

July 19, 2001

Dr. Iclal Atay, Chief
Bureau of Air Quality Engineering
New Jersey Department of Environmental Protection (NJDEP)
P.O. Box 027
401 East State Street, Floor 2
Trenton, New Jersey 08625-0027

Re: Significant Modification to LAER/PSD Application
Ocean Peaking Power, L.P.
(Formerly Lakewood Power Generation) aka Consolidated Edison Development
Facility PI No. 78896 Activity No. BOP010001

Dear Dr. Atay:

The U.S. EPA's Region 2 Office has reviewed NJDEP's pre-draft permit conditions for the Ocean Peaking Power's (OPP) PSD permit modification. This permit modification would cover the installation of three identical GE Frame 7FA simple cycle turbines burning natural gas at 1,802 MMBtu/hr heat input. NJDEP has made a preliminary LAER determination for the NO_x at 9 ppm_{dv} by using dry low NO_x burners. NJDEP made this LAER determination with an understanding that it is technically infeasible to use SCR as an additional control for these turbines because they are peaking, i.e., they would turn on and off frequently and for short durations and secondly, they are simple cycle, i.e., the high exhaust gas temperature would make the SCR ineffective. EPA believes that a NO_x emission rate of 5 ppm_{dv} has been achieved in practice as LAER for the class or category of simple cycle turbines to which OPP's turbines belong.

LAER, by definition, is the "most stringent emission limitation achieved in practice by such class or category of source." EPA has always treated LAER as an emission rate and would not prescribe the control technology used to achieve this limit. A LAER determination does not take into consideration the make and model of the turbine. A 5 ppm_{dv} LAER for NO_x was determined for the Carson Energy Project and the Sacramento Cogen Authority Project. The results of the performance tests performed in April 2001, show an average NO_x emissions of 4.3 ppm_{dv}, below the limit of 5 ppm_{dv}. Although not a LAER determination, please note that the New York Power Authority is installing 11 simple cycle turbines with SCR at 2.5 ppm_{dv} in the New York City area.

NJDEP has provided two reasons for not selecting a LAER emission limit lower than 9 ppm_{dv} and rejecting a SCR unit as an add on control device. The NJDEP's reasons for the infeasibility of using a SCR unit are; 1) the peaking turbine units are expected to have frequent shutdowns/startups and, 2) the exhaust gas temperature from a simple cycle turbine is expected to be hotter than the temperature at which it can be treated by a SCR unit. With regards to OPP's frequent startups/shutdowns for these peaking turbines we understand that they are limited to 67 events and operate no more than 1,050 hours in a year. These turbines are expected to reach the operating load in

18 minutes, thus, making an average operation of about 15 hours every time the turbine starts. In general, the turbines with a one-hour startup/shutdown do not encounter any technical problems operating with a SCR unit. The second feasibility issue relating to the high exhaust temperature can be overcome by the installation of a modulating air cooling fan to quench the exhaust temperature from 1200 degrees F to 875 degrees F. EPA's Region 9 and Region 3 have made such a conclusion in their recent letters (copies are enclosed). Thus, a SCR unit would meet the technical feasibility test under these operating conditions.

Based on the above discussions, we would conclude that the LAER for NOx in this non-attainment region for ozone would be between 3 and 5 ppmv. This limit may be achieved by cooling the turbine exhaust flow to about 1000 degrees F followed by a SCR unit. If you wish to discuss this issue further, please call me or have your staff contact Umesh Dholakia at (212) 637-4023.

Sincerely yours,

Steven C. Riva, Chief
Permitting Section

Enclosure

cc: William O'Sullivan, NJDEP w/o
Sunila Agrawal, NJDEP w/o
Eleonora Kats, NJDEP w/