Revised Draft Response to Comments

on the

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

State Water Resources Control Board
December 14, 2010

COMMENT LETTERS RECEIVED

Public Comments received by November 19, 2010 by 12 PM noon

Letter No.	Date Received	Association	Representative	Support Amendment?
1	10/04/10	General Public	Don Heichel	No
2	11/09/10	Los Angeles Area Chamber of Commerce	Gary Toebben	Yes
3	11/10/10	Central City Association	Carol Schatz	Yes
4	11/10/10	Hollywood Chamber of Commerce	Leron Gubler	Yes
5	11/11/10	Valley Vote	Joe Vitti	Yes
6	11/15/10	Konoike Pacific California, Inc.	Robert J. Smola	Yes
7	11/15/10	McCarthy*Cook & I & G Trident Center Property Owner, LLC	Penny Sutton-Maraglia	Yes
8	11/15/10-11/16/10	288 letters similar to the letters submitted by members of California CoastKeeper Alliance, Sierra Club California, and Surfrider	General Public	No
9	11/17/10	ADM Milling	Brian Williams	Yes
10	11/17/10	Building Owners and Managers Association of Greater Los Angeles	Michele Dennis	Yes
11	11/17/10	Digital Realty Trust	Angela Camacho	Yes
12	11/17/10	Greater Los Angeles African American Chamber of Commerce	Gene Hale	Yes
13	11/17/10	Los Angeles Police Protective League	Paul M. Weber (2)	Yes
14	11/17/10	Morlin	Tom	Yes
15	11/17/10	National Oceanic and Atmospheric Administration National Marine Fisheries Service	Steve Edmondson	No
16	11/17/10	One Park Plaza Management Office	Ruth Mo	Yes
17	11/17/10	Pratt & Whitney Rocketdyne Inc.	Vasile Iftime	Yes
18	11/17/10	See's Candy Shops, Inc.	Greg Ward	Yes
19	11/18/10	SWC 800 Wilshire LLC	Anthony W. Kuhns	Yes
20	11/18/10	Valley Industry and Commerce Association	Daymond Rice Stuart Waldman	Yes
21	11/19/10	AES Southland	Eric Pendergraft	Yes
22	11/19/10	California State Assembly	Assemblymember Steven C. Bradford	Yes

23	11/19/10	California Coastkeeper Alliance	Linda Sheehan	No
		Santa Monica Baykeeper	Liz Crosson	
		Clean Water Action	Jennifer Clary	
		Sierra Club California	Jim Metropulos	
		Pacific Coast Federation of Fishermen's Association	Zeke Grader	
		Food and Water Watch	Adam Scow	
		Surfrider Foundation	Joe Geever	
		Natural Resource Defense Council	Noah Long	
		California Sportfishing Protection Alliance	Bill Jennings	
		Monterey Coastkeeper	Steve Shimek	
		Coastal Environmental Rights Foundation	Marco Gonzalez	
		San Diego Coastkeeper	Gabriel Solmer	
		Russian Riverkeeper	Don McEnhill	
		Ventura Coastkeeper	Jason Weiner	
		The Otter Project	Heather Cauldwell	
		Alliance for Nuclear Responsibility	Rochelle Becker	
		Orange County Coastkeeper	Colin Kelly	
		Southern California Watershed Alliance	Conner Everts	
		Ocean Conservancy	Kaitilin Graffney	
		Wishtoyo Foundation	Mati Waiya	
		San Luis Obispo Coastkeeper	Gordon Hensley	
		Voices of the Wetlands	Patricia Matejcek	
24	11/19/10	California Coastkeeper Alliance	Linda Sheehan	No
		Sierra Club California	Jim Metropulos	
		Surfrider Foundation	Joe Geever	
		Form letter attached from 3,873 members		
25	11/19/10	City of Long Beach, Marine Bureau	Mark A. Sandoval	Yes
26	11/19/10	Coastal Alliance on Plant Expansion	Jack McCurdy	No
27	11/19/10	Crenshaw Chamber of Commerce	Michael S. Jones	Yes
28	11/19/10	Crenshaw Christian Center	Allen Crabbe	Yes
29	11/19/10	Dynegy Inc.	Daniel P. Thompson	Yes
30	11/19/10	El Segundo Power LLC and Cabrillo Power I LLC	Stephen Hoffmann	Yes
31	11/19/10	Heal the Bay	Mark Gold	No
32	11/19/10	Los Angeles Department of Water and Power	Austin Beutner	Yes
33	11/19/10	Mirant Delta, LLC	Peter Landreth	Yes
34	11/19/10	RRI Energy	Fred McGuire	Yes
35	11/19/10	Southern California Edison	Michael M. Hertel	Yes
36	11/19/10	United States Environmental Protection Agency	David Smith	No

Comments and Responses

Comments from Federal Agencies:

Letter 36: Letter from David Smith of the United States Environmental Protection Agency (USEPA) received on November 19, 2010.

Comment 36.1:
We support the existing Policy, which provides compliance alternatives for existing power plants that are based on either the use of closed-cycle wet cooling systems or achieving a comparable level of reduction of impingement mortality and entrainment of marine life as would be achieved by use of closed-cycle wet cooling systems. We believe the existing Policy is consistent with section 316(b) of the Clean Water Act (CWA), which requires that standards for cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact.
Response 36.1:
Comment noted. Staff appreciates the support for the existing Policy.

Comment 36.2:
The materials provided with the proposed amendment to the existing Policy do not clearly explain why the amendments are needed at this time and would not unnecessarily weaken water quality protection. We recommend that the State Board reconsider whether amendments to the policy are needed and, if so, take the time to produce a revised amendment, staff report and supporting materials that better demonstrate the basis and need for the policy amendments.
Response 36.2:
The proposed amendment is not intended to weaken protections for marine and estuarine life. While staff acknowledges that the implementation of BTA may be postponed for certain plants and that additional impingement and entrainment may occur during the longer interim period, the additional interim requirements are intended to assist in minimizing any additional impacts.

Comment 36.3:
Insufficient evidence is provided that fine-mesh screens reduce entrainment and impingement to a level commensurate with closed-cooling wet cooling systems.
Response 36.3:
The amendment does not require that fine-mesh screens reduce entrainment and impingement to a level commensurate with closed-cooling wet cooling systems; fine mesh screens or equivalent measures are not intended to substitute for BTA. The amendment simply requires that the reduction in entrainment and impingement be maximized during the interim period prior to final implementation of BTA. However, staff does agree that additional evidence may be needed regarding the effectiveness of fine-mesh screens in reducing entrainment and impingement.

Comment 36.4:
Complying by paying mitigation fees is inconsistent with the findings of the *Riverkeeper II* case, in which the 2nd Circuit Court of Appeals concluded that the CWA does not allow for BTA to be achieved through mitigation.
Response 36.4:
The compensation required for uncontrolled OTC flows ($3 per million gallons of intake water) is not “mitigation fees” in lieu of complying with the Policy, but rather compensation required to

fund restoration projects to mitigate for interim impacts until full compliance is achieved. It is not a substitute for implementing the established BTA. The $3 per million gallons conpaensation is intended to provide immediate annual compensation upon approval of an implementation, when applicable, rather than waiting for five years as is required in the Policy now.

Comment 36.5:
The amendment package does not clearly explain why the additional alternatives provided by the proposed amendment are necessary to address the operating constraints of combined-cycle facilities.
Response 36.4:
Combined-cycle units represent an investment by utilities in newer technology that is much more water-and fuel efficient than the older steam boilers and have less of an environmental impact per amount of energy produced. The unique characteristics of combined cycle units were discussed in the final SED.

Letter 15: Letter from Steve Edmondson of the National Oceanic and Atmospheric Administration/National Marine Fisheries Service received on November 17, 2010.

Comment 15.1:
We recommend that the State Water Board reject the proposed amendment, giving the properly developed Policy a chance to work.
Response 15.1:
The no action alternative is an option for the Board to consider. Staff has already initiated implementation of the Policy, including notifying the power plants regarding the content and deadline for submitting their implementation plans. Regardless, the Board will have the opportunity to make further decisions after having reviewed the implementation plans which are due April 1, 2011.

Comment 15.2:
Numerous Federal and State agencies as well as public and private entities, including the power plant owners and operators, worked for over five years to develop the OTC policy. Alternative cooling systems for California's OTC power plants and the electric grid reliability impacts of the OTC policy were evaluated and considered in the deliberations of the OTC policy. Provisions were included in the OTC policy to adjust the prescribed compliance dates in order to insure electric grid reliability, if the power plant owner or operator shows that the compliance date would threaten reliability. The proposed amendment removes this requirement and allows any owner or operator to request a suspension of their compliance date without needing a reason.
Response 15.2:
While not specifically specified in the amendment, an owner or operator must, in order to receive an extension of their final deadline, provide a very good reason for requesting this extension. The extension must be reviewed and recommended by SACCWIS and approved by the State Water Board. No requirements relating to grid reliability are removed.

