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STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

In the Matter of:	Docket No. 09-IEP-1O
Preparation of the 2009 Integrated Energy Policy Report (2009 IEPR).	2009 IEPR - OTC

MIRANT'S COMMENTS ON ONCE-THROUGH COOLING ISSUES

I. INTRODUCTION

Pursuant to notice issued by the Commission and as a follow-up to the workshop on Once-Through Cooling (OTC) issues held on May 11, 2009, Mirant California, LLC, Mirant Delta, LLC, and Mirant Potrero, LLC (collectively, "Mirant") hereby provide the following comments addressing matters related to electric power plants that employ OTC.

In these comments, Mirant addresses the following topics:

1. Status of Mirant's OTC plants in Northern California;
2. The need for a reopener to be included with any ban on OTC;
3. The adoption of a targeted procurement vehicle to give refits a chance to succeed commercially in lieu of simply retiring a unit.
4. Possible alternatives to mandatory closed-cycle cooling.

II. MIRANT HAS MADE SIGNIFICANT REDUCTIONS IN WATER USAGE AT ITS PLANTS.

Mirant currently operates five generating units that rely on OTC at three different plants in Northern California, specifically, Units 5 and 6 at the Pittsburg Power Plant, Units 6 and 7 at the Contra Costa Power Plant in Antioch, and Unit 3 at the Potrero Power Plant in San Francisco. These units account for approximately 1,500 megawatts of capacity in the Greater Bay Area load pocket.

The Mirant plants have seen significant reductions in the amount of water used for the OTC process in the last fifteen years. Since 1994, the Pittsburg and Contra Costa Power Plants (Delta Plants) have retired nine units totaling approximately 1,300 megawatts of capacity that were once-through cooled. These units no longer draw water from the Delta, thereby significantly reducing the environmental impacts of Mirant's operations in California.

To reduce the environmental impacts of its existing OTC units, Mirant has deployed variable pump technology which scales the volume of water used for the OTC process to the amount of electricity being generated. Mirant's OTC units at its Delta Plants operate subject to the so-called "Delta Dispatch" requirements which essentially feature the preferential dispatch of a non-OTC unit (Pittsburg Unit 7) over the existing OTC units. Although the Delta OTC units continue to make a critical contribution to reliability in peak periods, their capacity factors have declined significantly in recent years.

These developments have resulted in a 90% reduction in water usage at the Delta Plants.

Mirant does not view all of its OTC units as possessing a common fate. First, Potrero Unit 3 has a distinctly different fate than the Delta OTC units. Mirant anticipates that Potrero Unit 3 will be retired after activation of the Trans-Bay Cable, which is currently projected to occur in the first half of 2010. Potrero Unit 3 operates at an approximate 29% capacity factor (in contrast, the Delta OTC units operate at capacity factors of 3% or less), meaning that Potrero Unit 3's retirement will result in a further significant reduction of Mirant's water usage.

As for the OTC units at the Delta Plants, Mirant believes that they are still currently needed for grid reliability and will continue to be needed for a number of years to come. The future need for these units depends on a number of factors, including new generation that comes on-line, demand response, energy efficiency, and the integration of renewable energy sources. Even there, though, the units at the Pittsburg and Contra Costa Power Plants may have different fates. Pittsburg Unit 7 uses cooling towers, and there may be some opportunity to shift those towers over to the more flexible Units 5 and 6. At Contra Costa Power Plant, a cooling tower refit would require the purchase of cooling towers. Accordingly, there would be a cost difference associated with refitting the Pittsburg units compared to the Contra Costa units.

III. GRID RELIABILITY MUST REMAIN THE PRIMARY FOCUS.

As the Commission is aware, the State Water Resources Control Board (State Water Board) is contemplating adoption of an OTC policy that will set deadlines by which OTC units must cease relying on OTC. Without debating the merits of such a policy, Mirant emphasizes

that the agencies responsible for ensuring the reliability of the electricity grid (e.g., the California Energy Commission, the California Independent System Operator, the California Public Utilities Commission) should retain the discretion to override a deadline on a unit by unit basis.

