BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:	)	
	)	
NATURAL GAS-FIRED, PEAK-LOAD	)	PCB No. R01-10
ELECTRICAL POWER GENERATING	)	
FACILITIES (PEAKER PLANTS)	)	

NOTICE

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street
Suite 11-500
Chicago, IL 60601

Amy L. Jackson, Hearing Officer
Illinois Pollution Control Board
600 South Second Street
Suite 402
Springfield, IL 62704

PLEASE TAKE NOTICE that I have today filed with the office of the Clerk of the Pollution Control Board an AGENCY RESPONSE TO QUESTIONS, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Scott O. Phillips
Deputy Counsel
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544
217/782-9143 (TDD)
Dated: October 4, 2000

BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:	)	
	)	
NATURAL GAS-FIRED, PEAK-LOAD	)	PCB No. R01-10
ELECTRICAL POWER GENERATING	)	
FACILITIES (PEAKER PLANTS)	)	

AGENCY RESPONSE TO QUESTIONS FROM THE HEARING OFFICER ORDER DATED SEPTEMBER 25, 2000

NOW COMES the Illinois Environmental Protection Agency ("Agency" or "Illinois EPA"), by one of its attorneys, Scott O. Phillips, Deputy Counsel, and, pursuant to the assigned Hearing Officer's order dated September 25, 2000, hereby responds to questions directed to the Agency. The questions raised, and the Agency's responses, are as follows:

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;**

Siting is not addressed specifically by these rules. Rather, each of these rules was developed to protect the environment in different ways.

The PSD rules are structured to protect ambient air quality in attainment areas from significant deterioration in three ways. First, PSD minimizes impacts of major projects by subjecting them to best available control technology (BACT), as determined on a case-by-case basis during issuance of a construction permit. Second, as directly related to the air quality impact of a major project, PSD requires an applicant for a construction permit for a major project

to conduct an air quality impact analysis. This analysis must show that a proposed project will not cause or contribute significantly to a violation of the national ambient air quality standards (NAAQS). The NAAQS are ambient standards established by U.S. EPA and reviewed periodically by U.S. EPA pursuant to the Clean Air Act. Therefore, when PSD applies, the air quality should never degrade to a level where it violates the NAAQS as a result of the proposed project. Third, the PSD rules establish air quality increments for particulate matter (PM), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2) but measured as nitrogen oxides (NOx). Increments are fixed levels of deterioration in air quality in an area from the levels that exist when the first major project subject to PSD is applied for in the area. In areas where air quality is significantly better than the NAAQS, the increments may be constraining, so that air quality levels can never reach the NAAQS. The location of a proposed source near residential areas or schools would not be a specific factor in issuance of the PSD permit, as the PSD rules fully protect air quality irrespective of the land uses currently in an area.

The nonattainment NSR rules apply to major projects for a pollutant for which an area is designated nonattainment. First, nonattainment NSR requires emissions of the nonattainment pollutant to be controlled to the lowest achievable emission rate (LAER). Second, nonattainment NSR requires emission offsets for the nonattainment pollutant so that there is an actual reduction in overall emissions of the nonattainment pollutant in the nonattainment area. Because of the regional nature of ozone, offsets for ozone precursors may be provided from anywhere in the nonattainment area. Nonattainment NSR would operate only to protect or improve air quality locally if the particular nonattainment problem was local in nature. Because NOx is both an

ozone precursor and a criteria pollutant, NOx can be subject to both PSD and nonattainment NSR. This is the case in the Metro-East area, which does not have a NOx waiver for NSR. In this area, NOx may be subject to PSD as related to the NO_2 NAAQS and subject to nonattainment NSR as an ozone precursor. Again, local siting issues are not considered.

The NSPS are federal emission standards that apply to various types of emission sources. The purpose of the NSPS is to ensure that state-of-the-art equipment, as of the date of promulgation of the NSPS, is being employed when new emission sources are being installed regardless of the state or area where the source is proposed. As such, the NSPS do not consider the location of a project, nor do they address in any way the air quality impact of a source. They are simply federal technology-based standards applicable to any source for which NSPS have been developed by U.S. EPA. Other case-by-case technology-based standards, *i.e.*, BACT and LAER, may be more stringent than the NSPS, particularly with the passage of time, as BACT and LAER require evaluation of the most current technologies. However, BACT and LAER are required of major projects only when PSD and NSR, respectively, have been triggered because of applicable emissions thresholds.

b. **the clustering of peaker plants;**

The air quality elements of PSD address the clustering of peaker plants. In particular, a major source proposing to develop at a site must consider the emissions and impacts of existing sources already in the area and new sources also being developed in the area. Nonattainment NSR and NSPS do not address clustering, as explained above.

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

Applicability of the NSPS to most emission sources, including turbines, is based on source size or capacity thresholds. The NSPS for turbines applies to turbines with a heat input of about 10 mmbtu or more (about 1 MWe output).

The Clean Air Act based applicability of PSD and nonattainment NSR on potential emissions expressed on an annual basis. Considering emissions on a seasonal basis is a relatively new concept. In fact, since adoption of the 1990 amendments to the Clean Air Act, the Illinois EPA had to go to great lengths to convince U.S. EPA of the appropriateness of certain of the Board's rules that require only seasonal emissions limitations. Since that time, U.S. EPA has proposed the NOx SIP call (63 Fed.Reg. 57355 (October 27, 1998)), which requires additional reductions of NOx only during the so-called control period (May 1 through September 30) which is a portion of the ozone season applicable in Illinois (April 1 through October 31). Moreover, as NOx emissions have other impacts, unrelated to ozone, that are not seasonal in nature (*e.g.*, creation of acid rain, eutrophication), it is not inappropriate that applicability of PSD be based on annual emissions.

