ILLINOIS POLLUTION CONTROL BOARD
September 25, 2000

IN THE MATTER OF:	)	
	)	
NATURAL GAS-FIRED, PEAK-LOAD ELECTRICAL POWER GENERATING FACILITIES (PEAKER PLANTS)	)	R01-10
	)	

HEARING OFFICER ORDER

During the hearing on August 23, 2000, the Board advised representatives of the Illinois Environmental Protection Agency (Agency) that additional questions would be directed to the Agency. The purpose of this hearing officer order is to provide those additional questions. The questions have arisen both from testimony provided by the Agency and from comments and questions raised by members of the public.

The Agency is asked to file, to the extent practicable, answers to these questions so that the Board receives the filing by October 3, 2000. Because of time constraints, the Agency may file its answers with the Board by fax at (312) 814-3669 or e-mail at clerk@ipcb.state.il.us, to be followed by the hard copy filing. The Board will promptly post on its Web site (www.ipcb.state.il.us) any answers that the Agency files.

The Agency is encouraged to file any answers it may have prepared by October 3, even if it has not by then prepared written responses to all of the questions set forth below. The Agency should be prepared, however, to address all of the questions during the October 5 and 6, 2000 hearing dates in Springfield. Others, of course, are free to address these questions at hearing or in written public comment.

Please note that the term "peaker plant" in the questions below refers to a facility that uses one or more simple cycle, natural gas-fired turbines to produce electricity. The term "combined cycle plant" refers to a facility that uses hot exhaust gases discharged from a natural gas-fired turbine to generate steam which in turn is used to drive a steam turbine generator to produce electricity.

Questions to the Agency

1. Please explain whether existing air pollution control laws and regulations, including Prevention of Significant Deterioration (PSD), New Source Review (NSR), and New Source Performance Standards (NSPS), address the following concerns raised at hearing with respect to air emissions from existing and proposed peaker plants:

   a. peaker plant sitings near residential areas or schools;

   b. the clustering of peaker plants;

   c. peaker plants emitting up to annual limits on pollutants during the ozone season; and

   d. peaker plants emitting greater amounts of pollutants during frequent start-ups and shut-downs.

2. Please address whether any localized impacts (*e.g.*, potentially exposing local residents to greater amounts of air pollutants) present a health concern with respect to air emissions from existing and proposed peaker plants sited or to be sited near residential areas or schools.

3. In permits issued to peaker plants, please explain whether the Agency has limited, other than on an annual basis, the amounts of pollutants that may be emitted, the number of hours during which the plants may operate, and the amounts of fuel that the plants may consume (*e.g.*, daily, weekly, monthly, or seasonal limits). Please explain how the Agency establishes permit limits on pollutant emission amounts, hours of

operation, and fuel consumption for peaker plants. In addition, please explain under what circumstances the Agency would not impose a permit condition limiting the number of hours during which a peaker plant may operate.

4. Please explain whether the Agency limits in air permits the types of fuel that a peaker plant may use. Please explain whether the emission limits in an air permit for a peaker plant would vary depending upon the type of fuel used.

5. Please explain what notification requirements apply to the Agency and the applicant when an air permit application for a peaker plant is submitted. Likewise, please explain the notification requirements when the Agency holds hearings on such permit applications. In the Agency's response to these questions, please address whether notice is provided to residents, schools, and any aeronautical authorities, such as the Federal Aviation Administration, the Illinois Department of Transportation, and local airports. Also, please describe the distance from the proposed site within which one must be located to be entitled to notice.

6. Please explain whether the Agency expects peaker plants to emit, during start-up and shut-down, greater amounts of air pollutants than at other times of operation. Please address whether Illinois air permits for peaker plants should include special provisions to control air emissions during start-up and shut-down. In addition, please explain whether the Agency expects peaker plants to emit greater amounts of air pollutants at lower load levels. Please address whether Illinois air permits for peaker plants should include special provisions to control air emissions during lower load operations.

7. Please comment on whether the United States Environmental Protection Agency (USEPA) should revoke the nitrogen oxides (NO_x) waiver with respect to Illinois. In the Agency's response, please address the following:

   a. the implications for NO_x emitters, including existing and proposed peaker plants, if USEPA revokes the NO_x waiver;

   b. the Ozone Transport Assessment Group (OTAG) findings on NO_x and USEPA's NO_x State Implementation Plan (SIP) call; and

   c. any relationship between the NO_x waiver and USEPA's cap on NO_x emissions for Illinois under the SIP call, including any anticipated impact on the cap if USEPA revokes the NO_x waiver.

8. In the rulemaking pending before the Board docketed as R01-9, Proposed New 35 Ill. Adm. Code 217. Subpart W, The NO_x Trading Program for Electrical Generating Units, and Amendments to 35 Ill. Adm. Code 211 and 217, the Agency has proposed a NO_x emissions budget of 30,701 tons per ozone season for electrical generating units (EGUs), based on USEPA's NO_x emissions cap for Illinois under the SIP call.

   a. Please describe how the NO_x budget would impact existing and proposed peaker plants. In addition, please explain what this impact would be if all of those peaker plants converted to combined cycle plants operating all year.

   b. Would the Agency deny a construction permit to a peaker plant applicant because the portion of the NO_x budget reserved for new sources has been purchased, or would the applicant simply be left to purchase allowances on the market?

   c. Please describe any anticipated impact on allowance allocations in Illinois if USEPA revokes Illinois' NO_x waiver.

