

NO MORE SOUTH BAY POWER PLANT COALITION

*Environmental Health Coalition San Diego Coastkeeper South Bay Forum
Southwest Chula Vista Civic Association Coastal Environmental Rights Foundation
San Diego Audubon Society San Diego Chapter of Sierra Club
Surfrider Foundation, San Diego Chapter*

March 3, 2010

Chairman King and Board members
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

RE: No More Power Plant Coalition Rebuttal to Testimony of Dynegy and California Independent Systems Operators regarding CA0001368, Order No. R9-2004-0154 for Dynegy South Bay, LLC- South Bay Power Plant

Dear Chairman King and Members of the Regional Board:

On behalf of the members of the No More Power Plant Coalition,¹ a designated party to these proceedings, we offer the following rebuttal evidence to testimony received from South Bay Power Plant operator Dynegy South Bay, LLC and the California Independent Systems Operators (CALISO).

The information provided by the discharger and CALISO is not persuasive. The plant's ongoing harm to South Bay, the endangerment of public health and the environment, and the need to terminate the entire discharge at the earliest possible juncture is clear. Our comments below respond to the mischaracterizations and correct inaccurate assertions made by these parties.

We remind the Board that its action or inaction has real and lasting impact. The Bay is in trouble. Recent studies have underscored that fish biomass, catch, and species richness are still in a declining trend in the South Bay.²

I. Dynegy Must Meet Federal Requirements to Minimize the Plant's Environmental Impacts Regardless of the Possibility that a Statewide Once-Through Cooling Policy Might Be Adopted.

A. Dynegy Must Use the Best Technology Currently Available to Minimize the South Bay Power Plant's Environmental Impacts.

Dynegy argues that the Regional Board should allow the South Bay Power Plant to continue to operate because federal law acknowledges that environmental impacts are "inevitable." Letter from Dynegy South Bay LLC to David Gibson, dated Feb. 22, 2010 ("Dynegy Letter") at 16. Federal law requires that

¹ Environmental Health Coalition, San Diego Coastkeeper, South Bay Forum, Southwest Chula Vista Civic Association, Coastal Environmental Rights Foundation, San Diego Audubon Society, San Diego Chapter of the Sierra Club, and Surfrider Foundation, San Diego Chapter

² Daniel Pondella, Fisheries Inventory and Utilization of San Diego Bay, February, 2009. Excerpted charts attached. http://www.portofsandiego.org/about-us/bpc-policies/doc_view/1902-2008-bay-wide-fish-survey.raw, or at <http://departments.oxy.edu/vrg/research/VRG%20Fish%20Report%202008.pdf>.

the “location, design, construction, and capacity of” South Bay Power Plant’s intake structures “reflect the best technology available for minimizing environmental impact.” 33 U.S.C. § 1326(b). EPA promulgated regulations defining best available technology for existing facilities like South Bay Power Plant, but then suspended those regulations after the Second Circuit vacated them. *See Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2nd Cir. 2007); 72 Fed. Reg. 37107 (July 9, 2007); *but see Entergy v. Riverkeeper*, 129 S. Ct. 1498 (2009)(reversing and remanding the Second Circuit decision).

Dynegy admits that in 2004—while the EPA’s regulations applied—the South Bay Power Plant did not use the best technology available to minimize environmental impacts to the South Bay. Dynegy Letter at 18. But Dynegy claims that because the EPA suspended the regulations that would have applied to South Bay Power Plant, the Regional Board’s 17-year old finding that the plant met federal requirements back in 1993 “was effectively reinstated.” Dynegy Letter at 19.

When EPA suspended the regulations, it kept the requirement “that permitting authorities develop BPJ [Best Professional Judgment] controls for existing facility cooling water intake structures that reflect the best technology available for minimizing adverse environmental impact.” 72 Fed. Reg. 37107, 8; 40 C.F.R. 125.90(b). This means that before the Regional Board could renew the South Bay Power Plant Permit, it would have to exercise its Best Professional Judgment to determine the intake structures that reflect the best technology available to minimize the South Bay Power Plant’s adverse environmental impacts.

Here, Dynegy is asking the Regional Board to accept a September 1993 finding that “the plant incorporates technologies for the purpose of minimizing adverse environmental impacts” to conclude that the South Bay Power Plant is currently using the best available technology. Dynegy Letter at 19. The notion that power plant cooling best technology available for minimizing impingement and entrainment impacts has not advanced in almost two decades is absurd.

Since the 1993 finding, studies revealed that the South Bay Power Plant’s intake has significant adverse impacts on larval and adult fish populations. *See* Permit R9-2004-0154, Finding 20. Other than submitting a proposal to collect information in 2005, Dynegy has done nothing since the Regional Board issued the 2004 permit to demonstrate that the current technology in Units 1 and 2 is the best technology currently available to minimize adverse impacts to the South Bay.