Once applicable, both PSD and nonattainment NSR do contain elements that address the seasonal character of a source. PSD requires appropriate air quality analyses to address the relevant NAAQS. Thus, air quality impacts of peaker plants for PM, SO_2, carbon monoxide (CO) and ozone (VOM)[1] must be evaluated on a short-term basis considering maximum short-term emission rates, not annual average emission rates. Similarly, emission offsets under nonattainment NSR would have to provide comparable benefit to the period of interest, *i.e.*,

summertime offsets to accommodate emissions of peaker plants, which will predominantly occur during the summertime. In addition, under nonattainment NSR, stringent emission control could be required with LAER to address the actual timing of emissions.

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

The federal NSPS require owners or operators of affected sources to use good air pollution practices in addition to establishing emission limits. Accordingly, while the NSPS emission limit does not apply to an affected turbine during start-up and shut-down, the owner or operator of a turbine subject to the NSPS must take reasonable measures to minimize emissions during such periods. (See 40 CFR 60.8(c) and 60.11(d).)

PSD and nonattainment NSR also address emissions during start-up and shut-down. First, emissions during start-up and shut-down are considered as part of the total emissions of a peaker plant or other source for purposes of applicability. Second, PSD and nonattainment NSR both can establish appropriate provisions to minimize emissions as part of a BACT or LAER determination. Third, the air quality analyses of PSD must specifically address emissions during start-up and shut-down as needed to protect air quality standards that apply on a short-term hourly or daily average.

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.**

---

[1] In attainment areas for ozone, a proposed major source subject to PSD for emission of VOM must evaluate the affect of its VOM emissions on continued compliance with the ozone NAAQS, which applies on a daily basis.

The Agency has required the applicants for proposed peaker plants, whether major or not, to address expected air quality impacts of expected emission sources. The required analyses are conservative (i.e., would tend to overstate expected impacts), and address impacts at locations where peak impacts are expected to occur, even as close as the source's fence lines. The modeling has consistently demonstrated that the air quality impacts of the peakers are small, if not insignificant, and will not cause or contribute to violations of the NAAQS.

3. In permits issued to peaker plants, please explain whether the Agency has limited, other than on an annual basis, the amount 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.

Construction permits issued to peaker plants routinely include (1) limitations on the short-term (hourly) emission rates of the individual peaking turbines, and (2) restrictions on the annual usage of fuel or operating hours of the turbines, in addition to (3) limitations on the annual emissions of the plant. Annual limits are set on a rolling basis, so that compliance is determined at least twelve times per year based on the sum of 12 consecutive months of data. Separate weekly, monthly or seasonal limitations are not established.

The Agency has not imposed limitations on hours of operation on plants when the applicant has proposed to accept restrictions on usage of fuel. Because fuel usage can be directly measured, the historical preference of the Agency in permitting has been to restrict fuel usage.

In considering how these limitations are developed, a brief review of the possible origin of limitations or restrictions imposed by permit conditions is in order. Certainly, permits may contain limitations that result from evaluations or analyses prepared for the proposed project or the particular circumstances of the project. Emission limitations and other requirements determined to constitute BACT or LAER for a proposed turbine are one example of such limitation. These "BACT/LAER limits" are established by the Agency pursuant to specific regulatory provisions. Permits may also contain limitations or requirements that are established under the Agency's general authority to impose conditions in permits as necessary to protect air quality and prevent air pollution. Permits may also contain provisions that merely restate regulatory limits or standards. An example of a "restated limitation" is the restatement in permits of the emission standard of the federal NSPS for gas turbines.

Equally important, construction permits also contain limitations that reiterate and hold an applicant to significant representations made in its application. A common example of such "application-based limitations" are conditions restricting an emission unit to use of the fuels described in its application. Application-based emission limitations are also routinely placed in permits, holding an emission unit to the maximum levels of emissions that were represented in the application.

In addition, permits may contain provisions that clarify, refine, revise, or otherwise enhance applicable regulatory requirements, consistent with the Agency's general authorities to impose or allow such enhancements. Such "enhancing conditions" are routinely placed in non-major permits as needed to fully address applicability of PSD or nonattainment NSR. Conditions

limiting annual emissions of a proposed plant would be considered such an "enhancing limitation" if an applicant did not specify requested levels of annual emissions in its application. Similarly, if an applicant did identify requested levels of annual emissions for a proposed minor plant but did not accompany them with an associated level of operation, in terms of annual fuel consumption or hours of operation, the Agency would impose a limitation on fuel consumption or hours of operation in the issued permit.

The emission limitations and operating restrictions imposed by the Agency on peaker plants are a mix of application-based limitations and enhancing limitations, as discussed above. As part of the preparation of a construction permit, the Agency must address applicability of PSD and nonattainment NSR. For a proposed non-major source, this is done by establishing limitations on various aspects or dimensions of a proposed plant, i.e., short-term (hourly) emission limitation of individual turbines, limitations on the annual emissions of all turbines at a plant, and restrictions on the hours of operation or fuel usage of a facility. Ideally, all these limitations are application-based limitations reflecting data explicitly provided in the application by the applicant to demonstrate that the proposed facility will not exceed the applicability thresholds for a major source. In any event, the applicant must provide the basic data for short-term emissions for the particular model of turbine that has been selected for a project. The short-term limitations in the permit reflect this data provided in the application.[2]

Applicants are also required to provide information on maximum hours of operation or fuel usage of the proposed plant along with their calculation for the permitted annual emissions

of pollutants being requested for a proposed plant, to show how the proposed plant will be non-major. This requires that the applicant provide its projection for the relationship between emissions and hours of operation or fuel usage. If the Agency disagrees with the particular data points selected by the applicant for this calculation of annual emissions or believes that it provides an insufficient safety margin for status as a non-major project, the Agency will adjust the results downward to address these points.

