CALIFORNIA
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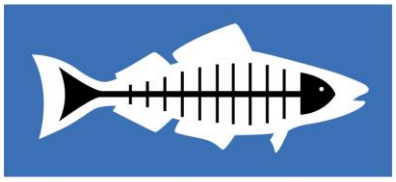
ALLIANCE



Heal the Bay

SURFRIDER
FOUNDATION

NRDC

CALIFORNIA COASTKEEPER ALLIANCE

July 13, 2015

Chair Felicia Marcus and Board Members
c/o Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Sent via electronic mail to: commentletters@waterboards.ca.gov

RE: Comment Letter – Once–Through Cooling Policy Mitigation Fee Delegation Resolution

Dear Chair Marcus and Board Members:

On behalf of California Coastkeeper Alliance, Heal the Bay, Natural Resources Defense Council, and Surfrider Foundation, we appreciate the opportunity to provide comments on the State Water Resources Control Board's ("State Water Board") draft Resolution, which "Delegates Authority to the Executive Director of the State Water Resources Control Board to Approve Measures That Owners or Operators of Once-Through Cooling Facilities Shall Undertake to Comply with Interim Mitigation on a Case-by-Case Basis", (hereinafter "OTC Resolution").[1] We understand that the OTC Resolution itself has a very limited effect: it only designates to the Executive Director of the State Water Board the authority to assess, on a case by case basis, interim mitigation measures undertaken by owners and operators of OTC facilities. This Resolution is minimalistic, lacking guidance or clarification that will help to ensure that coastal power plants are consistently complying with the OTC Policy. The Resolution is also accompanied by Appendices and a separate Information Sheet, but it is unclear what weight those materials will be given in the Executive Director's assessment. We do not oppose the OTC Resolution, but with the October 1, 2015 start date of the program looming close, we respectfully request the State Water Board and Staff to consider the following recommendations to ensure that the interim mitigation requirements of the OTC Policy are fulfilled, thereby incentivizing timely or early compliance with the Policy and providing fair and accurate replacement for biomass destruction and impacts caused by the interim utilization of open ocean intakes:

- Immediately request that all covered plants submit accurate past and present data, as well as future projections, of intake volume and velocity;
- Make explicit that the average entrainment fee included in the Information Sheet is an example used to illustrate the calculation, and recalculate an example average entrainment fee using a confidence level of 95 percent;
- Provide clear guidance and a standardized process for assessing existing or future mitigation projects; and
- Provide for public comment on individual OTC facility's mitigation fees and proposed mitigation project.

After more than a decade of once-through cooling systems operating in violation of the Clean Water Act's Section 316(b) mandates, and years spent preparing detailed analysis to prohibit any future violations and environmental damage, in 2010, the State Water Board finally adopted a policy to implement federal

[1] SWRCB Resolution No. 2015- Delegates Authority to the Executive Director of the State Water Resources Control Board to Approve Measures That Owners or Operators of Once-Through Cooling Facilities Shall Undertake to Comply with Interim Mitigation on a Case-by-Case Basis, http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otcmit_res.pdf.

Clean Water Act Section 316(b) and address the negative impacts of cooling water intake structures on marine and estuarine life in California. The Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (hereinafter "OTC Policy")[2], adopted by Resolution No. 2010-0020 and successively amended, originally applied to 19 coastal power plants, but with plants being repowered or retired now applies to 13 coastal power plants (hereinafter "covered plants") that still utilize once-through cooling in their power generation units. These plants and their implementation due dates are found in Appendix A, below.

The OTC Policy, Section C.3, requires the owner or operator of an existing power plant to include in their implementation plan, "specific measures" to "mitigate the interim impingement and entrainment impacts resulting from the cooling water intake structure(s), commencing October 1, 2015 and continuing up to and until the owner or operator achieves final compliance."[3] The OTC Policy, Sections C.3 (a)-(e), allows owners or operators to comply by "demonstrating to the State Water Board's satisfaction" that the owner or operator has provided (a) existing mitigation efforts; (b) funding provided to the California Coastal Conservancy, which is to work with the Ocean Protection Council to fund an appropriate mitigation project; or (c) directly implemented mitigation project for the facility will compensate for the interim impingement and entrainment impacts. On June 15, 2015, SWRCB released the draft OTC Resolution, followed by an Information Sheet including in Appendix 1, an "Explanation of updates to entrainment fee calculation (Entrainment fee calculation originally described in Appendix 1 of ERP II Final Report)" calculated by Dr. Pete Raimondi.[4]