Comment 15.3:
The rationale behind the proposed amendment is to "Provide additional flexibility to owners or operators of facilities complying with Track 2 Policy requirements, with special considerations given to facilities with combined-cycle units." The current Policy already provides significant flexibility for both short and longer term suspensions of the Policy's compliance dates, rendering the rationale behind the proposed amendment moot. The amendment only serves to open the door for any power plant to submit a request to extend their use of OTC beyond December 31, 2020. No guidelines for making or denying these requests are presented in the amendment,

leading us to conclude that approval is likely to be automatic. This will not result in protection of the designated beneficial uses of the State's waters and may generate more entrainment and impingement impacts than the current OTC policy, as noted in recommendation three on page 7 of the Staff Report for the amendment.

Response 15.3:

Staff agrees that the current Policy already provides significant flexibility for both short and longer term suspensions of the Policy's compliance dates. More flexibility has been requested by various owners/operators for cost and feasibility reasons. While any owner or operator may request an extension beyond December 31, 2020, requests must be supported, and only those who provide a very good reason for requesting this extension will be considered. Although not specified in the amendment, the extension must be reviewed and recommended by SACCWIS and approved by the State Water Board. Approval will not be automatic.

Comment 15.4:

The proposed amendment could result in take of species protected under the Endangered Species Act such as juvenile salmon and steelhead trout and the pelagic larvae of white and black abalone. The Proposed Amendment would also result in additional impacts to essential fish habitat (EFH) as defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Essential fish habitat is defined in the MSA as "Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Under Section 305(b)(4)(A) of the MSA, when NMFS finds that a federal or state action would adversely affect EFH, it is required to provide conservation recommendations.

Response 15.4:

The overall goal of the existing Policy is to reduce impacts to marine and estuarine life. While the amendment may not be as protective as the existing policy, it still would result in an overall improvement compared to CEQA baseline conditions described in the SED. Staff acknowledges that by extending the compliance dates that an incremental level of take of threatened or endangered species may occur. Interim requirements are intended to minimize harm resulting from the impacts of once through cooling.

Comment 15.5:

The proposed amendment establishes a fee-for-permit structure by allowing a power plant owner or operator to pay $3.00 per million gallons of water withdrawn annually. It is not clear if this structure would result in mitigation funding at sufficient levels to plan, permit, implement and monitor the needed mitigation projects to offset the OTC impacts from the amendment in a timely manner. No analysis of the newly proposed fee-structure and its benefits or drawbacks is conducted to support the amendment. Several years of funding would likely be needed to build up before sufficient reserves are available for implementation. In the meantime, impacts to the aquatic life beneficial uses of the State and to essential fish habitat would continue.

Response 15.5:

Staff acknowledges that the benefits and drawbacks to the newly proposed mitigation funding were not analyzed in the Staff Report. It is therefore not known whether a compensation of $3.00 per million gallons of water withdrawn annually would be sufficient to offset any impacts to marine life from OTC, especially given the site specific characteristics of each power plant, both operational and biological. The $3.00 per million gallons compensation was calculated based on the overall mitigation costs at one power plant and amortized over a 30-year period. The empirical transport model and habitat production foregone was not calculated for each power plant and therefore the $3.00 figure was an estimate based on certain factors. Staff also acknowledges that the 30-year amortization period may result in relatively low annual payments that would not be sufficient to provide immediate offsets. Environmental benefits resulting from the Policy are intended to be long-term.

Comment 15.6:
It is not clear if an owner or operator electing to extend the use of OTC at their facility would be required to conduct monitoring to determine the appropriate size of the mitigation through a habitat production foregone or equivalent analysis. As the record for the current OTC policy shows, this is a crucial component to protecting beneficial uses and essential fish habitat. If these provisions are meant to remain in force for all facilities, including those electing to suspend their compliance date, the Proposed Amendment needs to be rewritten to make this explicitly clear.
Response 15.6:
The amendment specifically states in Section 2.C.(3) that an owner or operator paying the mitigation funds required under the amendment ($3.00 per million gallons of water withdrawn annually) is not also required to conduct monitoring to determine the appropriate size of the mitigation through a habitat production foregone or equivalent analysis.

Comment 15.7:
The new implementation provisions in the proposed amendment also allow the owner or operators to avoid the mitigation fee structure by conducting pilot scale feasibility studies of fine-mesh screens or equivalent measures to maximize the reduction of impingement and entrainment. The proposed language does not define "maximize" nor prescribe how to mitigate for the impacts not addressed by the pilot scale projects. The amendment does not restrict the pilot studies to a set time period before they must be shown to work or be terminated. It is foreseeable that a facility could engage in a series of pilot projects without ever truly minimizing or mitigating for their OTC impacts, until the useful life of the facility is reached. This is obviously not protective of the beneficial uses of the waters of the State, or protective of essential fish habitat.
Response 15.7:
Staff acknowledges that “maximize” was not defined and that it would be beneficial to provide a definition. Under the amendment, an owner or operator who installs fine-mesh screens or equivalent effective controls would be deemed in compliance with the Policy for the useful life of the facility and not need to mitigate further. While the amendment does not specify a time period for conducting pilot-scale feasibility studies of fine-mesh screens or equivalent measures, these would be specified in each facility’s permit, which is subject to public review and comment.

Comment 15.8:
The current Policy was determined to be effective on October 1, 2010. A series of actions *(e.g.,* submission of proposed implementation plans, establishment of review committees) is set to begin under the Policy as soon as three months after the effective date. The proposed amendment would effectively terminate these actions or render them next to meaningless.
Response 15.8:
The proposed amendment would not render the Policy moot. The State Water Board has sent letters to the owners and operators of fossil-fueled OTC facilities to request the submittal of implementation plans, and information on how these facilities plan to comply with interim requirements. Some of these facilities are also being asked to submit other information needed to renew their expired permits. In addition, the nuclear facilities have been requested to conduct special studies as required by the Policy. The State Water Board has also taken action to convene the SACCWIS and the Review Committee, which will be reviewing the information submitted by the plant owners or operators.

Comment 15.9:
To our knowledge, no new information has been generated or brought forward in the SWRCB process to justify the proposed amendment. The amendment throws out the vetted and approved compliance date suspension process without a single test case, in favor of an undefined approval process for continuing impacts to designated beneficial uses and essential fish habitat for the useful lives of the facilities.
Response 15.9:
The intent of the amendment is to allow operators and owners to request extensions (if justified appropriately) beyond December 31, 2020, but to have these dates reviewed by SACCWIS and approved by the State Water Board, as currently required by the Policy.

Comments from Environmental Organizations:

Letter 23: Letter from Linda Sheehan of the California Coastkeeper Alliance and 21 other undersigned environmental groups received on November 17, 2010.

Comment 23.1:
Unlike the clear, independently supported, intensively participated-in analysis underlying the Policy, the Amendment was hurriedly developed (with no new information) after a political attempt to undermine the Policy by AB 1552, a gut-and-amend bill introduced in the waning hours of the legislative session, and by direct legislator pressure on the State Water Board. As a matter of public policy and consistent governance patterns, the Amendment should be rejected on these grounds alone.
Response 23.1:
The Board will consider whether to adopt the amendments based upon a public process that will include consideration of comments presented. Staff believes that the Amendment is not in violation of any State of federal law or regulation.

Comment 23.2:
We urge the Board to reject the proposed Amendment in its entirety, and move forward with full implementation of the Policy immediately. If the State Board believes that it must pursue amendment of the just-adopted and carefully developed Policy, we recommend that action be deferred at a minimum until after the required Implementation Plans are submitted by the April 1, 2011 deadline, which is only a few months away. There is no harm to the regulated community in simply developing these soon-due Implementation Plans and allowing them to inform the compliance discussion. By contrast, adoption of the Amendment as proposed will cause significant, lasting harm on California's coastal, estuarine, and marine ecosystems. With the Implementation Plans (which under the Policy may include requests for deadline extensions needed to ensure grid reliability) in hand, the State Board may have useful, new information before it to consider any potential adjustments in deadlines. If identified based on such new information, adjustments to the Policy could also be considered in a measured public process that includes proper environmental review and documentation. Preempting that process before it has begun, as is proposed by the Amendment before us, is unsound, unsustainable policymaking that violates numerous state and federal laws.
Response 23.2:
Comment noted. The no-action alternative is one that the Board will consider.

Comment 23.3:
The Amendment ignores the fact that, almost 40 years after adoption of Clean Water Act Section 316(b), OTC is still being used on a massive scale, causing significant, ongoing environmental impacts. The Amendment would allow these significant impacts—the control of

which the regulated community has already successfully avoided for 38 years—to continue for many more, in the name of additional compliance "flexibility" for the regulated community.

Response 23.3:

Staff strongly agrees that OTC causes significant environmental impacts to marine life. Staff developed the existing Policy with the full intent of controlling these impacts to acceptable levels. The Amendment would not nullify the Policy, but would rather allow more flexibility in the method and timing of compliance actions, while requiring mitigation of interim impacts.