The exact process differs from application to application for a number of reasons. First, different models of turbines do exhibit variations in emissions based on turbine load, ambient temperature, and use of inlet air cooling. Second, the individual plants vary in terms of the number of turbines selected by the developer. Third, the approach to calculating annual emissions differs between applications.[3] Finally, the Agency's review of applications accommodates variability in the approach to emissions taken by the applicant. In this regard, the Agency has not attempted to standardize the way in which applicants approach emissions, nor is it appropriate to do so. The purpose of Agency review of a construction permit application is to determine whether the application submitted for a proposed source demonstrates that it is being developed to comply with applicable regulatory requirements.

---

[2] If the short-term emission rates provided in the application were not at or below applicable regulatory limits, i.e, the NOx emission standard of the federal NSPS for gas turbines, 40 CFR 60 Subpart GG, the application would be denied.

[3] In general, it appears that the smaller the plant, the simpler the approach used by applicants when calculating annual emissions. That is, a simpler, more conservative approach can be used to show that the emissions of a proposed facility will be below major source thresholds while still allowing for a level of potential operation that is desired for the proposed plant. Applicants for larger plants must use more complex approaches for the calculation of annual emissions to achieve the potential level of operation desired for a plant.

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.**

The Agency limits the types of fuels that a turbine may use to the fuels addressed by the application (application-based limitations). In addition, if a particular turbine is being developed with the capacity to burn both natural gas and oil, the Agency would establish separate short-term emission limitations for the firing of each fuel (application-based limitations). Operating restrictions would also be established for the firing of each fuel (application-based limitations or enhancements). If use of oil was described as backup fuel in the application, these limitations, which would be intended to assure that oil would not be used as the primary fuel.

If and when the turbine was built, the Permittee would have to demonstrate that the turbine complies with both sets of emission limits. On a continuing basis, it would have to manage use of fuel to comply with applicable operating restrictions.

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.**

The procedures for public notice and comment for air permits are found at 35 Ill. Adm. Code 252. These procedures apply to the proposed issuance of construction permits for new major sources under nonattainment NSR and PSD, and for new sources that will not be considered major because net emissions over a contemporaneous period are not significant or

because significant restrictions are placed on the source's proposed operations. In the case of proposed new peaker plants, the Director has decided that the Agency will provide public notice for all plants, regardless of size. The same procedures apply for major and non-major applications.

Part 252 requires that a notice be placed in a newspaper of general circulation in the area where the source is located to notify the general public. In addition, the following entities must be notified:

- local government air pollution control offices within Illinois that are in the area affected by the source;
- chief executives of the county in which the source is to be located, including the state's attorney;
- chief executive of the municipality in which the source is to be located, including the mayor or president and clerk;
- members of the General Assembly from the legislative district in which the source is located;
- any state whose air quality may be affected and which is contiguous to Illinois or which is within 50 miles of the proposed source;
- the permit applicant; and
- persons on the public participation mailing list for the air pollution permit program.

Even though not required by rule, the Bureau of Air notifies other municipalities that are within a 3-mile radius of the proposed location.

Notices are not sent to individual property owners within a specified distance of a proposed source. Any person or organization can request to be on the mailing list. Other state

agencies, such as IDNR, have requested to be on the mailing list. The notice for public comment includes:

- the name and address of the applicant;
- the location of the proposed source, if different from the applicant's address;
- the activity or activities involved in the permit action;
- for a proposed significant modification, a description of the change in the amount or character of the emissions which may result from the modification;
- the preliminary decision of the Agency to grant the permit;
- for the issuance of a PSD permit, the degree of ambient air increment consumed by the project;
- for a case-by-case MACT determination pursuant to Section 112(g) and Section 112(j) of the CAA, a description of the emission limitation or work practice standard in the draft permit that constitutes MACT;
- the location of the documents available for public review;
- a request for written comments on the Agency's draft proposed permit;
- the date by which comments must be postmarked, which provides at least 30 days for public comment;
- instructions on how to request a public hearing if a decision to hold a hearing has not already been made pursuant to Section 252.205(a) or (b); and
- the name, address, and telephone number of the Agency contact person from whom the public may obtain additional information.

Along with the notice, the Agency prepares and makes available to interested parties the draft permit and a project summary (fact sheet).

The public comment period is open for 30 days.

The procedures for public notice when a hearing is being held are the same as above with the following enhancements:[4]

- the comment period is open for at least 45 days prior to the hearing and at least 15 days after the hearing;*

- persons on the Agency's hearing mailing list are added to the air pollution control permit program mailing list;

- the information is made available at a local repository, usually a local library; and

- the public notice is published in a local paper once a week for three consecutive weeks.

- The hearing officer has the authority to shorten the 30 days of comment after the hearing.

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.**

The Agency expects gas turbines to emit greater amounts of pollutants during startup and shutdown to the extent that emissions of pollutants are related to combustion efficiency (CO and VOM) or "active" control measures (NOx, when controlled by water injected or dry low-NOx combustors or SCR). In particular, the combustion efficiency of a turbine will be at its lowest when the fuel is first ignited and the combustion reaction is being established in the combustor. Likewise, the techniques that are used to lower NOx emissions are not effectively applied until flows and temperatures in the combustor or turbine exhaust reach certain minimum levels.

[4] The hearings themselves are held in accordance with 35 Ill. Adm. Code 166: Subpart A.