Federal case law has clarified that after-the-fact restorative measures are illegal under the letter of the law, and unreliable or impossible in practical terms, so the State must minimize the harm prior to turning to mitigation – even in the interim period when working towards full enforcement. To date, there is little up-to-date information available to ensure the owner-operators are in full compliance with the interim "minimization" measures contained in Section 3 of the OTC Policy. The resolution should be clear that, prior to turning to any "after the fact" mitigation, the Executive Director shall require full and immediate compliance with the minimization measures. Adding to the decades of unnecessary damage to marine ecosystems, and attempting to compensate for on-going violations with after-the-fact mitigation that is decidedly lacking in restorative values, is simply unacceptable.

The implementation plans and update documents for the thirteen covered plants typically dedicate only a few paragraphs to the "specific measures" that will mitigate for interim impingement and entrainment impacts. The owners-operators describe their intent to comply by either relying on existing mitigation measures, or by paying $3/million gallons per unit based on actual annual flows. A list of the covered plants and the mitigation measures proposed in their respective Implementation Plans can be found in Appendix A.

I. TO ASSESS INTERIM MITIGATION NEEDS, DATA GAPS MUST BE FILLED WITH CONSISTENT INFORMATION.

To assess interim mitigation required on a case-by-case basis, as proposed by the draft OTC Resolution, it is necessary to know, at a minimum, the actual intake volume, intake velocity, and impingement mass for the 13 plants still utilizing once through cooling in their units. Owners or Operators should also be providing estimated entrainment numbers – and species impacted - for their site-specific facility. To our knowledge, very little of this data has been collected. Some of this data may be available from the

[2] Amendment to the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, last amended June 18, 2013, http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otc_2014.pdf.
[3] *Id.*
[4] Information Sheet at 7, http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otcmit_info.pdf

Regional Water Quality Control Boards ("Regional Boards"), which communicate with the plants through the NPDES permit review process, but the information is difficult to access, so the accuracy and consistency are unknown. To analyze the appropriateness of mitigation projects, it is also necessary to project future intake levels consistent with the requirement to minimize those intakes. We recommend that the State Water Board request that plant owners and operators provide their future projections as well detailed information about steps already taken to minimize intake volumes to only what is absolutely necessary in the interim period to full compliance.

The lack of information about actual entrainment or impingement levels is acknowledged in the OTC Mitigation Fee Information Sheet and resulting recommended mitigation fee calculations:

> Many facilities do not have entrainment studies, which would require both sampling efforts and modeling, and therefore do not have the data necessary to calculate HPF. Suitable entrainment studies could take at least a year to generate the data needed to estimate HPF. … Therefore, ERP II concluded that applying an average cost estimate for entrainment (cost per million gallons) to all intakes is the simplest approach for entrainment mitigation. The average cost estimate is based on the costs of previous mitigation projects already calculated using the HPF for some power plants (ERP II final report, Appendix 1), and this average would need to be adjusted annually for inflation. Basically, the average cost estimate and a facility's intake volume would be used to determine the amount that owners or operators would need to pay on an annual basis to compensate for resources lost due to entrainment.[5]

It is worth noting that the OTC Interim Mitigation due date of October 1, 2015 has been in place for five years, since 2010. In retrospect, during this time, it would have been valuable to request that plants gather entrainment and impingement data and regularly report actual intake volumes and velocity. With the interim mitigation due date growing near, the State Water Board should immediately request that covered plants begin to collect information necessary for and implicit in their compliance with the interim mitigation provisions of the OTC Policy. This request for information should clarify the time frames upon which the data are required and interim mitigation activities evaluated then performed.

To facilitate efficient information collection to allow the SWRCB to assess proposed interim mitigation approaches, we recommend that staff issue requests for information from the covered plants, and from the Regional Boards. These requests should include past, current and projected intake volume and velocity and impingement mass and clear timeframes should be provided for when information is due and when mitigation requirements are assessed and brought due.