Comment 23.4:

The Amendment is an about-face from the current Policy and is unsupported by new information in the Staff Report. The Policy was a balanced, thoughtful compromise that was well-supported by extensive studies and public outreach efforts, and by the support of involved government agencies including, significantly, USEPA. The Policy's adopted implementation schedule was crafted with extensive input from the regulated community and state energy agencies to provide the certainty and time that the industry asserted was needed to protect grid reliability while upgrading facilities as needed. The Policy provides for a clear public process by which the deadlines in the schedule may be carefully reviewed by both the energy regulatory entities and the State Water Board in the event that industry raises specific concerns about newly arising reliability issues. This defined process for change in the timeline allows flexibility, while preventing constant reshuffling that would cause confusion and uncertainty for plant owners and operators. It is inexplicable that the Board would issue such major amendments to a painstakingly developed Policy before it had received new information on the record to justify these substantial changes. Under the Policy, plant owners are required to submit Implementation Plans by April 1, 2011. Based on the information in those Implementation Plans, it is conceivable that the Board, in consultation with the state energy agencies, may decide to modify the schedule as a result of reliability issues raised in the plans. Without such information or basis, the proposed Amendment must be dismissed.

Response 23.4:

Staff appreciates the support of the existing Policy, and agrees that the Policy provides many opportunities to change the compliance deadlines. However, the amendment also allows for additional flexibility in how combined-cycle units may meet Policy requirements. Owners/operators of combined-cycle units claim that it is crucial that these changes be adopted before the required submittal of implementation plans for the affected facilities, so they can incorporate any changes. If the Policy is changed at a later stage, these facilities would need to be given the opportunity to resubmit implementation plans.

Comment 23.5:

The Amendment violates administrative law principles and is arbitrary and capricious. The Amendment fails to reflect the Policy's appropriate implementation of the Clean Water Act's technology-forcing mandate. Further, the scant Staff Report for the Amendment fails the *State Farm* rule by not providing the required "reasoned analysis" for the State Board's abrupt and complete change in course, one that abandons the carefully crafted schedule and allows plants to seek deadlines that extend for many years. Given that the Policy had already considered the issues purportedly being dealt with in the Amendment, and provided rational provisions to accommodate the choices made that are now being reversed, there is no justification for not adhering to the *State Farm* court's directive "that those policies will be carried out best if the settled rule is adhered to."

Response 23.5:

Staff disagrees. The commenter has failed to prove how the Amendment violates administrative law principles and why the Amendment is arbitrary and capricious.

Comment 23.6:
The Amendment violates the Clean Water Act by illegally allowing regulated entities to avoid compliance with BTA in a time "as short as possible". Under the Amendment, existing combined-cycle units would no longer be required to demonstrate that compliance with "Track 1" BTA is infeasible, and instead would be allowed to use OTC until the end of the unit's useful life, meaning they would be allowed to avoid compliance with the Clean Water Act as long as they operate the unit. These units can easily last at least 50 years or more. At best, the screen studies and fee payments can be characterized as "illegal mitigation in lieu of BTA," though that would require a fairly loose use of the term "mitigation" given the miniscule fee involved. That the payments would start immediately, rather than five years away, does not change these facts. As Table 6 of the SED shows, these plants do not automatically result in lower impacts to the environment. Moreover, the Tetra Tech feasibility study cited in the SED specifically found that closed cycle wet cooling is "technically and logistically feasible" for Harbor, Haynes and Moss Landing. The economic analysis on pages 122-123 of the SED further support the economic feasibility of Section 316(b) compliance by these facilities.

Response 23.6:
Staff does not believe that the Amendment violates the Clean Water Act. The amendment does not eliminate the requirement that BTA be implemented, but it does allow for longer compliance schedules for certain plants. Under the Amendment, in order to continue to use OTC during the interim (until BTA is installed), existing combined-cycle units must either install fine-mesh screens, or if infeasible, compensate by paying for interim mitigation during the useful life of the unit. While "useful life" is not defined in the amendment, this time period must be approved by the State Water Board.

Comment 23.7:
The Staff Report fails to provide even the minimum level of meaningful support for the Amendment. Instead, the basic message is simply that the Amendment ostensibly is needed to "provide additional flexibility" of compliance options. The Staff Report attempts in vain to justify the special treatment for combined cycle facilities, for example, by noting that they "generally use less cooling water than the older steam boiler units to produce the same amount of electricity," and that they "produce lower air emissions for most pollutants and carbon dioxide than the older" units. While efficiency of generating operations and reductions in air pollutants are laudable goals, they cannot be cited to "trump" Section 316(b)'s mandated BTA requirement.

Response 23.7:
While the efficiency of power-generating units and reductions in air pollutants do not trump the need to protect marine resources from OTC impacts, they may be considered as factors when regulating power plants. Staff believes that special consideration can be afforded combined-cycle units while simultaneously providing protections for all beneficial uses of marine and estuarine waters.

Comment 23.8:
The credibility and legality of the Amendment is further undermined by its proposal to allow a similar, lengthy exemption for all other fossil-fueled OTC plants. The Amendment would allow these plants to seek indeterminate compliance deadline schedules, not based on grid reliability, but instead based on compliance "flexibility." This would be allowed in exchange for a nebulous and distant "commitment" to eliminate the use of OTC upon repowering at some undetermined future date well past the just-adopted Policy schedule. Any plant could already request a new deadline in its Implementation Plans under the current Policy through a public process, if in order to ensure the stated goal of continued grid reliability. What the Amendment would add is a new priority: compliance "flexibility" for those facilities that assert that they will repower and

consider the use of closed cycle cooling at some future date past their deadline. The Staff Report does not state the relationship between this new compliance flexibility and the intent and mandate of the Policy to achieve compliance in a time "as short as possible" consistent with grid reliability. The Amendment could allow multiple entities to stake out distant repower dates unrelated to reliability, thereby potentially leading to a grid-threatening crunch at the end of the collective implementation processes. The Staff Report completely fails to provide any meaningful support for the need for these major changes. In addition, the Amendment grants unprecedented authority to the regulated community to select their own compliance dates, in contravention of USEPA's delegation of authority to the state of California.

Response 23.8:

Based on the submitted comments, Staff believes that the amendment should specify the application and approval process for extended compliance deadlines. As the commenter points out, any plant could already request a new deadline in its Implementation Plans under the current Policy through a public process. It was not Staff's intent to change this application process, or the required approval process of any extension; the amendment requires that facilities that are granted extensions beyond December 1, 2020 immediately start paying for mitigation of interim impacts.

Comment 23.9:

The Staff Report asserts that the Amendment is needed to "provide additional flexibility to owners or operators of facilities complying with Track 2 Policy requirements, with special considerations given to facilities with combined-cycle units." This is factually incorrect and legally inadequate on several counts. First, the Amendment is not "needed" because the Policy provides for feasible alternatives, as well as a clear process for seeking deadline extensions if grid reliability becomes an issue. Second, the Amendment does not "provide additional flexibility to owners or operators of facilities complying with Track 2 Policy requirements," because the new "requirements" are not Track 2. They only result in years or decades of delay, with participation in an unproven fine mesh screen pilot feasibility studies or minimal (often illegal) financial payouts as the sole conditions. Track 2 requires a "comparable level" of reduction to Track 1, which is defined as the BTA of closed cycle cooling. The Amendment's barebones conditions on delay are not even remotely close to BTA. The Staff Report contains no analysis of the environmental impacts of extending OTC use for many decades to come (indeed, most of the combined cycle units are some of the highest volume intake water users).

Response 23.9:

Owners and operators of OTC facilities have contended that the flexibility provided by the Policy is insufficient and does not provide enough time to comply with the Policy in a cost-effective manner. This is the rationale for this amendment. It is not staff's intention to re-define BTA, which is clearly defined in the current Policy. However the amendment as currently drafted may allow certain operators to delay implementation of BTA beyond the time implementation schedule in the Policy.

Comment 23.10:

The Staff Report ignores the significant impact on public participation in the regulatory process that the Amendment would implicate. By cementing deadline extensions well past the NPDES permit renewal dates into the permits themselves, the Amendment would prevent the regular public participation that the Clean Water Act envisioned through the NPDES permit five-year renewal process, shutting out the public for potentially decades. The Amendment, which makes major changes to the painstakingly developed Policy on the heels of its final approval, severely undermines future efforts at collaboration among stakeholders and the State Board on policies and permits.

Response 23.10:
Please see the responses to Comments 23.1 and 23.8.