These effects are such that emissions certainly are higher when expressed as an emission factor, (e.g., pounds of pollutant emitted per million Btu heat input to the turbine). However, emissions may not be higher when expressed in pounds per hour, as the lower load (heat input) during startup and shutdown compensates for the higher emission factor. The extent of the actual increases in emissions depends upon the performance of the particular model of turbine. The extent of the perceived increases also depends upon the precision of the emission data submitted in a permit application. If the application is conservatively developed with worst-case emission rates, expressed in terms of pounds per hour, startup and shutdown emissions may not be significantly different than emissions during normal operation. If the emission data for normal operation more exactly portrays the low levels of emissions occurring during normal operation of a particular turbine, the emissions during startup and shutdown are greater in comparison. In this regard, the lower the emissions of a turbine during normal operation, the greater the emissions during startup and shutdown of the turbine appear.

For turbines, these higher levels of emissions accompanying startup and shutdown occur over relatively short periods of time, i.e., 15 to 30 minutes, and do not appear to pose any extraordinary concern for air quality impacts. Startup and shutdown emissions from turbines, like higher emissions during startup and shutdown of many emission units, are simply another aspect of the variation in emissions of particular emission units that must be appropriately addressed during permitting.

The construction permits now being issued by the Agency do make clear that a peaker plant must account for all its emissions, including emissions during startup and shutdown, when

demonstrating compliance with annual emission limits. Construction permits also have provisions requiring peaker plants to implement measures to minimize emissions of the turbines associated with startup and shutdown. These provisions are general in nature and would be subject to further refinement based on actual operating experience when operating permit applications are processed. The permits do not have specific limitations on the amount of emissions during startup and shutdown. Such provisions may be appropriate for cases where the elevated emissions of an emission unit during such periods would threaten air quality or when startup procedures can vary greatly due to unique aspects of individual startups. These are not the circumstances for peaker turbines, where startup is a rapid, automated process.

The Agency also expects gas turbines to emit greater amounts of CO and VOM during low load operation as combustion efficiency of turbines frequently goes down with low load operation.[5] Like startup and shutdown, these effects are such that emissions would be higher when expressed as an emission factor. However, emissions may not be higher when expressed in pounds per hour, as the reduction in load (heat input) compensates for the higher emission factor. The extent of the actual increase again depends upon the performance of the particular model of turbine and how consistent its performance is over its normal load range. The extent of the perceived increases also depends upon the precision of the emission data submitted in the application. If an application is conservatively developed with worst-case hourly emission rates and emission factors, turbine load may not be a consideration in setting appropriate short-term emissions limits for the turbine.

Construction permits are developed with appropriate provisions to address variations in turbine emissions with load. Emission testing is required over the normal operating range of the turbine. Separate short-term emission limits are set for reduced load operation if needed. Finally, restrictions on operation at reduced load are set if needed to protect ambient air quality (See also Question 15).

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

The removal of the NOx waiver would have ramifications that are well beyond the scope of this proceeding. Therefore, the NOx waiver should not be revoked based solely on peaker plants.

As stated in the Agency's testimony, current modeling shows that emissions from currently permitted and proposed peaker plants will not interfere with the area's ability to attain the ozone NAAQS. The decision on the NOx waiver should be made by U.S. EPA in the context of its review of the attainment demonstration for the Chicago area.

To the extent that reducing emissions from peakers is deemed appropriate, these reductions can be accomplished through the imposition of control measures that are more appropriate to address this group of sources rather than by the revocation of the NOx waiver.

In the Agency's response, please address the following:

---

[5] Within the normal operating range of a turbine, where NOx control measures are effective, NOx emissions are generally considered to be greatest at maximum load. As load on the turbine is reduced, NOx emissions also go down.

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

If the Chicago Legal Clinic's petition for revocation of the NOx waiver for New Source Review (NSR) were granted, it would have no effect on existing and currently permitted peakers as there would be no retroactive effect. If NSR became effective prior to issuance of an air pollution construction permit, a proposed peakers with the potential to emit (PTE) of 25 tons per year (TPY) or more of NOx would have to demonstrate that its NOx emissions would meet the lowest achievable emission rate (LAER). Applicants would also need to demonstrate that its potential NOx emissions would be offset by a 1.3:1 ratio of emission reductions upon commencing operation.

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

The NOx waiver granted for the Lake Michigan area recognized that OTAG was conducting an extensive evaluation of regional ozone transport and its causes and solutions. Therefore, the waiver was granted on a contingent basis and would be re-examined in the context of the attainment demonstrations submitted by the Lake Michigan states for the area. In general, the findings of OTAG addressed the impacts of regional NOx emission reductions and did not specifically address local impacts that may result in a NOx disbenefit.

The NOx SIP Call specifically provides that it does not impact any NOx waiver a state may have been granted. Also, the NOx waiver does not bar a state from imposing control measures on NOx sources as necessary for the state to demonstrate attainment with the 1-hour ozone standard or to address ozone transport.

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

The NOx waiver did not impact the setting of the State's NOx emissions cap and, thus, if U.S. EPA revokes the NOx waiver, it will not impact the cap. Further, the NOx waiver does not bar a state from imposing control measures on NOx sources as necessary for the state to demonstrate attainment with the 1-hour ozone standard. However, removal of the NOx waiver may limit NOx emissions from new stationary sources.

The NOx SIP Call specifically provides that it does not impact any NOx waiver a state may have been granted. The NOx emissions cap imposed upon the State under the NOx SIP Call, subject to trading, will control growth of NOx emissions.