II. THE STATE WATER BOARD SHOULD RECALCULATE THE AVERAGE ENTRAINMENT FEE USING A CONFIDENCE LEVEL OF 95 PERCENT.

To determine an appropriate mitigation fee, the State Water Board contracted Moss Landing Marine Laboratory to establish an Expert Review Panel on minimizing and mitigating intake impacts from power plants and desalination facilities (ERP II). The mitigation fee equation developed in ERP II comprises an entrainment fee, an impingement fee, and a management fee for implementation and monitoring of the mitigation project. The entrainment fee equation utilizes empirical transport models coupled with the HPF method, as required by the Policy, and is based on the cost of creating or restoring habitat that replaces the production of marine organisms killed. Despite the court's ruling that after-the-fact restoration measures are unreliable and impossible to ensure, we do not oppose ERP II's equation for determining the

[5] Proposed Resolution Delegating Authority to the Executive Director to Approve Interim Mitigation Measures Under the Once-Through Cooling Policy: Information Sheet at 4, SWRCB 2015.

cost of replacing the marine life lost during OTC operations for the shortest possible interim period with the least damage possible in that time. However, we do not agree that an average entrainment fee of $5.17 per MG is the correct price: this dollar amount should only be considered an example of the application of the formula.

To the extent that an average entrainment fee is applied to facilities for which specific data was not included in the average calculation, we request that the State Water Board recalculate the average entrainment fee based on an HPF estimate using a confidence level of 95 percent rather than inferior calculations used in the past. We also request the State Water Board make clear that the $5.17 per MG fee is only an illustration of how the formula works, and direct the Executive Director to calculate the entrainment fee for each individual OTC facility using a confidence level of 95 percent for the ETM/HPF estimate.

A. The entrainment fee should be recalculated using a confidence level of 95 percent for the ETM/HPF estimate.

Previous ETM/HPF estimates should have been calculated using a 95 percent confidence level prior to converting the estimated acreage to a mitigation fee. When determining how to calculate an entrainment fee, the ERP II "concluded that using an *average cost estimate for entrainment* (cost per million gallons), based on the costs of mitigation already calculated using HPF for some power plants, and *applying this average to all intakes* is the simplest approach for entrainment mitigation."[6] The Resolution then states that facilities "would need to measure their intake volumes for each year of interim mitigation so that these values are available for use in their annual entrainment fee calculations." Our reading of Resolution 10(a)i, is that facilities will use the "average cost estimate for entrainment" (calculated in Appendix A as $5.17/MG), and then multiply $5.17 by the facility's specific intake volume to determine that facility's total entrainment fee. If so, then the State Board is effectively defining the mitigation fee at $5.17 per million gallons withdrawn, and the Executive Director will only be delegated the authority to do the simple arithmetical task of multiplying that dollar value by the volume of water withdrawn.

If our reading of Resolution 10(a)i is correct, then the State Water Board needs to recalculate the $5.17/MG in Appendix 2 to have the proper confidence level of 95 percent. During the adoption of the Desalination Amendment, the State Water Board determined that a 95 percent confidence interval was appropriate for determining a replacement value in the mitigation fee calculation. However, the 5-facility mitigation fee average[7] – used in Appendix 2 to calculate the $5.17/MG average – did not use a confidence level of 95 percent. Furthermore, the overall equation used in Appendix 2 to calculate the $5.17/MG average also did not use a 95 percent confidence level.

A 95 percent confidence interval is the appropriate level to ensure that the area affected by OTC operations is fully mitigated.[8] As the State Water Board states it "is important to ensure that marine life mortality is fully mitigated."[9] However, using an APF equation to determine the size of a mitigation project causes some statistical uncertainty associated with the calculations of productivity forgone versus mortality associated with the facility.[10] Using an average APF – as the State Water Board has done by

[6] State Water Resources Control Board, Draft Once Through Cooling Resolution, Clause 10(a)i ((*emphasis added*).
[7] State Water Resources Control Board, Information Sheet, pg. 5. "The average cost estimate is based on the costs of previous mitigation projects already calculated using the HPF for some power plants (ERP II final report, Appendix 1), and this average would need to be adjusted annually for inflation."
[8] State Water Resources Control Board, Desalination Amendment Draft Final Staff Report, pg. 87.
[9] *Id.*
[10] *Id.*

using a $5.17/MG average entrainment fee - means that there is a ***50 percent chance*** that a mitigation project will underestimate the mitigation area needed to fully compensate for a facility's impacts.[11]

