

**PROPOSED AMENDMENT TO THE WATER QUALITY CONTROL
POLICY ON THE USE OF COASTAL AND ESTUARINE WATERS FOR
POWER PLANT COOLING**

**FOR
NPDES PERMITTING ACTIONS BY
THE REGIONAL WATER QUALITY
CONTROL BOARDS**

Draft Staff Report

STATE WATER RESOURCES CONTROL BOARD

2013

1. SUMMARY OF THE POLICY AMENDMENT

This Draft Staff Report supports a proposed amendment to the statewide *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* (Policy). The Policy establishes uniform, technology-based standards to implement Federal Clean Water Act (CWA) section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. The Policy was adopted by the State Water Resources Control Board (State Water Board) on May 4, 2010, under Resolution No. 2010-0020, and approved by the Office of Administrative Law on September 27, 2010. The Policy became effective on October 1, 2010 and was amended on July 19, 2011.

The policy applies to 16 existing power plants located along the California coast that withdraw coastal and estuarine waters for cooling purposes, using a single-pass system known as once-through cooling (OTC). Cooling water withdrawals cause adverse impacts to larger aquatic organisms, such as fish trapped against a facility's intake screens (impingement), mammals trapped within the intake system (entrainment) and to smaller life forms, such as larvae and eggs, killed by being drawn through the cooling system (entrainment). The Policy originally affected 19 OTC power plants, but 3 of these plants have ceased all once-through cooling operations since adoption of the Policy. The South Bay Generating Station and Potrero Generating Station have been retired, and Humbolt Bay Power Plant repowered its facility by complying through Track 1 of the Policy by the use of wet cooling towers. The remaining 16 plants are as follows:

| Name | Type | Permit No. | Order No. |
|--|-------------|------------|-------------------------------|
| Pittsburg Power Plant | Fossil Fuel | CA0004880 | R2-2002-0072 |
| Diablo Canyon Power Plant | Nuclear | CA0003751 | R3-1990-0009 |
| Morro Bay Power Plant | Fossil Fuel | CA0003743 | R3-1995-0028 |
| Moss Landing Power Plant | Fossil Fuel | CA0006254 | R3-2000-0041 |
| Haynes Generating Station | Fossil Fuel | CA0000353 | R4-00-081 |
| Alamitos Generating Station | Fossil Fuel | CA0001139 | R4-00-082 |
| Scattergood Generating Station | Fossil Fuel | CA0000370 | R4-00-083 |
| El Segundo Generating Station | Fossil Fuel | CA0001147 | R4-00-084 |
| Redondo Beach Generating Station | Fossil Fuel | CA0001201 | R4-00-085 |
| Mandalay Generating Station | Fossil Fuel | CA0001180 | R4-2001-0057 |
| Ormond Beach Generating Station | Fossil Fuel | CA0001198 | R4-2001-0092 |
| Harbor Generating Station | Fossil Fuel | CA0000361 | R4-2003-0101 |
| Contra Costa Power Plant | Fossil Fuel | CA0004863 | R5-2001-0107 |
| Huntington Beach Generating Station | Fossil Fuel | CA0001163 | R8-2006-0011 |
| Encina Power Station | Fossil Fuel | CA0001350 | R9-2006-0043 |
| San Onofre Nuclear Generating Station, Unit 2 and Unit 3 | Nuclear | CA0108073 | R9-2005-0005 and R9-2005-0006 |

The proposed amendment language is included as Appendix A of the Draft Staff Report.

The Policy is implemented through National Pollutant Discharge Elimination System (NPDES) permits. Section 1.N of the Policy was established to ensure a high level of statewide consistency in implementing Section 316(b) by requiring the State Water Board to assume responsibility of all NPDES permit actions for existing power plants subject to this Policy. This includes without limitation, actions to issue, modify, reissue, revoke, and terminate NPDES permits after October 1, 2010. The proposed amendment would give back the responsibility to the Regional Boards for all NPDES permit actions for the existing power plants subject to this Policy. However, State Water Board staff would still be involved and support the Regional Boards in all issues related to implementation of this Policy, including the appropriate NPDES Permit language and compliance schedules, in order to still ensure a high level of statewide consistency.

2. REGULATORY BACKGROUND

In 1972, Congress enacted the Federal Clean Water Act (CWA) to restore and maintain the chemical, physical, and biological integrity of the nation's waters. CWA Section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact.

