# 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
July 19, 2011

Prepared July 18, 2011

**Public Comments received by July 5, 2011 by 12 PM noon**

| Letter No. | Date Received | Association | Representative |
|---|---|---|---|
| **1** | 06/29/11 | Los Angeles Department of Water and Power | Ronald Nichols |
| **2** | 07/01/11 | GenOn West, LP & GenOn Delta, LLC | Peter Landreth |
| **3** | 07/05/11 | California Coastkeeper Alliance<br>Santa Monica Baykeeper<br>Clean Water Action<br>Ocean Conservancy<br>Center for Biological Diversity<br>Heal the Bay<br>Pacific Coast Federation of Fisherman's Association<br>Surfrider Foundation<br>California Sportfishing Protection Alliance<br>Southern California Watershed Alliance<br>Natural Resource Defense Council<br>Sierra Club California<br>Pacific Environment | Linda Sheehan<br>Liz Crosson<br>Jennifer Clary<br>Kaitilin Gaffney<br>Miyoko Sakashita<br>Mark Gold<br>Zeke Grader<br>Joe Geever<br>Bill Jennings<br>Conner Everts<br>Noah Long<br>Jim Metropulos<br>Rory Cox |
| **4** | 07/05/11 | AES Southland | Eric Pendergraft |

## Comments and Responses

### Letter 1: Letter from Ronald Nichols of Los Angeles Department of Water and Power (LADWP) dated June 28, 2011 and received on June 29, 2011.

**Comment 1.1:**
LADWP appreciates the opportunity to review and comment on the Proposed Amendment to the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Existing Policy). We thank the State Water Resources Control Board (State Water Board) staff for taking the time to meet with LADWP and gain an in-depth understanding of LADWP's unique power system. LADWP vigorously supports the Proposed Amendment, and commends State Water Board staff for recommending Alternative 3, which recognizes our need for an extended compliance schedule in order to maintain the reliability of our system.

**Response 1.1:**
The support for the Proposed Amendment has been noted. State Water Board staff thanks the LADWP staff for their time, but cannot purport to have an in-depth understanding of LADWP's unique power system.

**Comment 1.2:**
The Proposed Amendment, with LADWP's commitment to totally eliminate the use of once-through cooling (OTC), is the most environmentally beneficial alternative, as it goes beyond the original policy goal while maintaining a secure and reliable electric system. As noted in the Draft Staff Report, LADWP has already reduced its OTC fleet from 14 to 9 units, and is about to embark on a three-phase repowering program that will achieve significant OTC reductions as additional OTC units go off-line. The total OTC fleet will be reduced by 42 percent (%) by 2013, by 56% by 2015, by 68% by 2024, by 82% by 2027, by 87% by 2031, and by 100% by 2035.

**Response 1.2:**
State Water Board staff commends LADWP on committing to eliminate the use of seawater for cooling purposes, and reducing its OTC fleet permanently. Staff calculations (see Appendix D in the Draft Staff Report) estimates that if LADWP had chosen to comply with the Existing Policy using Track 2 controls (such as screens) instead, more than 800 million fish larvae could potentially be allowed to be entrained annually for the remainder of those facilities' lifespan.

But because the Proposed Amendment would allow LADWP to delay compliance for some power-generating units (while advancing compliance for other units), staff calculations (see Tables 1 and 2 in the Draft Staff Report) also show that the Proposed Amendment is projected to cause more impingement and entrainment over the timeframe of 2010-2040 than Track 1 (with either wet or dry cooling) under the Existing Policy. As such, the statement that the Proposed Amendment "goes beyond the original policy goal" is not necessarily correct.

**Comment 1.3:**
LADWP is unique among California utilities; it is its own balancing authority and must oversee generation, transmission and distribution facilities and operations. While other utilities have to comply with some State mandates, LADWP is the only utility that must, in addition to adhering to the Existing Policy, comply by 2020, with AB 32, and SB 1, while also working to achieve the goals of SB 1368. Therefore, for LADWP, the ramifications of the Existing Policy cannot be evaluated alone, but as one element of a larger plan for complying with all State mandates. As LADWP works toward a 33% Renewable Portfolio Standard (RPS), dependable, quickly available power sources – primarily LADWP's OTC units - are necessary to integrate

intermittent renewable power, a VER (Verified Emission Reduction). A schedule that allows the continuous operation of the OTC units is necessary for LADWP to meet Local Area Reliability (LAR) requirements.

The proposed extended compliance schedule reflects the importance of the OTC units to the reliable operation of the LADWP power system to meet our retail customers' needs. As designated "reliability must run" units; they must remain online and operational to ensure LADWP's compliance with the reliability criteria set forth by the Western Electricity Coordinating Council (WECC). Simply put, we cannot take our coastal, gas-fired power generation units off-line to replace them in order to convert to dry cooling. While new units are built to comply with the elimination of OTC, we need to keep the existing OTC units operating. Physical space limitations require that we do this in a sequence that precludes completion of all of the replacements by 2020. These units are also critical to maintaining voltage support and balance to LADWP's entire electric power system. The western and southern portions of LADWP's service territory are situated in a power "cul-de-sac" that cannot easily be supplied by power imported from long-distance transmission lines or other local generation. The nearby OTC stations therefore represent nearly 100% of the area's power source. Power generation from other locations cannot replace the function of any of our existing coastal generating plants.

**Response 1.3:**
State Water Board staff is not able to independently evaluate this statement based on the submitted information. However, the Statewide Advisory Committee on Cooling Water Intake Structures (SACCWIS), with representatives from the energy agencies (the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and the California Independent System Operator (CAISO)) and other relevant State Agencies (the Air Board, Water Board, State Lands Commission, and the Coastal Commission) was established as required by the Existing Policy to review the Implementation Plans and schedules submitted by the generators and advise the State Water Board on issues related to local area and grid reliability. The State Water Board recognized when adopting the Policy that the deadlines in the Policy may need to be revised based on (among other factors) the need to maintain the reliability of the electrical system. SACCWIS is currently reviewing the plans and schedules submitted by the generators on April 1, 2011 to ensure that the schedules and plans are realistic and will not jeopardize the reliability of the electrical grid system. The Policy requires SACCWIS to present its recommendations to the State Water Board by October 1, 2011.

At the State Water Board meeting on December 14, 2010, the Board requested that the SACCWIS review of the LADWP implementation Plan be expedited, if possible. The Interagency Working Group (IAWG), a working group for SACCWIS, has met several times during May and June of 2011 to discuss the LADWP Implementation Plan and the requested changes to the Policy deadlines. IAWG members have further met independently with LADWP staff to obtain additional information. Based on the data and the discussions, IAWG prepared a draft resolution for the SACCWIS to consider that contained recommendations to the State Water Board on the LADWP Implementation Plan and the requested changes to the Policy deadlines. SACCWIS met on July 5, 2011, and heard testimony from LADWP and the IAWG. An IAWG representative testified that the energy agencies had determined that local reliability considerations justify retaining some utility capacity, or its equivalent, at the three LADWP facilities, and that staged repowering of selected units at existing plant sites is likely to be necessary. IAWG also determined that numerous uncertainties made a long-term schedule problematic, and that alternatives had not been adequately explored at this point in time.

At the meeting, SACCWIS adopted a resolution, which is available on the State Water Board's web site at

http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/sa_res2011_0001.pdf. SACCWIS found that further information from many of the generators would be desirable, and that compliance dates should be described on a unit-by-unit basis rather than a plant-by-plant basis. SACCWIS further found that there was insufficient information to determine whether the LADWP deadlines in the Existing Policy are infeasible from a reliability perspective and whether the new dates proposed by LADWP in its Implementation Plan satisfies the "…as soon as possible…" requirement in Section 2.B.(1) in the Existing Policy. Lastly, SACCWIS found that the LADWP Implementation Plan does not appear to negatively impact the local area and grid reliability, but also does not demonstrate the local area or grid reliability requirements sufficient to justify modifying the current schedules. SACCWIS therefore recommended that the State Water Board postpone consideration of any modifications to the LADWP compliance schedule until further details are available. SACCWIS also recommended that the State Water Board require an updated implementation plan from LADWP by December 31, 2012.

**Comment 1.4:**
While costs alone are not the reason for our inability to achieve elimination of OTC by 2020, the ability to "amortize" compliance costs over a longer period is essential in a city where the LADWP rate payer will pay100% of the cost and nearly 16% of families and 19% of all individuals have incomes that fall below the poverty level. More rapid implementation of such a major portion of our irreplaceable power supply sources would add meaningfully to the significant other costs that LADWP is incurring as we meet other State mandates and rebuild and replace a 100-year old power system that serves over four million people in our City.

**Response 1.4:**
Comment noted. Staff cannot evaluate this statement based on the submitted information.

**Comment 1.5:**
As a municipal utility governed by City Charter, LADWP cannot "walk away" and cease operations. Unlike non-municipal utility power generators, LADWP is mandated to provide power 24 hours a day, 7 days a week, in a reliable, cost-effective manner to meet the requirements of our utility customers.