Comment 23.11:
The Amendment fails to comply with the California Environmental Quality Act (CEQA) by, among other things, failing to adequately analyze the environmental impacts of the reasonably foreseeable means of compliance, and failing to consider a reasonable range of alternatives. The Staff Report concludes without support that "[t]he proposed amendment would not affect the identified reasonable foreseeable means of compliance with the Policy." However, the Amendment will clearly change the "method" by which some of the state's power plants will comply with the Policy. For example, the Amendment allows the "owner or operator" of a combined cycle facility using OTC to continue using OTC until the unit reaches the end of its useful life, without the formerly-required showing of "infeasibility" of achieving Track 1. The Staff Report appears to be contending that since the technical options for compliance have not been expanded (i.e., regulated entities will still use analyzed steps such as dry or wet cooling towers, flow controls, etc.), then no analysis is needed. However, it is not relevant here that the Amendment will arguably not lead to a new "method of compliance" with the Policy. What is relevant is that the Amendment will change the "method of compliance" that many facilities will use, and this changed method of compliance will have "reasonably foreseeable environmental impacts." In other words, the owner/operators will change the timing and packaging of controls (if any) that that will use under the Amendment, as opposed to the Policy. Rather than put in cooling towers, for example, owner/operators of combined cycle facilities will simply let the life of their units run out over the next several decades.

The Board also violated CEQA because *there is a "fair argument" that adoption of the Policy will have significant environmental effects, but these effects have never been analyzed in an environmental document.* The Staff Report itself admits that the Amendment is less stringent than the current Policy, could allow facilities longer to reach compliance with Track 1 BTA, and adoption of the Amendment will likely generate more entrainment and impingement impacts than the current Policy. The Staff Report attempts to justify the Board's attempt to avoid its CEQA obligations by claiming that: "[t]he environmental baseline for this amendment is . . . the same as described in the SED for the Policy," purportedly because the "Policy . . . has been adopted and approved, but not yet implemented through NPDES permits for the individual facilities."62 However, this ignores the State Board's mandate under Public Resources Code Section 21159, which specifically requires the Board to assess the environmental impacts of the reasonably foreseeable means of compliance with the Amendment. Given that owner/operators will change their compliance behavior significantly under the far more "flexible" regulatory terms of the Amendment than the Policy, this statutory mandate must be acknowledged and complied with. The State Board must therefore release and circulate a legally adequate Substitute Environmental Document, before it can consider a decision on the Amendment.

Response 23.11:
The Staff Report references the SED since the amendment is within the scope of CEQA analyis performed in the SED; an additional CEQA analysis is not necessary. The proposed policy and SED from March 2010 would have allowed combined cycle units to be deemed in compliance if they reduced intake velocity and complied with the interim requirements (which includes some mitigation if extending beyond the initial 5 years). Furthermore the feasibility demonstration was discussed and considered by the Board throughout the public process.

Comment 23.12:
The Staff Report fails to consider reasonably foreseeable cumulative impacts, as required by CEQA. It is certainly reasonably foreseeable, for example, that all owner/operators of existing combined-cycle units would take advantage of the amendment.
Response 23.12:
Staff believes that the Amendment is generally within the scope of the recently adopted Policy and its SED, and would not cause any adverse environmental impacts, including reasonably foreseeable cumulative impacts, as defined under CEQA.

Comment 23.13:
The Amendment fails to include a reasonable range of alternatives. Instead, it provides and summarily dismisses only a required "No Action" alternative and a cursory "Delay Action" alternative, in addition to the proposed Amendment. A host of potentially reasonable alternatives were not analyzed, such requiring immediate and greater interim mitigation for all plants, transition incentives, ranking extension requests, etc.
Response 23.13:
Staff believes that it included a reasonable range of alternatives in the draft amendment, including a no-action alternative. However, public comments often identify other alternatives to consider.

Comment 23.14:
While we support interim mitigation measures that are written into those permits that have clear, enforceable, effective interim and final BTA-focused deadlines which demonstrably lead to compliance "as soon as possible," we do not support the illegal use of mitigation in place of BTA. The proposed "interim mitigation fee" in Section 2.A. of the Amendment illegally props up an avoidance of BTA for the life of the unit,
Response 23.14:
Please see the response to Comment 36.4.

Comment 23.15:
There is no basis provided in the Staff Report for this apparently randomly selected figure of $3/MG. Examples of such fees for the combined cycle units (calculated assuming that the $3/MG is assessed on an annual basis and using median cooling water flows in SED Table 6) are up to $360,804/yr for Moss Landing, $236,820/yr for Haynes, and $56,160/yr for Harbor. An example of a simple-cycle fossil-fueled plant is $331,686/yr for Scattergood. By comparison, Table 28 of the SED presents a summary of annual facility costs for the plants analyzed by TetraTech: $11,900,000/yr for Moss Landing, $6,000,000/yr for Haynes, and $2,700,000/yr for Harbor. BTA will never be a natural selection for regulated entities if their alternative is delay with (often illegal) fees that are well below the actual costs associated with preventing the devastating impacts of OTC on the environment. In sum, the Amendment's proposed "interim mitigation fee" is an arbitrarily selected number, with no support, explanation or basis in the public environmental documents. It also is not "interim" for the facilities to which it is being applied, and thus is in fact illegal under Riverkeeper II's prohibition against mitigation or restoration in lieu of BTA.
Response 23.15:
The $3.00 per million gallons fee was calculated based on the overall mitigation costs at one power plant and amortized over a thirty year period. The empirical transport model and habitat production foregone were not calculated for each power plant and therefore the $3.00 figure was purely an estimate based on specified factors. Staff acknowledges that the 30 year amortization period may result in relatively low annual payments that would not be sufficient to provide immediate offsets. However the fee is not intended as a substitute for BTA but rather an

interim annual charge to offset impacts until BTA is installed. The payment of the fee does not alleviate the requirement to ultimately install BTA.

Comment 23.16:
The Staff Report's failure to provide – or even cite to – any information on the efficacy of fine-mesh screens as mitigation, or even elucidate the extent to which owner/operators must use the screens (are they short-term studies? are they longer-term mitigation?), emphasizes the arbitrary nature of this selected condition for delaying compliance deadlines many years into the future. Further, the Amendment fails to define the associated reference to the use of "equivalent measures" to fine mesh screens, which creates additional ambiguity and is arguably further evidence of a quickly-drafted and poorly-considered Amendment. Finally, the Amendment provides a further loophole for the owner/operators, allowing any fine mesh screen or equivalent measures implemented to be bypassed on short-term basis. Problems with the use of these screens are in fact readily foreseeable; that is the reason their use is being generally termed a "feasibility study." Solutions have not been developed to date, and regular "bypassing" is predictable.
Response 23.16:
The amendment could be improved to provide additional requirements for the testing and implementation of fine mesh screens and more definition with regard to equivalent measures.

Letter 24: Letter from Linda Sheehan of the California Coastkeeper Alliance submitting 3,873 similar comment letters from supporters of the California Coastkeeper Alliance, Sierra Club California, and Surfrider received on November 19, 2010.

Comment 24.1:
Your recent adoption of the Policy was an important and critical step towards restoring and protecting our marine environment, protecting the integrity of California's electrical grid, and encouraging clean energy for the future. I adamantly oppose the recently proposed amendments to the Policy and request you immediately begin the task of enforcing the current Policy's goals and timelines with no changes to the Policy.
Response 24.1:
The opposition to the Amendment by a large number of people has been noted. Staff appreciates the support for the current Policy, which Staff is already implementing as required.

Letter 26: Letter from Jack McCurdy of the Coastal Alliance on Plant Expansion received on November 19, 2010.

Comment 26.1:
Allowing owners of previously-installed combined-cycle plants to continue using OTC until a unit reaches the end of its useful life under certain circumstances cannot be justified because (a) no evidence is provided to justify or require such continuance beyond compliance dates set forth in the existing Policy and (b) no evidence has been presented that any qualified, independent authority has determined what the "useful life" of any of the combined-cycle or other plants that come under the jurisdictions of the Policy is or may be. Allowing plant owners to specify the expected useful life of the units abdicates the Board's and the state's statutory obligation and commitment to enforce the federal Clean Water Act section 316(b).
Response 26.1:
Staff agrees that "useful life' perhaps could be defined to improve the amendment language. However, note that the specified useful life of a plant must be approved by the State Water Board. The State Water Board has no intent to abdicate its responsibilities and duties under state and federal law.

Comment 26.2:
The amendments would require plants that continue to operate without control measures to submit mitigation funds and to use fine mesh screens or equivalent controls for these units. Those amendments also would require plants operating beyond December 31, 2020, to conduct feasibility studies of employing fine mesh screens or equivalent controls for these units. These are measures that have not been proven effective. Moreover, the authorization of mitigation as stated is deficient and highly objectionable. The Riverkeeper II decision made it clear that mitigation required under the Policy may not be used for "restoration measures." We have earlier expressed strong reservations about use of mitigation because of concern that mitigation funds paid to the water board or regional boards could become habit-forming and might influence the agencies to not pursue aggressively the goal of ending OTC. However, if mitigation, under circumstances that may be permissible under the Riverkeeper decisions, is incorporated into the policy, we strongly believe that it should be used, not to compensate for and potentially prolong OTC, but to assist in development of new alternative energy sources, particularly urban photovoltaic, that would directly serve to replace coastal power plants, especially the oldest and least needed plants, and thereby contribute to earlier attainment of the state's global warming goals.
Response 26.2:
Comment noted. Staff agrees that fine-mesh screen have not yet been proven effective under marine conditions. Staff also agrees that mitigation funds have to be used carefully, but with the goal of mitigating interim impacts. Staff does not believe these funds should be used for alternative energy development.