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

a. **Please describe how the NOx 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.**

The NOx allowances available for distribution in Illinois will be based upon actual heat input, *i.e.*, a plant's historical operation. As the number of allowances for the state is capped at 30,701 tons per season, the Agency can allocate no more than that number. Therefore, more or fewer peaker plants will not affect the number of allowances that the Agency will allocate. More or fewer peaker plants may affect the number of allowances allocated to any given plant, however. If the pool of allowances available for EGUs is over-subscribed, then the allowances

allocated to eligible EGUs will be pro-rated. As the rule requires each subject unit to surrender an allowance for each ton of NOx emitted during the control period (May 1 through September 30 of each year of the program), EGUs may have to purchase allowances in addition to those the Agency allocates in order to meet the reconciliation requirements.

Conversion of a peaker plant to a combined cycle plant would have no effect on the number of allowances available for the Agency to allocate. However, because a combined cycle plant is likely to operate more hours during a year than a peaker plant, its heat input would be greater, thus making it eligible for a larger number of allowances from the Agency's allocation pool. On the other hand, if a lower emission rate in lb NOx/mmBtu is established in the permit allowing conversion to combined cycle operation, the plant would be entitled to fewer allowances per unit of operation. Of course, if the pool is over-subscribed, allocations would be pro-rated.

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

The Agency does not have the authority to deny a construction permit to a peaker plant applicant simply because the NOx budget reserved for new sources is depleted. Even though the Agency may not allocate sufficient allowances to new sources to cover their operations during a control period, the sources may go to the national market to obtain the necessary number of allowances. In fact, since the New Source Set-Aside (NSSA) may be over-subscribed, the proposed rules provide that the Agency will pro-rate the number of allowances available in the NSSA to eligible new EGUs. In such circumstances, the Agency anticipates that new EGUs will

either manage their operations to match the number of allowances they were issued or that they will go to the market to purchase any additional allowances to enable them to meet their reconciliation requirements.

c. **Please describe any anticipated impact on allowance allocations in Illinois if USEPA revokes the NOx waiver.**

Revocation of the NOx waiver would have no impact on the number of allowances available for allocation in Illinois.

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.**

Lowest Achievable Emission Rate (LAER) is determined on a case-by-case basis for a particular project. Nevertheless, because of the stringent nature of LAER, which requires the emissions rate to be set at the most stringent emission limit required of or achieved by another similar source, it is easier to speculate on what would currently be considered LAER for different types of plants.

LAER for a peaker turbine would almost certainly require use of add-on control for emissions of NOx. This is based on available information, such as the California Air Resources Board (CARB) Power Plant Guidance Document that indicates that add-on control systems are being used on at least a handful of peaker turbines in California. The only exception that might apply is to a "peaking" peaking turbine, perhaps a portable turbine that would only operate for only a very limited period of time when all other peaking resources were being utilized. The

associated emission limit for NOx for normal operation of the turbine with the add-on control device would be no greater than 5 ppm, based on the performance of such systems reported by CARB.

LAER for a combined-cycle turbine would certainly require use of add-on control for NOx. Add-on control devices are routinely used on new combined cycle power plants throughout the country. The associated emission limit for NOx for normal operation of the turbine with the add-on control device would be no greater than 2.5 ppm, based on the performance of such systems reported by CARB.

The Agency is not in a position to comment on the technical feasibility and economic reasonableness of the SCONOX™ control system now being proposed by Standard Energy Ventures for its proposed plant in West Chicago. However, the proposed add-on control system will likely be found to satisfy BACT for peaker turbines as required for the proposed plant, as it would potentially be a major source for emissions of NOx. The proposed system would also be likely to be found to satisfy LAER at this time. If the proposed plant is developed with SCONOX™, the feasibility of this type of control system will have been demonstrated in Illinois for the turbines on which it has been installed. Standard Energy Venture's initial application proposed to install 32 "small" peaker turbines each with a capacity of 25 MW, with a proposed NOx emission limit set at 25 ppm as achieved with water injected combustors. The application did not demonstrate that another selection of turbines could not reasonably be made that would result in lower emissions of NOx overall. Accordingly, the Agency required some form of add-

on control, as would be provided by SCONOX or SCR, as appropriate for BACT if the plant would be developed with the number and model of turbines originally proposed.

10. **Please explain whether any peaker plants currently proposed in Illinois plan to use combustion modification techniques, such as the dry-low NOx 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 NOx 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).**

As a general matter, all peaker turbines being proposed in Illinois should be considered to use combustion modification techniques for NOx. However, the nature and effectiveness of these techniques varies based on the particular model of turbine selected for a plant. In general, frame turbines can currently achieve levels of NOx emission levels with dry low NOx combustors that are lower than those achieved by aero-derivative turbines due to their characteristics (larger size and lower working air pressures). Aero-derivative turbines currently must be equipped with water injected combustors to equal the performance of many new frame turbines (25 ppm NOx) and cannot approach the level of emissions achievable by the lowest emitting frame turbines (9 to 12 ppm NOx).

The Agency does not have information on the capital costs that would be entailed if the existing combustors or new turbines were replaced with newer models of combustors that achieve lower rates of NOx emissions. Moreover, the ability to upgrade the combustors on a particular turbine also depends on the model of turbine involved. If the manufacturer of the turbine does not have better combustors developed for a particular model of turbine, the upgrade to better combustors would be a site-specific effort to design, manufacture, evaluate and possibly

rework such combustors. The effectiveness of these efforts may be constrained by the layout and configuration of the combustors so that it would be unrealistic to expect any such retrofit combustor design to ever be as effective as a new low-NOx combustor designed in conjunction with the turbine itself. It is the Agency's general understanding that the manufacturers of turbines concentrate their efforts on developing better combustors for their new models of turbines. The older a turbine is, the less likely that a low-NOx replacement combustor is already available for a unit.