**Response 1.5:**
Comment noted. Staff observes that sometimes what is a disadvantage is at the same time an advantage: LADWP does not face competition and is able to plan for the future in an integrated fashion with full buy-in from the citizens.

**Comment 1.6:**
The State Water Board carved out exceptions for nuclear facilities due to their uniqueness. Specifically, allowing consideration of their OTC compliance costs makes sense – and the State Water Board is to be commended for doing so. However, a binary analysis that categorizes nuclear facilities as distinct entities, but groups all other fossil-fueled power plants together, is too simplistic. LADWP appreciates that the State Water Board also recognized that LADWP's uniqueness warrants consideration rather than a one-size-fits-all approach, and thus proposed this Amendment after review of our Implementation Plan, submitted April 1, 2011.

**Response 1.6:**
Comment noted.
**Comment 1.7:**
LADWP supports the Amendment and the revised compliance dates in Table 1 ("Implementation Schedule"). Although the compliance dates in the Policy were developed

using a report produced by energy agencies (CEC, CPUC, and CAISO), it must be noted that these agencies stated that the dates specified in their report "may require periodic updates". LADWP appreciates that the need for updates was acknowledged, but as a public utility that must plan years in advance, LADWP requires the certainty that this Amendment offers.

LADWP would like to address the amount of time considered necessary to repower an OTC generating station. The original compliance schedule presented in the Existing Policy appears to have been based on the "general consensus of the energy industry that five years is needed to plan, site, permit, and construct of a new major power plant, and seven years is needed for a major transmission line," as stated in Page 4 of the April 2008 State Water Board report entitled "Electric Grid Reliability Impacts from Regulation of Once-Through Cooling in California." In contrast, the revised LADWP compliance dates in the Proposed Amendment are predicated upon an average of six to eight years for each repowering. LADWP believes this is not only accurate, but also aggressive, and was based on LADWP repowers undertaken to date. These are Haynes Units 3 and 4, Harbor Units 1-6, and the repowering of Haynes Units 5 and 6, and Unit 3 at Scattergood which are now underway.

Chart 1 of LADWP's Implementation Plan, which was submitted to the State Water Board on April 1, 2011, shows the time required for each phase of a repower: conceptual engineering, emission modeling, preparation of a Request for Proposal (RFP), preparation of the City of Los Angeles-mandated ordinance, permitting and engineering, the California Environmental Quality Act (CEQA) process, issuance of the final RFP and award of a contract, City Council approval, procurement of equipment, construction, commissioning of new units, trial operation, and demolition of existing equipment. This timeline allocates no time for schedule delays.

**Response 1.7:**
Staff thanks LADWP for the submittal of Chart 1, which lays out a timeline for each required step in the process based on previous repowers. Staff also acknowledges that each site may have individual challenges to overcome in terms of engineering, permitting, construction, and operation that may require additional time. Regarding the appropriateness of the new requested compliance deadlines, Staff refers to the findings of the Resolution adopted by SACCWIS on July 5, 2011 (please see the response to Comment No. 1.3).

**Comment 1.8:**
LADWP also supports the new impingement mortality and entrainment mitigation requirements found in Section C. of the Policy "Immediate and Interim Requirements, Item 4, with additional clarification. The Amendment stipulates that fossil fuel owners/operators: "(b) Conduct a study or studies, singularly or joint with other facilities, to evaluate new technologies or improve existing technologies to reduce impingement and entrainment." LADWP is supportive of this approach and believes that research and development of these technologies can only be beneficial in the future, but LADWP notes that U.S. Environmental Protection Agency (U.S. EPA) in their proposed 316(b) rule for existing facilities concluded that investigated screening technologies *are significantly less effective than initially thought in reducing entrainment mortality*, and could not identify a single technology that represented Best Technology Available (BTA) for all facilities.

In the interim, LADWP plans to help foster the development of new technology by participating in jointly sponsored pilot studies as stated in its implementation plan. However, a dollar limit needs to be agreed upon, in addition, should technology (ies) prove infeasible. LADWP recommends being able to fund mitigation until compliance at $3/million gallons (MG), or some amount that is mutually agreed upon by the discharger and the State Water Board that is deemed fair and reasonable.

**Response 1.8:**
Staff acknowledges that screening technologies and other barrier technologies to control entrainment may not be effective or feasible. However, there are technologies such as fish return systems or reduced flow rates that are quite effective at controlling impingement (as USEPA also noted in their proposed 316(b) rule). Other emerging technologies, such as inertial separation, may prove feasible. The proposed new Section 2.C.(4) language is aimed at facilities installing equipment or operating facilities such that impingement and entrainment is minimized to the extent possible. Note that facilities must additionally comply with the other immediate and interim requirements specified in the Existing Policy in Section 2.C., which may involve providing funding to the California Coastal Conservancy for mitigation projects.

**Comment 1.9:**
Table 1 in the Draft Staff Report provides "a comparison of impingement (numbers of fish) under the Policy and the Amendment (2010-2040), while Table 2 provides "a comparison of entrainment under the Policy and the Amendment (2010-2040) if compliance was by dry cooling and/or wet cooling using only recycled wastewater". LADWP notes that it will eliminate OTC usage by 2035, and recommends that the tables be amended to reflect that end date. Further, LADWP does not believe that design flows are the appropriate metric for comparing impingement and entrainment impacts under the Existing Policy and Proposed Amendment, given that actual flows were significantly less (50% for Harbor, 75% for Hayes, and 61% for Scattergood during the 2000-2010 period). Therefore, LADWP submits its own comparisons, based on actual flow and impingement and entrainment data recorded during the 2006 Impingement and Entrainment Characterization studies at each of the three LADWP facilities, and requests that the State Water Board use this when evaluating the Proposed Amendment.

**Response 1.9:**
Staff maintains that the calculations in the Draft Staff Report are valid, for the reasons given below:

The impingement and entrainment numbers in Tables 1 and 2 are based on calculations found in Appendix D in the Draft Staff Report. Staff created an Excel spreadsheet to compare several scenarios in order to answer some basic questions:

1. What are the estimated ***current*** impingement and entrainment impacts from each of the LADWP facilities?
2. What are the impingement and entrainment impacts that can be expected from each of the LADWP facilities ***under the Existing Policy***?
3. What are the impingement and entrainment impacts that can be expected from each of the LADWP facilities ***under the Proposed Amendment***?
4. Can greater or fewer impingement and entrainment impacts be expected under the proposed Amendment compared to under the Existing Policy?

The impacts for each of these scenarios were initially calculated for each unit at each power plant using (1) actual recorded flow data for 2000-2005 (average annual flows); and (2) the design flow (which is the maximum pumping rate possible and therefore "worst-case"). While the "actual flow" data provides a more realistic picture, there are problems associated with using this data. The weather was unusual during the 2000-2005 period, and the electrical use and power generation therefore also not necessarily average or representative. Also, units at Haynes Generating Station (GS) were being repowered during this time, and little data was available. Furthermore, for all the facilities, data was only available on a facility-wide basis (staff later received actual, unit-by-unit flow data from LADWP, but too late for the first version of the Draft Staff Report). This made it impossible to use the actual data to estimate impingement and entrainment impacts under the Proposed Amendment, because under the Amendment some units within the same facility would comply early and some later. Additionally, the past does not necessarily predict the future. Some units may be run more, some less, some would be out for repairs (although probably newer and more efficient units would be run first). Hence, in order to answer question No. 4 (Can more or less impingement and entrainment impacts be expected under the proposed Amendment compared to under the Existing Policy?), it was necessary to use design flows for calculations. Using the design flow (i.e., the worst case scenario) also ensures that the impacts are not underestimated.

Later, after LADWP submitted actual flow data for each unit, staff calculated impacts assuming actual flows for comparison. As expected, the results using either the design flow or the actual flows show that impacts are greater under the Amendment than under the Existing Policy, but the magnitude of the impacts vary. For instance, using design flows, Haynes was found to be able to entrain about 4,346 million fish larvae annually without controls (current situation). But during the period 2006-2010, Haynes ran only at 69% capacity on average, thus actually only entraining 2,999 million fish larvae annually. Under the Existing Policy LADWP could choose to pursue the following compliance alternatives for each of the facilities: Track 1 (dry cooling), Track 1 (wet cooling), Track 2 (flow reductions only), Track 2 (other controls), and combinations thereof. Track 1 under the Existing Policy requires a 93% reduction in flow, allowing a maximum of 304 million fish larvae entrained annually at Haynes. Track 2 (flow reductions only), would only allow 81 million fish larvae entrained annually at Haynes, while Track 2 (other controls) potentially could allow up to 708 million fish larvae entrained annually. However, LADWP has committed to completely eliminating OTC.

