pillsbury

Pillsbury Winthrop Shaw Pittman LLP
50 Fremont Street | San Francisco, CA 94105-2228 | tel 415.983.1000 | fax 415.983.1200
MAILING ADDRESS: P. O. Box 7880 | San Francisco, CA 94120-7880

Margaret Rosegay
tel 415.983.1305
margaret.rosegay@pillsburylaw.com

HAND DELIVERED

February 22, 2010

David W. Gibson
Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Re: Dynegy South Bay, LLC – Submittal of Evidence in Support of Continuation of Operations – South Bay Power Plant – NPDES Permit No. CA 0001368

Dear Mr. Gibson:

Dynegy South Bay, LLC ("Dynegy") hereby submits written evidence in support of the continued operation of the South Bay Power Plant ("SBPP"), in accordance with the requirements of the Notice of Public Hearing issued by the San Diego Regional Water Quality Control Board ("Water Board") for this matter.

Procedural Considerations

Dynegy timely submitted a complete application for renewal of its NPDES permit for SBPP on April 10, 2009. Consistent with the application as updated on October 16, 2009, the permit was modified by the Executive Officer to require cessation of the discharge from Units 3 and 4 by December 31, 2009, based on the forthcoming release of those units by the California Independent System Operator ("CAISO") from Reliability Must Run status ("RMR"), effective January 1, 2010. As a result of these events, the permit has been administratively extended by operation of law and can only be terminated by denial of the pending application for renewal in accordance with applicable regulations in 40 CFR § 122.64(a).

As noted in our December 7, 2009 letter to you, these regulations allow denial of an application for renewal of an NPDES permit only in the following, very limited circumstances:

> (1) the permittee is in noncompliance with any condition of the permit;
>
> (2) the permittee failed to disclose all relevant facts or misrepresented any relevant facts;
>
> (3) a determination is made that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
>
> (4) there is a change in any condition that requires a temporary or permanent reduction or elimination of any discharge.

The evidence in this case demonstrates unequivocally that grounds for termination of the permit do not exist.

These federal regulations are binding on the Regional Board, and there are no state laws or regulations which prescribe a different standard for permit termination. A permit cannot lawfully be terminated on the basis of "best professional judgment" or considerations unrelated to water quality.

As formally reported to the Water Board staff, Units 3 and 4 were permanently shut down on December 31, 2009. The air permits for these units have been retired, and the pumps that drew water into the units for cooling purposes have been disconnected. The plant's maximum flow rate has been reduced to 225 MGD, reflecting a reduction of 63% from historically permitted flows. The permit as modified allows Units 1 and 2 to continue discharging, at a maximum combined flow rate of 225 MGD, until December 31, 2010, based on the CAISO's determination that Units 1 and 2 are still needed for reliability purposes through the end of 2010.

These minor modifications of the permit – including the provision allowing Units 1 and 2 to discharge until December 31, 2010 – were ratified by the Water Board at a hearing on December 16, 2009. Nevertheless, at the conclusion of that same hearing, the Water Board directed staff to schedule a subsequent hearing for the purpose of taking evidence on the plant's purported effects on water quality, presumably for the ultimate purpose of determining whether grounds exist for terminating the plant's discharge (and intake) prior to December 31, 2010, irrespective of whether Units 1

and 2 are still RMR. Dynegy lodged written objection to the timing and purpose of the hearing as advocated by the Environmental Health Coalition and an *ad hoc* group called "No More South Bay Power Plant Coalition" which sought summary and unlawful termination of the permit by March 1, 2010. See Coalition letter to Water Board dated November 30, 2009. Dynegy appreciates staff's recognition of and adherence to the state and federal laws and regulations that govern the allowable scope and conduct of the hearing noticed for March 10, 2010 and the Water Board's express agreement that no action shall be taken at that hearing.

We do, however, continue to have significant concerns with respect to the process. First, the Water Board should be a designated party in this proceeding, even at this "evidentiary" stage. Apparently consistent with its non-party status, staff has been directed by the Water Board to maintain a "neutral" position at the March 10 hearing and not to "take sides." Accordingly, we have been advised that staff will limit its presentation at the hearing, if any, to a brief summary of information contained in Regional Board's files, without offering any opinion as to whether or how the information might affect the ultimate decision in this matter, i.e., whether SBPP should be required to shut down while Units 1 and 2 are still designated RMR. This approach is extremely unusual and potentially very prejudicial, and we are unaware of any other circumstance where staff has effectively been barred from offering its technical assessment of a permitted discharge for consideration by the Board. Dynegy therefore reserves for the record its strong objection to the limitation on the staff's ability to participate meaningfully in the March 10 hearing as a designated party and to be subject to cross-examination. Dynegy does not expect staff or the Water Board to "take sides." What we expect – and what is required by law – is that there be a full, fair and impartial consideration of the evidence and, at the appropriate time, a proposed decision that is based on relevant legal and regulatory criteria and supported by scientific facts.

