Public Hearing (9/16/09) Once Through Cooling Deadline: 9/30/09 by 12 noon

CITY AND COUNTY OF SAN FRANCISCO



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September 30, 2009



Janine Townsend, Clerk to the Board State Water Resources Control Board 1001 I Street, 24th Floor Sacramento, CA 95814 commentletters@waterboards.ca.gov

Re: Comment Letter-OTC Policy

Dear Ms. Townsend, Members of the Board and Staff:

The City and County of San Francisco (City) appreciates this opportunity to comment on the Proposed Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Policy) and the Draft Substitute Environmental Document (DSED). The City participated in the State Water Resources Control Board's (Board) hearing on this policy on September 16, 2009. The City has also submitted comments on the reports produced by the Joint Energy Agencies and has included those comments in Attachment 1 to this letter. The City commends the staff of the Board as well as the staffs of California Independent System Operator, the California Public Utilities Commission, and the California Energy Commission for the substantial work they have done on this important matter.

The City has reviewed and supports the comments submitted today by the Environmental Law and Justice Clinic at Golden Gate University School of Law on behalf of Bayview Hunters Point Community Advocates and Communities for a Better Environment. The City supports adoption of a clear policy that eliminates once-through cooling (OTC) for power plants. The harms from OTC have been well-documented over many years yet the adoption of a State policy has lagged.

A. The compliance date for Potrero Unit 3 should be amended to require compliance no later than December 31, 2010.

The Potrero Power Plant, operated by Mirant Potrero, LLC (Mirant) and located in southeast San Francisco, has been operating for many decades and is one of the oldest plants in California. This area is home to other industrial facilities and also to residential communities. These communities include some of San Francisco's most economically disadvantaged residents. Many of these residents use the bay for recreation and subsistence fishing. In recent years, these communities have seen disturbingly high rates of cancer, asthma and other healthcare problems that are known to be influenced by environmental factors. The facility includes Unit 3, a 206

See comments submitted by California Coastkeeper Alliance, pages 1-2, and documents cited therein.

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MW unit that utilizes an outdated OTC system, and Units 4, 5, and 6, each of which is a 52 MW unit powered by diesel-fueled turbines. The City is concerned about the impacts on human health and the environment from the continued operation of the once-through cooling system at Potrero Unit 3 in addition to the other adverse impacts from the plant's operation.

The Policy establishes a compliance date for Potrero Unit 3 that is 1 year from the effective date of the Policy. (DSED, Table 15.) The City urges the Board to modify this provision to adopt a date certain that is consistent with the expectations of the City, the plant owner, and the energy agencies regarding the closure of Potrero Unit 3. The policy should state Potrero may not use OTC after December 31, 2010. This is a reasonable requirement in view of the circumstances related to Potrero Unit 3, namely (i) the terms of the NPDES permit issued in May 2006; (ii) the removal of the reliability need for Potrero Unit 3 during 2010; and (iii) Mirant's agreement with the City to close the plant when it is not needed for reliability.

- Quality Control Board extended the permit for Potrero Unit 3 for two and one-half years, until December 31, 2008. In doing so the Regional Board established permit conditions to protect the bay. The 2006 order states the Regional Board's intention to "prohibit the discharge of once through cooling water, to the extent allowed by law, unless the Discharger demonstrates that its discharge has no significant adverse environmental effects on San Francisco Bay. This Board intends to resolve this issue no later than December 31, 2008." (Finding #22 of the May 10, 2006 Order.) The Regional Board has taken no action to enforce the permit. As a result, Potrero Unit 3 has continued to operate using an antiquated OTC system and without undertaking steps to avoid or mitigate the impacts of OTC. The history of this permit demonstrates a pattern of administrative delay and indecision that has allowed Mirant to continue operating its outdated once-through cooling system with no changes since at least 1994.
- (ii) Electric Reliability Needs. The Energy Agencies have indicated that the infrastructure replacement project, known as the Trans Bay Cable, will remove the need to operate the Potrero Power Plant. This project is expected to be in-service in the first quarter of 2010. (DSED, App. C, Joint Proposal of Energy Agencies, page C-10, note 13.) In addition, the ISO has indicated its willingness to discuss with Mirant the early closure of Potrero Unit 3, i.e., closure before the end of 2010. Additional infrastructure projects in San Francisco will be completed by Pacific Gas & Electric Company before the end of 2010. These projects will replace the need for Potrero Unit 3. There is no electric reliability basis for the Board to adopt a compliance date for Potrero Unit 3 that is later than December 31, 2010. This is a conservative date that includes margins for error and allows for timelines to slip.
- (iii) The City's Agreement with Mirant. On August 13, 2009, the City announced an agreement with Mirant Potrero, LLC, to close all of the Potrero Power Plant as soon as it is not