9. Please explain what would constitute the Lowest Achievable Emission Rate (LAER) for peaker plants and for combined cycle plants. In the Agency's response, please address the control technology in Standard

Power and Light's draft permit application, including its technical feasibility and economic reasonableness. See Standard Power and Light Exhibit 1.

10. Please explain whether any peaker plants currently proposed in Illinois plan to use combustion modification techniques, such as the dry-low NO_x burner system, to reduce emissions. Please provide any information that the Agency may have on the capital cost of adding such a modification, including the capital cost of adding a dry-low NO_x burner system. Also, please provide any information that the Agency may have on how much it would cost a typical peaker plant to demonstrate Best Available Control Technology (BACT).

11. Robert J. Kaleel of the Agency stated that results of photochemical modeling indicate that ozone increases in the range of one to four parts per billion (ppb) can be expected when all peaker plants in Illinois operate simultaneously on high ozone days. See Agency Group Exhibit 1. Please describe all of the parameters used in the Agency's modeling, including the ambient conditions, the inventory of emission sources, and the characteristics of those emission sources. In addition, please explain how requiring BACT for all existing and proposed peaker plants would affect the modeled ozone results.

12. Please describe all of the parameters used in the dispersion modeling that has been conducted for peaker plants and submitted to the Agency. In the Agency's response, please address whether this modeling accounts for the temperature and speed of the air emissions. Also, please explain whether the Agency has or will have actual monitoring data to verify the results of the dispersion modeling.

13. With respect to existing and proposed peaker plants and combined cycle plants in Illinois, please comment on the discussion of BACT, health risk assessments, and "other permitting considerations" in the California Environmental Protection Agency Air Resources Board "Guidance for Power Plant Siting and Best Available Control Technology," dated July 22, 1999. See McCarthy Exhibit 2.

14. Please comment on the technical feasibility and economic reasonableness of using the XONON™ emission control technology to reduce NO_x emissions from existing and proposed peaker plants and combined cycle plants.

15. The Agency stated that it is, as a matter of administrative discretion, requiring peaker plant applicants for air permits to conduct certain air modeling. Please explain what actions the Agency has taken or might take with respect to such an applicant based on these modeling results.

16. Please clarify whether air emissions from all existing and proposed peaker plants would impair the State's ability to comply with applicable air quality standards.

17. Please describe the air permitting requirements with which the Agency anticipates an operating peaker plant would have to comply to convert to a combined cycle plant, both in attainment and nonattainment areas for ozone.

    a. Please comment on whether the Agency would expect a combined cycle plant to be used to meet peak electricity demands.

    b. Please describe how the Agency's responses to questions 1 and 2 above would differ for existing and proposed combined cycle plants.

    c. Please describe how the Agency's responses to question 17(b) above would differ if all existing and proposed peaker plants converted to combined cycle plants operating all year.

18. Please provide an updated list of all existing (built and under construction) and proposed (permitted and permit applications under review) combined cycle plants in Illinois. Please include the following information in the listing: permit number and expiration date; company name; street address, including city / town and county; type of plant (*i.e.*, merchant plant; utility or private company); attainment or

nonattainment area for ozone; type of fuel; turbine manufacturer and model number; number of turbines; type of turbines; total megawatts; NO_x control technology; NO_x emission rate (parts per million (ppm) and pounds per million British Thermal Units (lb/mmbtu)); total permitted annual NO_x (tons/year) and any other time period-based emission limit; limits on hours of operation and fuel consumption; and applicable air pollution control regulations.

19. Please explain whether the Agency has received any air permit applications to add peaker units at any existing sources.

20. Please provide an updated list of all existing (built and under construction) and proposed (permitted and permit applications under review) peaker plants in Illinois. Please include the following information in the listing: permit number and expiration date; company name; street address, including city/town and county; type of plant (*i.e.*, merchant plant; utility or private company); attainment or nonattainment area for ozone; type of fuel; turbine manufacturer and model number; number of turbines; type of turbines; total megawatts; NO_x control technology; NO_x emission rate (ppm and lb/mmbtu); total permitted annual NO_x (tons/year) and any other time period-based emission limit; limits on hours of operation and fuel consumption; applicable air pollution control regulations.

21. Please comment on concerns raised at hearing regarding the adequacy of the Board's existing numeric noise standards to address peaker plants, including the issues of low frequency noise (*i.e.*, vibrations), numeric noise standards based on area background levels of noise, and nighttime noise standards applying all weekend.

22. Other than staffing and resource issues, please describe any problems the Agency would anticipate if demonstrating compliance with numeric noise standards was made a part of the air permitting process.

23. For plants identified in response to questions 18 and 20 above, please identify those facilities which have received or applied with the Agency for National Pollutant Discharge Elimination System (NPDES) or State water permits. For these plants, please provide any information that the Agency may have on the characteristics and volume of wastewater being or to be discharged and the type of permit issued or requested.

24. Please explain whether existing laws and regulations address the storage, handling, and potential release of hazardous chemicals (such as hydrogen) and back-up fuel at existing and proposed peaker plants.

IT IS SO ORDERED.

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