Dynegy argues that it should not be required to retrofit the South Bay Power Plant’s intake structures if the costs of a retrofit would be “wholly disproportionate” to the environmental benefit. But Dynegy has done no new cost analysis of a retrofit, nor analyzed how extensively the environment would benefit if Dynegy used better technology. No one is suggesting that Dynegy should spend millions of dollars for an upgrade if they are shutting down operations for good in the next few months. But Dynegy should not be allowed to string along the Regional Board and the community by complaining the costs of retrofit would be too high because they will close soon, but then repeatedly seek permit renewals.

In absence of a meaningful analysis of the plant’s ongoing impacts on the South Bay and whether the existing intake technology is the best available technology to minimize those impacts, Dynegy cannot claim that it is meeting the federal best available technology standards.

B. A Potential State Board OTC Policy Does Not Constrain the Regional Board From Taking Action to Protect the Environment.

Dynegy suggests that a potentially forthcoming State Board Once-Through Cooling Policy somehow precludes Regional Board action on the South Bay Power Plant. Dynegy admits that the plan has not yet been adopted, but claims that the policy will “preclude earlier termination of SBPP’s NPDES permit on the basis of alleged impingement or entrainment effects of the intake.” Dynegy Letter at 7. Dynegy is attempting to tie the Regional Board’s hands before the revised draft of the policy is even released to the public. Potential future action by the State Board does not preclude the Regional Board from exercising its powers to close a facility that endangers the environment now. Current language allows for Regional Boards to act before proposed compliance dates, and at 2009 workshops three State Board members stated their support for staff to look at moving up the deadline specifically for South Bay Power Plant. Dynegy’s claim that the Regional Board can do nothing to require that Dynegy meet best available technology requirements before December 31, 2012 is speculative and baseless. In any event, the policy may not happen at all. The history of the OTC policy has been a history of repeated delays and postponements. At this point there is very little certainty the policy will be forthcoming this year, if at all.

Another important point is that the OTC policy covers only intake and cooling system impacts. It does not cover the impacts of the *discharge*. Regulating those impacts remains squarely with the Regional Board.

II. Scientific Studies Have Been Mischaracterized and Lack Relevant Context

A. The continued discharge from the plant causes loss of Eelgrass in the South Bay.

Eelgrass is a critical component of the South Bay ecosystem. Once established, an eelgrass bed can help improve water clarity and slow water circulation, thus providing a productive and protected area for juvenile fish and invertebrates to grow and thrive. The majority of the eelgrass beds found in San Diego Bay are located in the South Bay – which implies that in general the South Bay provides the necessary conditions for eelgrass to establish and flourish. However, there is a large area of the South Bay south of the discharge of the Plant that is devoid of eelgrass beds. The most reasonable cause of this area barren of eelgrass is the discharge from the South Bay Power Plant.

Dynegy asserts that the discharge from the plant has not adversely affected eelgrass in South San Diego Bay. This claim rests largely on the testimony of Kenneth Andrecht. Based on anecdotal observations provided by Mr. Andrecht, Dynegy claims that there was no eelgrass present in the South Bay in 1960 (“no eelgrass in South Bay of the old Chula Vista G street Boat launching ramp, nor south of the Silver Strand Beach Park’s bayside cove”), and that in 1974 only two small patches were observed. According to Mr. Andrecht’s testimony, in 1986 as part of work being conducted on the Chula Vista Harbor, eelgrass was transplanted from the main channel of the Chula Vista Harbor to the north side of the wildlife reserve, adjacent to the cooling water intake channel and had increased up to 19 acres within three years. Dynegy thus concludes that the plant cannot be having a detrimental impact on eelgrass.

The assertions made by Dynege are faulty on many levels. The implication of Mr. Andrecht's testimony and the conclusion drawn by Dynege that there was no eelgrass in the South Bay prior to the South Bay Power Plant operations and that the plant somehow aided the establishment and spread of eelgrass is not reasonable or accurate.

It is critical to understand the historical context of the plant in order to determine the extent of eelgrass prior to the plant's initial discharges. In 1960, water quality had deteriorated to the point that all water contact activities were prohibited in the Bay. Sewage and industrial wastes from most of the cities adjoining the Bay were discharged into the Bay (including from a treatment plant near 32nd Street). Direct discharges of sewage and toxic industrial wastes from Rohr Aircraft may have had particularly severe effects along the Chula Vista shoreline because during low tides they flowed across several hundred feet of tidal flat and did not undergo any dilution.³ The Point Loma wastewater plant did not commence operations until 1963.⁴ The last industrial discharges (point source) were not removed until 1968 (with the obvious exception of cooling water discharges). In 1960, conditions in the Bay were such (turbidity, sludge beds etc.) that it would have been difficult for eel grass to flourish throughout most of its potential range.