² An NPDES permit for Potrero Unit 3 was issued May 18,1994. An administrative extension was granted April 20, 1999, to be effective until May 18, 2004. The Regional Board did not issue a new Draft NPDES permit until July 2004. The hearing on this new permit did not occur until almost 2 years later, on May 10, 2006.

³ PG&E has already begun work to recable its Martin-Bayshore-Potrero lines and estimates that this work will be completed in October 2010. Studies by PG&E indicate that with the recabling complete, Potrero Unit 3 will not be needed for reliability, even without the Trans Bay Cable. The City has included as Attachment 1 three sets of comments addressing these technical issues.

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needed for reliability. City leaders have urged the elimination of OTC at the Potrero Power Plant as well as the closure of the plant for many years. Among the key provisions relevant to the issue of a compliance date for Potrero Unit 3 are the following: The Agreement assumes a closure date of December 31, 2010 for the entire plant. Mirant will state its intention not to operate the plant after 2010 and will work with the City to urge the ISO to allow closure as soon as possible. The City will support extension of Mirant's operating permits only until December 31, 2010, if the plant is needed for reliability. If Potrero Unit 3 has not closed by June 30, 2011, Mirant will pay the City \$100,000, in addition to the \$1,100,000 it will pay upfront for community mitigations and costs; additional payments of \$100,000 will be due each year that Potrero Unit 3 continues to operate, up to a maximum of five payments.

The City supports fully the State Board's effort to develop an OTC policy that will be more protective of the environment and the public but we do not believe the public interest is served by allowing that effort to delay enforcement of existing permit conditions. Yet that is exactly what has happened with Potrero Unit 3. Enforcement of the Potrero Unit 3 permit has been delayed since its expiration in December 2008, in part due to the pending adoption of a State policy on OTC. The Board has an opportunity now to ensure that there is no further delay in the elimination of this source of OTC harm by establishing December 31, 2010 as the compliance date for Potrero Unit 3.

B. The proposed timeline for compliance is overly extended and the compliance standards are too open-ended.

In adopting a state policy, the Board does not need to choose between electric reliability, environmental protection, and sound economics. The Board can adopt a policy to eliminate once-through cooling with a timely compliance schedule that is fair to plant owners while also protecting electric reliability and electric ratepayers. Adoption of an aggressive timeline for compliance is particularly appropriate here in view of the long delays in developing this policy. The timeline for compliance in the proposed policy is unnecessarily extended. The proposed policy also includes too many loopholes that invite delay and litigation. The Policy proposes an "adaptive management" approach, which means that feedback gained through the process will be incorporated to adjust requirements. Given this approach, there is no justification for the overly generous deadlines and unclear compliance standards that include a number of off ramps for plant owners.

Adoption of a state policy to eliminate OTC cannot be a surprise to any facility owner. Forward-thinking generation owners have already been developing and implementing plans for OTC elimination. Plant owners will make appropriate investment decisions once a clear policy is adopted. Nor can the long compliance schedule be justified by electric reliability needs. According to recent studies of the Greater Bay Area electric system, OTC compliance can be implemented more aggressively than set forth in the Policy without threatening electric reliability or imposing substantial costs on electric ratepayers.

⁴ The Agreement is subject to the approval of the City's Board of Supervisors and Mayor. The Agreement can be found at www.sfcityattorney.org/index.aspx?page=179.

