Responses to Comments

on the Proposed Resolution to Revise the Interim Mitigation Payment Calculation

for the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling

State Water Resources Control Board

April 4, 2024

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List of Abbreviations and Acronyms

Acronym	Full Term
2023 Expert Report	Recommendations to Update the Interim Mitigation Cost Calculation for Once-Through Cooling Intake Use Leading to Marine Life Entrainment and Impingement
APF	Area of Production Foregone
Draft Resolution	Draft Resolution to Revise the Interim Mitigation Payment Calculation for the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling
ERP	Expert Review Panel
MOU	Memorandum of Understanding
Once-Through Cooling or OTC Policy	Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling
OPC	Ocean Protection Council
OTC	Once-Through Cooling
SACCWIS	Statewide Advisory Committee on Cooling Water Intake Structures
SCC	State Coastal Conservancy
State Water Board	State Water Resources Control Board

Table 1: Index of Written Comments Received

Identifier	Affiliation	Last Name	First Name
1	Heal the Bay	Moe	Annelisa
2	Los Angeles Department of Water and Power (LADWP)	Rubin	Katherine
3	California Coastkeeper Alliance (CCKA) and Natural Resources Defense Council (NRDC)	Bothwell	Sean
4	Coastal Quest	Hoffman	Tegan

Introduction

The State Water Resources Control Board (State Water Board) received three timely written comments and one late written comment accepted into the administrative record on the Draft Resolution to Revise the Interim Mitigation Payment Calculation for the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Draft Resolution), as well as the associated Draft Staff Report (Staff Report).[1, 2] The public comment period for the Draft Resolution and Staff Report started on September 27, 2023, and closed at noon on October 30, 2023. This document contains responses to comment letters submitted to the State Water Board on the Draft Resolution and Staff Report. There were no revisions to the Draft Resolution or Staff Report based on written comments received.

Written comments received during the public comment period are contained in Table 2 below. All writings in the written comments field in Table 2 are the true and accurate representation of the comments provided to the State Water Board. Written comments were not changed for spelling, grammar, or clarity.

Information provided in the responses is based upon and supplements the data and findings previously set forth within the report titled *Recommendations to Update the Interim Mitigation Cost Calculation for Once-Through Cooling Intake Use Leading to Marine Life Entrainment and Impingement* (2023 Expert Report)[3] and the Staff Report. The responses to comments do not add significant new information that is material to the State Water Board's decision.

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[1] State Water Resources Control Board (State Water Board). 2023. Draft Resolution to Revise the Interim Mitigation Payment Calculation for the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. Sacramento, CA: State Water Board.

[2] State Water Board. 2023. Draft Staff Report. Sacramento, CA: State Water Board.

[3] Dr. Pete Raimondi. 2023. Recommendations to Update the Interim Mitigation Cost Calculation for Once-Through Cooling Intake Use Leading to Marine Life Entrainment and Impingement. Sacramento, CA: State Water Board.

Table 2: Responses to Comments

Organization	Identifier	Comment	Response
Heal the Bay	1.1	We write in support of the interim mitigation update, to increase interim mitigation payments associated with once-through cooling (OTC) operation, based on the latest scientific review conducted by Dr. Pete Raimondi on the true cost of OTC impacts to our coastal ecosystems.	Comment noted.
Heal the Bay	1.2	OTC operation causes significant, harmful, and ongoing impacts to our valuable marine environment and resources. As stated in a group letter submitted on August 9, 2023 by multiple groups including Heal the Bay, impacts to marine life from OTC power plants occur through entrainment of millions of invertebrate and fish larvae, impingement of larger organisms, and contaminated discharge-water that inhibits growth of eelgrass and kelp forests. As one example, turning on one coastal power plant destroyed almost 10% of the kelp forests along California's mainland coast, with associated fish losses.	Please refer to Section 1 of the Staff Report for a description of the impacts of once-through cooling (OTC) water intake structures on marine and estuarine life, as well as the intent of the interim mitigation measures in the Water Quality Control Policy for the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling or OTC Policy),[4] which is to offset the interim impacts from impingement and entrainment resulting from the use of OTC intake structures from October 1, 2015, and up until final compliance is achieved. The impacts of power plant effluent discharges are addressed by effluent limitations included in NPDES permits and are beyond the scope of the OTC Policy and the Draft Resolution. The OTC Policy was adopted by the State Water Board to establish technology-based standards to

[4] State Water Board. 2023. Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. Sacramento, CA: State Water Board.

Organization	Identifier	Comment	Response
			implement the federal Clean Water Act section 316(b) requirement that the location, design, construction, and capacity of cooling water intake structures reflects the best technology available for minimizing adverse environmental impacts, and to otherwise reduce the harmful effects on marine and estuarine life that are associated with use of cooling water intake structures. Regarding the commenter's assertion that the operation of one coastal power plant resulted in the destruction of 10 percent of kelp forests along California's mainland coast, two references were cited in an attachment to the aforementioned August 9, 2023 letter that point to the effluent from San Onofre Nuclear Power Plant as causing this destruction. As acknowledged in Section 2.2 of the 2010 Final Substitute Environmental Document for the OTC Policy[5], nuclear power plants that use OTC are generally the largest volume dischargers in the State of California due to their high use cooling water intakes. The San Onofre Nuclear Power Plant is no longer in operation as it ceased power generation and use of ocean water for once-through cooling on January 31, 2012. Per the Once-Through Cooling Policy, all remaining OTC generating stations will come into final compliance with the Once-Through Cooling Policy by October 30, 2030,

[5] State Water Board. 2010. Final Substitute Environmental Document for the OTC Policy. Sacramento, CA: State Water Board.