From early accounts of the South Bay and the presence of birds like black brant, we can infer that eelgrass was present in the South Bay. The pre-pollution accounts we have of the Bay are uniform in their descriptions of the abundant wildlife. In preparation of the South San Diego Bay Enhancement Plan (1990) interviews were conducted with longtime residents of the South Bay area. Mr. Herbert Minshall grew up in this area in the 1920s and 30s and spent a lot of time hunting in the south end of San Diego Bay. According to his account, the Bay was full of birds: ducks, black brants, geese, herons, clapper rails, and various types of terns. ...the area around Crown Cove was popular with hunters. Mr. Minshall stated that during sunrise the birds would "block out the sun". Black brant were especially popular. He also noted that from 1920 to 1935 a large sardine industry was supported in the Bay and fishermen would catch large quantities so fish inside the Bay and that halibut were also in abundance throughout the Bay. He said that sea turtles were a common sight in the Bay and now they are not as frequent as they used to be.⁵

In the South San Diego Bay Enhancement Plan, it was noted that in 1938, the number of black brant had increased in the Bay and that this was presumed to be the result of the recovery of eelgrass beds buried by silt during the floods of 1927. The eelgrass beds were noted to have disappeared by 1943⁶. The connection between the observations of birds like black brant is key to inferring the history of eelgrass in the Bay because brant are highly dependent on eelgrass for food. According to the Washington Brant Foundation, black brant and eel grass are closely related, "Much like their choice of habitat, brant rely heavily on one main food source most of the year. Ninety-five per cent of the brant diet is composed on eelgrass (*Zostera marina* and *Zostera japonica*) which grows in the waters of intertidal mudflats."⁷ (emphasis added)

³ South Bay Enhancement Plan, (p 3-18 SBEP).

⁴ <http://www.sewagehistory.com/sandiego.html>

⁵ Herbert L. Minshall October 4, 1988 interview, Appendix A, South Bay Enhancement Plant, 1990.

⁶ SBEP exec summary.

⁷ <http://www.washingtonbrant.org/about.html>

In spite of Mr. Andrecht's contention that there was no eel grass in the Bay prior to the SBPP, the bay did support large population of brant—a species almost exclusively dependent on eel grass.

San Diego and Mission Bays in California were formerly important black brant wintering areas, but pollution, dredging, and other developments, ... have made these areas less suitable for brant.⁸

Another source speaks to the direct link between 'regrowth' of San Diego Bay eelgrass and the recovery of brant populations in the Bay.

Nonetheless, winter Brant numbers have increased in the San Diego area from counts of zero in the 1970s to annual highs of 750-1500 by later 1990s. Slow regrowth of Eel-grass bed is thought to be partially responsible for the recent increases in Brant use.⁹

In addition, the Final Environmental Statement for San Diego Harbor in 1975 listed the SDGE power plants as one of four main sources of pollution¹⁰. It also called out the former abundance of eelgrass and brant in the Bay.¹¹ To have supported 100,000 of brant that were reported historically^{12 13}, there had to be a lot of eel grass in the Bay. The power plant is preventing recovery in portions of the Bay.

The more rational conclusion to draw from Mr. Andrecht's testimony is that his anecdotal observations were the result of uncontrolled pollution¹⁴ and once pollution control was improved, habitat conditions improved and allowed for eelgrass to begin the process of re-establishing in its previous habitat range, either naturally or by means of purposeful introduction, throughout the Bay. The critical point is that, absent the discharge, there could be over 100 acres of additional eelgrass in the Bay and that the discharge prevents eelgrass from flourishing in the discharge channel. The presence of the South Bay Power Plant prevented the recovery of eelgrass beds at least into the SE corner of the Bay. The maps are clear.^{15 16} This is an avoidable impact to beneficial uses that the Board must act to end.

Further, Dynegy's conclusion that it is not impacting eelgrass in the South Bay is faulty. While it may be true that transplanted eelgrass is thriving in the newly restored areas, this fact does not imply that the

⁸ Schroeden, R.L. 1984, Habitat suitability index models: Black brant. U.S. Fish and Wildlife Service. FWS/OBS-82/10.63. p.3

⁹ California Species of Concern, Shuford, et al. 2008 p.81-2

¹⁰ Final Environmental Statement for San Diego Harbor, Army Corps of Engineers, February, 1975, p. 18

¹¹ Final Environmental Statement for San Diego Harbor, Army Corps of Engineers, February, 1975, p. 16

¹² California Species of Concern, Shuford, et al. 2008 p.80

¹³ Integrated Natural Resource Management Plan, 2008 draft of the San Diego Bay Integrated Natural Resources Management Plan, Section 2.5.3.2, Vegetated Shallows (0.0 to -24 ft MLLW) P. 2-45