⁵ See, e.g. Board of Supervisors Ordinance No. 94-09 and Resolutions No. 465-08, 299-08, 52-07, 254-06, and 84-05.

⁶ See the City's August 11, 2009, comments on the Joint Energy Agency Staff Paper, page 2 and the ISO and PG&E studies cited therein. The City's August 11 comments are included in Attachment 1.

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The City appreciates the Board's consideration of these comments and urges the Board to adopt and implement a clear policy as soon as possible.

Very truly yours,

DENNIS J. HERRERA

City Attorney

THERESA L. MUELLER Deputy City Attorney

Cc:

Supervisor Sophie Maxwell Ed Harrington, SFPUC Johanna Partin, Mayor's Office John Chillemi, Mirant

Attachment 1 to San Francisco Comments on OTC Policy September 30, 2009

BEFORE THE CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	.)	Docket No. 09-IEP-10
Preparation of the 2009 Integrated Energy Policy Report (IEPR))	Committee Workshop on Options for Maintaining Electric System Reliability When Eliminating Once- Through Cooling Power Plants.

COMMENTS OF THE CITY AND COUNTY OF SAN FRANCISCO ON INTER-AGENCY ANALYSIS OF OPTIONS FOR ELIMINATING RELIANCE ON ONCE-THROUGH COOLING POWER PLANTS (2009-IEPR-OTC)

The City and County of San Francisco (CCSF) appreciates the opportunity to submit comments on the Draft Joint Agency Staff Paper entitled "Implementation of Once-Through Cooling Mitigation Through Energy Infrastructure Planning and Procurement" (Staff Paper): CCSF has reviewed the Staff Paper and participated in the workshops on this topic on July 28, and May 11, 2009. CCSF supports the goal of eliminating the use of once-through cooling by power plants as soon as possible while maintaining electric reliability. We commend the staffs of the California Energy Commission (CEC), California Public utilities Commission (CPUC) and California Independent System Operator (ISO) for their work on this important issue.

CCSF agrees with the general approach outlined in the Staff Paper, which proposes to develop plans to terminate or mitigate once-through cooling (OTC) on an individual plant or unit basis and to include a feedback loop to allow for adjustments in the compliance schedule as necessary to ensure compliance with reliability standards. Despite this support for the overall policy, CCSF is concerned that elimination or mitigation of OTC power plants is not being implemented as aggressively as it can be, consistent with ensuring electric reliability.

CCSF's system studies indicate no need for Potrero Unit 3 as soon as either the Trans Bay Cable or the recabling of the Martin-Bayshore-Potrero lines are completed. Both projects are under construction, with expected operation dates of March 2010 and October 2010 respectively. Potrero Unit 3 should be required to comply with the OTC policy in 2010 or it should close. Compliance by the end of 2010 would be two years beyond the compliance date identified by the San Francisco Bay Regional Water Quality Control Board when it approved the NPDES permit for Potrero Unit 3 in May 2006. (Finding #22 of the May 10, 2006 Order.) There is no basis for further delay.

For both Morro Bay and some of the other plants in the Bay Area (in addition to Potrero Unit 3), more aggressive compliance dates could be implemented consistent with all applicable electric reliability criteria. The CAISO 2010 LCR studies¹ indicate that nearly 1,200MW² of OTC capacity can be retired within the Greater Bay Area itself without the addition of added generation or transmission capacity.³ The GBA OTC Retirement study prepared by Quanta Technology for Pacific Gas & Electric⁴ indicated that existing grid infrastructure with additional reactive compensation would allow an additional 3,900 MW⁵ of OTC to be retired before major additions of transmission or new generation would be required on or before 2020. The reactive compensation needed would cost in the range of \$37.5 million to \$45 million. The Jones & Stokes study reaches a similar conclusion, indicating that all OTC capacity can be retired within the GBA with the addition of the transmission upgrades estimated to cost \$42 million.6

The approach proposed by the Staff Paper supports adoption of aggressive compliance requirements because the feedback mechanism ensures reliability will still be protected even if targeted goals for replacement projects, renewable energy, and demand side measures are not met.