In order to compare the long-term positive effects of the Existing Policy to the Proposed Amendment, staff calculated entrainment and impingement for each year for each unit and added them. The timeframe 2010-2040 was considered "reasonable" for these reasons: (1) The Policy became effective and implementation was initiated on October 1, 2010, providing a good starting point for the calculations; (2) The positive effects of either the Policy or the Amendment do not ***end*** when the facility is in full compliance – rather that is when the maximum benefit to the environment is first fully realized. This positive benefit will last well into the future. In the short term, the Policy will reduce entrainment and impingement more drastically because of earlier compliance dates. Because the Policy after full compliance allows some impacts and the Amendment none, the Amendment could eventually come out ahead of the Policy in terms of saving fish larvae, were it not for the fact that new replacement facilities are not allowed to use OTC. Staff estimated that the existing LADWP OTC plants would have perhaps another 30 years of useful life (without repowering) – hence the 2010-2040 period was chosen. Staff acknowledges that the cutoff could have been 2035 when Haynes as the last facility comes into full compliance under the Amendment, but this would not have allowed for any of the benefits for Haynes to have been captured. Staff also acknowledges that it is possible that the lifespan of some of the facilities are more or less than 30 years.

Using Haynes as an example, the calculation using design flow show that over the 2010-2040 period, 49,853 million fish larvae would be entrained under the Policy as compared to 57,536 million under the Amendment – a difference of 7,685 million fish larvae. For a more realistic scenario, it was assumed that LADWP would repower their facilities whether under the Policy or the Amendment and calculating impacts using the 2006-2010 actual recorded data submitted by LADWP rather than design flow. Under the more realistic scenario, 29,944 million fish larvae were found to be entrained under the Policy as compared to 46,607 million under the Amendment – a difference of 16,663 million fish larvae. So although the overall entrainment impact was less, the difference between the Policy and the Amendment was larger. For Scattergood GS and Harbor GS, the difference between the Policy and the Amendment was smaller using actual flows, although larger when all the facilities were combined.

Staff does not have the calculations that LADWP used for deriving their revised Tables 1 and 2 using actual flows for the period 2010-2035. Staff notes, however, that while overall difference between the Policy and the Amendment in impingement for all facilities combined is less than staff's calculations by about 40,000, the difference in entrainment is about 8 billion larger.

## Letter 2: Letter from Peter Landreth of GenOn West, LP & GenOn Delta, LLC, dated July 5, 2011 and received on July 1, 2011.

**Comment 2.1:**
GenOn West, LP, and GenOn Della, LLC (collectively "GenOn") owns and operates four facilities subject to the Existing Policy: Mandalay Generating Station (GS), Ormond Beach GS, Pittsburg GS, and Contra Costa GS. GenOn Potrero, LLC, owns the Potrero Power Plant, which permanently retired on February 28, 2011 and has therefore already achieved compliance with the Policy. GenOn submitted timely Implementation Plans for all of the subject facilities on April 1, 2011. At Mandalay GS and Ormond Beach GS, GenOn has proposed to achieve compliance under Track 2 no later than December 31, 2020, the prescribed date in the Existing Policy. At Pittsburg GS, GenOn has proposed to achieve compliance under Track 1 no later than the prescribed date of December 31, 2017. GenOn has also committed to permanently retire Contra Costa GS in 2013, thereby achieving compliance with the Existing Policy well in advance of the prescribed 2017 deadline.

**Response 2.1:**
State Water Board staff commends GenOn for submitting Implementation Plans for their facilities in a timely manner. Staff also highly commends GenOn for working effectively on achieving compliance within the deadlines in the Existing Policy.

**Comment 2.2:**
GenOn does not oppose and has no comments on the compliance deadline extensions proposed for those facilities owned and operated by LADWP.

**Response 2.2:**
Comment noted.

**Comment 2.3:**
However, GenOn believes that the newly proposed section 2.C(4) of the Policy is unnecessary. The intent of section appears to be to establish new, interim compliance measures for facilities like LADWP's that have proposed to replace their OTC facilities over a timeline that extends beyond the relevant 2020 compliance deadline that applies to many OTC facilities. As written, however, section 2.C(4) establishes a confusing and contradicting timeline, fails to account for

implementation schedule adjustments that may occur in the future, and penalizes facilities that will have already achieved compliance under Track 2.

Given that section 2.C already establishes interim mitigation requirements that would continue to apply to any facilities with compliance extended beyond 2020, GenOn suggests simply deleting section 2.C(4). If the State Water Board's intent is to establish specific additional conditions for LADWP's facilities, then such conditions can be provided in the individual NPDES permits for those facilities rather than substantially re-writing the Existing Policy.

**Response 2.3:**
Staff acknowledges that Section 2.C.(4) is somewhat confusing and has clarified this section. The intent was to require ***all*** fossil-fueled facilities following Track 1 requirements that request compliance deadlines that extend beyond 2020 to minimize entrainment and impingement impacts by either installing controls or operating the facility differently. Facilities that have their schedule extended beyond 2020 at a later date for unforeseen reasons or because SACCWIS requested an extension, are not required to comply with the new proposed section 2.C(4).

**Comment 2.4:**
If the State Water Board chooses to adopt section 2.C(4), GenOn believes several problems need to be addressed. First, as written, section 2.C(4) would appear to penalize Track 2 facilities such as Mandalay GS and Ormond Beach GS, which would still be "fossil fueled units that utilize OTC after December 31, 2020" but would have already achieved full compliance with the Existing Policy by 2020 by meeting the requisite entrainment and impingement mortality reduction standards. Requiring Track 2-compliant facilities to "commit to eliminate OTC for all units at the facility" for example, would entirely defeat the purpose of the Track 2 compliance path. To account for the possibility that a Track 2 facility may require an extension beyond its current compliance deadline for reliability purposes, as contemplated by sections 3.B and C of the Policy, GenOn suggests limiting the proposed revision to those facilities proposing to achieve compliance under Track 1. Accordingly, GenOn suggests the following revisions to Section 2.C(4): "Owners or operators of fossil fueled units **that intend to comply with this Policy under Section 2(A)(1) and that are subject to compliance dates later than December 31, 2020, as specified in Section 3. E. below,** ~~**that utilize OTC after December 31, 2020**~~ shall. .. "

**Response 2.4:**
Staff agrees with GenOn's comment and thanks GenOn for the suggested language. Please also see the response to Comment 2.3, above. Staff is proposing to clarify section 2.C(4) to read as follows (new language is shown with double underline and has been italicized for emphasis):

(4) Owners or operators of fossil fueled units that ***have submitted implementation plans to comply with this Policy under Section 2.A(1) and have requested compliance dates*** after December 31, 2020 ***that are approved by the State Water Board as provided in Section 3.E*** shall:

(a) Commit to eliminate OTC ***and seawater intakes*** for all units at the facility.

(b) Conduct a study or studies, singularly or jointly with other facilities, to evaluate new technologies or improve existing technologies to reduce impingement and entrainment.

(c) Submit the results of the study and a proposal to minimize entrainment and impingement to the Chief Deputy Director no later than December 31, 2015.

(d) Upon approval of the proposal by the Chief Deputy Director, complete implementation of the proposal no later than December 31, 2020.

**Comment 2.5:**
Finally, the requirements in subsections 2.C(4)(b) and (c) to conduct studies and submit a post-2010 entrainment and impingement minimization plan by December 31, 2015 presume that a facility knows far in advance of that date that its compliance deadline has been extended beyond 2020 and that it is therefore subject to Section 2.C(4). It is entirely possible that a 2020 compliance deadline would not be extended until sometime after 2015. GenOn suggests requiring compliance with the Section 2.C(4) requirements by a relative, rather than absolute, date to provide for potential future Policy amendments that may extend compliance deadlines for other facilities without the same advance notice proposed for LADWP 's facilities in this Proposed Amendment. Accordingly, to make the proposed section 2.C(4) consistent with the apparent intent of the Proposed Amendment, GenOn suggests the following revisions to Section 2.C(4):

- Section 2.C(4)(c): "Submit the results of the study and a proposal to minimize entrainment and impingement to the Chief Deputy Director **no later than three years after the date on which the State Water Board established a compliance date for those units that is later than December 31, 2020, as specified in Section 3.E. below** ~~**no later than December 31, 2015**~~."
- Section 2(C)(4)(d): "~~**Upon approval of the proposal by the Chief Deputy Director,**~~ Complete implementation of the proposal no later than ~~**December 31, 2020**~~ **five years following the Chief Deputy Director's approval of the proposal.**"

**Response 2.5:**
Staff thanks GenOn for the suggested language, but note that section 2.C(4) was not meant to apply to facilities whose deadlines may be changed later, but only to facilities that have requested deadlines beyond 2020 in their submitted Implementation Plans. Please also see the response to Comments 2.3 and 2.4, above.

## Letter 3: Letter from Linda Sheehan of California Coastkeeper Alliance, et al., dated July 5, 2011 and received on July 5, 2011.

**Comment 3.1:**
These comments are submitted by groups, who have been working vigorously with the State Water Board for over the past six years to develop, adopt and implement the Existing Policy. We attach and incorporate by reference the letter from Heal the Bay et al to the SACCWIS and the State Water Board dated July 1, 2011.

**Response 3.1:**
The letter from Heal the Bay et al to the SACCWIS and the State Water Board dated July 1, 2011 was presented at the SACCWIS meeting on July 5. Note that the SACCWIS had not solicited comments letters on items on their agenda, but allowed for public input at the meeting.