Second, as set forth in the notice of hearing, it is Dynegy's express understanding that the March 10 hearing is solely for the purpose of receiving evidence. No tentative order has been noticed for public comment, and no vote or other action will be taken by the Board on that day. However, Dynegy does not believe that the Water Board may lawfully direct staff at the conclusion of the March 10 hearing to proceed with preparation of a tentative order denying Dynegy's application for renewal of its permit (and effectively revoking the plant's permit). Any such direction would improperly signal that the Water Board has already made a decision to terminate the permit, even before staff has had an opportunity to review all of the evidence and to formulate a conclusion and recommendation with respect to the sufficiency of that

evidence to support termination of the permit. We believe it would be highly inappropriate and a clear abuse of discretion – if not contrary to law – for the Water Board to bypass staff's essential role in this process. At a minimum, once the evidentiary hearing is concluded, staff cannot remain "neutral" and must be allowed to express its independent, professional opinions about the effects of the plant's operations on San Diego Bay, the significance of those effects, and whether – in staff's judgment – termination (or perhaps modification) of the permit is necessary. To this end, we believe the Water Board must be identified as a designated party for purposes of any subsequent proceeding in which action is proposed to be taken so that Dynegy may exercise its rights of cross-examination.

Based on the foregoing, we believe the only direction that can lawfully be provided to staff at the conclusion of the hearing is a direction to review the evidence and to formulate a staff recommendation based on that evidence for later presentation to the Board. The options available to staff could encompass any of the following, depending on the outcome of their technical evaluation:

> (i) a recommendation that no further action is necessary because the observed effects of the plant's operations are not significant and the evidence does not support the regulatory findings that must be made in order to terminate the permit;
>
> (ii) a recommendation that further study is needed to determine whether the observed effects are in fact attributable to SBPP, as opposed to other known discharge(s) into San Diego Bay;[1]
>
> (iii) a recommendation that the observed effects of the plant's operations are significant but do not rise to a level that warrants modification or termination

---

[1] For example, the Palomar Drain discharges directly into the SBPP discharge channel, and the J Street Canal and Telegraph Canyon Creek discharge in close proximity to the plant's intake. See Attachment 3. These major features transport municipal storm water runoff containing copper, zinc, nickel, oil and grease and other pollutants directly into south San Diego Bay. These pollutants and other physical effects associated with these municipal storm water drainages cannot be attributed to the SBPP.

of the permit, particularly in light of the likely limited duration of RMR status for Units 1 and 2;

(iv) a recommendation that the observed effects of the plant's operations are significant, but can be adequately regulated through further modification of the permit, rather than by termination of the permit; or

(v) a recommendation that water quality impacts associated with the plant's operations for the balance of 2010, as demonstrated by the evidence, are so severe that termination of the permit is the only acceptable regulatory option.

Based on its detailed understanding of the nature and extent of the effects of the SBPP intake and discharge, as documented in the Technical Memorandum prepared by David Mayer, Ph.D., Tenera Environmental Inc., and the other evidence submitted herewith or incorporated by reference (see discussion below), Dynegy is confident the water quality effects of the plant's operations are very limited and cannot reasonably be found to warrant termination of the plant's NPDES permit. This is particularly true given the significant reduction in the plant's permitted flow rate from 601 MGD to 225 MGD as a result of the shutdown of Units 3 and 4. When compared with the impingement and entrainment effects of other coastal power plants that utilize once-through cooling, the effects attributable to Units 1 and 2 at SBPP can best be described as minor.

Burden of Proof

As we have stated previously, Dynegy does not have the burden of proving a negative in this case. In other words, it does not have an obligation to prove that operation of the SBPP does not cause unacceptable adverse impacts that can only be adequately regulated through termination of the discharge. As confirmed by Catherine Hagan, Regional Board counsel, the Water Board has the burden of proof. That is, the Water Board must affirmatively prove by substantial, credible evidence that (i) the plant is causing unacceptable adverse impacts to human health or the environment, and (ii) the impacts are so significant that they can only be adequately regulated by early termination (revocation) of the plant's NPDES permit. This is a scientific inquiry that must be made independently of political or land use considerations that might favor a

different end use for the property. The significant pressure that is being brought to bear upon the Water Board by local politicians, public interest organizations, and residents who wish to see the property redeveloped for an alternative use is not relevant to the decision-making process.[2] Any decision to revoke the plant's NPDES permit that is based on criteria other than those set forth in 40 CFR § 122.64 would constitute a regulatory taking in violation of the U.S. Constitution for which just compensation would have to be made.

Role of the CAISO and Grid Reliability

In contrast to the political and socio-economic considerations discussed above, the requirements of the CAISO and the RMR status of Units 1 and 2 are relevant to the Water Board's decision under 40 CFR § 122.64 as they bear directly on water quality, human health and safety. The Coalition's assertion that the CAISO has engaged in "machinations" and that its decisions are "irrelevant" are both wrong and unwarranted. See November 30, 2009 Coalition letter to Water Board. The Water Board's designation of the CAISO as a "party" confirms the importance and propriety of considering evidence relating to reliability of the grid. For example, during the huge wild fires that occurred in San Diego in 2003 and 2007, SBPP's dispatch rate was ramped up dramatically in order to replace imported power that was lost when high voltage transmission lines bringing power into the region were taken out by the fires. See Attachment 10. Had SBPP not been available to supply locally generated power, the City would have suffered blackouts, greatly exacerbating the existing emergency conditions and creating grave threats to public safety. Similarly, loss of power to POTWs and other water treatment facilities could result in discharge of untreated or partially treated sewage to the waters of the state.