Comment 26.3:
Overall, nothing in or associated with the amendments explains any rationale for significantly weakening a policy that already fails to require reasonable compliance dates to avert many years of continuing severe marine impacts and that also fails to provide a measure of certainty that those dates will be enforced without the potential of avoidance by plant owners stemming from the vague and imprecise language of the Policy. The amendment would remove any remaining pretense of certainty that the Clean Water Act will be complied with by ending the use of OTC along the California Coast. We therefore strongly oppose the Amendment.
Response 26.3:
The opposition to the Amendment has been noted.

Comment 26.4:
The amendment allows owners to pick and choose among Track 1 and 2, for which there is no justification and simply serves to undermine the integrity of the Policy. In addition, no evidence is cited that combined-cycle plants use less water than other plants and thus have less impact on the marine environment. The facts show that, despite their increase in energy production, combined-cycle plants use proportionally the same amount of water and have the same impacts as other plants.
Response 26.4:
The Staff Report refers to the SED to show the combined-cycle units are more efficient than steam boilers, although they may withdraw more water in total than some conventional facilities.

Comment 26.5:
The feasibility studies of fine mesh screens or equivalent measures to minimize impingement or entrainment are to be overseen by a qualified review panel, but, under the proposed amendment, neither the panel nor the Board is assigned or acknowledged to have authority to regulate, pass judgment on the feasibility of the mesh screens or equivalent measures or

determine which, if any, of such measures may be used for the purposes intended. Of equivalent importance is the lack of any description or definition of equivalent measures, a flaw that could make the amendment unenforceable based on ambiguity.

Response 26.5:

The State Water Board retains the permitting authority to pass judgment on the outcome of feasibility studies and decide what would be deemed an equivalent measure to fine-mesh screens.

Comment 26.6:

No evidence is provided as proof of that mitigation payments will accomplish mitigation of impacts to the marine environment and, therefore, conforms to the Riverkeeper decisions. In fact, the $3 per million gallons fee is not close to being equivalent to the true cost of the damage to the environment from OTC or even the value of the water being used. If any such fee were imposed, which we strongly oppose, a more reasonable plan would be to base it on the gross energy production of the power plant on grounds that OTC does increase generational efficiency by two to five percent.

Response 26.6:

Comment noted. Please see response to Comment 15.5.

Comment 26.7:

Nuclear-fueled power plants as well as gas-emitting plants are both cited as important providers of baseload electricity under "(t)he Global Warming Solutions Act of 2006 (that) requires California to reduce greenhouse gas emissions to 1990 levels by 2020 and then to maintain those reductions." This presumption of ongoing dependency on these sources of electricity unjustifiably ignores the growing volume and significance of alternative energy sources in California, particularly solar. The policy should include some sort of schedule or procedure to phase out OTC plants as alternative sources of energy come on line. The emerging significance of solar as a source of power to enable the retirement of coastal power plants and replace their energy production should be factored into the ongoing OTC policy development in substantive ways that have yet to be achieved.

Response 26.7:

Because the Policy relies on an adaptive management strategy, it would allow for retirement or conversion of OTC plants as alternative sources of energy come on line.

Letter 31: Letter from Mark Gold of Heal the Bay received on November 19, 2010.

Comment 31.1:

We respectfully urge the State Water Board to reject the proposed Amendment. After numerous discussions with the City of Los Angeles and State Water Board staff, we are convinced that the only appropriate path to pursue schedule modifications is the well vetted procedure in the recently approved OTC policy. We understand that the Amendment has primarily been introduced because of concerns raised by LADWP regarding the Policy. Prior to and after adoption of the Policy, we have had several meetings with LADWP to discuss their concerns. The City's commitment to eliminating their reliance on polluting coal for approximately half of the City's energy needs by 2020 is highly commendable, as is their commitment to increase their Renewable Portfolio Standards to 40% by 2020. However, based on the information provided at these meetings, we maintain that their issues can be resolved within the framework of the adopted Policy. We also support the detailed comments submitted by the California Coastkeeper Alliance and associated environmental and fishing groups regarding the proposed Amendment on November 19, 2010.

The Policy represents a reasonable compromise informed by years of exhaustive research and extensive public and partner-agency outreach, and was designed to provide a careful approach that minimizes the impacts associated with once-through cooling, while maintaining grid reliability. Unfortunately, since its adoption, the Policy has been under assault by members of the energy industry. We urge the State Water Board to reject the Amendment because it is not the appropriate place to address LADWP's reliability and timeline concerns. Also, inadequate information has been provided by the City to justify consideration of policy amendments at this time. The State Board should address LADWP reliability and timeline concerns through the existing procedure laid out in the approved policy. There is no harm to the regulated community in simply developing these plans and allowing them to inform the compliance discussion. By contrast, adoption of the Amendment as proposed will cause significant, lasting harm to California's coastal, estuarine, and marine ecosystems.

The Policy provides sufficient flexibility for considering alteration of the compliance timeline due to grid reliability. This approach was developed with extensive input from the regulated community and state energy agencies. The schedule provides the certainty and time that the industry asserted was needed to protect grid reliability while upgrading facilities as needed. The Policy presents a clear public process by which the deadlines in the schedule may be carefully reviewed by both energy regulatory entities and the State Water Board in the event that industry raises specific concerns about newly arising reliability or permitting issues. This defined process for change in the timeline allows flexibility, while preventing constant reshuffling that would cause confusion and uncertainty for plant owners and operators.

Response 31.1:
The opposition to the Amendment has been noted. Please also see the Staff responses to the comments submitted by the California Coastkeeper Alliance and associated environmental and fishing groups. Staff appreciates the support for the existing Policy, and also believes that the Policy already contains considerable flexibility and a clear public process.

Comment 31.2:
The Amendment grants unprecedented authority to the regulated community to select their own compliance dates, in direct contravention of US EPA's delegation of authority to the state of California. The Amendment allows an owner/operator of a combined cycle facility to inform the State Board of its new compliance deadline, with no evidence that compliance with BTA is infeasible. The Amendment further states that OTC may be used "until the unit reaches the end of its useful life. The Amendment provides an opening for power plants to continue using outdated and destructive OTC technologies instead of the BTA well into the future without certainty that BTA will ever be achieved. Leaving this deadline up to the regulated entity is poor public policy, sets a horrible precedent that surely will be exploited by other power generators in California, and is inconsistent with the State Water Board responsibility of environmental protection.
Response 31.2:
Please see the response to Comment 23.8. Staff agrees that "useful life' could be defined. However, note that the specified useful life of a plant must be approved by the State Water Board. The State Water Board has no intent to abdicate its responsibilities and duties under state and federal law.

Comments from Power Companies and Rate Payers:

Letter 32: Letter from Austin Beutner of Los Angeles Department of Water and Power (LADWP) received on November 19, 2010.

Comment 32.1:
The State Water Board has crafted a balanced proposal with compliance options that benefit stakeholders and the environment, and LADWP strongly supports adoption of this Amendment.
Response 32.1:
LADWP's support for the amendment is noted.

Comment 32.2:
The Amendment clearly specifies how facilities can meet the goals of the Clean Water Act and the recently adopted Policy, while allowing a financially sustainable path forward. LADWP must balance the need to operate in an environmentally sensitive manner, to provide cost-efficient power to our ratepayers, and to ensure grid reliability. Without this option, LADWP could not afford to simultaneously achieve 33 percent renewables by 2020, comply with SB 1368 (Green House Gas emission levels for imported power), significantly reduce CO_2 emissions, reduce its coal portfolio, and meet the current Policy deadlines.
Response 32.2:
Comment noted. LADWP's commitment to achieving 33 percent renewables and reducing greenhouse gasses such as CO_2, and other air pollutants is commended.

Comment 32.3:
The financial outlay for renewable energy, air pollution control programs and Policy implementation during the time period 2011 and 2020 will be between $8 and $10 billion, all of which is shouldered by our ratepayers. The amendment with its extended compliance schedule is critical to our city. The Amendment *does* take into consideration the financial impacts associated with the Policy, but it does not, in any way, reduce LADWP's obligations or responsibilities to adhere to the administrative process for all approvals.
Response 32.3:
Staff has no way of verifying the any cost figures provided by LADWP, but accepts that these numbers are probably very high. Staff agrees that the amendment will undoubtedly be of value to LADWP in pursuing their projects and in keeping costs as low as possible. However, the amendment was primarily intended to address the scheduling difficulties with regard to implementing BTA.