Organization	Identifier	Comment	Response
			assuming no further compliance date extensions are needed to ensure grid reliability.
Heal the Bay	1.3	Water discharged after servicing power plant cooling needs is often considerably warmer (up to 37 degrees higher) than initial water temperatures. Scientific data shows that such elevated temperatures not only kill marine life, but also contribute to algal blooms that further impact recreational and commercial fisheries. One study in Southern California estimated the costs to the fishing industry alone at $9 million per year. Estuarine habitat is particularly vulnerable, with estimates of over 247,000 acres of coastal and estuary habitat in California destroyed due to the output of OTC systems.	Please refer to the response to comment 1.2 and Section 1 of the Staff Report for a description of how the OTC Policy addresses impacts of cooling water intake structures on marine and estuarine life. Additionally, thermal discharges from OTC facilities are regulated by CWA section 316(a), which is implemented through the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (also known as the California Thermal Plan), and are outside of the scope of the OTC Policy and Draft Resolution.
Heal the Bay	1.4	It has been nearly two decades since the California Energy Commission first recognized OTC as a contributing factor to the degradation of California's fisheries, estuaries, bays and coastal waters in 2005. As such, all facilities have had more-than-adequate time to come into compliance, and the remaining eight are affecting coastal ecosystems far longer than the OTC Policy intended.	Section 1.G of the OTC Policy states the intent of the Policy is to ensure the beneficial uses of the state's coastal and estuarine waters are protected while also ensuring the electrical power needs essential for the welfare of residents of the state are met. The intent of the Draft Resolution is to ensure that the annual interim mitigation payments remain compensatory to the interim impacts caused by cooling water intake structures up to and until power plants come into final compliance with the OTC Policy. Section 3.B of the OTC Policy impaneled a Statewide Advisory Committee on Cooling Water

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			Intake Structures (SACCWIS) to advise the State Water Board on the implementation of the OTC Policy to ensure that the compliance schedule does not negatively impact grid reliability in California. Furthermore, Section 1.I of the OTC Policy acknowledges that the compliance dates in the OTC Policy may require amendment based on, among other factors, the need to maintain reliability of the electric system as determined by the state's energy agencies included in the SACCWIS, acting according to their individual or shared responsibilities. Since its adoption in 2010, the OTC Policy has been amended several times to revise power plant compliance dates based on recommendations of the SACCWIS to support local-area or statewide grid reliability. While seven[6] of these power plants have not yet achieved final compliance, the owners and operators of these power plants are compliant with other immediate and interim requirements and implementation provisions in the OTC Policy and still intend to achieve final compliance, as indicated in their respective implementation plans.
Heal the Bay	1.5	The loss of marine life and overall impacts to ecosystem health from OTC operations are	Comment noted. Section 1 of the Staff Report describes the intent of this project, which is to revise the annual interim mitigation payment

[6] AES Redondo Beach achieved final compliance with the OTC Policy via retirement on December 31, 2023.

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		devastating, and considering that the initial study on OTC impacts on marine life was completed 15 years ago, and marine conditions have changed significantly since then, the existing mitigation calculation no longer accurately reflects true impacts. Therefore, we commend the State Board for commissioning an expert review, led by Dr. Pete Raimondi, to re-examine the impacts to coastal ecosystems. We support Staff's proposal to significantly increase the interim mitigation payments for both impingement (from $0.80/lb to $102.73/lb) and entrainment (from $5/MG to $12/MG) associated with OTC operation. We also support staff's commitment to match actual inflation rates, or to use 3%, whichever is higher. These increases are not punitive, but simply reflect the true cost of OTC operation as determined by Dr. Raimondi.	calculation and ensure that the mitigation payments are fully compensatory for ongoing impacts to marine and estuarine life resulting from the operation of cooling water intake structures. Additionally, the 2023 Expert Review did not re-examine the impacts to coastal ecosystems from cooling water intake structures, rather the 2023 Expert Review assessed current costs of mitigation projects.
Heal the Bay	1.6	Facilities using OTC operations have devastated coastal ecosystems for decades, and have, so far, faced minimal interim mitigation fees. Especially as we approach the final original deadlines from the 2010 Statewide OTC Policy, and continue to see extension requests proposed and approved time and again for the final eight facilities, this increase in interim mitigation fees are not only appropriate, but necessary to	Please refer to the response to comment 1.4 for a description of how the OTC Policy balances environmental protection and grid reliability. The current interim mitigation requirements are based on the recommendations of the Expert Review Panel (ERP) II, which were published in

Organization	Identifier	Comment	Response
		respond to the impacts from decades of OTC operation.	the ERP II Report on March 14, 2012.[7] The findings of the report were referenced as the basis of the interim mitigation calculation method set forth in State Water Board Resolution No. 2015-0057.[8] The ERP II developed a method to calculate annual payments for OTC power plants using the Habitat Production Foregone method. The method used then-current information about mitigation project costs to ensure that the annual payment calculations were compensatory for marine and estuarine impacts. The proposed revisions to the interim mitigation payment calculation are not intended to address past impacts from OTC operation. The proposed revisions are intended to ensure that payments remain compensatory for impacts to marine and estuarine life by revising the calculation using new information about current costs of mitigation projects and to account for varying annual inflation rates.
Heal the Bay	1.7	Ocean inflows should not be used to cool power plants, but while OTC operation is permitted, the State Board must maintain existing funding	The allocation of interim mitigation payments to the Ocean Protection Council (OPC) and State Coastal Conservancy (SCC) is a separate decision that is outside of the scope of this Draft

[7] Foster, M., Cailliet, G., Callaway, J., Raimondi, P., Steinbeck, J. 2012. Mitigation and Fees for the Intake of Seawater by Desalination and Power Plants. Sacramento, CA: State Water Board.
[8] State Water Board. 2015. Resolution No. 2015-057. Sacramento, CA: State Water Board.