SBPP's essential role in meeting regional energy needs was expressly recognized by the City of Coronado which was asked by the cities of San Diego and Chula Vista "to join in the effort to decommission and dismantle the Plant" to provide for "more

---

[2] It should also be noted that intensive land uses such as a football stadium, hotel complex or convention center that have been considered for the site are not benign from a water quality standpoint. These types of uses regularly draw huge numbers of vehicles to the site and would have their own significant adverse water quality impacts on the bay, e.g., contaminated storm water runoff from the parking lots.

appropriate uses for its bay front location" in the future. See Attachment 12, Resolution No. 8396, dated January 19, 2010. The resolution provides that the City of Coronado (while clearly misunderstanding the pertinent regulatory criteria for termination of NPDES permits) nevertheless "supports the closing of the South Bay Power Plant as expeditiously as possible as soon as it is no longer required to maintain the power grid." (emphasis added.) As Randy Hickok has stated during prior hearings before the Water Board regarding SBPP, Dynegy has no interest in continuing to operate SBPP after the RMR status for Units 1 and 2 has been terminated by the CAISO. Indeed, it has no legal right to do so under its lease with the Port.

Further, the statewide policy on Once-Through Cooling ("OTC Policy") is expected to be adopted by the State Water Resources Control Board in April 2010. This policy was developed in consultation with the CAISO and other energy agencies based on grid reliability considerations, and expressly allows coastal power plants to achieve compliance with the requirements of the new policy in a phased manner, in accordance with a specific schedule set forth in the policy. In the case of SBPP, the draft OTC Policy provides that compliance with state "Best Technology Available" requirements for minimizing impingement and entrainment must be achieved by December 31, 2012. The State Board is well aware of the San Diego Water Board's deliberations relating to SBPP, and has nevertheless maintained the December 31, 2012 compliance date in the OTC Policy.

Once approved by the Office of Administrative Law, the OTC Policy will be binding regulation. Dynegy submits that, when final, the OTC Policy will preclude earlier termination of SBPP's NPDES permit on the basis of alleged impingement or entrainment effects of the intake. While Dynegy has raised numerous legal and technical concerns with the state's draft policy, the relevant point here is that the State Board has decided, as a matter of law, that plants utilizing once-through cooling must be given time to achieve compliance with the new state BTA requirements. In the interim, termination of the NPDES permits for the coastal power plants is not required, irrespective of their current levels of impingement or entrainment.

Evidence in Support of Continued Operation of Units 1 and 2

Without waiving any legal arguments or defenses it has under the Clean Water Act or the California Water Code, Dynegy, as the operator of SBPP, is obligated under the terms of its contract with the CAISO to take such actions as are necessary to maintain all permits and other forms of authorization necessary for the plant's operation as

long as any units are designated RMR. Thus, while Dynegy does not have the burden of proof in this proceeding, it is compelled by its contract with the CAISO to present evidence on its own behalf in support of the continued operation of the plant.[3]

Dynegy's evidentiary submittal consists of this letter and its attachments as identified below:

Attachment 1	Photographs of SBPP intake and discharge channels (current)
Attachment 2	Photographs of construction of circulating water discharge pipe (circa 1960)
Attachment 3	SBPP Facility Map and aerial photo showing storm water drainages into south San Diego Bay (from SBPP Storm Water Pollution Prevention Plan) (April 2009)
Attachment 4	Curriculum Vitae, David L. Mayer, Ph.D., President, Tenera Environmental Inc.
Attachment 5	Technical Memorandum: Assessment of the 2009 Flow Reduction of South Bay Power Plant Intake and Discharge Effects, Tenera Environmental Inc. (February 20, 2010)
Attachment 6	SBPP Cooling Water System Effects on San Diego Bay Volume I: Compliance with Section 316(a) of the Clean Water Act for the South Bay Power Plant, Tenera Environmental and Merkel & Associates (August 12, 2004) (cover page only; document contained in Water Board files)

[3] It should be noted that the Port of San Diego is the legal owner of the plant. As such, decisions pertaining to the continued availability of the plant for dispatch lie with the Port, not with Dynegy. While Dynegy has been portrayed as the "bad actor" in this proceeding, it is simply fulfilling its contractual obligations to the Port and the CAISO based on the RMR status of the SBPP units. Contrary to EHC's repeated misrepresentations to the Water Board and in the press, Duke Energy (the prior operator of the plant) never promised that the plant would shut down at the end of 2009. As explained in Dynegy's December 7, 2009 letter to the Water Board, the administrative record on this issue is clear.

Attachment 7	SBPP Cooling Water System Effects on San Diego Bay Volume II: Compliance with Section 316(b) of the Clean Water Act for the South Bay Power Plant, Tenera Environmental (August 12, 2004) (cover page only; document contained in Water Board files)
Attachment 8	Effluent Sampling Results (graphs)
Attachment 9	Final Report – Cooling Water System Copper Study, U. S. Navy (SPAWARSYNSCEN) (December 29, 1999)
Attachment 10	2003 and 2007 Average Daily Output (graphs)
Attachment 11	Annual Capacity Factor (2000-2009)
Attachment 12	City of Coronado Resolution No. 8396 in support of Closing the South Bay Power Plant as Expeditiously as Possible (January 19, 2010)
Attachment 13	Final Progress Report – Work Plan for Relocation of Thermal Discharge Limitations Compliance Point to the Property Line, Dynegy South Bay, LLC (May 7, 2007)
Attachment 14	Proposed Effluent Limit for Total Residual Chlorine for the South Bay Power Plant, Applied Science Associates (July 1998)
Attachment 15	Technical Rationale and Supporting Documentation for a Proposed Water Quality Objective for Dissolved Oxygen in South San Diego Bay, Applied Science Associates (February 1998)
Attachment 16	Photograph showing aeration of SBPP discharge
Attachment 17	316(b) Proposal for Information Collection for South Bay (San Diego) Power Plant Submitted in Compliance with 316(b) Phase II Regulatory Requirements, Tenera Environmental (November 8, 2005)