Comment 32.4:
LADWP's extended compliance plan must still be submitted for SWRCB approval through the standard public review process. The amendment requires firm commitments during the interim period (until the facility has eliminated OTC). These interim commitments include pilot studies overseen by the SWRCB and an expert review panel, installation of alternative technologies, and mitigation funding, to commence immediately. These interim mitigation measures are designed to enhance marine environment protections and offset impacts resulting from extended OTC compliance schedules.
Response 32.4:
Whether or not the amendment is adopted, LADWP must still submit an implementation plan by April 1, 2011. That implementation plan will be reviewed by State Water Board staff and the SACCWIS, and recommendations will be made to the State Water Board following that review. Staff agrees that the amendment would institute additional interim measures (than what are currently in the Policy).

Comment 32.5:
LADWP recommended corrections to the Staff Report and Notice pertaining to the proposed Amendment. The Draft Staff Report Section 1, third paragraph (Page 2), is in error with regard

to reference to combined cycle units at Haynes and Harbor Generating Stations. These errors should be corrected as follows: "The affected facilities with combined-cycle power-generating units are Haynes Generating Station **(Unit 8),** Harbor Generating Station **(Unit 5)** ..."
Response 32.5:
Staff agrees and will correct the Staff Report.

Letters 2 – 7, 9-14, 16-20, 25, 27 and 28: Letters from Gary Toebben of Los Angeles Area Chamber of Commerce received on November 9, 2010, Carol Schatz of Central City Association received on November 10, 2010, Leron Gubler of Hollywood Chamber of Commerce received on November 10, 2010, Joe Vitti of Valley Vote received on November 11, 2010, Robert J. Smola of Konoike Pacific California, Inc. received on November 15, 2010, Penny Sutton-Maraglia of McCarthy Cook & I & G Trident Center Property Owner, LLC received on November 15, 2010, Brian Williams of ADM Milling received on November 17, 2010, Michele Dennis of Building Owners and Managers Association of Greater Los Angeles received on November 17, 2010, Angela Camacho of Digital Realty Trust received on November 17, 2010, Gene Hale of Greater Los Angeles African American Chamber of Commerce received on November 17, 2010, Paul M. Weber of Los Angeles Police Protective League received on November 17, 2010, Tom of Morlin received on November 17, 2010, Ruth Mo of One Park Plaza Management Office received on November 17, 2010, Vasile Iftime of Pratt & Whitney Rocketdyne Inc. received on November 17, 2010, Greg Ward of See's Candy Shops, Inc. received on November 17, 2010, Anthony W. Kuhns of SWC 800 Wilshire LLC received on November 18, 2010, Daymond Rice and Stuart Waldman of Valley Industry and Commerce Association received on November 18, 2010, Mark A. Sandoval of the Long Beach Marine Bureau received on November 19, 2010, Michael S. Jones of Crenshaw Chamber of Commerce received on November 19, 2010, and Allen Crabbe of Crenshaw Christian Center received on November 19, 2010.

Comment 2.1:
We support the proposed amendment. It is our understanding that the proposed amendments would allow utilities, such as the Los Angeles Department of Water and Power (LADWP), to continue the use of once-through cooling (OTC) technology for newly repowered, highly efficient facilities for the remainder of their useful lives - as long as environmental impacts from that OTC usage are either controlled or mitigated. Furthermore, it allows a compliance deadline beyond the current December 31, 2020 date for utilities that commit to eliminating OTC usage upon repowering their existing units. This would allow LADWP to meet the intended environmental goal of the Policy in a balanced and methodical way that does not financially burden ratepayers during these difficult economic times. The proposed amendment would allow the intended environmental goal of the Policy to be met in a balanced and methodical way that does not financially burden ratepayers during these difficult economic times when we cannot afford it. In order to eliminate the use of OTC by the current Policy's compliance deadline, LADWP would have to accelerate their repowering program by expending $2.2 billion over the next 10 years - resulting in a rate increase of 6%. The amendment would allow the extension of compliance deadlines with appropriate interim environmental mitigation commitments. The serious financial implications of the current Policy on the finances of businesses and economic health of our community cannot be overlooked.
Response 2.1:
Support for the amendment has been noted. Staff cannot verify the quoted costs for compliance with the adopted Policy or the quoted rate increases for LADWP customers, as no justification for these costs or rate increases have been submitted. Staff therefore maintains that the costs of complying with the Policy were reasonably estimated in the SED for the Policy. Staff also believes that the proposed amendment does not change the overall costs of

implementing the Policy (except possibly for combined-cycle units). However, if these costs are spread out over a longer time period, it could result in lower electrical rates for ratepayers, and therefore less of an economic impact to businesses and the community. Note, however, that the impacts to marine life from entrainment and impingement at power plants also have an undefined, but significant, economic effect on the community. The proposed amendment would require that these effects be either controlled as much as possible through fine-mesh screens or equivalent technology or mitigated in the interim by paying for restoration projects. However, it is possible that mitigation funds will not fully compensate for the damage done by the continued use of uncontrolled use of once-through cooling.

Letter 21: Letter from Eric Pendergraft of AES Southland received on November 19, 2010.

Comment 21.1:
AES Southland (AES-SL) is the owner of the largest fleet of OTC facilities in California. The facilities are located in the Los Angeles basin Local Capacity Requirement (LCR) area and represent approximately 18% of Southern California Edison's peak demand, 33% of the total installed capacity in the LA Basin LCR and 40% of the CAISO's projected LCR need in 2011. AES-SL intends to comply with the policy by ultimately replacing its existing fleet with new technology that dramatically reduces or eliminates OTC.
Response 21.1:
Staff applauds AES-SL for their commitment to drastically reduce or eliminate OTC at their facilities.

Comment 21.2:
We applaud the Water Board staff's recognition in the Amendment that efforts to replace or repower the OTC plants need to be phased and that some replacements may need to be completed after the proposed compliance dates in the Policy. This is especially true for the Los Angeles region as it presents a more complex and challenging set of issues, and therefore more time is needed to study and implement replacement infrastructure solutions.
Response 21.2:
The support for allowing deadline extensions has been noted. Staff agrees that facilities in the Los Angeles region face more complex and challenging implementation issues, and therefore may need more time to comply than what is currently indicated in the Policy. It is a business decision of the owner/operators to request and substantiate compliance dates beyond Dec. 31, 2020. Staff wants to point out, however, that deadline extensions are also possible under the Policy.

Comment 21.3:
We do not agree with the requirement in the Amendment that for those units with an approved implementation date that extends beyond December 31, 2020, must fund mitigation beginning immediately rather than five years after the Policy's effective date. Under the current policy, the longer a unit remains in operation, the longer it pays mitigation fees. This alone is sufficient to incent owners to comply with the Policy as quickly as reasonably feasible and it fairly applies the application of mitigation fees across all impacted facilities. A unit that receives a one-year extension to December 31, 2021 does not have an incremental entrainment and impingement impact *immediately.* It only has an incremental impact from January 1, 2021 through December 31, 2021. However, the unit would begin paying mitigation fees approximately four years (October 2011 - September 2015) sooner than the original Policy would require, even though the compliance date was only being extended by one year. Furthermore, there is no guarantee that the market will ultimately need the replacement of a unit that has an approved implementation date after December 31, 2020. In this case, the owner-operator may well decide

to retire the unit prior to the end of 2020. Under the Amendment, the owner-operator of that unit will have needlessly paid mitigation fees for approximately four years as compared to the current Policy. For the reasons cited above, we urge the State Water Board to reconsider the requirement in the amendment to pay mitigation fees immediately for those units that are granted an approved implementation date after December 31, 2020.

Response 21.3:

Staff acknowledges that facilities that have deadlines extending beyond December 31, 2020 would pay proportionally more than facilities that comply earlier. It is a business decision of the owner/operators to request and substantiate compliance dates beyond Dec. 31, 2020. Staff specifically intended to reward facilities that commit to complying earlier.

Comment 21.4:

Throughout this process, AES-SL has demonstrated a high level of cooperation and a reasoned, balanced approach to the Policy development process. We support a regulation that is reasonably feasible to execute and fairly balances the impact to the California economy, environmental protection and the need to maintain a reliable supply of electricity. However, this Amendment along with the last-minute changes to the current Policy at the adoption hearing on May 4,2010, further skew the cost-benefit balance of the Policy, and unfairly target the units that have the least actual entrainment and impingement impacts on an annual basis. The SED for the Policy affirmed and supported the use of design flow as the baseline for impact reductions. Despite this fact, at the policy adoption hearing, the Board and Water Board staff stretched the bounds of its procedural latitude and adopted a last-minute change to the Policy to use actual historical flows as a baseline for Track 2 compliance. This last-minute change makes it nearly impossible for AES-SL to construct a compliance plan that fairly balances the impacts to all stakeholders. AES-SL contends that the most effective and efficient manner the Board and its staff can further its overall objectives is to amend the Policy back to its original form and use design flow as a baseline for reductions.