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		priorities for OTC mitigation funds, which support critical Marine Protected Area (MPA) management and restoration activities. Many types of mitigation projects - including restoration - are used to combat OTC impacts, and we must emphasize the critical importance of current OTC funds directed towards increases in marine life associated with our state's MPA network. MPA projects, such as MPA Watch, have supported increased docent and educator capacity, reduced illegal take of marine life in MPAs, scientific research, and increased diversity of stakeholders engaged (including both traditional and non-traditional audiences, as well as underserved audiences). Therefore, we support the increased interim mitigation payments, based on the work of Dr. Raimondi. The resulting revenue must be directed to localized restoration projects, while maintaining current funding directed to MPA projects.	Resolution. The allocations will be addressed via a revision of the Memorandum of Understanding (MOU) between the State Water Board, OPC, and SCC[9]. The comment is noted and will be addressed via the revision of the MOU.
Los Angeles Department of Water and Power (LADWP)	2.1	Because LADWP is ratepayer-funded, and a substantial number of its ratepayers live below the poverty line, it is important for LADWP to consider cost-effectiveness, as well as how costs are spread over time, as it implements projects. LADWP has thus created a cost effective,	Section 2.C(3) of the OTC Policy requires that owners or operators of existing power plants implement measures to mitigate interim impingement and entrainment impacts resulting from cooling water intake structures continuing up to and until the owner or operator achieves

[9] Ocean Protection Council, State Coastal Conservancy, and State Water Board. 2016. Memorandum of Understanding. Sacramento, CA: Ocean Protection Council.

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		planned sequence to eliminate OTC within LADWP's power system as new generating units are placed in service. LADWP requires in-basin power generation from three coastal generating stations that currently utilize OTC. The three coastal generating stations are "reliability must run," which means that they are required to be in operation to balance and stabilize the State's electric grid. To avoid power outages and ensure grid reliability, LADWP must be able to run the remaining OTC units at its three coastal generating stations until December 2029, the soonest point at which grid reliability can be maintained without OTC. The Draft Resolution will impact LADWP by imposing mitigation payment obligations for the interim use of OTC at LADWP's critical coastal generating stations through 2029. As an environmental steward, LADWP supports the restoration projects that are being funded by Section 2.C(3)(b) of the OTC Policy and appreciates the work of the California Coastal Conservancy and Ocean Protection Council to restore habitats that have been impacted. LADWP has selected the mitigation payment option in Section 2.C(3)(b) of the OTC policy that provides funding to the California Coastal Conservancy to work with the Ocean Protection Council to fund mitigation projects. Although	final compliance. The interim mitigation measures are consistent with the State Water Board's obligations under its certified regulatory program to identify mitigation measures to avoid or reduce any significant adverse environmental impacts of a project, such as adoption of the OTC Policy. (Title 23, Cal. Code Regs., § 3777(b).) The impact on ratepayers from an increase in interim mitigation payments is an important consideration. Based on previous LADWP interim mitigation cycles and using the proposed updates and assuming a 3 percent annual inflation rate, the interim mitigation payments for the LADWP's three operational OTC power plants for the 2022-2023 interim mitigation period are estimated to increase from $1,465,484.71 to $3,151,684.86. This would equate to an increase of approximately $13,000,000 from the 2022-2023 interim mitigation period to the 2028-2029 interim mitigation period. Assuming that ratepayer expenses are equally distributed among the 4 million customers in the LADWP balancing authority area, the interim mitigation revisions would equate to approximately a 46-cent increase per customer per year. The environmental and ecosystem impacts of OTC intake structures are significant and, as described in Section 1 of the Staff Report, current

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		LADWP supports the mitigation projects that Section 2.C(3)(b) payments help to fund, this Draft Resolution, which significantly increases fees, impacts LADWP's ability to satisfy its mission to provide cost-effective essential services to its ratepayers, and therefore, LADWP respectfully submits the following comments for the Draft Resolution.	mitigation payments do not reflect the current costs of mitigation projects. The OPC, in coordination with the State Water Board, contracted an expert review of the interim mitigation calculation and the costs of mitigation projects. The resulting ERP II Report, which recommended revisions to interim mitigation measures, demonstrated that mitigation project costs have significantly increased since Resolution No. 2015-0057 was adopted, and the current interim mitigation calculation no longer adequately mitigates the effects of cooling water intake structure operations on marine and estuarine life. The proposed mitigation calculation revisions are needed to ensure the interim mitigation payments continue to appropriately compensate for these significant adverse environmental effects and to fulfill the State Water Board's obligations under the OTC Policy. Furthermore, it should be noted that annual interim mitigation payments are not permanent and will cease when final compliance with the OTC Policy is achieved.
LADWP	2.2	The State Water Resources Control Board Draft Staff Report (SWRCB Draft Staff Report) acknowledges in Section 3 on page 8 that the Expert Review Team recommends applying the	Please refer to Section 3 of the Staff Report which provides a description of the proposed revisions to the interim mitigation calculation. Use of the median value provides certainty that only 50 percent of mitigation projects would be

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		median value as the most appropriate estimate. Based on this recommendation, Table 1a in the 2023 Expert Review Report indicates that the median value for default cost of entrainment should be $7.31 per MG of intake water (i.e., the median value), not $12.51 as proposed in the Draft Resolution (i.e., the 95th percentile value). The 2023 Expert Review Report presents data that account for the current cost of projects in 2023 and recommends annual cost adjustments for inflation. LADWP supports these data and the recommendation in the 2023 Expert Review Report that states that the median value is the best estimate of the mean cost per million gallons of seawater for the calculation of the default cost of entrainment per MG of intake water. Therefore, LADWP recommends that $7.31, the median cost in Table 1a of the 2023 Expert Review Report, be used in the Draft Resolution as the default cost of entrainment per MG of intake water.	sufficiently funded. Using the 95th percentile provides greater certainty that the interim mitigation payments will fully fund the majority of mitigation projects and more fully compensate for impingement and entrainment by the OTC power plants. Additionally, the proposed revision ensures that interim mitigation payments reflect current mitigation costs and inflation variability.
LADWP	2.3	LADWP has carefully planned a timeline to cost effectively eliminate the use of OTC within LADWP's power generation system by 2029 based on these costs. Surprisingly, the Draft Resolution increases the entrainment cost by $7.02 to $12.51 per MG, more than double the current cost, and the impingement cost by	Please refer to the response to comment 2.1 for a description of why the interim mitigation update is necessary to ensure that annual interim mitigation payments are fully compensatory for marine and estuarine impacts from ongoing cooling water intake structure operations and the