^{1 2010} Local Capacity Technical Analysis, May 1 2009, p. 2 and p. 54.

² This amount of capacity does not include the Moss Landing units 6 and 7, which are the OTC units external to the Greater Bay Area and potentially retired.

³ This would be consistent with the local area requirements of Pittsburg and Oakland Sub-areas as well as the overall Greater Bay Area (GBA).

Greater Bay Area Once Through Cooling Generation Retirement Study, March 31, 2009.

⁵ This amount of capacity includes the Moss Landing Units 6 and 7 as well as Potrero Units 4,5 & 6.
⁶ Electric Grid Reliability Impacts from Regulation of Once-Through Cooling in California, prepared for California Ocean Protection Council and State Water Resources Control Board, prepared by Jones & Stokes report, Global Energy Decisions and Mathew Trask, April 2008, pp.48-49 and Table 4-5.

In conclusion, CCSF supports the work done to date by the staffs of the energy agencies to ensure reliability while eliminating OTC in power plants. At the same time, we urge development of a more aggressive compliance schedule consistent with existing studies of reliability needs. Several of the OTC plants are decades old and a number of them are operating on permits that expired years ago. For these reasons, and in view of the harm caused by OTC, it is incumbent on state agencies to adopt the most aggressive compliance schedule that is feasible consistent with electric reliability requirements. Finally, we urge the agencies to develop these policies in a more open and transparent manner that includes entities beyond the staffs of the state energy agencies in the development of additional policies and studies.

August 11, 2009

Respectfully submitted,

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/s/

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ATTORNEYS FOR THE CITY AND COUNTY OF SAN FRANCISCO

BEFORE THE CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:)	Docket No. 09-IEP-10
Preparation of the 2009 Integrated Energy Policy Report (IEPR))))))	Committee Workshop on Options for Maintaining Electric System Reliability When Eliminating Once- Through Cooling Power Plants.

COMMENTS OF THE CITY AND COUNTY OF SAN FRANCISCO ON MAINTAINING ELECTRIC SYSTEM RELIABILITY WHILE ELIMINATING POWER PLANT USE OF ONCE-THROUGH COOLING (2009-IEPR-OTC)

The City and County of San Francisco (CCSF) appreciates the opportunity to submit comments on the reliability issues associated with implementation of the once-through cooling (OTC) policies proposed by the State Water Resources Control Board (SWRCB) in its March 2008 policy document. CCSF commends the California Energy Commission (CEC) for seeking input and comments from stakeholders on this important issue. CCSF supports the goal of eliminating once-through cooling by power plants as soon as possible while maintaining electric reliability.

1. The Implementation Schedule Should Provide for Expeditious Removal of OTC Power Plants.

The March 18, 2008, SWRCB Scoping Document included a preliminary draft OTC Policy as Appendix A. That preliminary OTC Policy proposed the following staggered implementation compliance schedule: (1) non-nuclear OTC plants with utilization factor of less than 20% by 2015, (2) non-nuclear OTC plants with utilization greater than 20% by 2018, and (3) nuclear OTC plants c by 2021. CCSF does not believe strict adherence to such a schedule is appropriate if it allows a power plant to continue operating using OTC longer than the plant is needed for electric reliability. As

recognized by the CEC staff, there are some cases where the harmful effects of OTC can be eliminated by ceasing power plant operation now or after planned infrastructure additions are in service. Humboldt Bay Power Plant was given as one example. If electric reliability can be maintained, there is no reason to allow for continued operation of OTC plants until the proposed compliance dates of 2015 or 2018.

2. Potrero Unit 3 Should Close Immediately Because It Is Not Needed to Maintain Electric Reliability.

San Francisco is home to the Potrero Power Plant, which operates using an outdated OTC system that damages the Bay and harms the people who use the Bay for recreation and subsistence fishing. The Potrero Power Plant consists of a 206 MW Unit that uses OTC and 3 52 MW air-cooled turbines. Under the ISO's own study criteria, Potrero Unit 3 is no longer necessary to maintain electric reliability for San Francisco or the Greater Bay Area (GBA). PG&E studies undertaken in 2008 indicate that with a recently completed transmission addition—the third Martin-Hunters Point 115kV transmission project—only 96 megawatts (MWs) of electric generation is required in San Francisco. The requirement for 96 MWs of generation could be met without the continued operation of Potrero Unit 3.