**Comment 3.2:**
The Existing Policy was a thoroughly debated, long-developed, moderate, compromise document, based on five years of exhaustive internal and external research, energy agency oversight, and broad public outreach, and designed to result in the carefully scheduled and certain phase-out of this destructive practice. The next steps under the Existing Policy were for the SACCWIS to review the Implementation Plans, which were to contain sufficient information to allow these experts to conduct their work, and then to report to the State Water Board with recommendations, which the Board then would consider in assessing potential, grid reliability related modifications. The current, rushed Amendment process is the antithesis of this deliberative effort, sidestepping the Existing Policy and threatening to significantly undermine its mandated ecosystem protections. Contrary to the exhaustive public process behind the Policy, the current, hastily-drafted Amendment surfaced mere weeks after the regulated community submitted their Implementation Plans, and before the SACCWIS had even begun their required review– contrary to the clear letter and intent of the Existing Policy. Indeed, the haste resulted in significant errors and other flaws in the quickly-written Staff Report, which significantly underestimated the relative environmental impacts of the Proposed Amendment. The Staff Report was not re-released for public "review" until a mere six business days before the written comment deadline. The revised calculations supporting the changes were only released for public review two business days before the comment deadline, a significant omission given their initial and continued errors.

**Response 3.2:**
Staff appreciates the support for the Existing Policy and acknowledges that the Proposed Amendment has been rushed in order to bring back an assessment of the LADWP Implementation Plan to the State Water Board by July 2011, along with proposed modifications to the Existing Policy. However, the Public has been given adequate notice and opportunity for comment. While there were some calculation errors in the initial version of the Draft Staff Report, these errors did not change the conclusion that the Amendment would result in somewhat more impingement and entrainment than under the Existing Policy, but not that much more compared to current levels of impingement and entrainment (about 5 billion fish larvae entrained annually and 240,000 impinged calculated using design flow; roughly half as many using actual flows). The Amendment would result in the equivalent of one to two years of impingement and entrainment at current levels.

**Comment 3.3:**
Further compounding the lack of adequate public review, the only public SACCWIS hearing related to LADWP's Implementation Plan takes place after the written comment deadline on the Proposed Amendment. This hurried SACCWIS "review" similarly allowed the public only five business days to review the proposed SACCWIS motion, and no formal opportunity for public written comment to SACCWIS. Furthermore, the SACCWIS motion – prepared by the Interagency Working Group – was unaccompanied by any independent SACCWIS review or report providing a grid reliability rationale for changes to the existing Policy, or the grid reliability impacts of the proposed changes. This rushed and impermissibly abbreviated process, which is contrary to the Existing Policy, severely curtails the meaningful public input that the Policy was designed to ensure. Notably, even with the forced speed of review, the SACCWIS draft Resolution still finds that the Proposed Amendment is premature, concluding among other things that the information provided is "insufficient" to allow for a decision as significant as modifying Existing Policy's carefully-set deadlines.

**Response 3.3:**
SACCWIS review of the Implementation Plans, including LADWP's plan, is independent from any State Water Board-sponsored proposals to the State Water Board. The IAWG , the working group for the SACCWIS agencies, have met several times to discuss the LADWP Implementation Plan (and the other plans) and communicated regularly with each other, their respective SACCWIS representative and LADWP regarding the details and implications of LADWP plan. At the July 5, 2011 SACCWIS meeting, the IAWG presented its findings to the SACCWIS for their joint deliberations. At the meeting, the public, State Water Board staff, and LADWP were invited to give input. The meeting was noticed 10 days in advance, as required by the Bagley-Keene Meeting Act. Meeting materials were available on the State Water Board's web site, including a report. As noted by the commenter, the SACCWIS resolution found that the information submitted by LADWP was insufficient for recommending revisions to the deadlines in the Existing Policy at this point, and recommended that the State Water Board postpone a decision until LADWP has the opportunity to fine-tune their plan further and submit more detailed information. Note that the dates in the Existing Policy were based on information received by LADWP before the Policy was adopted, and that LADWP is no longer pursuing Track 2. The SACCWIS Resolution and other meeting materials can be found on the State Water Board's website at http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/.

**Comment 3.4:**
Unlike the clear, independent analysis underlying the Existing Policy, the current Amendment unfortunately follows the model set by the similar proposed Amendment last fall, which was also developed quickly, with little to no new information, and after several political and legislative attempts to undermine the Policy. As we noted last fall, the Policy process must be followed to ensure that our ecosystems are protected, and that the state's energy generation is reliable and sustainable. This includes serious and studied attention to any changes in the adopted schedule. The Policy's schedule must be followed absent compelling new information related to grid reliability – information which has yet to surface from LADWP or SACCWIS. Despite these mandates, the Board has released a Policy Amendment with numerous factual, legal and procedural flaws.

**Response 3.4:**
The implementation schedule laid out in the Existing Policy is tight, and any amendment to the Policy will need to be fast-tracked in order to not delay the implementation of the overall Policy. It is important to note that the dates in the Policy are not set in stone, but was always envisioned modified in response to detailed information in the Implementation Plans.

**Comment 3.5:**
We urge the Board to reject the proposed Amendment in its entirety, and move forward with full implementation and continuing review of the Existing Policy according to the Policy's process dictates. Specifically, after the SACCWIS has had sufficient time to: (a) carefully review all of the Implementation Plans, (b) request and receive missing information, and (c) provide the required reports with recommendations to the State Water Board, only then should the Board consider any amendments to the Existing Policy, with these reports in hand. Deadline extensions should be most carefully scrutinized in light of the fact that the Existing Policy calls for SACCWIS consideration of deadline changes only for purposes of grid reliability, and only if such changes still achieve compliance "as soon as possible." The State Water Board's December motion asked that LADWP's proposal be "prioritized"; this does not mean rushed to judgment, but rather acted on before other Implementation Plans, if possible. Prioritization does not excuse abandonment of the Policy process and the reasons for empanelment of the expert SACCWIS.

**Response 3.5:**
The recommendation to the State Water Board has been noted. However, the Policy process has not been abandoned – only accelerated in terms of reviewing the LADWP implementation Plans.

**Comment 3.6:**
The development and initial implementation of the Existing Policy over the last six years, with extensive stakeholder and outside technical input, has resulted in a Policy and timeline that should only be amended based on significant new information, review and reporting. The Existing Policy, adopted by the State Water Board on May 4, 2010, was a thoroughly debated, long-developed document, based on five years of exhaustive internal and external research and including two expert, independent reports. The extensive public outreach supporting the Policy included seven formal public comment opportunities, numerous workshops and meetings with all stakeholders over the five years of its development, and a comprehensive SED that fully examined the range of impacts of the Policy. The Policy was designed to create a logically scheduled and certain phase-out of this destructive practice. The Existing Policy faced and passed another industry challenge in late 2010, when the State Water Board refused to adopt any changes to its provisions without first reviewing the implementation plans and hearing a report from SACCWIS on identified issues of grid reliability. The State Water Board's current release of proposed deadline changes in advance of any public review, analysis or report by SACCWIS directly contradicts its prior, careful, open public proceedings and its appropriate refusal just a few months ago to even consider deadline changes without completed implementation Plans that SACCWIS had reviewed and reported on. Consistent with the long history of the Policy's development and adoption, great care must be taken in building strong foundational support for any proposed changes to the Policy, which must be related to grid reliability.

**Response 3.6:**
Please see the responses to Comments 3.3, 3.4, and 3.5.

**Comment 3.7:**
LADWP is a municipally owned utility. As such, its decisions are subject to review and oversight by Los Angeles City government. The Board should fully respect the City of Los Angeles process and timeline for review prior to action on an LADWP request. In particular, the Los Angeles City Council's Energy and Environment Committee is currently considering a review and initial public hearing on LADWP's proposal, and the Board should provide time for that review before acting on the requested amendments. City Council President Pro Tempore Jan Perry introduced a Resolution before the Energy and Environment Committee of the Los Angeles City Council on June 24th calling for a thorough LADWP report to the City regarding its plans to comply with the Policy under the current schedule and the proposed Amendment. The Resolution further calls for State Water Board staff participation in this report before the City, as well as an independent City review of LADWP's financial claims under the Policy and the Amendment. Given the ongoing process at Los Angeles City Council, it would be highly inappropriate for the SWRCB to proceed until the Los Angeles City Council's own request for additional information about the LADWP operations have been satisfied.

**Response 3.7:**
Staff agrees. If the Los Angeles City Council had requested that the State Water Board delay action on extending the deadlines for the LADWP facilities, the Board would consider delaying action. However the Los Angeles City Council voted on Friday July 15, 2011 to support the LADWP proposal and did not request a postponement.