¹⁴ Presentations by Delaney and O'Leary, former Executive Officers of the Regional Board, 1965 and 1971

¹⁵ See http://www.waterboards.ca.gov/sandiego/water_issues/programs/npdes/southbay_power_plant/docs/updates_022410/2008_eelgrass_distribution_map_94-08-low-res%5B1%5D.pdf

¹⁶ US Navy SWDIV Naval Facilities Engineering Command, Port of San Diego, 2004. San Diego Bay 2004 Eelgrass survey.

discharge is not impacting the eelgrass beds. As can clearly be seen from the eelgrass distribution maps, the affected areas are south of the discharge point, while the restored areas are north of the dike and close to the intake of the plant. There have been no assertions that the intake pipes are negatively affecting the distribution of eelgrass.

Dynergy also supports its conclusion of no impact by reiterating conclusions drawn by Dr Mayer: “the natural turbidity of the very shallow waters, resulting from wind and tidal action, is the primary stressor on eelgrass”. Dynergy Letter at 20. It is true that turbidity is one of several physical factors that can strongly negatively influence the establishment and survival of eelgrass. However, the whole of the south bay is shallow and would be subject to wind and tidal driven turbidity, yet only in the area extending south of the discharge has no eelgrass re-established in the South Bay.

The report written by Tenera Environmental evaluated the South Bay Power Plant’s impact on turbidity levels in the South Bay. It concluded that turbidity levels are indeed higher in the south eastern portion of the South Bay and that while the plant has a marginal impact on the production, it does affect the transport of turbidity in the area south of the Chula Vista Wildlife Reserve.

We do not believe that any other conclusion can be drawn – the discharge from the South Bay Power Plant is clearly limiting the ability of eelgrass beds to establish and survive in the South Bay.

B. Impacts of Chlorine on Marine Life will Continue with Units 1 & 2 Operating.

The South Bay Power Plant uses chlorine in the form of sodium hypochlorite daily to kill plants and animals that would otherwise grow on the cooling water system piping or other surfaces. The use of chlorination in once-through-cooling systems has been questioned since at least 1979.¹⁷ Almost all species of animals are disrupted by chlorine. This effect is exacerbated in a warm, shallow, and poorly circulated environment like the South Bay.

Dynergy asserts that as per a requirement of the Regional Board, they developed a chlorine limit that would be protective of beneficial uses and that their discharges have demonstrated no toxicity. They further assert that dechlorination is not necessary as any residual chlorine is broken down into ‘harmless ions’.

C. Dynergy is Likely Underestimating Potential Chlorine Toxicity.

The chlorine limit established by Dynergy uses a whole effluent toxicity test conducted at normal temperatures (20- 25 degrees Celsius) to determine compliance. However, the actual temperature of the discharge from the power plant is much higher than ‘normal’ and can reach up to 40 or more degrees C. Because rates of reaction double for every 10 degrees C, using normal test temperature underestimates the in-situ conditions. EPA guidelines (EPA Clarifications Regarding Flexibility in 40 C.F.R. Part 136 WET Test Procedures) clearly allow test procedures to be adjusted for these types of

¹⁷ Majewski and Miller, Eds. 1979. *Predicting effects of power plant once-through cooling on aquatic systems*. A contribution to the International Hydrological Programme, UNESCO, p. 22.

scenarios¹⁸. The burden of proof is on the discharger to show that the Chlorine Limit will not result in toxicity, and this burden is not met where whole effluent toxicity tests are conducted in a manner that clearly does not inform the existing conditions of power plant discharge. This is the same for sub-lethal effects. Thus, the conclusion drawn by Dynegy that the discharge is not toxic cannot be fully supported. The importance of this faulty conclusion is underscored by the fact that the plant uses more chlorine in summer, compounding the effects of higher summer water temperature, less dissolved oxygen, and the greater toxicity of other chemicals. In August of 2001, the South Bay Power Plant reported use of 4119 pounds of chlorine that month.¹⁹

Additionally, the discharge may be having sub-lethal effects on biota. The sublethal effects of chlorinated products have been established for fish, invertebrates, and other marine organisms need to be assessed for the plant's discharge, and should be factored in to regulatory limits.²⁰ Chlorinated cooling waters have been found to cause significant sublethal stress to some organisms, so that measurements of surviving organisms underestimate chlorine toxicity.²¹

The importance of these sublethal effects was outlined in the Pisces Report, which also found that the Duke Study failed to fully assess the impact of chlorine in the discharge:

Residual chlorine in the discharge will be allowed up to the permitted concentration of 0.2 mg/l (milligrams per litre). Davis & Coughlan (1978) demonstrated that photosynthetic activity was considerably reduced at residual chlorine levels well below 0.2 mg/l and concluded that bacterial activity was suppressed at chlorine levels below detection levels.