The ISO's 2010 Local Capacity Requirements Study indicates a very small need for local generation in San Francisco (25, 10 and 15 MWs for years 2010, 2011, and 2013, respectively), assuming the Trans Bay Cable is in operation. The ISO's requirements were developed by assuming the rare event of an overlapping outage of two major transmission lines, a level C contingency. This small need can be met easily without Potrero Unit 3.

For the Greater Bay Area, the ISO's 2010 Local Capacity Requirement study indicates a requirement of 4651 MWs under a level C contingency and 4224 MWs under a level B contingency. The study indicates Qualifying Capacity of 6704 MWs. Thus, even under the most stringent analysis using a level C contingency, there is a surplus of 1843 MWs even without Potrero Unit 3.

3. The Development of a New State OTC Policy Should Not Delay the Enforcement of Existing Permits.

CCSF supports the efforts of the SWRCB and the energy agencies to develop and implement a policy that will eventually eliminate OTC, but we do not support allowing this effort to extend the life of existing OTC systems that would otherwise need to close or come into compliance with current standards. This is precisely what has happened with Potrero Unit 3.

In May 2006 the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a renewal for the water discharge permit for Potrero Unit 3. The renewed permit expired on December 31, 2008. This permit stated the RWQCB's intention to "prohibit the discharge of once through cooling water, to the extent allowed by law, unless the discharger demonstrates that its discharge has no significant adverse environmental effects on San Francisco Bay. This Board intends to resolve this issue no later than December 31, 2008." (Finding #22 of the May 10, 2006 Order.)

The RWQCB has cited the process of developing a new State OTC policy as one basis for its failure to move forward with enforcement of this permit condition.

4. Stakeholder Participation in Energy Agency Collaborative Work.

Information provided at the Workshop and previously indicates that the state energy agencies, the ISO, CEC, and CPUC, have been meeting with SWRCB staff, and other state agencies, about specific implementation mechanisms that might simultaneously achieve the SWRCB's goal of elimination of OTC while assuring system and local reliability for the state's electrical grid. The energy agencies have been actively participating to assist SWRCB staff since June 2008, with intensive discussion among the energy agencies' technical staffs to devise a common approach since September 2008, and with multiple meetings of principals of the three energy agencies to assure that the approach developed by technical staff is acceptable since December 2008. CCSF understands that stakeholders will eventually be presented with some new SWRCB staff recommendations and that those recommendations will be the subject of another CEC 2009 IEPR workshop on July 9.

Such inter-agency collaboration is commendable and essential to the implementation of effective policy on an issue of this complexity. However, this

the working group is considering or has recommended to the SWRCB staff were discussed at the Workshop, there was no disclosure of the working group's draft or final recommendations to SWRCB staff or the staff's response. Both the workshop and these comments would be more meaningful if stakeholders were informed about the current status of the work by the agencies, particularly where one of the workshop purposes is to "receive input from stakeholders that will either validate or refute various assumptions that the energy agencies have used in developing our proposal to SWRCB." It is clear that much work has been done on this issue by the state agencies but the results of that work has not been shared with stakeholders. ²

May 26, 2009

Respectfully submitted,

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These concepts included: improved analysis of generation and non-generation options to replace OTC capacity; incorporation of initial and updated analysis in decision processes; and pursuit of replacement infrastructure through adapted procurement proceedings at CPUC and transmission planning at ISO.

Although not a state agency, the ISO is subject to FERC Order No. 890 in conducting an open, transparent and collaborative transmission planning process. Planning for infrastructure replacement for retired OTC plants including transmission would be subject to such requirements. The last ISO open stakeholder meeting regarding the issue of OTC plant mitigation to maintain electric reliability was conducted on August 11, 2008.