**Comment 3.8:**
The Policy only allows for deadline extensions due to grid reliability issues reported on by SACCWIS agencies and supported by new data: none of these conditions have been met. The Policy's language on the process for amendment of its deadlines indicates that "local area and grid reliability" concerns are the *only* factors to be considered for deadline changes (*e.g*., as opposed to cost). In addition, the Policy is clear that SACCWIS – *not* the discharger – makes implementation schedule recommendations to the State Board through a public process for State Board consideration, based on new data in complete Implementation Plans. Section 2.B. of the Policy requires compliance "as soon as possible, but no later than the dates shown in Table 1," and allows for consideration of compliance date changes only as determined by the energy agencies to be "necessary to maintain the reliability of the electric system." Unfortunately, the Staff Report misstates and unallowably attempts to expand this mandate well beyond the Policy's dictates in order to justify the LADWP deadline change request, attempting to argue on page 15 that: "The existing policy allows an adaptive management approach for implementation of the Policy, including explicitly contemplating revisions to compliance dates, *while maintaining* electrical grid reliability. It is understood that impacts will continue until BTA implementation occurs." The Staff Report's reading *impermissibly revises the adopted Policy* by making grid reliability a *subset* of the overall set of reasons that could be used to revise compliance dates, rather than the *sole* reason. As written, the Staff Report would allow extensions for an unlisted, potentially unlimited number of reasons. Furthermore, extensions, particularly lengthy extensions, are unlikely to ever cause additional reliability concerns, as they would only allow additional capacity to continue to operate without change. As such, the Staff Report's misreading of the Policy nearly completely obviates the purpose of empanelling the SACCWIS. In sum, the Policy allows for date extensions *only* for grid reliability reasons, not for cost or any other reason (or no reason). Given that it has been determined that there is "insufficient" evidence of grid reliability concerns, the State Board cannot move forward on the amendments. It certainly cannot find that ecosystem "impacts will continue" from many more years of OTC without a justifiable grid reliability reason under the Policy for allowing them to continue.

**Response 3.8:**
Please note that the State Water Board always retains the authority to alter the deadlines in the Existing Policy for unlisted, potentially unlimited number of reasons unrelated to grid reliability. For instance, if Indian artifacts are unearthed while preparing a site for a cooling tower, delays to the schedule may be needed while archeologists examine the site. Or a new state or federal law could affect the implementation of the Existing Policy. Furthermore, it was always the intent of the State Water Board to allow for an adaptive management approach , which includes changes the deadlines as necessary.

**Comment 3.9:**
The Staff Report appears to rely impermissibly on cost considerations, in part because LADWP's Implementation Plan simply fails to provide the necessary new information on grid reliability. If there were such information, it would presumably have been included the Staff Report; its notable absence is further evidence that LADWP's deadlines should remain in place unless and until reliable information is provided. The Policy requirement to implement flow reductions "as soon as possible" to achieve the Table 1 deadlines precludes any changes without significant *new* information. Indeed, there are numerous inadequacies and unsupported assertions in LADWP's Implementation Plan that prevent either the SACCWIS or the State Board from making the necessary analysis.

**Response 3.9:**
The Staff Report appropriately uses the available data to discuss costs of implementing the Amendment.

**Comment 3.10:**
LADWP's Implementation Plan is inadequate for necessary SACCWIS analysis and SWRCB analysis. The Implementation Plans must contain the information required in the Policy, and this information must necessarily be reliable and supported. An Implementation Plan is not complete and ready for SACCWIS and SWRCB review if it contains incomplete, inaccurate and/or completely absent information, or unsupported claims in place of actual data. Unfortunately, LADWP's Implementation Plan fails to: (1) identify (and support with facts and data) the time period when generating power is actually infeasible or describe measures taken to efficiently coordinate this activity to ensure compliance "as soon as possible"; (2) provide the required adequate "reliability study"; (3) indicate how LADWP would "eliminate" once-through cooling, either through dry cooling or wet cooling with recycled water, an issue with potentially significant scheduling ramifications; (4) provide flow data by unit to allow for accurate calculation of impacts associated with the deadline extensions.

In addition, much of the data provided is also inaccurate or unsupported. For example, LADWP argues that it needs "every MW" while implementing the Policy, but does not support that statement. This and other relevant assertions should be closely examined by the SACCWIS, based on sufficient information (currently not provided), to determine if indeed the requested deadline extensions are necessary for grid reliability purposes and are supported by the evidence in the Implementation Plan.

As part of this analysis, the amount of capacity that LADWP claims is needed to ensure reliable operations throughout implementation of the Policy - as well as the various scenarios available to ensure availability of that capacity - should be carefully examined by the SACCWIS. Given the dearth of relevant information in the LADWP Implementation Plan, and lack of any scenarios or analysis of alternatives to meet the Policy requirement "as soon as possible," SACCWIS would need additional information for such a review. Again, the rushed pace of the current review process prevents the careful development of SACCWIS input, as indicated by the Staff Report and draft Resolution before SACCWIS noting the insufficiency of information on such issues as envisioned and mandated by the Policy.

The State Water Board's December motion was to table action on LADWP's amendment proposals until after consideration of its Implementation Plan – the expectation being that LADWP would provide a minimally *complete* Implementation Plan that would fully discuss reliability concerns and provide sufficient support for that analysis by SACCWIS and the State Water Board. LADWP did not do this, and so neither the State Water Board nor SACCWIS is under an obligation to even consider its proposal, let alone approve it.

**Response 3.10:**
As noted by the commenter, the SACCWIS resolution found that the information submitted by LADWP was insufficient for recommending revisions to the deadlines in the Existing Policy at this point, and recommended that the State Water Board postpone a decision until LADWP has the opportunity to fine-tune their plan further and submit more detailed information. Staff agrees that further information is desirable before determining what revisions to the implementation schedule is needed. However, State Water Board members have requested that the matter be brought before them for consideration.

**Comment 3.11:**
Rather than taking up recommendations from SACCWIS regarding schedule modifications potentially necessary for reliability, the SWRCB instead took them directly from LADWP, with the proposed Amendment going out to public comment *before* SACCWIS consideration and recommendation. This is completely contrary to both the letter and intent of Policy, which calls for a deliberate, careful, independent review process involving SACCWIS to consider grid reliability concerns associated with the adopted Policy. It also flouts the Policy's direction that compliance be achieved "as soon as possible" and not later than the Table 1 deadlines. The Board's short-circuiting of the Policy process prevents both careful SACCWIS and public review of the (flawed) LADWP Implementation Plan, hurrying unnecessarily instead to a final hearing.

**Response 3.11:**
Please see responses to Comments No. 3.3 through 3.5 and Comment No. 3.8.

**Comment 3.12:**
Despite the Policy's call for open public SACCWIS deliberations in Section 3.B., there was no SACCWIS public hearing on the Plan until *after* the written public comment deadline on the Amendment. This artificially expedited scheduling severely circumscribes effective public input, calling into question again the legitimacy of the current process. The Policy specifically calls for SACCWIS "review" of the proposed implementation schedules, with a report and recommendations to the SWRCB by October 1, 2011. Private staff meetings that excluded the public, with no written report or analysis for review in hand from SACCWIS, plus one SACCWIS public meeting held *after* the written public comment deadline on the Amendment is hardly the meaningful "review" intended by the Policy. This is particularly true in light of the fact that the LADWP Implementation Plan fails to provide the required information demonstrating grid reliability concerns. A meaningful SACCWIS review process would also allow time for the agencies to request necessary, accurate information and then consider it publicly, before recommending any changes to the established Policy. SWRCB staff recognized this problem in proposing Alternative 2 on page 13 of the Staff Report, which recommends delay until after the final SACCWIS Report on October 1. In proposing this Alternative, the Staff Report states that it "would allow the State Water Board the opportunity to consider other changes to the Policy, such as other changes to the compliance deadlines, simultaneously." Alternative 2 would allow time for LADWP to provide the necessary information for the SACCWIS to consider whether compliance schedule changes were necessary for grid reliability purposes. It also would allow SACCWIS appropriate time to consider the full range of implementation plans together, conduct analysis on any grid impacts from the various compliance schedule scenarios, and then provide a report containing recommendations to the State Water Board. Board changes to the Policy should be made only after that process is complete, not before.

**Response 3.12:**
Please see responses to Comments No. 3.3 through 3.5.

**Comment 3.13:**
The OTC Interagency Working Group, acting as staff to the SACCWIS, only recently released a proposed Resolution for SACCWIS review, with potential adoption set for after the close of the written comment period on the Amendment. This process immediately is of concern because the draft recommendations have been prepared and released through private, non-SACCWIS meeting processes, rather through the public SACCWIS process mandated by the Policy. The extremely brief Resolution also completely fails to rise to the level of the "report" called for in Policy Section 3.B.(1), which the SACCWIS was to prepare to ensure that it fully considered grid reliability concerns and claims (including, for example, LADWP's assertion that it needs "every MW" for operation while it is phasing out OTC).