Attachment 18	Verified Petition for Review and Request for Hearing filed by Duke Energy South Bay LLC (December 10, 2004)
Attachment 19	Declaration of David L. Mayer in Support of Verified Petition for Review and Request for Hearing (December 10, 2004)
Attachment 20	South Bay Power Plant, Cooling Water Discharge Channel Fish Community Characterization Study, April 1997 through January 2000, Final Report, Merkel & Associates, Inc. (June 2000)
Attachment 21	Fisheries Inventory and Utilization of San Diego Bay, San Diego, California – Annual Report FY 1994-95, Larry G. Allen, Ph.D., Nearshore Marine Fish Research Program, Department of Biology, California State University, Northridge (August 11, 1995)
Attachment 22	Final South Bay Power Plant Receiving Water Monitoring Program with Emphasis on the Benthic Invertebrate Community (1977-1994), EA Engineering, Science, and Technology (April 1995)
Attachment 23	Habitat Requirements and Seasonal Patterns of Distribution and Abundance for Fishes of Inner San Diego Bay, Richard F. Ford, Ph.D., San Diego State University (June 1994)
Attachment 24	Avifauna of South San Diego Bay: the Western Salt Works – 1993-1994, Coastal Ecosystem Program, U.S. Fish and Wildlife Service, Carlsbad, California (1994)
Attachment 25	Colonial Seabirds and the Western Snowy Plover Nesting in South San Diego Bay 1993, Bay and Estuary Program, U.S. Fish and Wildlife Service, Carlsbad, California (1993)
Attachment 26	Thermal Distribution and Biological Studies for the South Bay Power Plant – Final Report, Volume 1, Summary and Conclusions, Pioneer Service & Engineering Co. (May 1973)

Attachment 27	Testimony of Dr. Jeffrey Seminoff, Director, Marine Turtles Research Program, U.S. National Marine Fishery Service (from Water Board hearing transcript, December 16, 2009)
Attachment 28	A Review of the Green Turtles of South San Diego Bay in Relation to the Operations of the SDG&E South Bay Power Plant, Merkel & Associates, Inc. (January 17, 1995)
Attachment 29	Status of Sea Turtles in San Diego Bay 1989-1990 Final Report, Sea World Research Institute Technical Report #90-225, Peter Dutton and Donna McDonald, Sea World Research Institute, San Diego, CA (June 30, 1990)
Attachment 30	Testimony of Kenneth Andrecht (Retired Engineer, Port of San Diego) (from Water Board hearing transcript, December 16, 2009)
Attachment 31	Summary of March 10, 2010 testimony of Kenneth Andrecht (re eelgrass in South San Diego Bay)
Attachment 32	Biological Reconnaissance and Sediment Chemistry Study, Chula Vista Small Boat Basin, February 15, 1975, UPD #EM74/1.1
Attachment 33	Eelgrass Transplanting at Chula Vista Wildlife Reserve, Specification #87-37, San Diego Unified Port District
Attachment 34	Development of a Coastal Salt Marsh in South San Diego Bay, Andrecht, May 1990
Attachment 35	Eelgrass Distribution Mapping and Vegetation Survey Bayward of the North Dike, Chula Vista Wildlife Reserve, July 1994, MBC Applied Environmental Sciences
Attachment 36	Eelgrass Survey of the North Dike of the Chula Vista Wildlife Reserve, May 25, 1995, Merkel & Associates, Inc.
Attachment 37	Eelgrass Distribution, Chula Vista Wildlife Reserve, San Diego Bay, California, May 1996, Merkel & Associates, Inc.

Discussion

Based on the evidence already contained in the administrative record of this permit proceeding and prior permit proceedings, and for the additional reasons described in this letter and its attachments (incorporated herein by reference), Dynegy maintains there is no factual basis upon which the Regional Board may lawfully terminate the plant's NPDES permit prior to its scheduled termination date of December 31, 2010. This conclusion is supported by the 2004 Section 316(a) and (b) studies conducted by Tenera Environmental (see Attachments 6 and 7), Tenera's 2010 Technical Memorandum updating the 2004 studies (see Attachment 5), by comparable studies conducted on behalf of San Diego Gas and Electric Company in 1979-1980, and by a host of other studies conducted over the last 35 years concerning the health of biological communities in San Diego Bay. For example,

- In 1973, SDG&E conducted extensive thermal discharge and biological studies at the SBPP at the request of the Water Board. Although "some evidence of adverse ecological effects" were observed, the study concluded that "the existing thermal discharge has no significant effects on the beneficial uses of the bay." See Attachment 26, pp. 6 and 7.

- In a fish habitat study conducted by Dr. Richard Ford for the San Diego Water Board in June 1994 (more than 30 years after SBPP commenced operation), Dr. Ford concluded "the species composition of fish populations now living in South San Diego Bay (and in San Diego Bay in general) is probably essentially the same as it was under more natural conditions almost 100 years ago." The report also states that South San Diego Bay "supports communities of benthic and pelagic marine organisms characteristic of the inner portions of relatively undisturbed bays and estuaries in California and Baja California." See Attachment 23, pp.1, 9 (emphasis added).