Thankfully, the science community can increase the confidence that APF acreage is fully compensatory by adding the confidence intervals to the average APF.[12] By using a higher confidence level, there will be a "greater likelihood that a mitigation project will fully compensate for a facility's impacts."[13]

There are numerous examples where the State Water Board or other state regulatory agencies have required greater statistical certainty for a regulatory action. The Instream Flow Policy shifted calculations of minimum bypass flow upwards by three standard errors (approximately equivalent to a 99 percent confidence level) in order to increase certainty that the minimum stream flow calculations were protective of salmonids.[14] The Ocean Plan also requires a 95 percent confidence level when determining significance.[15]

As the State Water Board determined in the adopted Desalination Amendment, including "a requirement that the APF be calculated using a one-sided, upper 95 percent confidence bound for the 95th percentile of the APF distribution is consistent with existing requirements in the Ocean Plan."[16] To be consistent with past determinations as to the appropriate statistical certainty when developing a mitigation fee, the State Water Board should determine that a 95th percentile confidence level will be used when calculating the OTC mitigation fee. Therefore, the APF estimates used in the past mitigation fees (used to create the proposed average per gallon fee) should be recalculated using the 95% confidence interval, and the cost of mitigation adjusted upward in proportion to the adjusted APF estimate.

Before the State Water Board adopts the OTC Resolution with direction to use the "average cost estimate for entrainment", the Board needs to recalculate the 5-facility mitigation cost average using a 95 percent confidence level for the ETM/APF estimate. ***Using the new 5-facility average, the Board should recalculate the overall average cost estimate for entrainment using a 95 percent confidence level***.

B. If the average entrainment fee is not recalculated prior to the Resolution's adoption, the State Water Board should clarify that the entrainment fee is only an example, not the final fee.

In addition to recalculating the average cost estimate for entrainment based on scientifically sound adjustments to the past mitigation fees, the Board also needs to make explicit that the $5.17/MG fee is only an illustration of how the formula may work – not the final average entrainment fee.

As discussed above, we read the OTC Resolution to state the $5.17/MG fee is the average cost estimate for entrainment." The OTC Resolution states that the "average value and the facility's specific intake volume (million gallons) would be used to determine how much shall be paid for the entrainment fee on an annual basis."[17] However, the Information Sheet does not provide certainty as to whether the $5.17/MG is the average cost, or whether it is simply an illustration of how the formula works, with real data points to be decided by the Executive Director on a case-by-case basis.

The Information Sheet explains how the average cost of entrainment was calculated on Page 5 with "[a]s an ***example*** of calculating the entrainment fee, it could be estimated..." This leads us to believe that the

[11] *Id*.
[12] *Id*.
[13] *Id*.
[14] *Id* at 88.
[15] *Id*. *See* definition of "significant" in the Ocean Plan.
[16] *Id*.
[17] Supra note 1.

State Water Board is only offering an example of how facilities' can calculate the average cost at a future time. A specific example of why this average fee is not adequate to apply to all plants is described in Section III of this letter, below. However, the Information Sheet goes on to state that plugging "these input values into ERP II's calculation yields an average cost estimate for entrainment of $5.17 per million gallons (Appendix 2). Then, this average cost estimate for entrainment and a facility's annual intake volume would be multiplied to calculate the entrainment fee for the facility."[18] The State Water Board should *only utilize the $5.17/MG as an example of how the average cost will be calculated in the future, and guidance documents should be clear that this is the purpose of that number*.

If the Resolution is establishing a fixed average cost of entrainment, the State Water Board should recalculate the average cost as explained above. If, as we assert is appropriate, the $5.17 is only an illustration of how to calculate the average cost in the future, then the State Water Board should *add direction in the Resolution that the Executive Director will adjust the ETM/APF, as well as the associated mitigation costs, used in the 5-facility average cost to establish a per million gallon entrainment fee on a case-by-case basis with adequate opportunity for public comment and judicial review*.

III. PROVIDE CLEAR GUIDANCE AND A STANDARDIZED PROCESS FOR ASSESSING EXISTING OR FUTURE MITIGATION PROJECTS.

Our review of plants' Implementation Plans and relevant documents reveals that six of thirteen plants are likely to request credit for existing mitigation projects. Owners or operators of El Segundo Generating Station, Pittsburg Generating Station, Encina Power Station, Mandalay Generating Station, Huntington Beach Generating Station, and Ormond Beach Generating Station have all argued in their Implementation Plans or related documentation that they should be given full or partial credit for existing mitigation activities.