Similar concerns to those expressed above also apply to the zooplankton. Zooplankton show severe metabolic and reproductive suppression after exposure to chlorine levels as low as 0.01 mg/l in seawater (Goldman et al. 1978). Davis & Coughlan (1978) reported that 48 hours after exposure to a concentration between 0 and 0.25 mg/l, 22% of adult copepods were dead.²²

Dynegy's claim that the chlorine discharged by the plant is broken down into 'harmless ions' is unsupported by fact – there has been no monitoring to demonstrate this to be true. Just because monitoring is not done, does not mean that the substances are not forming. We know from research in other areas that chlorine is known to break down, complex with other substances, and form new compounds, such as trihalomethanes and haloacetic acids, also known as disinfection by-products^{23,24}.

¹⁸ EPA <http://www.epa.gov/waterscience/methods/wet/wetinfo.html>

¹⁹ San Diego Regional Water Quality Control Board staff, personal communication, 2001. Chlorine Usage at SBPP, August 2001 provided by Regional Water Board Staff Hashim Navaroli to EHC.

²⁰ Capuzzo, Judith M. et al, *Chlorinated Cooling Waters in the Marine Environment: Development of Effluent Guidelines*, p. 161-163.

²¹ *Ibid.*, p. 162.

²² 2004, Pisces Report, p.8-9

²³ Jolley, R. L. 1975, "Chlorine-containing organic constituents in sewage effluents," *J. Water Poll. Control Fed.*, Vol. 47, p. 601-618, as cited in Majewski and Miller, *op cit.*, p. 22.

²⁴ Jenner, H.A., J. L. Taylor, M. van Donk, M. Khalanski. Chlorination by-products in chlorinated cooling water of some European coastal power stations. *Marine Environmental Research* Volume 43, Issue 4, June 1997, Pages 279-293.

The United Kingdom Special Areas of Conservation web site on Biocides Used in Cooling Water Disinfection²⁵ describes the chemistry and reactions that lead to chlorination by-products and notes that natural organic matter in the water is a major precursor for the formation of halogenated by-products. In short, the chlorination by-products form when chlorine comes in contact with seawater in the condensers as well as in the bay. The chlorination by-products are toxic and can remain so for long periods²⁶.

D. Eelgrass, not Thermal Output from the Plant, is Required to Support Sea Turtles.

As we discussed in our earlier testimony, the sea turtles found in the vicinity of the plant do not need the plant's thermal output to survive. Indeed, Dynegy's testimony corroborates this position. Dynegy's February 22 submittal refers several times to the continued presence of turtles 'with or without the warm water associated with the power plant discharge.' Dynegy Letter at 22. Additionally, although it is boldly stated, the aggregation of turtles around the plant does not, in and of itself, prove the quality of the habitat for the turtles. Last, Dynegy offers no support for its contention that green turtles do not depend on eelgrass in the bay. Dynegy Letter at 22. We have provided several sources to show the contrary, that eel grass is important for green sea turtles. Specifically, in its Comprehensive Conservation Plan and Environmental Impact Statement, the US Fish and Wildlife Service states,

The bay's small population of Pacific green sea turtles also relies on eelgrass as an important food source.²⁷

We have previously filed additional statements from the USFWS over their concerns about the impacts of the discharge on bay wildlife and eelgrass.

E. The discharge has been found by the Regional Board and other agencies to have negatively impacted beneficial uses in the Bay.

The Discharge has provided studies that purport to show no damage to beneficial uses. We have already provided extensive data regarding several entities that have pointed out the flaws in earlier studies in our previous letter. This understanding is widespread and has been repeated over and over in clear terms.

NOAA acknowledges impacts to the natural resources of the Bay and the need to mitigate those impacts. In their February 18, 2010 letter it states,

"Consequently, the Regional Water Quality Control Board may require that a mitigation and restoration workplan be developed and implemented to

²⁵ UK Marine SACs Project http://www.ukmarinesac.org.uk/activities/water-quality/wq8_28.htm

²⁶ Gehrs et al, 1974, "Effects of stable chlorine-containing organics on aquatic environments." *Nature*, Vol. 249, p. 675-676, as cited in Majewski and Miller, op cit., p. 22.

