

Docket Number 06-SPPE-2
First Round Data Requests
El Centro Unit 3 Repower Project
July 2006

DATA REQUEST #2
AIR QUALITY

BACKGROUND

Section 6.1.2.4 of the Application for Small Power Plant Exemption (SPPE), and its Appendix 6.1E indicate that the El Centro Unit 3 Repower Project will employ an existing cooling tower, which would be retrofitted with modern drift eliminators to restrict the drift to 0.001 percent of the water recirculation rate. Even with this retrofitting, the application calculates that the cooling tower will emit approximately 2.34 tons per year of particulate matter (PM10). Because the area is non-attainment with respect to the state and federal PM10 standards, best available control technology (BACT) and offsets are required for PM10 emission sources.

The current state of the art drift eliminators can achieve a drift rate of less than 0.0005 percent, which is half of the proposed drift rate. This type of drift eliminator is currently deemed as BACT by other air pollution control or air quality management districts in California.

DATA REQUEST

2. Please discuss the feasibility of utilizing a 0.0005 percent drift eliminator on the Unit 3 cooling tower.

DATA RESPONSE

The existing Unit 3 cooling tower was constructed in 1987 and is almost 20 years old. Reducing the tower's drift to 0.0005%, consistent with what would be required for a new tower being built today, was discussed with Marley as an option. Marley proposed adding a second layer of drift eliminators as an option and a change in tower operation as an approach to achieving a drift of 0.0005%.

The tower is currently allowed to dry and the basin drained when Unit 3 is not being operated during the off-season in order to prevent biological growth and eliminate the need for chemical treatment during long shutdown periods. In order to maintain the tight sealing required for 0.0005% drift operation, in addition to the second layer of drift eliminators, it would also be necessary to change the operation of the cooling tower to keep it wet at all times in order to maintain stable conditions within the tower. Keeping the tower wet at all times is feasible, however a wetting system would need to be installed along with implementing measures to prevent scale and bio formation given the "hard" water available for use at the facility.

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Additionally, adding the second layer of drift eliminators increases the likelihood of needing to make structural modifications to the tower to support the additional drift eliminators.

IID agrees that making some modifications to the tower are warranted to improve performance and move towards current standards, hence the plan to upgrade the drift eliminators as already proposed in the SPPE application. The question does arise however of how much investment to make in a 20 year old tower that will not be operated continuously and that is likely to require replacement in 10 years. Consequently IID would accept a Condition of Exemption that requires 0.0005% drift when the tower is replaced.