For example, the Huntington Beach power plant owner-operator has previously paid mitigation fees for re-tooling Units 3 and 4. This is an example of a facility that may request exemption from the new mitigation fee or credit for fees paid in the past. Further, those past mitigation fees are one of the 5 facilities used to calculate an average cost per million gallons in the proposed resolution. Finally, it is likely the Huntington mitigation fees may be used as credit for the proposed Poseidon-Huntington seawater desalination facility -- which is sited and designed with the expressed purpose to utilize the existing cooling water intake structure well into the future.

The record of the decision by the California Energy Commission to approve the mitigation fee is unclear as to whether the fee calculation would be acceptable under today's standards. It appears from the record that the initial ETM/APF estimated a restoration project for 104 acres at a cost of nearly 9 million dollars. However, it appears that the final condition of certification only required restoration of 66.8 acres of restoration, and the cost estimate calculation is unclear. The original per-acre cost estimate used an average cost per acre for existing mitigation projects in other parts of the State, noting that the costs near this site would be significantly higher. Now, the resolution is including this mitigation fee as part of a new "average" – potentially compounding the original under-estimation of costs.

This is just one example of why our organizations have serious concerns about setting the entrainment mitigation cost at $5.17/MG. Further, it is an example of concerns about crediting past mitigation approved by other agencies for the "interim measures" that must employ stricter standards to be consistent with recent decisions by the State Board to ensure replacement values and adequate compensation. It is also an example of concerns that the past decisions may carry on well into the future if

[18] Supra note 2, at 5.

other project proponents using seawater for industrial processes rely on those past decisions. However, we also believe the Huntington example illustrates how the Executive Director could utilize the data collected in the past proceeding to adjust the ETM/APF calculation to ensure a 95% confidence interval. Further, the Executive Director analyze the basis of the per-acre restoration, monitoring and adaptation, and/or acquisition costs.

We are greatly concerned about using existing mitigation projects that were installed for environmental impacts assessed before the State Water Board adoption of the OTC Policy. At a minimum, we urge the State Water Board to require facilities proposing to use former mitigation projects for compliance to provide detailed monitoring information that shows the environmental benefits of these projects to be equal to or greater than the environmental impact caused by each facility through impingement and entrainment.

Without delaying implementation of the OTC Policy through formal amendments, *we suggest that State Board staff issue requests for information that clearly detail the conditions around which existing mitigation efforts would be found to adequately compensate for a facility's impacts, whether additional funds or efforts will be required to make those projects adequate.*

Mitigation projects and the administration of mitigation funds will require expert oversight, and it appears to be the intent of the State Board to incorporate administration costs into mitigation fees due. *Administration costs should include the costs of ongoing monitoring and assessment of these projects*.

IV. THE STATE WATER BOARD SHOULD ENSURE OPPORTUNITY FOR PUBLIC COMMENT ON INDIVIDUAL OTC FACILITY'S MITIGATION FEES AND THE PROPOSED MITIGATION PROJECT.

The State Water Board's delegation of authority to the Executive Director should be accompanied by the opportunity for public comment on the individual mitigation fees and the proposed use of those fees. The Resolution's primary whereas clause states that the "State Water Board hereby authorizes the Executive Director of the State Water Board to approve, on a case-by-case basis, mitigation measures that owners or operators of OTC facilities shall undertake to comply with requirements for interim mitigation."

As discussed above, there remains great uncertainty regarding how the Executive Director will determine whether the mitigation measures – self-selected by the owners and operators – are appropriate under the OTC Policy. As noted above, the first step in the analysis must be to ensure each owner-operator has submitted sufficient information to assess whether they have fully complied with the mandatory minimization measures that have been in place since adoption of the OTC Policy and to make an effective evaluation of their proposed interim mitigation activities. Such an assessment requires, at a minimum, accurate data about past, current, and future projected intake volumes and velocity, such that mitigation measures actually replace marine life lost to OTC operations.