²⁷ Comprehensive Conservation Plan and Environmental Impact Statement, Volume 1, the US Fish and Wildlife Service, August, 2006, p. 3-42.

compensate for the detrimental impacts associated with over 40 years of plant operation...”²⁸ (emphasis added)

The State Water Board recognized the same effects and has repeated yet another reason that past studies and analysis have been deficient and underestimated the true impacts on the ecosystem

There has been an historical emphasis on commercially or recreationally important species, primarily fish. The reality is, however, that a power plant cooling system does not discriminate and instead causes mortality to all aquatic life in the water column community. Protection of the entire ecological community is essential for promoting a health ecosystem.²⁹

In its exhaustive assessment of the status of California’s Living Marine Resources the State Resources Agency and Department of Fish and Game stated,

Most energy company-sponsored studies of power plant entrainment limit analysis to effects on larval fish, arguing that plankton losses are too difficult to enumerate and analyze for ecosystem effects. It has been estimated, however, that plankton losses can significantly increase the estimate of overall wildlife losses due to entrainment.³⁰

F. The power plant infrastructure also has impacted the Bay and never been addressed.

In addition to the negative impacts caused by the shore facilities of the power plant- the intake cooling water structure, the biocides used to clean the cooling system, and the cooling water discharge characteristics, it is also a problem that the power plant has physically altered the waters of South Bay by adding the dikes to form the intake and discharge channels. This change has significantly modified the natural habitats and hydrology of the South Bay. The studies and arguments to show the minimal impacts of the power plant tacitly assume that these in- bay structures are a natural part of the bay. They are not. The aerial view of the dikes clearly shows how they have reduced the natural pathway for tidal flows—causing their own unstudied, unmitigated impact on the local environment.

III. Dynegy’s Purported Permit Compliance Does Not Constitute Protection.

A. Compliance with Numeric Limits Does Not Mean That the South Bay Power Plant Protects Designated Uses in the South Bay.

²⁸ Letter from Hoffman to Valderama, Feb. 18, 2010, p. 2.

http://www.waterboards.ca.gov/sandiego/water_issues/programs/npdes/southbay_power_plant/southbay_power_plant.shtml

²⁹ Scoping Document, SWRCB, March, 2008, p. 13

³⁰ California’s Living Marine Resources, December, 2001, p. 36

In support of its renewal application, Dynege touts its compliance with the terms and conditions of the 2004 permit. But compliance with numeric limits of the 2004 permit does not mean that the South Bay Power Plant has no adverse environmental impacts. On the contrary, flaws in the permit limits—or lack thereof—and monitoring mean that the South Bay Power Plant could comply with the permit terms and still have significant adverse impacts on the South Bay environment.

Specifically, by performing the whole effluent toxicity test at a normal temperature—instead of the temperature of the actual discharge—the testing does not reveal toxicity of the South Bay Power Plant’s effluent under actual conditions. Similarly, because the chlorine sampling required in the permit does not test for harmful chlorine by-products, Dynege’s allegations that the chlorine is “almost instantaneously” broken down into so-called “harmless ions” falls short. In other words, even if Dynege was fully complying with its permit, the South Bay Power Plant still has significant adverse environmental impacts on the South Bay.

As the State Board has noted, specific to once-through-cooled power plants, permits allow a de facto impact:

When spills and industrial discharges result in fish kills....enforcement actions are typically taken. Ironically, with all of the limitation and prohibition placed on discharges, impingement and entrainment have essentially constituted a permitted fish kill for power plant intake systems.³¹

B. Dissolved Oxygen (DO) has no standard in this permit and therefore does not comply with the Basin Plan.

The South Bay Power Plant 2004 permit should have included a numerical limit for dissolved oxygen.³² The Board’s decision not to include a numerical dissolved oxygen limit in the permit despite the fact that dissolved oxygen is key for survival of aquatic life illustrates that compliance with the permit does not necessarily mean that the South Bay Power Plant is not endangering the environment.

The US Fish and Wildlife Service agreed that the lack of a numerical dissolved oxygen limit in the permit is problematic:

Having a dissolved oxygen water quality objective in the San Diego Basin Plan and adopting that objective into permits is essential if dischargers are going to demonstrate that they are not adversely impacting the designated beneficial uses of San Diego Bay.³³

Unfortunately, that never happened so no assessment can be made about the DO and the power plant since is unaddressed in the permitting regime.

³¹ Scoping Document, SWRCB, March, 2008, p. 12.

³² See Basin Plan, Adopted on September 8, 1994, at 3-8.

³³ Theresa O’Rourke, USFES to Alex Mayer, SWRCB, March 2, 2005, p 3

C. The Discharge does not comply with other narrative standards required in the permit.

The damage to beneficial uses of the Bay is known and acknowledged. While the discharge may be in compliance with the limited number of numeric standards that are set, we hold that it is not in compliance with the narrative standards required, especially for protection of beneficial uses. They do not meet the narrative standard in the Thermal Plan to that requires elevated temperature waste to comply with limitations necessary to protect beneficial uses.³⁴ Both Findings 14 and 15 outline the impacts to beneficial uses from heat waste from the power plant.