- In April 1995, EA Engineering, Science, and Technology conducted a review of data collected over a period of 18 years, with emphasis on the benthic invertebrate community as a surrogate for the entire biological community of South San Diego Bay. The report concluded that while the average diversity and abundance of the benthic community were somewhat lower within the discharge channel during the summer, these differences were "within the range reported for the sampling stations outside of the cooling channel in the near-field and far-field areas of the thermal plume and at the control sampling station. . . . The absence of appreciable

> long-term trends, upward or downward, in infaunal diversity, number of species, numerical abundance or biomass at sampling stations in the discharge cooling channel indicates the continued persistence of a functional, resilient, and stable community. . . . the results and conclusions summarized in this section logically apply to the entire biological community [of South San Diego Bay]." See Attachment 22, pp. 4-4, 4-5 (emphasis added).

See also Attachments 17-21, 24, 25. All of this data was considered by the Water Board in acting on SDG&E's and Duke Energy's applications for renewal of the plant's NPDES permit in 1996 and 2004, respectively.

The only thing that has changed since 2004 is the continuing decline in the plant's annual capacity factor and the recent retirement of Units 3 and 4 altogether. See Attachment 11. As of the end of December 2009, the plant's annual capacity factor was just below 10 percent. Photographs of the intake and discharge channels are provided in Attachment 1 and completely contradict the claim that the power plant has wrought ecological devastation on south San Diego Bay.

A. SBPP is in Full Compliance with all Requirements of its NPDES Permit

As demonstrated by the graphs in Attachment 8, the concentration of heavy metals in SBPP's discharge is extremely low, typically below reporting limits and water quality objectives for the receiving water (e.g., criteria established by the California Toxics Rule). As documented in the plant's Discharge Monitoring Reports, there have been no violations of any effluent limitation during the current permit term, and the plant is in full compliance with all other terms and conditions of the permit.[4]

This is true even in the case of copper, which has an extremely stringent effluent limitation (essentially the CTR applied end-of-pipe). Numerous references have been made to a 1999 study conducted by the U.S. Navy as a basis for asserting that the plant adds approximately 700 pounds of copper to the bay on an annual basis. This statement also appears in the Fact Sheet for the permit (see p. 48). A copy of the Navy study is provided in Attachment 9. However, the authors of the study described

---

[4] The Discharge Monitoring Reports are contained in the Water Board's files and are incorporated herein by reference.

this figure as an overestimate because it was based on continuous pumping at the maximum rate.[5] In fact, consistent with Provision C.2. of the permit, the plant's pumps do not run continuously.[6] The Navy also utilized analytical methods to measure the concentration of copper in the intake and discharge channels that were described as "Research and Development grade" (basically, experimental). See Attachment 9, p. 2. The study also reports that significant sampling difficulties were experienced (computer hardware and sampling hose failures), limiting the amount of available data. In addition, since 1999, SBPP has implemented a number of projects to expand and upgrade impressed cathodic protection to minimize corrosion of copper heat exchange surfaces. Given the foregoing, Dynegy does not believe the 700 pound estimate is accurate or reliable.

Despite considerable concern by Dynegy that it would be unable to meet the final copper limits in the permit, Dynegy has not experienced a single exceedance of the limits. With the shutdown of Units 3 and 4 (both of which had copper condenser tubing), copper loading will be even further reduced. Only one of the remaining operational units (Unit 2) contains copper condenser tubes. Unit 1 has stainless steel condenser tubes. Similarly, all zinc plates were removed from the plant in August 2004 and replaced with cathodic protection. The monitoring results for zinc over the last permit cycle have consistently been non-detect. The Coalition's claim that the adverse effects of these toxic pollutants are exacerbated by the thermal component of the discharge is a hollow charge, given the extremely low concentrations of these compounds which are present in the discharge water.

It is particularly noteworthy that the plant has never exceeded the whole effluent toxicity limitation or the total chlorine residual limitation included in the permit. Effluent Limitations B.1.(c) and (d). See Attachment 8. Toxicity tests are conducted monthly (increased from quarterly in the prior permit). Total chlorine residual is monitored on a weekly basis. The permit also contains receiving water limits for

---

[5] For comparison purposes, the study calculated the loss of mass from condenser tubes from Unit 1 that were replaced after 33 years of service, and determined that the annual contribution to the bay would have been closer to 300-400 pounds (approximately 1 lb/day) on this basis.

[6] Provision C.2. of the permit provides that "The discharger shall minimize once-through cooling water flow where possible when units are at reduced load or out of service."

these parameters, which have never been exceeded. See Receiving Water Limitations, D.2.(a) and (b).

As can be seen from the graph for chlorine, the monitoring results are uniformly non-detect at the property line (Station S2). See Attachment 8. SDG&E was required by the Water Board in the late 1990's to develop a proposed chlorine limit that would be protective of beneficial uses, and the limit – once approved by the Water Board – was incorporated into the permit. See Attachment 14. In short, there is no chlorine toxicity of the discharge. Dechlorination is not necessary, as any residual is chemically broken down into harmless ions almost instantaneously, as evidenced by the non-detect results at the property line. Dynegy does not allow chlorine to just "dissipate" as assumed by the Coalition, and there is utterly no basis for concluding that free chlorine from the plant is forming chlorinated organic compounds in the bay. In short, there is no factual basis for the repeated assertion that the plant continues to release large quantities of toxic pollutants into the bay, continuing to pollute and degrade beneficial uses.