San Francisco Comments on PG&E's Request Window Application for the San Francisco 115 kV Series Reactors Project

September 4, 2009

The City and County of San Francisco (the City) submits these comments on PG&E's proposed San Francisco 115kV Series Reactors Project. This project is a low-cost and relatively easy-to-implement means of ensuring longer term reliability in San Francisco.

Background

On May 8, 2009, City officials outlined to the ISO the City's analysis showing that the entire Potrero Power Plant can be closed by the end of 2010. That analysis identified alternatives for eliminating or reducing the small need for generation under emergency conditions that was shown by recent ISO studies. Since that time additional studies have been done utilizing the latest information available. These studies further support the closure of the entire Potrero Power Plant in 2010 and indicate that modest future investments will enable the system to meet ISO reliability criteria well beyond 2019, even under severe emergency conditions and without any generation at Potrero.

Using the ISO's current load projections and assuming the completion of approved transmission upgrades, there is no justification for the ISO to require any generation at Potrero after 2010. Current studies show that the combination of proper operating procedures for reactive compensation at the Martin Substation and higher emergency ratings for new cables being installed by PG&E will satisfy reliability criteria. For the future, the installation of series reactors in 2019, or another project selected by the ISO, will satisfy reliability criteria for a number of years.

Also since the City's May 8. 2009 letter to the ISO, the City and Mirant have reached a settlement of disputes that provides for closure of the entire Potrero Power Plant as soon as it is not needed for reliability. Mirant has agreed to work with the City and the ISO to achieve closure of the plant by the end of 2010. The settlement is subject to approval by the San Francisco Board of Supervisors and Mayor.

As described further below, current studies demonstrate that closure of the entire Potrero Power Plant by the end of 2010 is realistic, cost effective, and consistent with system reliability requirements.

Scheduled transmission system improvements eliminate the small need for local generation in the near term and modest transmission system improvements eliminate the need for local generation in the long run.

Last year's ISO Local Capacity Requirements (LCR) studies for the San Francisco area indicate a need for local resources of 25, 10, and 15 MWs, respectively for the years 2010, 2011, and 2013, assuming the Trans Bay Cable is in operation. The ISO acknowledged that the need for local generation shown in those studies would be eliminated by having proper operating procedures for the existing reactive compensation at Martin Substation in 2010. We understand that PG&E has developed the needed operating procedures.

Furthermore, two important developments have occurred since last year's LCR studies by the ISO. These developments have increased the margin between the expected power

flows and the cable ratings for critical contingencies on the 115kV network serving San Francisco. First, PG&E has provided new, significantly higher (about 30%) emergency ratings for the two Martin-Bayshore-Potrero cables, which are scheduled to be recabled by October 2010. Second, the base cases provided by the ISO as part of the 2010 transmission planning process indicate lower projected loads at the substations on the 115kV network serving San Francisco (685 MW for 2010 in the 2009 base cases as compared to 704 MW for 2010 in the 2008 base cases.)

PG&E's recent proposal to install series reactors on two of three Martin to Hunters Point 115kV cables can provide further reinforcement to the 115kV network in San Francisco in later years. CCSF has performed multiple year reliability studies using the latest ISO base cases and the emergency ratings discussed above. Under these assumptions, and with the completion of approved and under-construction transmission projects, the 115kV system satisfies the CAISO's stringent Category C (N-1-1) reliability criteria even without any in-City generation. This is true until the year 2019. The minor transmission addition of installing the reactors as proposed by PG&E can be made in 2019 to provide a long-term solution to the reliability of the 115kV network in San Francisco.

The combination of Trans Bay Cable and the Potrero Power Plant increases the potential cable overloads on the 115 kV network in San Francisco.

Even with no Potrero generation, the City's's studies indicate a need to run-back the normal loading of the Trans Bay Cable under certain Category C contingencies. With Potrero generation online, either the Potrero generation needs to be curtailed or the Trans Bay Cable loading needs to be reduced for even a Category B contingency. The number and the magnitude of the overloads for Category C contingencies increase substantially with both Trans Bay Cable and Potrero generation online. Therefore, having generation online in the presence of the Trans Bay Cable considerably increases operational complexity.