The 2004 permit and fact sheet are filled with acknowledgements that continuing the discharge will continue impacts the beneficial uses.

Measures to mitigate the detrimental impacts of the SBPP discharge to the discharge channel are needed. Measures to restore the Beneficial Uses of south San Diego Bay and to rehabilitate the damage caused to the biological resources of the Bay are also necessary.³⁵

The discharge can also not be found to comply with narrative objectives for receiving water either. The requirement that "Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded"³⁶ and "Natural light shall not be significantly reduced as the result of the discharge of waste"³⁷ are clearly violation by this continuing discharge. Therefore, the discharge cannot be said to be in full compliance with its permit.

IV. Dynegy's Reliance on CALISO's Energy Requirements Does Not Impact the Regional Board's Decision.

A. Accurate demand numbers and electricity supply show abundance of energy without the Plant on-line in 2010.

We have long stressed that the energy requirements of CALISO are not the concern or jurisdiction of the Regional Board. However, since the matter has been raised, we are providing evidence the output from the SBPP is not needed. We strongly disagree with Dynegy's assertion that CALISO's concerns are relevant to the Regional Board's mandates simply because the staff granted them Designated Party status. Conferring "Designated Party" status on CALISO does not change the Water Code standards that apply to the Regional Board." On the contrary, the status means only that no other party in the proceeding has the same issues as the ISO. Interestingly, Dynegy dismisses the issues of local communities and municipalities and yet the City of Chula Vista and a coalition of community groups are both named designated parties as well.

³⁴ Order 2004-0154, p.3

³⁵ Order 2004-0154, Finding 19, p.5

³⁶ Order 2005-0154, Receiving water limitation, p.13

³⁷ Order 2005-0154, Receiving water limitation, p.12

1. ISO used the wrong CEC number in calculating their local reliability requirements.

Coalition members testified to this Board in December that the California Energy Commission (CEC) adopted new numbers for the extreme peak demand. Unfortunately, these new numbers were not used in CALISO’s analysis submitted to the Board last month.

In CALISO’s testimony, it alleges a need for 247 Mw in 2010 (Table 1, line 9), based on a CEC 1-in-10 load forecast of 5127 Mw (Table 1, line 5). However, this analysis is based on an incorrect CEC adopted peak demand number. The corrected December 2009 a corrected demand forecast has a 2010 1-in-10 peak demand forecast of 4967 Mw, or **160 Mw less** than the value shown in the ISO forecast.³⁸

Changing Table 1, line 5 of the ISO's testimony to use the adopted 2009 CEC forecast would reduce the shortfall shown on line 9 of Table 1 from 247 Mw to 87 Mw. We have bolded the correct number below.

**Form 1.5 - SDG&E Planning Area
 California Energy Demand 2010-2020 Staff Revised Forecast
 Extreme Temperature Peak Demand (MW)**

Year	1-in-2 Temperatures	1-in-5 Temperatures	1-in-10 Temperatures	1-in-20 Temperatures	1-in-5 Multiplier	1-in-10 Multiplier	1-in-20 Multiplier
2009	4,487	4,836	4,935	5,020	1.078	1.100	1.119
2010	4,516	4,868	4,967	5,053	1.078	1.100	1.119
2011	4,578	4,935	5,036	5,123	1.078	1.100	1.119
2012	4,658	5,021	5,124	5,212	1.078	1.100	1.119
2013	4,738	5,108	5,212	5,302	1.078	1.100	1.119
2014	4,797	5,171	5,277	5,368	1.078	1.100	1.119
2015	4,856	5,234	5,341	5,433	1.078	1.100	1.119
2016	4,911	5,294	5,402	5,495	1.078	1.100	1.119
2017	4,973	5,361	5,470	5,565	1.078	1.100	1.119
2018	5,032	5,424	5,535	5,631	1.078	1.100	1.119
2019	5,094	5,491	5,603	5,700	1.078	1.100	1.119
2020	5,157	5,559	5,673	5,771	1.078	1.100	1.119

³⁸ California Energy Demand 2010 - 2020 Commission-Adopted Forecast Publication Number: CEC-200-2009-012-CMF Publication Date: December 2009, Adopted by the California Energy Commission December 16, 2009 See SDG&E form 1.5, available at <http://www.energy.ca.gov/2009publications/CEC-200-2009-012/index.html>.