Response 21.4:

As noted by the commenter, in the SED and during the adoption of the Policy, staff supported using design flow for the reasons stated, instead of actual flows. However, based on the many comments supporting the use of actual flows, the State Water Board made a decision to override staff's recommendation and use actual historic flows instead. This is the prerogative of the State Water Board. Furthermore, this issue of design vs. actual flows is outside of the scope of the proposed amendment.

Letter 29: Letter from Daniel P. Thompson of Dynegy Inc. received on November 19, 2010.

Comment 29.1:

We strongly support the proposed amendments to Section 2.A.(2)(d) that would allow recently installed combined-cycle units, without demonstrating that compliance with Track I is not feasible, to continue to use OTC until the unit reaches the end of its useful life provided certain requirements are met. The proposed amendments regarding combined-cycle units are both appropriate as a matter of policy and consistent with law.

First, the proposed amendments appropriately recognize the unique status of combined-cycle units. For example, Moss Landing's combined-cycle units (Units I & 2), in combination with existing Units 6 & 7, make Moss Landing the largest fossil fuel-fired power plant in California in terms of electrical generating capacity, yet both generating blocks (Units I & 2 and Units 6 & 7) have among the lowest average cooling water flow-to-energy generation ratios of the California OTC power plants.

In addition, the proposed amendments properly recognize the large capital investments recently made in the combined-cycle facilities. As recognized in the SED, these recently installed facilities "are typically amortized over long periods and have likely not been recouped yet." Indeed, the financing of Moss Landing Units I & 2 assumed a 30-year amortization period. Thus, while the Policy does not allow site-specific cost-benefit analyses as permitted under federal Clean Water Act section 316(b), the proposed amendments appropriately recognize cost considerations that are unique to recently installed combined-cycle units.

The proposed amendments also support integration of renewable energy sources into California's energy supply system by ensuring the continued availability of existing plants that provide load following services essential to meeting renewable energy standards.

Response 29.1:

The support for the proposed amendments to Section 2.A.(2)(d) has been noted. Staff agrees that special treatment should be afforded the combined-cycle units for the reasons stated by the commenter. Staff also agrees that the Amendment is consistent with both state and federal law.

Comment 29.2:

We also support the proposed amendments to Section 3.A.(1) that would allow any fossil-fueled power plant, upon approval of a compliance plan that extends beyond December 31, 2020, to continue to use OTC until each unit is repowered by a date specified in the plant's compliance plan. These proposed amendments provide a much needed compliance flexibility option for owners and operators of facilities for which repowering is a commercially viable alternative. Without the proposed amendments, units that may otherwise be repowered may be forced to shutdown prematurely in order to meet the applicable compliance deadline specified in the OTC Policy, thereby wasting investment in existing infrastructure, interfering with integration of renewable energy sources into California's energy supply system, eliminating jobs, and threatening grid reliability.

Response 29.2:

The support for the proposed amendments to Section 3.A.(1) has been noted.

Comment 29.3:

The proposed amendments to Section 2.A.(2)(d) also properly recognize that the decision to develop Moss Landing Units I & 2 was made in reliance on a site-specific Regional Water Board NPDES permit determination, as well as a California Energy Commission (CEC) siting determination, for cooling water intake structures under existing law. At Moss Landing Units I & 2, after extensive site-specific evidentiary hearings and based upon the recommendations of a Technical Working Group, both the Central Coast Regional Water Quality Board (Central Coast Regional Board) and the CEC concluded that closed-cycle cooling was infeasible and that the continued use of OTC did not cause significant adverse environmental impact. In reliance upon the decisions made by the Central Coast Regional Board and the CEC, the Moss Landing owners spent many millions of dollars altering the OTC system for Units I & 2 (including the installation of inclined 5/16 inch fine mesh traveling screens) and providing habitat enhancements that were designed to address the residual OTC impacts of Units I & 2 throughout their operating life. We have paid $7 million to a dedicated fund to be used by the Elkhorn Slough Foundation for the acquisition and permanent preservation of lands that directly impinge on or contribute damaging impacts to Elkhorn Slough, habitat restoration activities, and long-term stewardship of the mitigation projects in perpetuity. Those programs have been successfully implemented: the Elkhorn Slough Foundation has acquired over 2,140 acres and leveraged the initial $7 million to acquire real estate valued at over at $30 million, as well as engaged in phased restoration activities at six properties in the Elkhorn Highlands and a series of wetland properties. Because the residual OTC impacts of Moss Landing Units 1 & 2 after

implementation of BT A have already been offset for the Units' operating life, it is entirely appropriate for the State Water Board to conclude that Moss Landing Units 1 & 2 be allowed to comply with the OTC Policy through the proposed amendments to Section 2.A.(2)(d).

Response 29.3:

Staff agrees that the recent decision to develop Moss Landing Units I & 2 was made in reliance upon the decisions made by the Central Coast Regional Board and the CEC, after extensive public hearings, and under existing law. While this does not acquit Moss Landing owners of the need to be in compliance with any future laws and regulations, staff finds it reasonable to recognize improvements which have resulted in less environmental impact and habitat improvements.

Comment 29.4:

The Board should adopt the proposed amendments at this time. Deferring consideration of the proposed amendments until after the SACCWIS has submitted its first report to the Board, which is not due until October 1, 2011, serves no useful purpose. Instead, delaying adoption of the proposed amendments would only create further compliance planning uncertainty for owners and operators of combined-cycle facilities (and repowering facilities with compliance plans extending beyond December 31, 2020), as well as the SACCWIS, and needlessly require owners and operators of combined-cycle facilities (and affected repowering facilities) to prepare implementation plans by April I, 2011. Delaying adoption of the proposed amendments would also likely delay the immediate payment of the specified mitigation funds by combined-cycle units (and affected repowering units) that choose to comply using the proposed compliance option and for which fine-mesh screen technology is demonstrated to be infeasible.

Response 29.4:

Comment noted. Staff agrees that there are good reasons for adopting Amendment immediately, as stated by the commenter. However, there are also good reasons for delaying any Amendment. A delay would allow the Board to consider the information submitted by the permittees and recommendations by the SACCWIS.

Letter 30: Letter from Stephen Hoffmann of El Segundo Power LLC and Cabrillo Power I LLC received on November 19, 2010.

Comment 30.1:

El Segundo Power LLC and Cabrillo Power I LLC support the Board 's adoption of the proposed Amendment as drafted; supports the consideration made to existing combined cycle OTC plants and steam boiler plants as demonstrated in proposed amendments to Section 2.A(2)(d)(i) -(ii) and Section 3.A.(I)(a)-(c), respectively. NRG West believes that eventual phasing out of once-through sea-water cooling via the long term procurement process will be successful, and will continue to support use of available mitigation and will actively explore the use of different screens and redesign of inflow channels.

Response 30.1:

Support for the Amendment is noted.

Letter 33: Letter from Peter Landreth of Mirant Delta, LLC received on November 19, 2010.

Comment 33.1:

Mirant fully supports the Amendment, and believes that the Amendment provides additional compliance flexibility to three existing combined-cycle generating facilities that utilize once-through cooling.

Response 33.2:

Support for the Amendment is noted.

Comment 33.1:
Mirant believes that similar compliance flexibility should be provided to all of the facilities subject to the OTC Policy. Mirant supports the language additions proposed by RRJ Energy in its comment letter.
Response 33.2:
Staff does not agree that further flexibility is needed and is opposed to extending the combined-cycle approach in the Amendment to other fossil fuel units. See Response to RRI Energy's letter (Letter 34).

Letter 34: Letter from Fred McGuire of RRI Energy received on November 19, 2010.

Comment 34.1:
Amendment must treat steam boiler units with impacts comparable to or lower than the combined-cycle generating facilities the same as the combined-cycle facilities. The stated rationale for the combined-cycle facilities portion of the Amendment is that these units (1) operate more efficiently and thus generally use less intake water for cooling purposes than other OTC facilities, and as a result the combined-cycle facilities have fewer OTC impacts relative to electricity generated, (2) produce fewer carbon emissions, and (3) reflect newer technologies. Based on this stated rationale, we believe any OTC facilities that are comparable to the combined cycle facilities on appropriate criteria (such as low capacity utilization rate (CUR)) should be eligible for the new compliance option. The objective of the OTC Policy and any subsequent amendments should not be the elimination of OTC generation, but the minimization of impacts to the marine environment caused by OTC facilities.

Daily flow rate by itself is an inappropriate measure of impingement and entrainment impacts. Comparing low CUR units with higher CUR units on the basis of each unit's 2006 annual operation, shows that low CUR units have fewer impingement and entrainment impacts over time. Higher CUR units have significantly more opportunities to impinge and entrain than the low CUR units because they operate for more hours during the year and use significantly more seawater for cooling when the time period being reviewed is longer than a day. Seasonal marine variations is another incorrect basis to deny low CUR units the opportunity to comply with the Policy under the Amendment's new compliance track. Actual studies show there is no reason to exclude low CUR units, and particularly RRI's units, from the Amendment's compliance flexibility based on the concern of seasonal variation. Furthermore, the high CUR units will be running at the *same time* as the low CUR units.
Response 34.1:
Thank you for your suggestion. Staff appreciates the submitted detailed comments on why this option should be considered and how the option would be incorporated into the Amendment language. However, Staff and the State Water Board considered this option at length when developing and adopting the Policy, and rejected this option when determining BTA for the reasons stated in the SED.