B. Neither State nor Federal Law Requires the Elimination of All Impacts Associated with Once-Through Cooling

Significantly, the Water Board has never advised Dynegy (or any prior operator or owner) that SBPP's intake or discharge, even at the historical maximum flow rate of 601 MGD, was causing unacceptable adverse impacts on beneficial uses of the bay. To the contrary, the plant's NPDES permit has been renewed successively over many years. Moreover, whatever the "baseline" impacts may have been (i.e., those associated with operations at 601 MGD), they are now very significantly reduced, with only Units 1 and 2 remaining in operation.

The California Water Code provides,

> ". . . activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible."

Water Code, § 13000 (emphasis added).

To this end, the regional water boards are directed by law to adopt water quality objectives that "will ensure the reasonable protection of beneficial uses." Water Code, § 13241. Similarly, "pollution" of the waters of the state is prohibited, defined as "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects . . . the waters for beneficial use." Water Code, § 13050(*l*). In adopting this standard of care, the legislature expressly recognized that "it may be possible for the quality of the water to be changed to some degree without unreasonably affecting beneficial uses." Water Code, § 13241. (Emphasis added.)

The Water Board's own mission statement reflects this legislative intent by acknowledging the challenges posed by "the task of protecting and enforcing the many uses of water, including the needs of industry, agriculture, municipal districts, and the environment." As noted in prior submittals, Industrial Service Supply is a designated beneficial use of San Diego Bay, and was added to the San Diego Basin Plan expressly to allow use of bay water for cooling the SBPP. This beneficial use cannot be ignored and must be taken into consideration in evaluating the overall effects of the plant's operations. Even if the limited effects of the plant's operations could be described generally as "adverse",[7] the Water Code does not dictate that these effects be eliminated where it would be unreasonable to do so, taking into account all relevant considerations. Dynegy submits that any decision to terminate the plant's NPDES permit – given the plant's outstanding record of compliance, the modest nature of the "baseline" effects, and the 63%-86% reduction in those effects achieved by the retirement of Units 3 and 4 – would be unreasonable, arbitrary and capricious on its face.[8]

Similarly, Sections 316(a) and (b) of the Clean Water Act contemplate that power plants that utilize once-through cooling will inevitably cause some level of environmental impact. The relevant question is one of degree. In the case of the thermal component of the discharge, the permit must contain effluent limits that are sufficient "to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife" in the receiving water (the so-called BIC

---

[7] South San Diego Bay is not listed as an impaired water body under Clean Water Act section 303(d) for any pollutant.

[8] The basis for these percentage reductions in impingement and entrainment are explained in Attachment 5.

standard). 33 U.S.C. § 1326(a). Thermal impacts that fall below this threshold are deemed acceptable.

With respect to the intake, Section 316(b) requires that "the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact" (i.e., impingement and entrainment). 33 U.S.C. § 1326(b). The law does not require elimination of all impingement and entrainment, only that "best technology available" ("BTA") be utilized to minimize these impacts to the extent reasonably possible. As recently confirmed by the U.S. Supreme Court, the permitting agency may conduct a traditional cost/benefit analysis in determining what constitutes BTA for a particular existing facility. See Entergy Corp. v. Riverkeeper, Inc., 129 S. Ct. 1498 (April 1, 2009). Further, pending promulgation of new Phase II regulations establishing BTA for existing power generating facilities, EPA has instructed permit writers to continue making case-by-case BTA determinations, using Best Professional Judgment ("BPJ"). 72 Fed. Reg. 37107 (July 9, 2007). This includes application of the "wholly disproportionate" test that has been used for over 30 years in implementing Clean Water Act Section 316(b). This test exempts cooling water intake structures from BTA requirements where the cost of retrofitting a particular intake structure would be wholly disproportionate to the environmental benefits to be gained. The Supreme Court's decision in the Entergy case vindicates permit writers' historical use of this traditional test.

The Coalition asserts that "the evidence is overwhelming that the discharges and intake damages the bay's water quality and beneficial uses and can be eliminated only by termination of all discharges." See November 30, 2009 Coalition letter. This claim echoes wording found in Finding 15 of the plant's NPDES Permit,[9] but wrongly

---

[9] Finding 15 states:

> The Beneficial Uses (as defined in the Basin Plan) that may be impaired due to the effect of the SBPP discharge on water quality include: Estuarine Habitat; Marine Habitat; Wildlife Habitat; Preservation of Rare and Endangered Species; Preservation of Biological Habitats of Special Significance; and Shellfish Harvesting. It is evident that the impacts on Beneficial Uses due to the discharge of once-through-cooling water cannot be completely eliminated except through termination of the discharge. The adverse impacts are due to the individual and combined effects of the elevated temperature and the volume and velocity of the discharge.

assumes that the Water Board intended that the discharges must therefore be terminated. To the contrary, the Water Board renewed the permit, subject to a condition that the compliance monitoring point be relocated to the property line (designated as Station S2) no later than 36 months after permit adoption and that Duke Energy take steps "to modify its operations in order to reduce its heat output and comply with thermal discharge limitations at Station S2." Duke Energy conducted a study as required by the Water Board (see Attachment 13) and moved its compliance monitoring point approximately 1,000 feet closer to the point of discharge. Based on the monitoring results collected since 2007, the plant has consistently complied with its thermal limits at the property line. See Permit, Finding 17 and Effluent Limitation B.1.(a).