Organization	Identifier	Comment	Response
		$101.93, a greater than 12,000% increase. These substantial increases will directly impact LADWP's ratepayers, approximately 17% of whom have income below the poverty line.	potential impacts to ratepayers in the LADWP Balancing Authority Area. Additionally, please refer to the responses to comments 2.1 and 2.2, and Sections 1 and 3 of the Staff Report for additional information on the reasoning for the proposed revisions to the interim mitigation calculation.
LADWP	2.4	Table 1 below illustrates the difference in cost between the 2015 Resolution and the Draft Resolution based on LADWP's 2021-2022 data from the three remaining generating stations that will be affected by the Draft Resolution.	In reviewing flow data[10] submitted by the LADWP, and data reported in the California Integrated Water Quality System, the State Water Board found that the data reported in the table presented in the comment letter is from the 2020-2021 interim mitigation cycle, not the 2021-2022 interim mitigation cycle. Please refer to the 2020-2021 Interim Mitigation Determinations for Harbor, Haynes, and Scattergood Generating Stations posted publicly on the Interim Mitigation webpage.[11, 12, 13] The 2021-2022 Final Interim Mitigation Determinations were released on

[10] The commenter's referenced table was not included in this document due to Assembly Bill 434 accessibility requirements. To review the table, please contact State Water Board staff as referenced on the State Water Board's Ocean Standards Unit Webpage.
[11] State Water Board. 2022. Invoice for the 2020-2021 Interim Mitigation Period for Harbor Generating Station – Once-Through Cooling Policy. Sacramento, CA: State Water Board.
[12] State Water Board. 2022. Invoice for the 2020-2021 Interim Mitigation Period for Haynes Generating Station – Once-Through Cooling Policy. Sacramento, CA: State Water Board.
[13] State Water Board. 2022. Invoice for the 2020-2021 Interim Mitigation Period for Scattergood Generating Station – Once-Through Cooling Policy. Sacramento, CA: State Water Board.

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			February 27, 2024, and can be found on the Interim Mitigation program webpage as well.[14] Please refer to the responses to comments 2.1 and 2.2, and Sections 1 and 3 of the Staff Report for an explanation of why the proposed revisions to the interim mitigation calculation are needed.
LADWP	2.5	As Table 1 reflects, the annual cost increase for entrainment and impingement between the 2015 Resolution and the Draft Resolution is an increase of almost two million dollars. In addition, Section 14.d includes an annual inflation escalator of either 3% or the California Consumer Price Index annual percent change, which would further increase the cost annually for both entrainment and impingement. Again, LADWP is ratepayer-funded, and these significant cost increases will directly impact LADWP's customers. To avoid an abrupt and significant change that could lead to financial hardship for LADWP's ratepayers, LADWP respectfully requests that a phased approach over five years be implemented for the cost increase. This will allow LADWP to plan for gradual cost increases in its budget.	Please refer to the response to comment 2.1 and 2.2, as well as Sections 1 and 3 of the Staff Report for an explanation of why the proposed revisions to the interim mitigation calculation are needed and the potential impacts to ratepayers in the LADWP Balancing Authority Area. Delaying a portion of interim mitigation payments by phasing the implementation of the updated calculation over a period of time is not consistent with the intent of the interim mitigation requirement because it will not fully mitigate the ongoing and real-time impacts of cooling water intake structures on estuarine and marine life.

[14] State Water Board Interim Mitigation Webpage.

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California Coastkeeper Alliance (CCKA) and Natural Resources Defense Council (NRDC)	3.1	The OTC Interim Mitigation Fee was intended to "encourage" facilities to meet their compliance schedule as first adopted in 2010. However, the Interim Mitigation Fee has failed to encourage timely compliance, and instead the state has repeatedly extended compliance deadlines for some OTC facilities. Initially, the OTC Policy's Compliance Schedule was a practical tool to phase-out the use of OTC and bring power plants into compliance with the Clean Water Act, all while ensuring grid reliability. However, the State's repeated compliance schedule extensions have resulted in power plants being allowed to evade Section 316(b) of the Clean Water Act, and instead pay-to-pollute. The OTC Policy's interim mitigation measures were intended to encourage power plant operators to phase-out OTC operations in a timely manner. Today, however, the interim mitigation measures have lost their temporary, incentivizing character and have instead effectively become a standing method for power plants to evade the law and choose to pay restoration fees as a permanent solution in lieu of actual compliance with the Clean Water Act and the OTC Policy.	Please refer to the response to comment 1.4 for a description of how the OTC Policy balances environmental protection and grid reliability. The intent of the OTC Policy's interim mitigation requirement is to address the interim impacts of continued operation of OTC intake structures until final compliance is achieved. The interim mitigation requirement was not intended to incentivize early compliance with the OTC Policy, though some owners and operators chose to comply early based on any number of business decisions, including the cost of interim mitigation payments. Regarding compliance with the OTC Policy via restoration, the Second Circuit Court of Appeals in Riverkeeper Inc., et al. v. U.S. Environmental Protection Agency (2nd Cir. 2007) (475 F.3d. 83) (Riverkeeper II) concluded that allowing compliance with Clean Water Act section 316(b) through implementation of restoration measures conflicts with the statute. (Riverkeeper, II, supra, 475 F.3d 83, 110, and refer to discussion in 2010 Final Substitute Environmental Document for adoption of the OTC Policy, pp. 6-7.) However, the OTC Policy does not authorize compliance with Clean Water Act section 316(b) through restoration. The OTC Policy requires compliance with statewide best technology available controls for coastal and estuarine power plants through selection of either Track 1 or Track 2.