The Agency does not have specific information on what it would cost a typical peaker plant to prepare a BACT demonstration. However, the Agency does not believe that this cost itself should be considered significant, given the overall cost of peaker plants. The more significant effect of a BACT demonstration is additional time for and uncertainty in the outcome of the Agency's review of a proposed plant. At a minimum, preparation and review of a BACT demonstration adds several months to the processing of a construction permit application for a proposed peaker plant.

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.**

The Agency's ozone modeling is based on the use of high ozone events or "episodes" which occurred in the Lake Michigan region during 1991 and 1995. The purpose of this modeling, like other modeling conducted by the Agency, is to evaluate ambient concentration of

pollutants in the atmosphere. Meteorological and emissions data that represent those that occurred during these specific periods are used in the modeling. The meteorological data for the grid cells characterizes wind direction and speed, temperature, pressure, humidity, and turbulence from the surface to several kilometers into the atmosphere for each time step (typically 4 to 6 minutes). Cloud and precipitation fields are characterized from National Weather Service observations. The model also contains a numerical chemical algorithm that calculates all the chemical reactions expected from the interaction of pollutants with the meteorology.

The emissions inventory includes hourly emissions for volatile organic compounds (VOC), oxides of nitrogen (NOx), and carbon monoxide (CO) for each grid cell in the domain. Emissions are included from anthropogenic (man-made) and biogenic (naturally occurring) sources known to emit these compounds, including motor vehicles (both on-road and off-road), industrial or point sources (smoke-stacks either low or elevated in height), area sources (fuel combustion, commercial and consumer solvents, etc), and biogenic emissions (from plants, soil, and other naturally occurring emission sources).

The Agency's modeling of the peakers was based on LADCO's future year, attainment modeling. This modeling assumes both growth for each source category, and control based on the NOx SIP Call and all other control measures anticipated by the attainment year, 2007. These measures include Enhanced Inspection and Maintenance, Phase II – reformulated gasoline, Tier 2 automotive standards, low sulfur gasoline, standards on heavy-duty vehicles, and other measures required by the Clean Air Act. Emissions were then included from all new peaker

plants for which applications are active or permits have been issued as of late July. Emissions were also included for new combined cycle plants.

The Agency would expect the imposition of a BACT requirement on existing and proposed peaker plants to have, at most, a small effect on overall ozone air quality. Because BACT is a case-by-case determination made during issuance of a construction permit for a new or modified emission unit, the Agency can only speculate on the extent to which a BACT requirement for existing and proposed peaker plants would lower the NOx emissions of individual plants, if at all. However, it should be remembered that some new peaker plants are major sources and are already or will be subject to BACT pursuant to the federal PSD program. Many other new peaker plants have installed the same models of turbines or turbines achieving similar NOx emission levels as have been formally been determined to constitute BACT for the major sources. Existing peaker plants and new plants using existing turbines also would probably be determined to have BACT as the turbines are operated infrequently and would be particularly expensive to update with combustors emitting lower NOx.[6] As a result, most peaker plants would not be affected by a BACT requirement.

There are certainly some newly built peaker plants that could be affected by imposition of a BACT requirement. However, the level of NOx reduction that would be achieved by imposition of a BACT requirement on such plants would probably not be large. The available reduction in NOx emissions at these potentially affected plants would be constrained by the

[6] Cost-effectiveness is a consideration in a BACT determination. The emission reduction accompanying further control of a peaker turbine must generally be considered to be small because a peaker turbine is idle most of the year, only operating during periods of peak demand or to supply power on an emergency basis. This is particularly true for older units that are less efficient in converting fuel to electricity and thus the less desirable to operate.

turbines that are installed at these plants. In this regard, BACT would likely require optimum use of installed NOx control measures and possibly derating of the turbines to lower NOx emissions. It would be unusual that a requirement for BACT could justify installation of add-on controls[7] for these plants or replacement of the existing combustors before they would normally be replaced.

Further modeling would be needed to quantitatively evaluate the effect on ozone air quality of the NOx reductions accompanying imposition of a BACT requirement.

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.

The following parameters are considered in the dispersion modeling analyses for peaker plants. For stacks, site–specific information about stack location, height, diameter, flow rate, emission rate, and exit velocity is characterized. In addition, wake effects from nearby buildings are included based on plot plans and elevation data. Aerodynamic downwash can have a significant impact on the magnitude of pollutant concentrations at nearby locations. The dispersion model incorporates 5 years (43,800 hours) of meteorological data in a comprehensive attempt to capture all possible meteorological conditions that could occur. As a result, modeling determines worst-case pollutant concentrations that may result from a proposed plant.

---

[7] The nature of peaker turbines is such that NOx emissions are generally best minimized through pollution control, i.e., use of appropriate combustion modifications, rather than use of add-on control devices. In the regulatory context of BACT, it would be hoped that a requirement that an existing peaker plant install add-on emissions control for NOx would only occur in exceptional circumstances .

With regard to ambient monitoring data, the Agency has established a statewide network to monitor ambient levels of pollutants consistent with the forms of the standards for each of those pollutants. Illinois' ambient monitoring network exceeds the federal requirements for such networks. Since Illinois has attained the NAAQS for all the criteria pollutants (except for ozone and, technically, for PM10), we have not employed site-specific monitors as part of our statewide network, with the exception of certain monitors for lead in southwestern Illinois.

However, actual monitoring data are used to determine the actual air quality experienced in an area and are not used to specifically verify the results of dispersion modeling.[8]

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.**

The California Air Resources Board's (CARB) Guidance is of particular assistance to the State of Illinois as it provides factual information of NOx emission levels being demonstrated by certain new power plants in California. It should be noted that the definition of "BACT" used in this document is the definition of "LAER" used by U.S. EPA and the state of Illinois. The guidance also confirms the appropriateness of the enhanced practices currently being used by the Agency to review construction permit applications for proposed new turbine based power plants.