Duke Energy also challenged the Water Board's conclusion in Finding 14 that "the existing conditions within the discharge channel, particularly within 1000-1500 feet of the discharge basin, do not constitute a balanced indigenous community." A copy of Duke's Verified Petition for Review and the supporting Declaration of David Mayer is provided in Attachments 18, 19. The Petition and supporting Declaration contain substantial evidence that the BIC standard was (and still is) being achieved in the discharge channel. See also, Attachment 5. With the significant reduction in flow associated with the shutdown of Units 3 and 4, the thermal plume is further reduced in size and temperature. The State Board declined to accept the petition for review, and thus never reached the merits of the issue. Tenera's 2010 Technical Memorandum (Attachment 5) concludes that the modest shift in the relative abundance of certain invertebrate species in the immediate vicinity of the discharge does not violate the BIC standard, and under no circumstance would warrant shutdown of the plant.

Prior to EPA's adoption of the Phase II 316(b) regulations for existing facilities, the SBPP cooling water intake structure was determined to meet the BTA requirements of the Clean Water Act, based on the permit writer's BPJ. With the adoption of the new national BTA standard in February 2004, the Water Board included a finding in the November 2004 permit (Finding 20) which, for the very first time, stated that "the location, design, construction and capacity of the existing cooling water intake structures at SBPP fail to reflect [BTA] for minimizing adverse environmental impact as required by Section 316(b) of the CWA." The finding was made in the context of the new federal BTA standard, which supplanted case-by-case exercises of BPJ, and required compliance with specified numeric reductions in impingement and entrainment through any of several different compliance alternatives. The first step in this process was the development of a Proposal for Information Collection ("PIC")

which Duke Energy submitted to the Water Board on November 8, 2005. See Attachment 17.

With the vacation of the Phase II rules, this "new" BTA process came to a halt and Finding 20 became void. As a result, the BTA determination in the plant's prior permit was effectively reinstated. See Order No. 96-05, Findings 38-40. Finding 40, in particular, states:

> In September, 1993, the USEPA reviewed and concurred with the South Bay Power Plant 316(b) demonstration project results which indicate that marine receiving waters in the vicinity of the South Bay Power Plant contain viable, self-sustaining populations or communities of organisms and that the plant incorporates intake technologies for the purpose of minimizing adverse environmental impacts. In addition, the USEPA concluded that operations at the South Bay Power Plant have not considerably changed since the demonstration project was completed , thus indicating that the demonstration is applicable to current operations at the South Bay Power Plant. Therefore, the South Bay Power Plant meets the requirements of CWA Section 316(b). (emphasis added)

From a federal perspective, Dynegy maintains that the SBPP continues to comply with currently applicable BTA standards. As yet, no more stringent state BTA standards have been adopted.

C. SBPP Has Not Adversely Affected Eelgrass in South San Diego Bay

Kenneth Andrecht, a retired engineer from the Port of San Diego with over 25 years of direct experience with eelgrass, provided independent testimony at the December 16, 2009 hearing in this matter. Mr. Andrecht's testimony refutes the Environmental Health Coalition's assertion "that the SBPP may be responsible for the destruction of hundreds of acres of eelgrass in South Bay." Mr. Andrecht testified that in 1960, there was no eelgrass in south San Diego Bay. In 1972, in connection with the construction of the Chula Vista Harbor, the Port conducted a 300-acre benthic survey in the area which identified only two very small patches (1 meter) of eelgrass. The survey revealed a mudflat inhabited primarily by annelid worms. No eelgrass was sited in the survey. In 1986, Mr. Andrecht was personally involved in harvesting eelgrass from the Chula Vista Bayside Park area (located significantly to the north and east of the SBPP discharge channel) and transplanting it on the north dike of the Chula Vista Wildlife Reserve. Within three years, the eelgrass had increased to 19

acres, indicating that the plant is not detrimental to the eelgrass. According to Mr. Andrecht, the transplanted eelgrass is thriving, aided by the flushing of water through the Chula Vista channel. A transcript of Mr. Andrecht's December 16 testimony is provided in Attachment 30.

Mr. Andrecht has advised Dynegy that he will provide further testimony on eelgrass in San Diego Bay at the March 10 hearing. A summary of his proposed testimony is included in Attachment 31. In addition, technical reports documenting the extent of eelgrass in San Diego Bay, and supporting the conclusion that eelgrass is not adversely affected by the SBPP, are provided in Attachments 32 through 37.

Tenera has also evaluated the plant's potential impact on eelgrass in South San Diego, and has concluded that the thermal component of the plant's discharge appears to have no effect on eelgrass. According to Dr. Mayer, the natural turbidity of the very shallow waters, resulting from wind and tidal action, is the primary stressor on eelgrass.

The Coalition has asserted that the discharge from the SBPP scours the bottom of the bay, killing the eelgrass. This is incorrect. By the design and construction of the discharge pipe and vaults (as discussed below), the flow of water from the plant creates very little, if any, flow and turbulence on the bay floor. There is no scouring effect from the pumps.