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			Compliance can be achieved via Track 1 by reducing intake flow to a level commensurate with what can be attained with the installation of a closed-cycle cooling system. Compliance can be achieved via Track 2 by reducing impingement and entrainment equivalent to that which can be attained through Track 1. Owners or operators can achieve compliance through retiring, repowering, or retrofitting OTC units. The operational OTC power plants that have not achieved final compliance continue to plan to achieve final compliance with the OTC Policy by ceasing operations, which falls under Track 1 compliance. Consistent with the above, the OTC Policy includes a provision that existing power plants must implement measures to mitigate the interim impingement and entrainment impacts to marine life resulting from cooling water intakes during operation. Section 2.C(3) of the OTC Policy provides options for owners and operators to demonstrate compliance with the interim mitigation requirements. This requirement commenced on October 1, 2015, and continues up to and until the owner or operator achieves final compliance with the OTC Policy.
CCKA and NRDC	3.2	While we continue to oppose the use of a restoration fee in-lieu of requiring BAT for the remaining facilities, our following recommendations are aimed at replacing the	In this comment, the commenter makes several specific numbered suggestions which summarize arguments laid out in greater detail later in the

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		marine life lost to the best of the state's ability. We therefore recommend the State Water Board: (1) Adopt the newly proposed entrainment and impingement default fees; (2) Apply the 2023 Mitigation Fee retroactively to all ongoing OTC facilities to account for their compensatory harm caused since 2010; (3) Conduct an analysis to determine whether the 20% management fee is sufficient to manage the restoration project through the lifetime of the project; (4) Require the management and monitoring fee to be earmarked specifically for restoration projects to ensure the proper management of the restoration for the lifetime of the project; (5) Revise the MOU to allocate 50 percent of the overall OTC funds towards restoration projects; (6) Prioritize wetland restoration but all for other restoration projects, such as eelgrass, oyster reefs, kelp, and intertidal restoration projects, to be eligible for funding through the OTC Interim Mitigation Funds; (7) Provide far greater oversight of restoration programmatic efforts;	comment letter. Responses to these comments are included below.

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		(8) Create milestones for restoration project identification, fund allocation, design and implementation; and (9) Demand that the OPC and Coastal Conservancy develop an implementation plan with milestones for at least two of the three severely needed and long overdue wetland restoration projects in Southern California.	
CCKA and NRDC	3.3	The 2015 Resolution established methods to calculate interim mitigation payments to comply with Section 2.C(3)(b) based on findings and recommendations by an Expert Review Panel that developed an interim mitigation fee. During the regulatory process, CCKA strongly urged the State Water Board to adopt an interim mitigation fee that paralleled the Expert Panel's recommendations for compensatory mitigation for ocean desalination projects. CCKA specifically requested the State Water Board use a default cost using the 95th percentile value in the Expert Panel's findings. However, our recommendation was rejected. We disagree that the 2015 Interim Mitigation Fee was a "defensible payment that was compensatory for the continued intake impacts due to entrainment and impingement". Therefore, we support the State Water Board's proposal to change the default	Comment noted. Please refer to the response to comment 2.1 for a discussion of the adequacy of the interim mitigation calculations as established by Resolution No. 2015-0057.

Organization	Identifier	Comment	Response
		fees to a calculation using the 95th percentile confidence level.	
CCKA and NRDC	3.4	We strongly support the revised entrainment default costs. We support the default cost for entrainment to be $12.51 per million gallons (MG) of intake water.	Comment noted.
CCKA and NRDC	3.5	While a 95th percentile provides a high degree of confidence, the calculation does not even incorporate and mitigate for the trophic impacts occurring due to the ongoing OTC impacts to the food web.	As cited in the 2023 Expert Report, details of the logic and calculation of the Empirical Transport Model and Area of Production Foregone (APF) method can be found in Raimondi 2011.[15] According to Raimondi 2011: *[T]he goal should not be to assess impacts to individual species. Rather it should be to estimate all direct and indirect impacts to the system and to provide guidance as to the mitigation that would be compensatory. Indeed one criticism of many assessment methodologies (e.g. Habitat Equivalency Analysis = HEA) is that there is a focus on only a limited number of taxa (Figure 1) of all that are directly affected by entrainment and that there is also no provision for estimation of indirect impacts (often food web considerations). APF, as discussed,*

[15] Dr. Pete Raimondi. 2011. Variation in Entrainment Impact Estimations Based on Different Measures of Acceptable Uncertainty. CiteSeerX.