In 2001, the U.S. Environmental Protection Agency (USEPA) adopted a rule for **new** power plants (Phase I) that established a performance standard based on closed-cycle wet cooling. In 2004, USEPA published the Phase II rule applicable to **existing** power plants with a design intake flow greater than or equal to 50 million gallons per day (MGD), which was remanded following legal challenge. USEPA proposed a new rule on March 28, 2011 for existing power plants that have a design intake flow of at least 2 MGD and use at least 25 percent of the water they withdraw exclusively for cooling purposes. The comment period for this Phase II rule was extended from July 19, 2011 to August 18, 2011. USEPA received more than 80 studies from comments and in follow-up to comments that provided additional biological data.

Upon review of all the information and comments submitted, USEPA concluded in its analysis that closed-cycle cooling reduces impingement and entrainment mortality to the greatest extent, but may not be practically feasible in a number of circumstances. Regarding alternative control technologies for entrainment, USEPA 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 BTA for all facilities. For alternative impingement mortality controls, USEPA is proposing the use of modified traveling screens with a fish handling and return system or reduced intake velocity as BTA. Facilities that withdraw at least 125 MGD would be required to conduct studies to determine whether and what site specific entrainment mortality controls, if any, would be required. In addition, new units that add electrical generation capacity at an existing facility would be required to add technology that is equivalent to closed-cycle cooling.

On June 11, 2012 USEPA, published a Notice of Data Availability (NODA) related to Impingement Mortality Control Requirements. The NODA presented a discussion of how USEPA is considering incorporating these data in revised analysis supporting the final Phase II rule. In addition, on June 12, 2012, USEPA published a second NODA related to USEPA's Stated Preference Survey. This NODA presented preliminary results from the survey conducted to estimate a household's total willingness to pay (WTP) for improvements to fishery resources affected by power generating facilities. USEPA is working to finalize the Phase II rule by June 2013.

The State Water Board is designated as the state water pollution control agency for all purposes under the CWA. The state Porter-Cologne Water Quality Control Act of 1969 authorizes the State Water Board to adopt statewide Water Quality Control Plans and Policies, which are implemented through NPDES permits and waste discharge requirements. The Policy adopted by the State Water Board on May 4, 2010, under Resolution No. 2010-0020, established requirements for the implementation of Section 316(b) for existing power plants in California, using Best Professional Judgment (BPJ) in determining BTA for cooling water intake structures. BTA was determined to be closed-cycle wet cooling, or equivalent. The Policy is implemented through NPDES permits, issued pursuant to CWA Section 402, which authorizes the point source discharge of pollutants to navigable waters.

Because the Policy is more stringent than the proposed USEPA rule, it will remain in effect when the proposed USEPA rule is promulgated. The proposed USEPA rule explicitly states that it is within the States' authority to implement requirements that are more stringent than the federal requirements.

3. RATIONALE FOR THE PROPOSED AMENDMENT TO THE POLICY

When the State Water Board adopted the OTC Policy in May 2010, it decided that in the best interest of statewide consistency, the OTC Power Plant NPDES Permits would be prepared and adopted by the State Water Board. However, staff recommends that it is in the best interest of the environment to have the NPDES Permits subsequently adopted by the Regional Water Boards as it has been in the past. All of the OTC power plant NPDES Permits have expired already and it is necessary to issue new NPDES Permits as promptly as possible. It will be more effective to have the Regional Water Boards renew their corresponding NPDES Permits than to have one single Board, the State Water Board, adopt numerous NPDES Permits. In addition, the Regional Water Boards are better informed to deal with all the local water quality issues and concerns, other than OTC. In summary, it is more efficient to have the Regional Water Boards issue the NPDES Permits. To ensure consistency on the OTC issues and implementation, consultation will be provided by the State Water Board staff.

4. REQUIREMENTS WHEN AMENDING THE POLICY

The State Water Board must comply with all state and federal public participation requirements and state laws governing environmental and peer review when amending the Policy.