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

[8] Ambient monitoring was used to verify the accuracy of the photochemical model developed for the Lake Michigan region.

XONON™ catalytic combustion technology is a very promising combustion modification technique for turbines. Unfortunately, the technology has not yet been developed for the larger turbines being used in new power plants. Accordingly, while this technology is certainly technically feasible in a general sense, it cannot be considered available for the projects that are now being developed in Illinois.

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 application based on these modeling results.**

The site-specific air quality analyses prepared for the proposed peaker plants generally do not result in the imposition of additional conditions in the construction permits issued for proposed peaker plants. This is because the analyses generally show that the proposed plants will not have impacts that threaten[9] air quality and the proposed plants are held to the emission levels represented by the applicants in their applications, irrespective of the specific preparation of the air quality analyses.

If the air quality analysis demonstrated that a proposed plant could not be routinely operated at the emission rates set forth in the application without threatening air quality, the application would be denied.

If an air quality analysis identified a particular configuration of turbine operation that would threaten air quality, the permit would most likely contain a condition restricting that mode

[9] For purposes of this discussion, a source is considered to threaten air quality if the result would threaten continued attainment of the air quality standards. In many cases, the impact of the peaker plant is below USEPA's numerical "de minimis" impact levels. If this is not the case for a pollutant, the modeled impacts of the proposed source, the modeled impacts of other significant existing and proposed sources in the vicinity of the proposed

of operation. An example of such a configuration might be low-load operation of all turbines at the maximum emission rates for low-load operation identified in the application. Rather than restricting the particular mode of operation outright, the more likely approach would be to limit plant-wide emissions (emissions of all turbines at a plant) to a level at which plant operation and emissions would not threaten air quality.[10] The permit might also contain a requirement for further evaluation if the plant ever actually operated in the particular configuration.

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.

The Agency is satisfied that the applicants have adequately demonstrated that the proposed peaker plants will be only minor contributors to air quality levels for the criteria pollutants (NO_2, CO, SO_2, particulates), and will not hinder the State's efforts to maintain the NAAQS for those pollutants. For ozone, the Agency is still working on the development of an attainment demonstration for the Lake Michigan region based on the NOx SIP Call. The peaker plants will be considered in the Agency's attainment plan, and modeling to date has shown that the peakers clearly have a small, but noticeable effect on ozone concentrations. At present, the Agency expects to be able to demonstrate attainment of the 1-hour ozone standard based on the NOx SIP Call requirements, even considering the effects of peaker plants.

---

source, together with background levels of air quality as determined from a representative ambient monitoring station are compared to the applicable air quality standard and the PSD air quality increment.

[10] Such a requirement is possible because peaker plants are developed with multiple turbines. Accordingly, changes in demand for electric power can be addressed by putting turbines in or out of service. This allows turbines to normally operate in their upper load range, where they are most efficient and emissions performance is consistent.

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.**

The Agency anticipates that the proposed conversion of a peaker plant to a combined cycle plant would be a modification that would trigger the requirement to obtain a PSD permit. This is because the potential increase in annual emissions of NOx accompanying such a conversion would most likely exceed 100 tons. This reflects our experience with the new plants that are proposed to be developed from the beginning as combined cycle plants.[11] The only exception would be if the conversion involves turbines located at the site of a coal-fired power plant and would be accompanied by a net reduction in emissions due to reduced emissions of the coal-fired boiler (as could occur from shutdown, reduced utilization, or further emissions control for the existing boiler).

The Agency cannot be so definite as to whether the proposed conversion of a peaker plant to a combined cycle plant in an ozone nonattainment area would trigger the requirement to obtain a nonattainment NSR permit for VOM emissions. This is because the potential annual VOM emissions of a combined cycle turbine, depending upon the particular model of turbine, may be below 25 tons. In this regard, even if the potential VOM emissions in the absence of an oxidation catalyst would be in excess of 25 tons, the applicant might voluntarily use an oxidation catalyst to maintain status as a non-major project for purposes of nonattainment NSR.

---

[11] This conclusion reflects the Agency's experience that combined cycle plants have at least 300 MW of capacity and the developers want the plants to be permitted for continuous operation. The actual levels of operation and annual NOx emissions of peaker plants, which would be the starting point for determining the potential increase in emissions accompanying proposed conversion from a peaking plant to a combined cycle plant, are small and would not be large enough to accommodate operation of a turbine as a combined cycle unit without a major increase in NOx emissions.

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

All power plants are used to meet peak electricity demands. During periods of peak electricity demand, base-load power plants and the cyclic power plants are in service, which would also include combined cycle plants. During periods of peak power demand, these plants are in service to the extent possible because they can generate power less expensively than peaker plants. In addition, during periods of peak power demand, peaker power plants come into service to provide the further power that the other categories of plants do not have the capacity to provide.

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

The Agency has not considered the circumstances of existing peaker power plants, defined as peaker plants in existence prior to 1990.

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.**

Further modeling would be required to provide an answer to this question.

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; NOx control technology; NOx emission rate (parts per million (ppm) and pounds per million British Thermal Units (lb/mmbtu)); total permitted annual NOx (tons/year) and any other time period-based emission limit; limits on hours of operation and fuel consumption; and applicable air pollution control regulations.**

The Agency will not be able to provide this level of detailed information by the filing deadline for these questions and perhaps not by the hearing dates. Obtaining all of this information will require a permit-by-permit review as well as conversions of some information into the value requested by the Board. Please note that the Agency cannot tell whether a plant is a merchant plant, utility, or private company; this information is beyond the scope of information necessary for the Agency to evaluate the appropriateness of issuing a permit. Therefore, the Agency will not be able to provide that information to the Board at this time.