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			addresses this concern by expressing impact in terms of habitat and assuming that indirect impacts are mitigated for by the complete compensation of all directly lost resources. The idea is that the addition of the right amount of habitat would lead to compensatory production of larvae and would also compensate for indirect effects resulting from the larval losses. For example, if one indirect consequence of larval losses was the loss of a food resource for seabirds, the replacement of those lost larvae should mitigate the impact to seabirds. Hence the task is to determine the right amount of habitat.
CCKA and NRDC	3.6	We strongly support the revised impingement default costs. We support the default cost for impingement to be $102.73 per pound of fish impinged. The default cost is the average of the upper 95th percentile values for the two types of habitats (Table 2 in 2023 Expert Review Report). We believe that the 2015 impingement default cost was drastically undervalued, and the significant 2023 increase is due to having a better estimate of the cost per acre of habitat to compensate for impingement compared to the analysis from the 2015 Resolution, which was solely based on an economic analysis conducted	Please refer to the response to comment 2.1 for a discussion of the adequacy of the interim mitigation calculations as established by Resolution No. 2015-0057 and Section 3 of the Staff Report for an explanation for the revisions to the default cost of impingement. The revised interim mitigation payment calculation is intended to address current costs for mitigation and variability of inflation, using updated data from recently constructed mitigation projects. The original interim mitigation payment calculation, as outlined in Resolution No. 2015-0057, was consistent with the best available science and data at the time, as determined by

Organization	Identifier	Comment	Response
		for Huntington Beach Generating Station. We would strongly encourage the State Water Board to consider retroactively charging OTC facilities for past impingement impacts using the new $102.73 per pound cost to adequately provide compensatory mitigation for the ongoing impacts of OTC.	the ERP II. The owners and operators of power plants have complied with the OTC Policy interim mitigation requirements by making annual interim mitigation payments as outlined in Resolution No. 2015-0057. Thus, the proposed amendment would apply moving forward but not retroactively.
CCKA and NRDC	3.7	The technical memo was excellent; however, it failed to deal with two critical issues. First and foremost, the OTC power plants have been grossly underpaying for the marine life impacts they've been causing off the California coast. Also, marine life harm will continue to occur until restoration efforts are completed. As we've seen, mitigation has not led to successful, significant, operating restoration projects yet, despite the years of continuing harm. That is a mitigation failure. The technical memo did not include an impact analysis on the loss of marine fish and planktonic larvae on marine species that forage on lost marine life. These trophic effects could be quite substantial, yet the technical memo did not address the potential impacts to marine mammals, sea birds, and planktivorous marine species. For those reasons, we strongly support the cost escalator proposed in the OTC Resolution.	Please refer to the response to comment 2.1 for a discussion of the adequacy of the interim mitigation calculations as established by Resolution No. 2015-0057 and the response to comment 3.5 for an explanation of how the Empirical Transport Model and APF method is intended to address impacts to multiple trophic levels from cooling water intake structure operations. Regarding the comment that mitigation has not led to successful restoration projects, the OTC Policy states a preference for mitigation projects directed toward increases in marine life, but it does not provide an all-inclusive list of the types of projects that would meet this condition. Direction provided by State Water Board members during the August 18, 2015 public meeting demonstrates that there is a broader interpretation of the types of projects that would be considered as increasing marine life in the state's MPAs. In addition to the option of funding habitat restoration projects through the SCC,

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			State Water Board members requested that staff investigate options to direct the OTC Policy's interim mitigation funds toward enforcement and MPA monitoring through the OPC. These two options may not result in a direct and immediate increase in marine life in MPAs, but over time, they can produce this indirect effect.
CCKA and NRDC	3.8	Additionally, the State Water Board should require those OTC power plants that are still operating to pay the cost differential in the mitigation fees back to the date of the original OTC Policy. We request that the State Water Board apply the new OTC mitigation fee approach retroactively to the original compliance date deadlines.	Please refer to the response to comment 2.1 for a discussion of the adequacy of the interim mitigation calculations as established by Resolution No. 2015-0057, as well as the response to comment 3.6 for a discussion of why the proposed revisions would not be applied retroactively.
CCKA and NRDC	3.9	The mitigation fee should now be considered compensatory enforcement fines. Therefore, the State Water Board should consider including a compensatory multiplier for every year that the power plants get compliance extensions. There needs to be a significant deterrent to extension requests. Right now, there are no deterrents. We therefore request that the new 2023 Mitigation Fee be applied retroactively to all ongoing OTC facilities to account for their compensatory harm caused since 2010.	Please refer to the response to comment 2.1 for a discussion of the adequacy of the interim mitigation calculations as established by Resolution No. 2015-0057, response to comment 3.1 for a discussion of the intent of the interim mitigation measures, and response to comment 3.6 for a discussion of why the proposed revisions would not be applied retroactively. Furthermore, interim mitigation payments are not considered enforcement fines because a power plant that receives an extension to its final compliance date is not violating the OTC Policy as long as it complies with its new final

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			compliance date. Final compliance dates were extended to ensure grid reliability while considering the need to protect marine life. An enforcement fine would be considered if a power plant fails to comply with its final compliance date and continues to discharge waste from power generation operations, at which point the power plant would be in violation of the corresponding provision in its NPDES discharge permit.
CCKA and NRDC	3.10	We are concerned about the lack of adequate funding for the monitoring, operation and maintenance of restoration projects for 30 years. If an OTC power plant is paying the increased fee for a few years, then there will be a 20% increase added to the mitigation fee. However, there is a very high likelihood that the 20% amount will not be adequate for 30 years of monitoring, operations and maintenance of the restoration project. We strongly recommend that the State Water Board conduct an analysis to determine whether the 20% management fee is sufficient to manage the restoration project through the lifetime of the project.	The recommendation from the 2023 Expert Report, based on precedent from prior mitigation projects, is that the management and monitoring payment should be between 10 to 25 percent of the sum of the entrainment and impingement payments. Resolution No. 2015-0057 concluded, after discussions with the SCC, that a management and monitoring payment of 20 percent of the sum of the entrainment and impingement payments was sufficient for management and monitoring purposes. The OPC and SCC still find the 20 percent figure appropriate as of January 2024.
CCKA and NRDC	3.11	We also request the State Water Board ensure that the 20% management fee be used only for the purpose of monitoring and managing restoration projects. There have been numerous occasions where habitat restorations occur only	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations through revisions to the interagency MOU between the State Water Board, OPC, and SCC.