Given the lack of certainty as to how facilities will calculate their mitigation fee, and how the Executive Director will decide whether the proposed mitigation project is appropriate, we request the State Water Board *add a clause to the Resolution clarifying that compliance with any of the interim mitigation alternatives, including a per-gallon mitigation fee, will be determined on a case-by-case basis – and directing the Executive Director to provide notice and opportunity for public comment on each individual facility's proposed mitigation fee and/or project*.

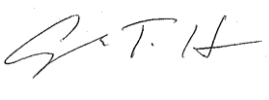
***

Our organizations look forward to working with you to ensure the OTC Policy is upheld and continues to phase-out the destructive practice of OTC in California.

Sincerely,

Sean Bothwell
Staff Attorney
California Coastkeeper Alliance

Sarah Sikich
Vice President
Heal the Bay



Angela Howe
Legal Director
Surfrider Foundation

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Appendix A.

Appendix based on best available data as of July 9, 2015. References to IP refer to Implementation Plan for that Particular Plant, which can be found http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/powerplants/

Plant Name	Owner; Operator	Compliance Date	Design Intake Flow (DIF) (MGD)/2000-2005 Average Flow (AF) (MGD)	Mitigation of interim impingement and entrainment impacts, commencing October 1, 2015 until final compliance per Section 2(C)(3)
Plants Not Yet Compliant.				
El Segundo Generating Station -- Unit 4	NRG Energy; El Segundo Power LLC	12/31/2015; In IP requested extension of compliance date to 12/31/17, but 11/7/13 Update letter states that Unit 4 would also be decommissioned by 12/31/15.	Final SED states that Units 3 & 4 have design intake flow of 399 MGD and Average flow of 265 MGD. (Final SED at 63). IP states that flow is 276,800 gpm; 607 MGD total (IP).	Proposes that $1 million paid to the Santa Monica Bay Restoration Commission be considered a prepayment against the interim mitigation requirement; proposing that no interim mitigation was necessary. (IP at 6)
Pittsburg Generating Station (PGS) -- Units 5 and 6, and makeup water pump from Unit 7	Initially GenOn Delta, LLC; renamed NRG Delta, LLC in Fall, 2013	12/31/2017; CPUC 2010 LTPP Cycle	Units 5 and 6 have 506 MGD design intake flow; 274MGD intake flow (Final SED at 63). The as-built total combined cooling water design flow required to service Units 1-7 was approximately 1,074 MGD. Units 1-4 were once-through cooled units and were retired in 2004 in compliance with USFWS and NFMS requirements to reduce impingement and entrainment of listed species. Combined maximum cooling water design flow for Units 5-7 is 506 MGD (approximately 231 MGD for each of Units 5 and 6, and approximately 44 MGD for the Unit 7 make up water). (IP at 1)	IP states that existing mitigation measures satisfy Interim Mitigation requirements: Under an MOU w/DFG, GenOn Delta must (1) operate VFDs and a traveling fish screen year-round; (2) rotate and clean intake screen assemblies in operation at a frequency of not less than once every four hours; and (3) pay a mitigation fee annually in order to minimize and fully mitigate entrainment and impingement of aquatic species. (IP at 11) ... The annual fee is calculated by taking the sum of the acre-feet of water diverted, a Delta Smelt Fall Midwater Trawl Index factor, and the Water Diversion Factor. These fees contribute to funding Department of Fish and Game programs within the Sacramento-San Joaquin Delta that benefit Delta aquatic species. (IP at 13)

