement the CAISO's decisions. (See ¶2.B.(2)(d).)

Finally, the compliance schedule for the SBPP now requires SBPP to achieve compliance with significant specified reductions in the use of coastal waters by the end of 2011, rather than 2012. (Table E, Row 12.) Once the final OTC Policy and supporting materials are forwarded to the OAL for approval, OAL must approve or disapprove the Policy within 30 working days.

ADDITIONAL SUPPORTING DOCS FOR MAY 12, 2010 AGENDA PACKAGE:

(Supporting Documents 1 – 27 were provided in the first agenda packet)

28. Transmittal letter for Responses to Comments and Errata Sheet dated May 5, 2010
29. San Diego Water Board Responses to Comments
30. Errata Sheet for Tentative Order No. R9-2010-0062 and Attachment 1 - Staff Report
31. Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, as adopted May 4, 2010, with Redline showing change from March 22, 2010 draft policy.

RECOMMENDATION: Adoption of Tentative Order R9-2010-0062 with Errata is recommended.