The conclusions of the brief, draft Resolution raise further serious concerns about the abbreviated process, illustrating that even with almost no SACCWIS time for review, significant concerns with the LADWP Amendment proposal are already evident. For example, the Interagency Working Group report finds that LADWP's implementation plans do not contain sufficient information to determine if the compliance dates in the current Policy are infeasible from a reliability perspective, or if the proposed dates are as soon as possible, as required by the Policy. At a minimum, additional time is needed for the SACCWIS to request, obtain, review, analyze and draw conclusions from sufficient information provided by the proponent for the Amendment. However, despite their conclusion that there is insufficient information to make any decision on grid reliability issues – the sole purpose of he SACCWIS – the Interagency Working Group still proposes two alternative Resolutions for the SACCWIS, one of which surprisingly makes a grid reliability conclusion based on the aforementioned lack of information. As with the other flawed factual and legal conclusions hastily drawn in this process, this approach raises serious questions about the process overall, and calls for a halt until the Policy process can be followed based on adequate information.

**Response 3.13:**
Please see responses to Comments No. 3.3 through 3.5.

**Comment 3.14:**
The adopted Minutes for the December 14th SWRCB meeting reads as follows: "Motion: Member Doduc moved to table the staff proposal until after the SACCWIS has an opportunity to review compliance plans submitted by the facilities and make recommendations to the Board. As part of the motion, staff were directed to request that the SACCWIS prioritize review of the LADWP's compliance plan." The motion tabled the staff proposal until after SACCWIS had its opportunity – consistent with the process laid out in the Policy – to review compliance plans submitted by the facilities and make recommendations to the Board. Contrary to the Motion, the proposed date changes in the Amendment were moved directly to the public review process well before SACCWIS review and recommendations, which were then rushed to meet the Board's already-scheduled review of LADWP's request, rather than allowing for careful SACCWIS deliberations first. This is particularly perplexing as no date was set in the adopted Motion for completion of the review of LADWP's Implementation Plan. Rather, the Motion merely required staff to request that the SACCWIS [not the State Board] prioritize review of LADWP's compliance plan. Finally, the item was specifically "tabled until the SACCWIS recommendations are submitted to the Board." Given the current draft SACCWIS recommendations, which highlight a lack of "sufficient information" to support a grid reliability reason for extending the life of OTC for many years (thereby creating a significant increase in ecosystem impacts), there is no support in the December Motion for moving forward at this time. Indeed, with this information, the Motion would counsel instead a return to the deliberative process laid out in the Policy.

Despite both the clear language of the Policy and the straightforward direction in the December Motion, the Staff Report contorts the State Board's December decision to justify moving forward on LADWP's request prematurely. Specifically, the Staff Report on page 10 misreads the Motion by saying that the Board's Motion instead "stated the Board would revisit special provisions for LADWP *after receiving further data from them, and after their implementation plan had been reviewed by SACCWIS, if possible by July 2011*." While July was mentioned at the meeting, the Board specifically adopted a motion with no set date, directing staff only to "prioritize" LADWP's Implementation Plan. Moreover, there is no direction from the Board or the Policy to consider any "special provisions" for LADWP; this would be contrary to the Policy, which allows only for grid reliability issues to prompt potential report and recommendations from SACCWIS agencies regarding schedule changes. The Staff Report is correct that further data

needs to be received from LADWP in order to consider grid reliability issues, and that SACCWIS needs to review such data and their Implementation Plan as a whole – but these conditions have not been met. LADWP did not provide new, adequate data to support changes due to grid reliability concerns; the Staff Report itself can only cite prior LADWP comment letters for any arguments (even flawed ones, as noted above) to support their proposal. As the initial SACCWIS review also indicates, the Implementation Plan also fails to provide information sufficient for SACCWIS to make a reasoned determination, through a meaningful public process.

**Response 3.14:**
Please see responses to Comments No. 3.3 through 3.5.

**Comment 3.15:**
The environmental impacts calculations are based on inaccurate assumptions. The Staff Report understates the significance of the Amendment's impacts in several ways. The Staff Report assumes, without justification, a 2010 through 2040 timeframe, stating that "This period was chosen as a reasonable timeframe." No support is given for the reason that this timeframe was chosen, or why it was deemed "reasonable." The Amendment, by contrast, states that compliance will occur latest by the end of 2035; there is no reason given for the Staff Report to assume a timeframe beyond that date. In fact, assuming a deadline past the proposed compliance deadlines for each unit "smoothes out" the heightened environmental impacts of the proposed Amendment by spreading them out over an unjustified, excessively lengthy time period. The assumption thus fails CEQA's requirement that *foreseeable* environmental impacts of the methods of compliance be addressed. The most foreseeable timeframe for Amendment impacts analysis purposes is the *actual* timeframe in the Amendment for each unit, or from December 31, 2011 (after the SACCWIS reports due October 1st) until the final deadline extensions for each unit (with December 31, 2035 as the very last deadline).

The Staff Report's second incorrect assumption was calculating the impingement and entrainment impacts using design flow data. Here, at least a reason is provided for this assumption: because design flow constitutes the "worst-case scenario." However, despite the fact that the Staff Report correctly states that "[t]he environmental analysis must address the *reasonably foreseeable* environmental impacts of the methods of compliance," the Staff Report then ignores this mandate by assuming design flow figures, rather than the more realistic actual flow figures, when calculating the impingement and entrainment impacts of the Amendment. This is significant because the relative increases in environmental impacts between the Amendment and the Policy are again masked by use of the much larger, unforeseeable design flow figures, rather than the more accurate actual flow figures. This flows assumption again "smoothes out" the differences between the Amendment and the Policy and hides the actual percentage increases in environmental impacts between the two, inappropriately favoring the Amendment. If Staff had applied actual flow data to the environmental analysis, the Staff Report would have reported a significantly greater *relative* increase in impingement and entrainment under the Amendment versus the Policy, as discussed further in the next section. The State Board must have complete information on the full environmental impacts of the project based on "reasonably foreseeable" conditions that illustrate the true relative costs of the proposed Amendment.

Third, the Staff Report echoes LADWP's unsupported statement that it would "eliminate" OTC after its compliance deadline, even though the Staff Report admits that it is unclear how LADWP will comply with the Policy. The Staff Report follows by noting that "LADWP staff has confirmed that if wet cooling towers are employed, LADWP would use only recycled wastewater…," resulting in the elimination of OTC. This is disconcerting for several reasons. First, the Staff

Report is making a critical assumption based *not* on the formally approved Implementation Plan, but on a mere telephone communication with "LADWP staff." Does the State Water Board have LADWP management's confirmation that LADWP will use recycled water to comply with the Policy? If so, under what adopted compliance plan? Can the State Board be sure that such an off-the-record assurance will be considered binding by LADWP management in 10-25 years? These questions must be answered as part of LADWP's formal, approved Implementation Plan. This last-minute, informal communication illustrates again the significant deficiencies of the LADWP Implementation Plan. A Implementation Plan must identify the "selected compliance alternative, describe the general design, construction, or operational measures that will be undertaken to implement the alternative, and propose a realistic schedule for implementing these measures that is *as short as possible*." If the Implementation Plan does not even state whether LADWP is using dry or wet cooling, how can the State Board (or SACCWIS) know whether the proposed schedule is realistic? Certainly there is no way of knowing whether the Amendment is "as short as possible" if the State Board does not know how LADWP will come into compliance. This assumption thus not only contributes to an already-flawed environmental impacts analysis, it also symbolizes the hasty process that led to this Amendment.

Finally, it should be noted that the original Staff Report assumed incorrectly that it could calculate the impacts of changes in deadlines for each *unit* using *facility*-wide flows data, an assumption made in large part because LADWP originally failed to provide the required unit-by-unit data in its Implementation Plan. After repeated requests by staff to LADWP, the data was obtained, and the charts revised. As noted below, unit-by-unit data better illustrates the overall relative increase in impacts of the Amendment over the Policy, though further improvements are needed.

**Response 3.15:**
Please see responses to Comments No. 1.9 and 3.2 regarding the use of the design flow to calculate worst-case impacts and the use of the 2010-2040 time line. While LADWP did not submit unit-by-unit actual flow data until after the Draft Staff Report was released, staff did of course know the unit-by-unit design flow (based on the pumping capacity) and used this data to calculate impacts. Staff did ***not*** calculate the impacts of changes in deadlines for each *unit* using *facility*-wide flow data.

Based on reading the implementation plan and after several discussions with LADWP personnel, staff was still unsure about their intention of eliminating OTC or completely eliminating any seawater intake. As stated in the staff report, when questioned on this, LADWP staff confirmed in a telephone conversation that they would be both eliminating OTC and eliminating the use of seawater for cooling, and if cooling towers are installed seawater would not be used as make-up water (recycled waste water would be used in that case.) Nevertheless, staff agrees that this needs to be made a condition of allowing final compliance after December 31, 2020, and has provided new language for the Board to consider (Change Sheet circulated July 13, 2011.) This new language is suggested in proposed Section 2(C)(4)(a) and would require owner/operators to commit to eliminate OTC **and seawater intakes.**

**Comment 3.16:**
The Staff Report again attempts to justify its unsupported deadline extensions, along with their associated significant environmental impacts, by stating that the Amendment would "provide an approach for *addressing* interim impacts" through the newly proposed studies and test in the added Section 2.C.(4). The Staff Report further concludes – with no support or analysis – that "Staff believes there will be a reduction in impingement and entrainment as a result of the implementation of new or improved interim control technologies after 2020" as a result of the studies in new Section 2.C.(4). This is directly contrary to the fact that the implementation of

these technologies is at best unclear, which is the reason staff concludes that: "due to the *inability at this time to quantify those reductions* . . . staff did not include [them] in the comparison of IM/E btw the Policy and the amendment." It is also contrary to *Riverkeeper II*'s direct admonition that mitigation not be used in place of direct compliance with Section 316(b), a point extensively discussed in the April 2010 and November 2010 comment letters from CCKA *et al* to the SWRCB. In other words, the Staff Report offers the new Section 2.C.(4) as (illegal under *Riverkeeper II*) mitigation for the proposed deadline extensions, while at the same time indicating that there is no way to determine whether it will have any positive impact at all.