Comment 34.2:
There is no rationale and guidelines for how to extend a compliance plan past the year 2020.
Response 34.2:
The rationale provided in the Staff Report for allowing owners/operators to extend a compliance plan past the year 2020, was that a lengthier compliance deadline allows for greater compliance flexibility; such as allowing for a phased approach, or different compliance options employed. Staff acknowledges that the amendment does not specify the application or approval process for extended deadlines. Staff intended that the process established in the policy be followed –

that is that the extension be reviewed, and possibly approved, by the SACCWIS and the State Water Board.

Comment 34.3:
The Draft Staff Report states that combined-cycle facilities tend to have fewer marine life impacts relative to electricity generated, as compared to steam units based on Figure 11 of the SED, which shows that the combined-cycle units generally use less cooling water per MWh. However, this metric is not a good representation of a facility's OTC impacts going forward and has other issues as noted in the SED. In discussing whether combined-cycle units deserved special treatment, the SED used a better measure of assessing potential impact, i.e., the unit's OTC design intake capacity relative to nameplate output, as shown in Figure 17 of the SED. This is a more objective metric, and avoids the issues associated with Figure 11. By using this more reasonable and objective metric, Ormond Beach is more efficient on this standard than the Harbor combined-cycle facility.

In addition to this more reasonable metric than what is discussed in the Amendment, there are other reasonable metrics as well. For instance, one can use data from the SED to calculate the *actual* entrainment impacts per MWh and per MW. Site-specific factors, such as where the intakes are located and the amount of organisms in the water being used, are captured in these metrics. In aggregate terms, Ormond Beach's annual entrainment is ten times less than the Moss Landing combined-cycle facility and about a third of Harbor's. This is true for many of the other steam units as well. We believe that any facility which is comparable to the combined-cycle units on these metrics should be afforded the same flexibility as the combined-cycle units.
Response 34.3:
Please see the responses to Comments 29.1, 29.3, and 34.1, above. Staff and the State water Board have considered these alternative metrics when developing and adopting the Policy and rejected these alternatives for the reasons stated in the SED.

Comment 34.4:
The Staff Report also claims that Amendment is justified because the combined-cycle units are "newer technology." This is a change from the SED wherein the discussion was about recent investment. It is worth noting that combined-cycle generation is not new technology in any meaningful sense - it has existed for approximately 30 years, an amount of time that can hardly result in something being called "new." The Harbor units were put into service in 1994, over 16 years ago. The Amendment allows the combined-cycle units to continue to utilize OTC through the "end of their useful life." Yet, the owners of many other units have also made capital investments over the same time frame. RRI made a very large capital investment in purchasing Ormond Beach and Mandalay in 1998 and has made subsequent capital additions to both plants. There is no sound basis to consider the timing and size of investment in the combined-cycle facilities while ignoring the timing and size of investment in other facilities.
Response 34.4:
Staff acknowledges that combined-cycle system technology has existed for may years. However, combined-cycle systems represent "newer technology", when compared to conventional steam boilers.

Comment 34.5:
RRI's units have high availability at over 90%, are fully committed to provide Resource Adequacy capacity to meet summer peak demands, and are routinely called on by the CAISO for reliability purposes. Also, RRI's units have a much wider range of load following capability than the combined-cycle units, which will prove valuable as intermittent resources such as wind and solar generators are integrated into the electric grid. Finally, these facilities provide critical

local reliability services. The contribution the low CUR units make to the electric grid are just as important as the higher CUR units. RRI's Ormond and Mandalay units are comparable or better than the combined-cycles on the criteria used in justifying flexibility for combined-cycle units, and the RRI facilities have markedly less impact on marine life. RRI submits that the Amendment can accomplish the same policy objective by making comparable facilities eligible for the new compliance track. **[RRI submitted suggested changes to the Amendment language, which would afford units with a CUR of 15% or less the same flexibility as afforded the combined-cycle units.]**

Response 34.5:

Staff agrees that RRI's units make an important contribution to California's electricity supply and provide critical local reliability services. However staff does not agree that these units should be eligible for the additional flexibility afforded by the Amendment. Please see the responses to Comments 29.1, 29.3, and 34.1, above.

Letter 35: Letter from Michael M. Hertel of Southern California Edison (SCE) received on November 19, 2010.

Comment 35.1:

SCE supports the proposed Amendment language allowing continued use of OTC provided that it applies to both nuclear units and CAISO-designated fossil units needed for both reliability and renewables integration. The following changes are proposed for Section 2(A)(2)(d): deletion of the phrase "an existing power plant with" and the insertion of the phrase "nuclear-fueled power plants, or other existing power plant* deemed necessary for grid reliability by the CAISO and in concurrence with the Board". The following changes are proposed for Section 2(A)(2)(d)(ii): insertion of the phrase "of an existing power plant*as defined in 2(A)(2)(d)". SCE supports the Board's proposed Amendment to the Track 2 Compliance Path provided that the revised language applies to both nuclear units and CAISO-designated fossil units.

Response 35.1:

Staff disagrees. Fossil-fueled units that do not employ combined-cycle technology, or nuclear plants, should not delay the implementation of BTA until the end of their useful lives. Such an approach would be detrimental to estuarine and marine life and would not comply with Clean Water Act Section 316(b).

Comments from Legislators:

Letter 22: Letter from Assemblymember Steven C. Bradford of the California State Assembly received on November 19, 2010.

Comment 22.1:

Staff of the SWRCB has done a remarkable job in balancing the various concerns and competing interests to develop the current Policy. I further appreciate the SWRCB's willingness to discuss with the regulated community some of the Policy's requirements.

Response 22.1:

Staff thanks Assemblymember Bradford for the kind comment.

Comment 22.2:

It is the Assemblymember's understanding that the proposed amendments to the Policy would allow utilities such as the LADWP to continue the use of once through cooling (OTC) for newly repowered, highly efficient facilities for the remainder of their useful lives as long as the environmental impacts from that OTC usage were either controlled with technology installations

or mitigated. The proposed amendments to the Policy also allow for a compliance deadline beyond the current December 31, 2020 date for utilities that commit to eliminating OTC usage upon repowering their existing units with an accompanying commitment to implement appropriate interim technology and environmental mitigation.

Response 22.2:
The amendment would allow combined cycle power generating units to continue to use OTC for the remainder of their useful lives conditioned on the testing and implementation of fine mesh screens or equivalent measures, or the contribution of interim mitigation funds. The proposed amendments also allow for a compliance deadline beyond the current December 31, 2020, with the same conditions as described above for combined cycle units, as long as the implementation plan is approved by the Board.

Comment 22.3:
The amendment appears to both further the goal of the Policy to reduce and eliminate the environmental impacts of OTC on our marine resources and to allow utilities to phase in the cost of replacing there existing systems in a balanced and methodical way that does not financially burden their ratepayers during these difficult economic times. These Policy amendments are a fair and workable pathway to both ensure the protection of our marine resources and protect the state's residents and businesses from the significant rate increases that would be needed to implement the currently adopted Policy provisions.

Response 22.3:
Support for the amendment is acknowledged. At this point staff is not able to verify that implementation of the Policy will result in a burden to ratepayers. Staff maintains that the costs of complying with the Policy were reasonably estimated in the SED for the Policy. Staff also believes that the proposed amendment does not change the overall costs of implementing the Policy (except possibly for combined-cycle units). However, if these costs are spread out over a longer time period, it could result in lower electrical rates for ratepayers, and therefore less of an economic impact to businesses and the community. Note, however, that the impacts to marine life from entrainment and impingement at power plants also have an undefined, but significant, economic effect on the community. The proposed amendment would require that these effects be either controlled as much as possible through fine-mesh screens or equivalent technology or mitigated in the interim by paying for restoration projects. However, it is possible that fine mesh screens or mitigation funds will not fully compensate for the damage done by once-through cooling.

Comments from the General Public:

Letter 1: Letter from Don Heichel received on October 4, 2010.

Comment 1.1:
As we live in an era of expensive energy, why is dumping heat in the water bodies adjacent to power plants allowed to continue? This warm water needs to be passed through heat exchangers to reclaim the energy for secondary purposes and turn this waste to a productive resource.
Response 1.1:
The comment is not applicable to and outside of the scope of the proposed amendment.

Letter 8: 288 similar comment letters from individuals with no affiliation indicated received on November 15-16, 2010.

Comment 8.1:
See Comment 24.1.
Response 8.1:
Please see the response to comment 24.1.