The State Water Board is the lead agency for this project under the California Environmental Quality Act (CEQA) and is responsible for preparing environmental documentation for the proposed amendment. The California Secretary of Resources has certified the State Water Board's water quality planning process as exempt from certain CEQA requirements when adopting plans, policies, and guidelines, including preparation of an Initial Study, Negative Declaration, and Environmental Impact Report. The California Code of Regulations, Title 23, Section 3777(a) requires that a Staff Report includes a description of the proposed activity, an alternatives analysis, an identification of mitigation measures to minimize any significant adverse impact and an Environmental Checklist.

In addition, CEQA imposes specific obligations on the State Water Board when it establishes performance standards. Public Resources Code §21159 requires that an environmental analysis of the reasonably foreseeable methods of compliance be conducted. The environmental analysis must address the reasonably foreseeable environmental impacts of the methods of compliance and reasonably foreseeable alternatives and mitigation measures. In order to comply with CEQA, an addendum to the May 4, 2010 Final SED has been prepared as further described below.

The Health and Safety Code section 57004 requires external scientific peer review of the scientific basis for any rule proposed by any board, office, or department within the California Environmental Protection Agency (Cal/EPA). However, because this amendment is not based on any scientific data, peer review requirements do not apply.

5. PROJECT DESCRIPTION

The amendment language is shown in Appendix A of this document, and consists of changes to the Policy to reassign the responsibility of NPDES Permit issuance back to the Regional Water Boards with the State Water Boards staff still providing support in all areas of OTC Policy compliance implementation. The facilities affected by the amendment are all of the OTC Power Plants.

6. ENVIRONMENTAL SETTING

Please see the "Environmental Setting" section and the other sections in the "Background" chapter of the Final SED for the Policy (http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/cwa316may2010/sed_final.pdf).

7. ANALYSIS OF ALTERNATIVES

The statewide Policy to implement CWA Section 316(b) has been adopted and approved, but not yet implemented through NPDES permits for all the individual facilities. The environmental baseline for this amendment is therefore the same for all remaining OTC Power Plants as described in the final SED for the Policy.

Alternatives and Discussion:

Alternative 1: No Action.

The State Water Board would not adopt the proposed amendment to the Policy. Under this alternative the State Water Board would still be responsible to issue NPDES Permits for all OTC Power Plants; however renewal of NPDES Permits would not be in a timely manner.

Alternative 2: Delay Action.

Consider the amendment only after revised implementation plans are submitted. This would allow the State Water Board the opportunity to consider any other changes to the Policy, such as changes in compliance deadlines. However, the State Water Board may be adopting a few OTC Power Plant permits while delaying the proposed amendment to the Policy.

Alternative 3: Adopt the Proposed Amendment as described.

This alternative as described earlier would reassign the responsibility to issue NPDES Permits to the Regional Water Boards. In doing so, the NPDES Permit for the OTC Power Plants would be issued sooner since they could be issued simultaneously by each Regional Water Board and to ensure consistency, State Water Board staff would still be involved in an advisory role to the Regions for the OTC Policy permitting issues.

Staff Recommendations: Alternative 3.

8. ADDENDUM TO THE FINAL SED ADOPTED MAY 4, 2010

Title 23, Cal. Code Reg., §§ 3720-3782 requires the State Water Board to evaluate potential environmental impacts that may be caused by complying with the proposed amendment with one or more of the reasonably foreseeable compliance methods.

There would be no changes to the environmental effects of the Policy resulting from this amendment. This amendment will change the permitting authority for the coastal power plants subject to the Policy from the State Water Board back to the applicable Regional Water Boards. This amendment is strictly administrative and will not have any new environmental effects or result in an increase in any previously identifiable environmental effects set forth in the Final SED adopted on May 4, 2010. Because there are no changes to the Policy that require a subsequent or supplemental SED, this staff report comprises an addendum to the Final SED.

This amendment will not alter the effect of any requirements set forth in the OTC Policy or otherwise affect water quality standards applicable to the affected permits. The Final SED describes various technologies to minimize impingement mortality and/or entrainment at the affected facilities in order to comply with the Policy. It also describes and evaluates potential environmental impacts associated with these technologies, and potential mitigation measures for these impacts. The proposed amendment would not affect the identified reasonably foreseeable means of compliance with the Policy, nor would it alter mitigation measures or alternatives available to reduce any significant effects on the environment.

9. ECONOMIC ANALYSIS

The final SED for the Policy provides information on the costs of compliance with the Policy. The costs for the proposed amendment are consistent with those costs in the SED for the Policy.