Mirant believes that one year prior to a deadline adopted by the Water Board, the California energy agencies should be given the opportunity to confirm that the application of the deadline will not adversely impact grid reliability. One year is a short enough period to permit a reliable estimate of grid requirements. For example, if the State Water Board adopts a rule requiring Unit A to cease using OTC in 2018, the energy agencies should have the opportunity in 2017 to determine whether in fact Unit A should be permitted to retire in 2018. To ensure grid reliability, the agencies responsible for ensuring the integrity of the grid must be granted the authority to override any deadline imposed on the use of OTC.

IV. UNIT REFITS SHOULD BE A FEATURED TOOL FOR ADDRESSING OTC.

Mirant believes that it is economically and technically feasible to refit some of its Delta units with cooling tower technology. Publicly-available estimates suggest ranges of $17.5 million to $50 million to refit a unit with cooling towers.[1] While Mirant believes such figures could be understated for a facility located in California, costs in this range make a refit economical compared to the construction of new generation. A recent filing by an IOU seeking authority to construct a new 560 megawatt gas-fired power plant showed the cost of that unit would have been approximately $850 million. Based on this cost, the cost of newly built units with sufficient capacity to replace the 1,300 megawatts of capacity represented by the Delta OTC units could approach $2 billion. Accordingly, it could be quite economical to refit the Delta units and allow them to continue providing an inexpensive source of capacity in the Greater Bay Area local reliability area.

Assuming a refit scenario, Mirant would require a multi-year commitment for the purchase of the unit's capacity to justify the investment associated with the refit. Refitting the Delta units to cooling towers, including the permitting process, would take approximately two to three years to accomplish. Cost recovery over a five-year term would still result in a very competitively priced capacity product.

However, the economic viability of refitting the Delta units depends on the vehicle for recovering the costs of a refit. One possible solution would be to undertake a targeted request for offer process where the capacity from refitted units could be considered. The expectations

[1] *See* U.S. Department of Energy, *Electricity Reliability Impacts of a Mandatory Cooling Tower Rule for Existing Steam Generation Units* (October 2008), p. 23, fn. 70.

in the RFO process would have to take into account the unique features of this capacity offering, e.g., the ramping characteristics of the older units, the time necessary to permit the conversion to cooling towers. With the recent development of new generation through the CPUC long-term procurement process and the identification of possible transmission solutions in lieu of new generation, Mirant does not believe that market power would be a factor in the context of an RFO targeted at the OTC plants. The offer into the targeted RFO would still be subject to a reasonableness test based on the cost of the other alternatives, thereby undermining any perceived market power emanating from a targeted RFO.

In the absence of some certainty regarding cost recovery associated with the investment to refit with cooling towers, there is a distinct possibility that a categorical elimination of once-through cooling would lead to the retirement of Mirant's OTC units and the loss of their 1,300 megawatts of capacity.

V. THE CEC SHOULD ADVOCATE FOR REASONABLE ALTERNATIVES TO CLOSED-CYCLE COOLING.

In presentations to the public, State Water Board staff has indicated that its future OTC policy will include two separate tracks for compliance. Track 1 compliance would occur through conversion of an OTC unit to closed-cycle cooling. Track 2 compliance would require a demonstration that any mitigation measures achieve a reduction in impacts equal to 90% of the reduction in impacts associated with closed-cycle, wet cooling.

Whether Track 2 becomes a feasible path for satisfying the State Water Board's requirements will depend on the implementation details. For example, an overly restrictive baseline for evaluating the 90% reduction in impacts will mean that the only real alternative to OTC is to use closed-cycle cooling. As a more concrete example, Mirant may be able to achieve a significant reduction in the volume of water used at its Delta Plants through a targeted refit to cooling towers for less than all of its OTC units and a priority dispatch protocol favoring the units with closed-cycle cooling, but this outcome will only be feasible if the State Water Board's compliance requirements permit consideration of the Delta Plants under Track 2 on a consolidated basis instead of on their own.

VI. CONCLUSION.

Over the last 15 years, the Delta Plants have seen a significant reduction in the volume of water used as part of the OTC process. Mirant expects this trend to continue. However, the OTC units at Mirant's Delta Plants should be recognized as a very affordable source of capacity, and policymakers responsible for ensuring the integrity of the grid should at least give due

consideration to creating the environment necessary to allow them to continue operating even after an OTC policy is adopted.

Dated this 26th day of May, 2009, at Pittsburg, CA.

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