The Staff Report also fails to clarify how the proposed new "interim mitigation" measures in Section 2.C.(4) will fit in with approved interim mitigation in the Policy already. That is, will they be used as a substitute for other interim mitigation provisions? Or is it in addition to the existing interim mitigation? This could be significant, given the extremely uncertain impacts of the new section. For example, Section 2.C.(4)(a) requires a commitment to "eliminate OTC for all units at the facility," but it fails to provide a deadline for compliance (which is essential for accountability) or even call for elimination of OTC as of the adopted deadline for compliance with the Plan. As it stands, the current language could easily be read as "after the unit is taken off line in a few decades," which is clearly not consistent with the Policy or Section 316(b).

As another example of the flaws in proposed Section 2.C.(4), Section 2.C.(4)(b) calls for a study or studies "to evaluate new technologies or improve existing technologies to reduce impingement and entrainment." However, the new section fails to identify: even the most basic parameters of such studies, how much they are to "reduce" I/E, how the studies are consistent with Track 2, and how useful they likely would be in light of numerous findings so far that such techniques fail to provide any real value. Similarly, Section 2.C.(4)(c) calls for these studies to be submitted to the SWRCB along with "a proposal to minimize entrainment and impingement" by the end of 2015, raising questions about issues such as: the definition of "minimize," the need for four years to complete a study and a proposal, the consistency with Track 2, the question of whether the required proposal even has to relate to the studies, and the issue of what the regulated community is required to do if their studies come up with no clear course of action (a likely result, given experience to date). Finally, Section 2.C.(4)(d) allows for completion of an approved proposal (in the event this happens) "no later than December 31, 2020," raising additional questions such as: Why are nine years needed to do one study and then possibly implement it? What would be done if the study failed to come up with an approvable proposal? The Staff Report and the Policy Amendment fail to answer these questions. Instead, they would apparently allow for several decades of continued impacts on coastal ecosystems in exchange for one study and a proposal that could then be rejected with no further requirements. This cannot be termed either "interim," "mitigation," or "legal" under *Riverkeeper II*.

**Response 3.16:**
Staff agrees that Section 2.C.(4) is confusing and is proposing to clarify it; please see responses to Comments No. 2.3 and 2.4. The proposed new section 2.C(4) goes beyond the proposed USEPA 316(b) rule. Staff does not believe it conflicts with *Riverkeeper II*.

**Comment 3.17:**
The new Section 2.C.(4) appears to be added solely to justify the fast-tracked deadline extensions for LADWP, but it is broadly applicable to all deadline extensions past 2020, with potentially significant results. Of the 14 fossil-fueled plants using OTC (after the ones already converted or shutting down), *half* may be now seeking deadline extensions past 2020. Three or more of those requests extend into the 2030s. In other words, the SWRCB is faced with 10- to 20-plus years of compliance deadline requests for half of the non-nuclear facilities at issue, with

the new Section 2.C.(4) as "mitigation" even though it would have completely unknown results. This is particularly problematic because there is significant room in the loose language of new Section 2.C.(4) for the facilities to do *nothing* other than a study and a proposal in order to delay compliance for 10- to 20-plus years and call that "addressing the interim impacts." These new, paper justifications are completely inconsistent with the Policy and its call for a schedule of implementation that as "as short as possible."

**Response 3.17:**
Please see responses to Comments No. 2.3 and 2.4. The generators have not requested that many extensions (extensions have been requested for 11 ***units***[1]), and Section 2.C(4) will be an added deterrent.

**Comment 3.18:**
The CEQA analysis is inadequate. One of the overarching goals of CEQA is to ensure that the public is not deprived of the opportunity to provide input on the new Policy. The public must have a "meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement." The quickly-changing Staff Report and associated impacts calculations, combined with a lack of the required SACCWIS report, deprives the public of the opportunity to review and comment on an adequate presentation and analysis of the Amendment. It also prevents the State Board from meeting CEQA's mandate of making decisions with their "environmental consequences in mind." Here, the Staff Report fails to analyze the impacts of the Amendment on the local, affected ecosystems, instead dismissing them even when the revised calculations showed that they were significantly higher than even the initially calculated increases. Specifically, the Staff Report concludes, without support, that "Staff has identified no new significant environmental effects or *a substantial increase in the severity of previously identified significant effects* that will result from the amendment to the Policy compared to current conditions." Because the Staff Report fails to adequately analyze the reasonably foreseeable environmental consequences of the Amendment, this analysis must be completed before a decision is made to ensure compliance with CEQA.

Since the Staff Report is the functional equivalent of a Negative Declaration for the Amendment, and since such documents "end environmental review," the Staff Report is reviewed under the "fair argument" standard. Under that standard, "if a lead agency is presented with a *fair argument* that a project *may* have a significant effect on the environment, the lead agency shall prepare [further environmental documentation] even though it may also be presented with other substantial evidence that the project will not have a significant effect." Here, the Staff Report violates CEQA because there clearly is a "fair argument" that adoption of the Amendment will have significant environmental effects that have never been analyzed in an environmental document. As the Staff Report admits, the Amendment results in *at least* a 17% increase in impingement over the existing Policy using design flow calculations, and a 25.5% increase in impingement using (more realistic) actual flow calculations. Equally alarming is Staff's conclusion that the Amendment's *additional* billions of entrained aquatic species does not constitute a substantial increase in the severity of previously identified significant effects. Further information and analysis is certainly called for by CEQA to justify moving forward in the face of such impacts. Unfortunately, the Staff Report provides no explanation for its conclusion that the

[1] Please see staff's presentation at the July 5, 2011 SACCWIS meeting on the merchant generators using OTC at http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/merchants070511.pdf

Amendment creates no significant effect on the environment. The law is clear; a lead agency must find that a project will have a significant effect on the environment where "[t]he project has the potential to ... substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, [or] reduce the number or restrict the range of a rare or endangered plant or animal…" The lack of analysis on these issues is palpable. Even with the significant increases in impacts with the new Appendix D, the revised Staff Report simply concludes without support that the Amendment would not "cause any additional environmental impacts beyond what has been identified in the SED…" and that the "attached Environmental Checklist (See Appendix C) reflects these findings of no additional impact…" This is a clear misstatement. The SED did not analyze an additional 16 years of non-compliance, for example, nor did the SED analyze the mortality of additional billions of aquatic species.

Additionally, it is noteworthy that there is no CEQA analysis in Staff Report of the new Policy language on page 8 regarding "requirements" for facilities wishing to extend their deadlines past 2020. Given that this is being used by staff as an excuse for extending deadlines, this analysis is critical.

In sum, the State Board must prepare and circulate a Subsequent or Supplemental EIR document to ensure that these impacts are properly considered and mitigated as required by CEQA. The CEQA Guidelines address when Subsequent or Supplemental EIRs must be prepared.[2] The instant action meets these requirements because the project has changed in a manner that will cause significant impacts, as described above. The new EIR must be given the same public notice and review period as the original EIR.

Finally, if the proposed Amendment is in fact adopted, the Board's action will set a precedent for State Board review of other regulated entities' requested deadline extensions. The cumulative impacts associated with these changes will be buried in the individual proposals, as they are under the current Amendment. These results are contrary to the adopted Policy and fail to meet courts' high standard for evaluating such changes. Hiding cumulative impact through division of significant changes into smaller sub-projects piecemeals the environmental review and violates the clear requirements of CEQA.

**Response 3.18:**
Staff does not agree that the CEQA analysis is flawed. The CEQA baseline is current environmental conditions. The LADWP facilities have not yet begun implementing the Existing Policy; therefore the SED analyses for the Existing Policy still apply. Compared to existing conditions, the Amendment would lead to improvements in entrainment and impingement.