Encina Power Station (EPS)	Cabrillo Power LLC, a wholly owned subsidiary of NRG Energy, Inc.	12/31/2017; CPUC 2010 LTPP Cycle	857 MGD DIF; 621 MGD AF (Final SED at 63). At full operation 595,200 gpm or 857 MGD entering single cooling water intake structure (CWIS) supplying all five steam-generating units. (IP at 1) At mean sea level the calculated approach velocity is 2.9 fps at maximum flow rate. (*Id.*)	Note that Poseidon's Carlsbad Desal Project (CDP), under Order No. R9-2006-0065, submitted a Flow, Entrainment and Impingement Minimization Plan, approved 5/13/09 identifying mitigation measures to minimize the impacts to marine organisms when CDP intake requirements exceed the volument of water discharged by EPS. (IP at 3) Proposes $3/1MGD withdrawn by each generating unit to the CA Coastal Conservancy, based on actual feel, paid annually, from 10/1/15 through compliance. Interested in discussing credit towards interim mitigation for periodic maintenance dredging conducted by EPS to maintain tidal flow to AHL. Precedent for credit is in permit conditions for the restoration of 35 acres of enhancement of San Dieguito wetlands funded by SoCal Edison for SONGS. (IP at 5-6, 7, 54)
AES Alamitos Generating Station	AES Southland, LLC	12/31/2020; CPUC 2012 LTPP Procurement Cycle; IP States need for "some" AES plants to exceed compliance date (IP at 1) Maintaining uninterrupted service assumes extension of compliance dates for Units 1 & 2 to 2022 and 3 & 4 to 2024. (IP at 6) Note timeline in Revised IP at 6 & Table 1.	Units 1 and 2: 207 MGD DIF; 121 MGD AF. Units 3 and 4: 392 MGD DIF; 281 MGD AF. Units 5 and 6: 674 MGD DIF; 413 AF. (Final SED at 63)	AES-SL proposes to provide funding to the California Coastal Conservancy as interim mitigation from October 1, 2015, and continuing up to and until the ALGS is in final compliance with the Policy. The amount provided will be based on the actual cooling water intake flow of each unit during each calendar year (January 1 through December 31). Discharge data submitted to the California Regional Water Quality Control Board – Los Angeles Region will be used for the volume calculations. AES-SL will provide three dollars ($3.00) for each 1 million gallons (106 gallons) withdrawn by each unit at the ALGS. (IP at 10)
Redondo Beach Generating Station	AES Southland, LLC	12/31/2020; CPUC 2012 LTPP Procurement Cycle. May request delays if CEC permitting, local procurement contracts, or other permitting is delayed. (Update letter 4/23/15)	Units 5 and 6, 217 MGD DIF; 51 MGD AF. Units 7 and 8: 675 MGD DIF; 254 AF. (Final SED at 63)	

Mandalay Generating Station	At time of IP development, GenOn West, LP; NRG	12/31/2020; CPUC 2012 LTPP Procurement Cycle	253 MGD DIF; 234 MGD AF.(Final SED at 63)	GenOn is committed to supporting projects that preserve and protect the natural resources in the City of Oxnard and the surrounding areas and has engaged in numerous restoration and mitigation efforts that it believes should be credited against the Policy's mitigation requirements ... GenOn believes the $3/million gallons mitigation approach provides a reasonable and practicable method for meeting the Policy's requirements; proposes to provide$3/million gallons of actual flows withdrawn by each unit. (IP at 27)
Huntington Beach Generating Station	AES Southland, LLC	12/31/2020; CPUC 2012 LTPP Procurement Cycle. Discharger requested extension of the final compliance date of Units 1 and 2 to December 31, 2022 because of delays in the first phase with the expected shutdown of the Units 3 and 4 synchronous condensers by December 2018, which would delay the demolition of Units 3 and 4, and construction of the new second CCGT power block.	514 MGD DIF; 179 MGD AF.(Final SED at 63); But note 387 MGD Facility Design Flow stated in Order No. R8-2014-0076 at F-3.	The HBGS has already provided mitigation through a wetlands mitigation project for an average OTC flow at the HBGS of 126.8 million gallons per day (MGD). These mitigation measures would be applicable to any OTC generation still in operation after October 1, 2015. For any volume of OTC flow after October 1, 2015, that exceeds the average of 126.8 MGD, which on an annualized basis represents 46,282 million gallons a year, AES-SL proposes to provide funding to the Coastal Conservancy as interim mitigation from October 1, 2015, and continuing up to and until the HBGS is in final compliance with the Policy. The amount provided will be based on the actual cooling water intake flow at the HBGS during each calendar year (January 1 through December 31). Discharge data submitted to the California Regional Water Quality Control Board – Los Angeles Region will be used for the volume calculations. AES-SL will provide $3.00 for each 1 million gallons (106 gallons) withdrawn by each unit at the HBGS that exceeds the 46,282 million gallons a year that has already been mitigated. (Revised IP at 12-13)