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		to have inadequate funds for even short-term monitoring, operations and maintenance.	The State Water Board will also consider comments related to the role of the State Water Board in overseeing the programmatic efforts of the OPC and SCC at that time.
CCKA and NRDC	3.12	The 2023 Resolution directs State Water Board staff to coordinate with the Ocean Protection Council and California Coastal Conservancy to revise the Memorandum of Understanding on the future use of interim mitigation funds. We recommend that the revised MOU allocate 50 percent of the overall OTC funds towards restoration projects.	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations and project selection through revisions to the interagency MOU between the State Water Board, OPC, and SCC.
CCKA and NRDC	3.13	There are 4 components of the OTC mitigation program: (1) enforcement of MPAs; (2) MPA outreach and education programs; (3) MPA research and monitoring; and (4) restoration that increases marine life in the geographic region of the OTC facility. From CCKA's calculations, using OPC and State Water Board data, the overall OTC mitigation allocation to the OPC is $27 million with $24 million committed to projects. Of the $24 million committed, $8 million has gone towards enforcement; $6.4 million has gone to research; $5.8 million has gone to education and outreach; only $2.8 million has gone towards restoration projects; and $1.1 million has gone to administrative costs.	The commenter's data on interim mitigation allocation to the OPC is correct. However, the comment does not take into consideration the interim mitigation allocation to the SCC, which dedicates its funding directly to restoration projects. Per Resolution No. 2015-0057, the first 5.4 million dollars of interim mitigation payments are directed to the OPC, and any amount above this number should be directed to the SCC. The SCC's 2023 Once-Through Cooling Mitigation Annual Report states that from the 2015-2016 interim mitigation cycle to the 2020-2021 interim

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		Only one of the four MPA programs, the restoration program, is true compensatory mitigation for marine life harm caused by OTC power plants. The restoration component of the program has proven to be grossly inadequate and severely underfunded. Very few projects have gone forward even though there is tremendous need for restoration in proximity to OTC power plants, especially in southern California.	mitigation cycle, a total of $6,792,359 has been transferred to the SCC from the OPC.[16] Further, the OTC Policy defines restoration projects as projects to restore marine life lost through impingement mortality and entrainment from cooling water intake structures. Restoration of marine life may include projects to restore and/or enhance coastal marine or estuarine habitat, and may also include protection of marine life in existing marine habitat, for example through the funding of implementation and/or management of Marine Protected Areas. Additionally, please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations and project selection through revisions to the interagency MOU between the State Water Board, OPC, and SCC.
CCKA and NRDC	3.14	Coastal wetlands restoration near OTC power plants are our top restoration priorities, but the funds can go for rocky intertidal, eelgrass, kelp, and oyster reef restoration projects where appropriate.	Comment noted. Additionally, please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations and project selection through revisions to the interagency MOU between the State Water Board, OPC, and SCC.

[16] State Coastal Conservancy. 2023. Once Through Cooling Interim Mitigation Fee State Coastal Conservancy Annual Report – August 2023. Sacramento, CA: State Water Board.

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CCKA and NRDC	3.15	Huntington Beach, Ormond, Scattergood, Redondo, Haynes, Harbor, and Alamitos all continue to operate as OTC facilities. Despite the billions of gallons of ocean water sucked from the Pacific annually from these plants, there has not been significant mitigation in these areas. In particular, the Los Cerritos, Ballona and Ormond Beach wetlands are potential mitigation sites that could have been used to mitigate the loss of trillions of marine animals since the OTC policy passed in 2010. To be clear, we do not think all of the restoration fees should be spent only on wetland restoration projects.	Comment noted. According to the SCC's 2023 Once-Through Cooling Mitigation Annual Report, SCC staff has begun scoping funding resources for the Ormond Beach Wetland Restoration Project. Additionally, the SCC will recommend a grant of approximately $32 million to implement the first phase of the Los Cerritos Wetlands Restoration Project, using six million dollars from interim mitigation payments. Please consult the report for more information.
CCKA and NRDC	3.16	Of the four mitigation programs, Restoration projects have not successfully moved forward and there are a number of reasons why. First, the OPC and SCC need to work together much more closely on restoration projects and the State Water Board needs to provide far greater oversight of restoration programmatic efforts. The harm from OTC operations is continuing without mitigation. California needs to expedite restoration projects and the State Water Board needs to ensure that projects are being identified, funded and constructed as soon as possible. The State Water Board needs to seek better accountability from the OPC and the Coastal	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations and project selection through revisions to the interagency MOU between the State Water Board, OPC, and SCC. Additionally, the State Water Board will consider comments related to the role of the State Water Board in overseeing the programmatic efforts of the OPC and SCC at that time. The OPC and the SCC submit annual reports to the State Water Board that detail the use interim mitigation funds. These reports can be found on the interim mitigation webpage under Annual Reports – Use of Funds.

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		Conservancy on OTC mitigation program performance.	
CCKA and NRDC	3.17	To-date, decades worth of OTC marine life harm has yet to be mitigated through restoration projects. We recommend there be milestones for restoration project identification, fund allocation, design and implementation. The annual review of the OTC program must be more rigorous than just a report from the Conservancy and OPC. For example, why has MPA enforcement not been held accountable for not providing basic information. Why haven't restoration projects moved forward more quickly and what barriers are in the way preventing projects from being constructed immediately. Mitigation urgency must be a priority. The Coastal Commission, and the recent interagency working group for desalination streamlining, has taken the position that mitigation project completion needs to be done before desalination projects can even be allowed to operate. Yet the OTC program has allowed over 13 years of ongoing harm with negligible mitigation of severe marine life losses. It's time the state got serious about moving restoration projects forward as soon as possible to mitigate for the ongoing damages from OTC facilities.	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations through revisions to the interagency MOU between the State Water Board, OPC, and SCC. Additionally, the State Water Board will consider comments related to the role of the State Water Board in overseeing the programmatic efforts of the OPC and SCC at that time. Additionally, the commenter refers to mitigation requirements for desalination facilities, established by the State Water Board via Resolution No. 2015-0053. These mitigation requirements are distinct from those set forth in the OTC Policy and do not apply to the OTC Policy's interim mitigation requirements or the MOU entered into between the State Water Board, SCC, and OPC.