**Comment 3.19:**
The amendment violates administrative law principles and is arbitrary and capricious. As discussed at length in our joint November 2010 letter to the SWRCB, in cases where an agency rescinds a previous decision, there is a heightened duty to provide a reasoned analysis for the abrupt change of mind, and to provide a rational connection between the facts and the decision to undo what was "a settled course." Notably, the Supreme Court held that "the agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.' Here, the State Board actions in advancing the proposed Amendment represent such a reversal of a settled course of implementation in the Policy, requiring a heightened duty for a well-reasoned and supported

[2] 14 CCR §§ 15162, 15163.

analysis. As discussed at length above, the Staff Report "analysis" and new Policy provisions together represent a wholesale reinterpretation of and contradiction to the adopted Policy, amounting to a fundamental change in direction. Examples include but are not limited to: the expansion of the sole justification of grid reliability for deadline changes to include reasons based on cost and other excuses; the reversal of the Policy process from SACCWIS-initiated changes to discharger-initiated changes; the reliance on no new information rather than reliable new information raising grid reliability issues; the creation of new (far weaker) "interim mitigation" measures that ostensibly "address" the impacts created by the multi-decade compliance deadline extensions; and the allowance for significantly more environmental impacts than examined pursuant to Policy adoption. Given that the analysis and reasoning for such wholesale changes is absent here, adoption of this Amendment would be "arbitrary, capricious, or entirely lacking in evidentiary support, or contrary to required legal procedures." In light of these facts and law, the proposed Amendment should be denied, and the Policy should stand as written and as supported by the public process and administrative record.

**Response 3.19:**
The Proposed Amendment does not constitute rescinding a previous decision. Rather, the State Water Board made it clear when they adopted the Existing Policy that the deadlines in the implementation schedule in Table 1 would be revisited and fine-tuned after review of the Implementation Plans from the individual generators.

**Comment 3.20:**
Rather than approve the Amendment, we urge the State Board instead to seek and LADWP to provide the necessary information to make the LADWP Implementation Plan sufficiently complete in general, and more specifically justifiable in terms of a grid reliability perspective, *if in fact* there are any grid reliability issues. We also urge the State Board to allow the SACCWIS process to move forward as called for in the Policy, with the necessary grid reliability information in front of the SACCWIS and with the time to consider the new information in context with the rest of the proposals, so that the SACCWIS may prepare the required report and recommendations to the State Board for which it was established. We also urge the State Board to consider such SACCWIS reports and recommendations carefully, and to prepare a sufficiently comprehensive environmental impacts analysis of any resulting deadline changes associated with grid reliability, so that the final State Board decision is adequately informed. California's coastal, bay, and estuarine ecosystems deserve the attention and direction given by a fully implemented Policy to their continued health. The Policy's mandates must be followed to ensure this result and to support a reasoned, deliberative policymaking process that complies with the law.

**Response 3.20:**
The recommendation to the State Water Board has been noted.

**Letter 1:** Letter from Eric Pendergraft of AES Southland, dated July 5, 2011 and received on July 5, 2011.

**Comment 4.1:**
AES Southland (AES-SL) owns the Redondo Beach GS, Alamitos GS and Huntington Beach GS, which together have over 4,200 MWs of installed capacity and fourteen (14) generating units that all utilize OTC. 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.

AES-SL supports extending compliance dates when an entity provides a rational argument that justifies the extension. Based upon our limited review of the information in the LADWP Implementation Plan, the justifications they provided for not being able to meet their original compliance dates appear valid. However, AES-SL is not in a position to offer an opinion on the reasonableness of the revised compliance dates requested by LADWP and relies upon the combined expertise of the SACCWIS to determine if the amount of additional time being requested is appropriate. The State Water Board rightly created the SACCWIS in adopting the Existing Policy to review the proposed Implementation Plans and support requested changes to the plans when local area and grid reliability requirements warrant them.

**Response 4.1:**
Comment noted.

**Comment 4.2:**
The AES-SL plants are located in Southern California Edison's (SCE) territory within the CAISO control area, which is operated separately from the LADWP system. Although the two systems are separate, the physics of power grid operation and reliability are the same. In addition, the two systems were constructed in a similar fashion with the grid being built out from SCE's coastal power plants. LADWP did an excellent job summarizing in their Implementation Plan the role their transmission and distribution system plays in providing reliable electricity supply, the interdependency of the changing characteristics of their energy sources, and the limitations to making upgrades to the existing transmission system to compensate for any decrease in their coastal generating fleet. LADWP referenced a study they commissioned with KEMA Consulting that analyzed the reactive power needed at the transmission level to integrate the mandated amount of renewable energy and reliably serve their customers. LADWP indicated that they are working to create a plan based upon the study's conclusions. AES-SL also has commissioned a study with Electric Power Engineers, Inc. (EPE) to analyze the transmission system and reliability needs in SCE's territory. While we have not reviewed LADWP's study conclusions, we believe that the studies will have similar findings. Specifically, we agree with many of the general statements and conclusions in LADWP's Implementation Plan and there are several parallels that can be drawn to the AES-SL fleet and its importance to SCE's service territory. In particular:

- LADWP's electric system was built to rely upon in-basin generation to enable the substantial amounts of power imports into the load centers. SCE's system is similar and utilizes, in rough numbers, the 12,000 MW of in-basin generation to import enough power to reliably serve its 22,000 MW of peak load;
- LAWDP's electric system today was designed and built out from the coastal plants just as SCE's has been, which means that maintaining capacity at these critical locations is imperative because options for upgrading the transmission system in these highly urbanized areas are severely limited. The capacity limitations of the local area load centers preclude importing power to meet the reliability requirements and instead must rely on generation in the load areas, namely the coastal generation fleet, to mitigate overloading the transmission system. In SCE's service territory, roughly 10,000 MW of the 12,000 MW of generation in basin must be procured to meet the Los Angeles basin Local Capacity Requirement (LCR);
- The coastal generating units in LADWP and SCE's service territories are located in highly urbanized areas which makes it virtually impossible to build a transmission alternative to replace the important reliability benefit the in-basin generating units provide;
- Given the urban location of the coastal generating units in LADWP and SCE's service territory, the amount of available land is extremely limited and requires a complicated new construction sequence in order to maintain sufficient capacity in the local areas and keep the lights on during the transition to new technology.

AES-SL believes that it is imperative to the future configuration of the grid and success of California's laudable energy and environmental policies that we collectively get the answers correct. Further, getting the answers correct will ensure the state's vital electrical infrastructure is redeveloped in the most effective manner to support California's needs for many years to come. Granting extensions to the compliance dates will allow LADWP the time needed to transform their power grid in the most efficient and cost effective way.

**Response 4.2:**
Staff thanks AES-SL for the information submitted and the comparison of AES-SL fleet with the LADWP fleet. Staff agrees that it is very important to get the answers correct in order to best provide for California's future needs.

**Comment 4.3:**
While AES-SL supports the concept of compliance date extensions, we are opposed to the additional language that is being proposed for Section 2.C(4). The Existing Policy evolved over many years and intense stakeholder involvement with SWRCB staff into a policy that sets out clear language and a two tiered compliance path that will result in a significant reduction in the impacts that once through cooling systems have on coastal and estuarine waters. Neither the Track 1 nor Track 2 compliance options in the Existing Policy require the complete elimination of ocean water for cooling. Instead, the Existing Policy requires a significant reduction in intake flow rate or a significant reduction in impingement mortality and entrainment comparable to a level that would be achieved through a compliant reduction in intake flow rate. The proposed language in Section C(4) in the Proposed Amendment undercuts the Existing Policy and severely impacts owners who have submitted their Implementation Plans but have not yet received a determination from the SACCWIS or State Water Board.

In the process that led up to the adoption of the Existing Policy, stakeholders were assured that the compliance dates in the proposed policy were subject to change after evaluation by the SACCWIS. An owner could submit a revised schedule in its Implementation Plan with the appropriate justifications and the SACCWIS would review the proposed schedules in parallel with its own studies and the other Implementation Plans. AES-SL submitted a thorough Implementation Plan on April 1, 2011, that requested a compliance path utilizing Track 1 whereby some units would continue to operate beyond 2020. Unlike LADWP's request of compliance dates through 2035, AES-SL is only requesting schedule extensions to 2022 and 2024 to allow for the sequential project replacement of its fourteen generating units. AES-SL has not made a determination about the turbine or cooling technology at this point and needs the flexibility in the Existing Policy to utilize the reductions in water use as allowed but not necessarily the complete elimination on the use of ocean water for cooling. Further, requiring the additional burdens of complex studies and capital additions on generators that will be in compliance within two to four years of their original compliance dates does not make sense.

AES-SL respectfully requests that the SWRCB Board either narrow the language in Section C(4) so that it only applies to LADWP; or eliminate the proposed Section C(4) language in its entirety. Adopting language that would impact ALL generator owners while their Implementation Plans have been submitted but are still under review is premature, unfair, and is unnecessary to achieving the goals of the Existing Policy.

**Response 4.3:**
Please see responses to Comments No. 2.3 and 2.4. The language is intended to be applicable to all generators that request implementation schedules beyond 2020.

**Comment 4.4:**
The implementation of 316(b) of the Clean Water Act has been many decades in the making. Now that we are all moving towards the same goal of reducing the impacts of OTC, taking the time to properly analyze and insure that the technology choices we make today are the best choices to help California meet its goals is of paramount importance. AES-SL stands with the State Water Board, the power plant owners and all of the members of SACCWIS in its commitment to transforming the power grid into the future. AES-SL believes that granting selected extensions to compliance dates is an important first step and that similar amendments should be expected in October 2011 following the review of the remainder of the Implementation Plans that have been submitted to the SWRCB.

**Response 4.4:**
Staff agrees.