Moss Landing Power Plant	Dynegy	12/31/2017; Amended to 12/31/2020; CPUC 2010 LTPP Cycle	Units 1 and 2: 361 MGD DIF. Units 6 and 7: 865 MGD DIF; 387 MGD AF. (Final SED at 63)DIF: Unit 1 180 MGD; Unit 2 180 MGD; Unit 6 432 MGD; Unit 7 432. (Updated IP at 2-2) Daily average flow for 2009-2013: Unit 1, 107.32; Unit 2, 108.12; Unit 6, 49.35; Unit 7 61.70. (Updated IP at 2-9)	TBD
Ormond Beach Generating Station	GenOn Delta, LLC	12/31/2020; CPUC 2012 LTPP Procurement Cycle	685 MGD DIF; 521 MGD AF. (Final SED at 63)	GenOn discusses at length its existing mitigation programs and then states that assuming those aren't deemed sufficient to comply with the mandate, then they propose to provide to the CA Coastal Conservancy three dollars ($3) for every one million gallons of actual flows withdrawn by each unit (based on actual cooling water intake flow for a calendar year, or prorated year depending on when final compliance is achieved. (IP at 29)
Diablo Canyon Power Plant	PG&E	12/31/2024: compliance subject to special provisions in Section 3.D		The OTC requirements for Diablo Canyon may be affected by an upcoming study of mitigation options overseen by the SWRCB's Review Committee for Nuclear Fueled Power Plants. (CEC- OTC Update Feb. 2015, at 6)
Scattergood Generating Station Units 1 & 2	LADWP	12/31/2020 (per 2010 original OTC Policy) 12/31/2024 (per 2012 OTC Policy Amendment)	495 MGD DIF; 309 MGD AF. (Final SED at 63)	LADWP plans to provide three dollars ($3) for every one million gallons actually withdrawn by each unit per year. Discharge data submitted to the SWRCB and LA Regional Board will be used to calculate volume. Dollar amount was determined in Aug. 2010 by the SWRCB Chief Deputy Director and LADWP. (IP at 35)
Harbor Generating Station Unit 5	LADWP	12/31/2015 (per 2010 original OTC Policy) 12/31/2029 (per 2012 OTC Policy Amendment)	108 MGD DIF; 59 MGD AF.	LADWP plans to provide three dollars ($3) for every one million gallons actually withdrawn by each unit per year. Discharge data submitted to the SWRCB and LA Regional Board will be used to calculate volume. Dollar amount was determined in Aug. 2010 by the SWRCB Chief Deputy Director and LADWP. (IP at 35)

Haynes Generating Station Units 1, 2, and 8	LADWP	12/31/2019 (per 2010 original OTC Policy) 12/31/2029 (per 2012 OTC Policy Amendment)	968 MGD DIF; 258 MGD AF. 495 MGD DIF; 309 MGD AF. (Final SED at 63)	LADWP plans to provide three dollars ($3) for every one million gallons actually withdrawn by each unit per year. Discharge data submitted to the SWRCB and LA Regional Board will be used to calculate volume. Dollar amount was determined in Aug. 2010 by the SWRCB Chief Deputy Director and LADWP. (IP at 35)
In Compliance/ Repowered with Acceptable Cooling Technology				
Humboldt		12/31/10		
Potrero		10/1/11		
South Bay Power Plant		12/31/11		
Haynes Generating Station Units 5 & 6	LADWP	12/31/13		
Scattergood Generating Station Unit 3	LADWP	12/31/15		
Contra Costa Power Plant Units 6 & 7: now Marsh Landing Generating Station	NRG Energy	12/31/2017; CPUC 2010 LTPP Cycle. Retired Units 6 & 7 on 5/1/2013 (SACCWIS Report 3/2014)		
El Segundo Generating Station -- Unit 3	NRG Energy	12/31/2015 (OTC Policy)	Retired Unit 3 on 8/1/2013 when new combined cycle facility using air cooling came online (SACCWIS Report 3/2014)	
Retired Plants				

Morro Bay Power Plant	Dynegy	12/31/15		
San Onofre Nuclear Generating Station, Unit 2 and Unit 3, "SONGS"	Southern California Edison (SCE)	12/31/22	Although both San Onofre units ceased generation by January 31, 2011, they draw limited amounts of ocean water to cool nuclear fuel rods and other "hot" equipment. According to an SCE report to the SWRCB dated November 27, 2013, the combination of Units 2 and 3 is now drawing water at approximately 4 percent of normal power flow rates. The report says that San Onofre will continue to draw ocean water throughout the decommissioning process, but not above Track 1 compliance levels. http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/powerplants/san_onofre/docs/sce_112713.pdf	