This 87 Mw shortfall in 2010 is easily met and exceeded by new generation coming on-line in the region. The ISO analysis includes new generation at Otay Mesa and Miramar 2 (ISO, Table 1, Line 2) but no other new generation. On the CEC's project status website (Updated March 1) the Orange Grove project was revised to be 90 percent completed, **with an on-line date of March 2010**--this month.³⁹

The combination of the December 2009 adopted CEC load forecast for SDG&E (160 Mw lower in 2010) and the new Orange Grove power plant (94 Mw) would reduce the need for must-run resources in the SDG&E area by 254 Mw, more than needed to eliminate the 247 Mw shortfall (without South Bay) shown in the ISO's February statement. Once Orange Grove is in commercial operation, it would fully meet the remaining 87 Mw shortfall and neither South Bay unit would be needed for the balance of 2010. If Unit 5, the on-site peaker plant were left operational, that would add another 15 Mw to the mix. Last, demand response and deployment of solar power is expected to grow significantly in future years and this would further reduce energy demand during peak conditions.

B. CALISO has other options if additional power is needed in the future.

We have outlined options for future energy generation and many studies have been done demonstrating that the region can meet its future energy demand through deployment of the State's Preferred Loading Order.⁴⁰ An analysis done by energy analysts Local Power, Inc., demonstrated at least three options that could be developed to replace energy from the South Bay Power Plant specifically.

However, there are yet more options. In its 2004 letter, CALISO noted that it would be possible to drop up to 689 MW of energy load in San Diego via a computer-operated system (Special Protection System) in the event of an outage of the South west Power link.⁴¹

It is instructive to note how ISO describes what would happen if the Special Protection System were not possible,

If this is not possible, electric load in San Diego above 3800 MW would not be served until new generation resources within San Diego, that are equal to the South Bay units 1-4, are constructed and in operation. At this time, the next significant increase in generation resources within San Diego will be the Palomar Energy Project (564 MW) that is currently scheduled for operation by summer 2006.⁴²

We note for the record, not only is Palomar operating at 564 Mw, Otay Mesa at 603 Mw, and Pala at 94 Mw, in addition to other resources —a total of at least 1261 new Mw since the ISO made this statement in 2004, far beyond the 689Mw what the ISO themselves said was necessary to end the RMR.

³⁹ http://www.energy.ca.gov/sitingcases/all_projects.html.

⁴⁰ Bill Power study, Paul Fenn and Robert Freehling, Greener Energy Options to Replace the South Bay Power Plant, Prepared for Environmental Health Coalition, February 15, 2007.

⁴¹ 2004, Letter from Detmers, CAISO to Regional Board, p.3

⁴² 2004, Letter from Detmers, CAISO to Regional board, p.3.

C. Dynege is inaccurate in its implication that an energy outage would cause Metro Wastewater to fail.

Metro is energy independent. In fact, they generate excess energy. Here is how they describe their energy production on their website,

Methane gas is a by-product of the digestion process. The gas is removed from the digesters and is used to power two Caterpillar engines in the plant's Gas Utilization Facility. These two engines supply all of the plant's energy needs, making the Point Loma Wastewater Treatment Plant energy self-sufficient. The plant sells the excess energy it produces to the local electricity grid, offsetting the energy costs at pump stations throughout the City. The plant also takes advantage of its location on a cliff's edge by operating a hydroelectric plant driven by effluent dropping 90 feet into the Outfall. This additional power is also sold to the local energy grid.

The pump stations are also required to have back-up power, so that in the event of a peak demand condition where outages might occur, redundant systems are in place to ensure protection of public health and safety with respect to the sewage conveyance system.

In summary, the No More Power Plant Coalition reiterates our position and urges the Board to act to end this discharge based on the following:

1. There has been no valid assessment of true background (pre-discharge) conditions in South San Diego Bay; therefore the baseline of all subsequent studies is flawed and unrepresentative.
2. Forty-five years of regulation and study was fundamentally flawed due to the mischaracterization of a large portion of South Bay as part of the power plant and not part of the Bay requiring protection of beneficial uses.
3. The Regional Board and other agencies have found that the discharge from the South Bay Power Plant has adversely impacted, and will continue to adversely impact, beneficial uses and water quality in South San Diego Bay.
4. The adverse impacts will continue as long as Units 1 & 2 continue to discharge. Impacts of the cooling system and discharge result from heat, chlorine use, impingement, entrainment, ecological disruptions, toxic materials, and cumulative impacts will not cease until the discharge is ended.
5. There is no legitimate need for the power produced by Units 1 & 2 in 2010 and after. Conditions for removal of the RMR made by ISO and Duke in 2004 have all been met.

6. The Water Board has the legal authority and mandate to end this discharge.
7. As a matter of environmental justice the discharge should be terminated.
8. Analysis of the feasibility of plant improvements have not occurred or have been compromised because of representations of the limited remaining life of the plant.

The members of our coalition, the people we represent, and the animal and plant life of the Bay are counting on you to bring a historic end to this 50 year abuse of San Diego Bay. We look forward to future presentations when, like his predecessors long before his time, the newest San Diego Regional Water Board Executive Officer can tout the end of needless pollution and a beautiful recovery of a degraded natural resource.

It will be a great day.