Attachment 2 contains copies of three photographs from 1958 showing the construction of the Circulating Water Discharge Pipe for Unit 1. The pipe was constructed so that the flow of water from the plant first enters a large concrete vault (see Photos marked #71 and #92) and then flows vertically to the surface of the bay through a pipe that is approximately eight inches in diameter (Photo #136). See also, Attachment 26, Fig. 5, showing the vaults at each discharge pipe. This vertical flow prevents any flow of water along the bottom of the bay. The discharge pipes were designed and constructed in this manner to prevent the discharge from the plant from channeling or moving the mud on the bay floor. The turbulence that is seen on the surface of the discharge channel is primarily surface movement with very little movement on the floor. See Attachment 16.

Dr. Mayer, who has studied the SBPP discharge extensively, agrees that the discharge does not cause bottom scouring and that the general absence of eelgrass in the discharge channel is not attributable to the plant's discharge. In his opinion, the statement contained in Finding 14 of the permit – that "up to 104 acres of critical

eelgrass habitat has been precluded from the discharge channel and other areas of south San Diego Bay due to the redistribution of turbidity in the Bay from the SBPP discharge" – is speculative and has not been demonstrated by scientific evidence.

D. SBPP Does Not Deplete Oxygen Levels in Bay Water

The Coalition also claims that the thermal discharge depletes the oxygen in the water, increasing the impact of the toxic pollutants in the discharge and destroying "important wildlife" in the discharge channel. To date, no evidence has been produced to support these assertions.

To the contrary, the action of the water entering the discharge vault and flowing through the pipe and up to the surface (as described in the previous section), creates a bubbling action that actually oxygenates the water. See Attachment 16. The thermal discharge does not deplete oxygen in the bay.

It should also be noted that in 1996 and again in 2004, the Environmental Health Coalition filed Petitions for Review with the State Board, claiming that the SBPP permit was deficient because it did not contain a numeric limit for dissolved oxygen ("DO"). Neither of these appeals was successful.

There are two DO objectives in the Basin Plan, neither of which is applicable to enclosed bays (one applies to inland waters and the other applies to ocean waters). See Basin Plan, pp. 3-8 and 3-4. The Water Board concurs with this interpretation and in fact required SDG&E to conduct a study of dissolved oxygen in the South Bay that could be used to amend the Basin Plan to develop a DO objective for enclosed bays. A copy of the completed study is included in Attachment 15. However, the Water Board has not amended the Basin Plan to include a numeric water quality objective for DO for the enclosed waters of San Diego Bay, and continues to regulate DO through narrative receiving water limitations. Dynegy has never been cited for DO excursions.

It should be emphasized that the ambient dissolved oxygen concentrations in south San Diego Bay are typical of the water body and entirely consistent with those found in other enclosed bays and estuaries in the region. In the 2004 thermal effects study performed on behalf of Duke Energy (Tenera 2004a), the patterns of dissolved oxygen concentrations in south San Diego Bay were compared to those from reference sites in other nearby enclosed bays and estuaries. None of those reference sites –Bataquitos Lagoon, Seal Beach National Wildlife Refuge, Agua Hedionda and

the Sweetwater River – would achieve the current DO objectives in the Basin Plan if they were applied to them. See Attachment 6, § 2.4.3.1, at 106. Based on the foregoing, there is no basis for concluding that SBPP adversely affects dissolved oxygen levels in south San Diego Bay.

E. SBPP Has Not Negatively Affected Green Turtles

At the December 16, 2009 hearing, Dr. Jeffrey Seminoff, Director for the Marine Turtles Research Program for U.S. National Marine Fishery Service, testified that SBPP has not had any ill effect on the turtles, 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. Attachment 27. Dr. Seminoff has been studying the green turtles for almost 20 years and is a nationally recognized expert on sea turtles. Dr. Seminoff will appear on Dynegy's behalf at the March 10 hearing and provide further testimony to rebut the Coalition's assertion that the SBPP adversely affects green turtles living in the bay. Mr. Seminoff will testify that the discharge channel is a key resting site for green turtles, and that conditions in the channel are very favorable for the turtles. The warm water increases growth rates of the turtles, helping the population to recover more quickly from former exploitation (unrelated to the SBPP). The aggregation of green turtles in and around the plant illustrates that this is a good quality, inviting habitat for this endangered species. Because green turtles do not depend on eelgrass in the bay, the health of the eelgrass systems does not affect the turtles. Additional reports on the green turtles are contained in Attachments 28 and 29.

Mitigation/Restoration for Past Operations

As a final matter, Dynegy is stating for the record that the subject of any potential requirements for mitigation or restoration of south San Diego Bay under Water Code section 13267, based on alleged impacts from permitted operations over the past 50-plus years, has no relevance to whether the plant's NPDES permit may be lawfully terminated under the federal NPDES regulations. Dynegy has advised the Water Board that issues relating to potential mitigation will be incuded as part of the CEQA analysis that will be conducted in conjunction with the plant decommissioning and demolition project,[10] and the Executive Officer has agreed to this approach. Accordingly, these issues lie outside the scope of the upcoming evidentiary hearing and are not a proper topic of testimony.

* * * * *

Thank you for your consideration of this submittal.

Very truly yours,

Meg Rosegay

Margaret Rosegay

Attachments (37)

cc: Andrew Ulmer, Esq., CAISO
Laura Hunter, No More SBPP Coalition
Bart Miesfeld, Esq., City of Chula Vista
Barb Irwin, Dynegy

---

[10] Dynegy does not believe there is any evidentiary or legal basis for imposing mitigation or restoration requirements relating to the plant's historical, permitted operations, and is not waiving any defenses it may have to any such requirements.