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CCKA and NRDC	3.18	Third, the State Water Board should demand that the OPC and Coastal Conservancy develop an implementation plan with milestones for at least two of the three severely needed and long overdue wetland restoration projects: Los Cerritos, Ormond Beach and Ballona Wetlands. Restoration projects at each of these sites have been prioritized, discussed, and designed for over thirty years.	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations through revisions to the interagency MOU between the State Water Board, OPC, and SCC. Additionally, the State Water Board will consider comments related to the role of the State Water Board in overseeing the programmatic efforts of the OPC and SCC at that time. Please refer to the response to comment 3.15 for a discussion of how the SCC is addressing restoration efforts in Ormond Beach and the Los Cerritos Wetlands.
CCKA and NRDC	3.19	We want to be clear that the existing $5.4 million allocation to the OPC and the current MPA funding programs should be maintained, but with the increase in the mitigation fee, the state should be able to allocate at least half of the mitigation to go towards compensatory restoration and restoration projects that help enhance our MPAs – without reducing the $5.4 allocation to the OPC. If the increase will result in approximately $15 to $17 million annually, as we expect, then 50 percent of the overall funds will result in an increase of $2 to $3 million annually for MPA management.	Please refer to the response to comment 1.7 for a description of how the State Water Board will address interim mitigation payment allocations through revisions to the interagency MOU between the State Water Board, OPC, and SCC. Additionally, the State Water Board will consider comments related to the role of the State Water Board in overseeing the programmatic efforts of the OPC and SCC at that time.

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CCKA and NRDC	3.20	The efficacy of the MPA enforcement program is difficult to determine. There have not been a lot of fines levied for MPA violations. Also, the Decadal Management Review did not include a rigorous analysis of the MPA enforcement program. The state cannot adequately determine whether all 124 MPAs have adequate enforcement or if there is a big difference between enforcement by region. Also, the state does not know whether MPA enforcement led to a decline in the number of violations in each MPA each year. Without this information, it is difficult to determine how effective the MPA enforcement program is for deterring illegal activity in MPAs. Also, one long overdue change is that there is no data on the efficacy of public reporting of violations from efforts like MPA Watch and the actions of the Department's enforcement unit. Systematic tracking of the percentage of public complaints of MPA violations leads to compliance actions from the Department is long overdue.	Comment noted.
CCKA and NRDC	3.21	Finally, the OPC's OTC mitigation funding for science and MPA outreach has been terrific and helpful to the overall MPA program. The research and monitoring investments were extremely helpful in filling scientific gaps for the DMR. And for community engagement – the program promoted the importance of MPAs to hundreds of	Comment noted.

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		thousands of people. Also, the Tribal Marine Stewards program, which has received some OTC funding over the years, has become a success story for government-to-government cooperation to monitor marine resources, and we hope it leads to co-management of MPAs in the future.	
Coastal Quest	4.01	Coastal Quest writes to provide strong support for the Interim Mitigation Update and for the Once-Through Cooling Mitigation Program, and in particular, the use of mitigation funds for outreach and education to increase compliance and stewardship of California's Marine Protected Area Network.	Comment noted.
Coastal Quest	4.02	Through the California Ocean Protection Council and OTC mitigation funds, Coastal Quest has received funding to administer three rounds of **the CA Marine Protected Area Outreach and Education Small Grants Program**, with the first round starting in 2017 and the most recent round of grants disbursed in 2023. Since its inception, this program has distributed over $2 million of public funding and $570,000 of private matched funds to support programs that will increase compliance of MPA rules and regulations through outreach and education programs. Much of the resources from this program go directly to supporting fishermen, K-12 students, and recreational participants of California from both	Comment noted.

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		coastal and inland communities, providing them with access to the coastline and opportunity to learn science and stewardship through the lens of an MPA, and as a result, enhancing compliance outcomes. Through OTC Mitigation Funds, this past year of grants specifically focused supporting outreach and engagement efforts for California Native American Tribes and Tribal Organizations, communities in need of environmental justice, and communities underserved by Marine Protected Area management. Some of the other positive outcomes of the program include: • Equity and inclusion, funding programs that provide outreach and education to underserved and disadvantaged communities. In Round 2, 16 tribes were engaged across the State. • Engagement with recreational and commercial fishermen. In Round 2, 5,000 boater kits were distributed in English and Spanish. • Creation of digital tools and online technologies to bring MPAs to classrooms and homes. In Round 2, this led to 515,000 views from 9 videos produced, and 1.2 million online impressions and engagements.	

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		• Programming that supports K-12 audiences and other recreational visitors to MPAs. In Round 2,6,500 students were reached, and 22 new lesson plans were created, impacting 140+ schools.	
Coastal Quest	4.03	Coastal Quest also supports the use of OTC mitigation funds for the designation of Areas of Special Biological Significance, 34 ocean areas monitored and maintained for water quality by the State Water Resources Control Board. Since 2021, Coastal Quest has been collaborating with the State Water Resources Control Board to improve methods to designate Areas of Special Biological Significance, and support new designations. This work has included creating a pilot GIS tool that consolidates data sources that can support new ASBS designation or the review of ASBS designations, and providing the State Water Resources Control Board with policy suggestions to improve and simplify the designation process. Some of the positive outcomes of designating new ASBS could be: • Water quality improvements • Biodiversity preservation • Support of the beneficial uses of coastal waters	Comment noted.