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

This information will be provided with # 18.

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; NOx control technology; NOx emission rate (parts per million (ppm) and pounds per million British Thermal Units (lb/mmbtu)); total permitted annual NOx (tons/year) and any other time period-based emission limit; limits on hours of operation and fuel consumption; and applicable air pollution control regulations.**

The Agency will obtain this information at the same time that it gathers the information to answer # 18 and will provide the response in the same timeframe. Again, please note that the Agency cannot tell whether a plant is a merchant plant, a utility, or a private company.

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.

The Agency is not aware of any concerns at this time regarding the noise emissions of peaker plants that requires changes in the Board's existing numeric noise standards. These standards have proven to be adequate to address nearly all noise sources for the last 27 years. In addition, local units of government may impose more stringent noise requirements if they believe such additional requirements are appropriate for their communities.

The issue of low frequency noise, specifically infrasonics, (*i.e.*, vibrations) does not lend itself to a numerical standard at this time. The problem is probably best addressed by measuring the effect on nearby residences (shaking, rattling, secondary noise from dinnerware, bric-a-brac, windows vibrating) and coupling these infrasonic and structural vibration measurements with the testimony of the residents to establish unreasonable interference. The nuisance portion (Section 900.102) of the noise regulations can then be used to pursue relief.

Numeric noise standards are already based on area background levels of noise. Under the Measurement Procedures in Section 900.103(b), Procedures Applicable only to 35 Ill. Adm. Code 901 of the Board's Noise Regulations, "All such measurements and measurement procedures shall correct or provide for the correction of such emissions for the presence of ambient noise . . ." For the purposes of this discussion, background levels of noise and ambient noise are synonymous.

Regarding nighttime noise standards applying all weekend, as noted above, we do not currently know of any reason to change the numeric noise standards. Local units of government

may impose more stringent weekend noise requirements if they believe such additional requirements are appropriate for their communities.

22. Other than staffing and resources 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.

The Illinois EPA currently has an internal mechanism for insuring a demonstration of compliance with numeric noise standards. This procedure has been a part of the land permitting process for several years when reviewing land permit applications for gas turbines used to generate electricity from landfills.

Currently, the air construction permit application does not include noise pollution information. Assuming adequate funding and personnel (neither of which exist today), if information addressing noise pollution were submitted with air construction permit applications, the Illinois EPA could coordinate the permit review process by routing the noise portion of the air permit application to the appropriate personnel.

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) for 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.

See Attached Table.

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.

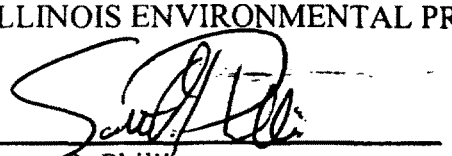
Existing laws and rules address the storage, handling and accidental release of any fuel oil or hazardous materials at peaker plants. The provisions for storage of fuel oil are well

developed, given the routine nature of these facilities, the large volumes in which oil may be stored, the potential consequences from accidental releases, and the financial liability of the owner of a tank for such a release. In particular, secondary containment, i.e., dikes, would be required for bulk fuel oil storage at peaker plants. The storage and handling of hazardous materials at plants is addressed under the program for Prevention of Accidental Releases, established by Section 112(r) of the Clean Air Act. This program requires sources with significant quantities of a hazardous material[12] to evaluate the potential for accidental releases, to undertake actions to minimize the potential for such releases, and, working with local emergency response agencies, to prepare contingency plans for any such release.

[12] For hydrogen under the Accidental Release Program, USEPA has defined 10,000 pounds as a significant quantity.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY



Scott O. Phillips
Deputy Counsel
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544
217/782-9143 (TDD)

Dated: October 4, 2000

Peaking Plants						
Facility	**County**	**Permits**	**Flows (MGD)**	**Wastestreams**	**Pollutants of Concern**	**Water Source**
Peoples Gas Light & Coke - Elwood Energy III, LLC	Will	IL0074811 (Pending)	0.061 DAF 0.115 DMF	Evaporative Cooler Blowdown	PH, Temp, TDS	Well
Ameren Energy Generating Co. - Gibson City	Ford	2000-EE-0680	0.042 DAF	Evaporative Cooler Blowdown, Misc. Equipment Drains, Turbine Cleaning Waters, and Sanitary	pH, Oil and Grease, TDS	Muni-Supply and Well
Reliant Energy / Shelby Energy Center - Neoga	Shelby	2000-EB-5480 2000-EB-5480-1	0.134 DAF 0.200 DMF	Cooling Tower Blowdown, Filter Backwash, Misc. Plant Drains	TSS, TDS, pH, Oil and Grease	Surface Water
Reliant Energy - Aurora	Dupage	2000-EN-1415	0.361 DAF 0.577 DMF	Cooling Tower Blowdown, Evaporative Cooler Blowdown, Air Compressor Cooling Water, Misc. Plant Drains, Gas Compressor Condensate, Sanitary	TSS, TDS, pH, Oil and Grease	Well
Constellation Power, Inc. - University Park Energy, LLC	Will	2000-EE-0817	0.079 DAF 0.165 DMF	Evaporative Cooler Blowdown, RO Brine, Oil/Water Separator Effluent, Sanitary	TSS, TDS, pH, Oil and Grease	Muni - Supply
Illinois Power / Dynegy - Tilton Energy Center	Vermilion	1999-HB-2123 2000-EE-0751	0.086 DAF 0.150 DMF	Cooling Tower Blowdown, Demineralizer Regenerant, Filter Backwash, Brine	pH, TSS, TDS	Muni-Supply

				Waste, Chiller Water, Sanitary		
Dynegy / Rocky * Road - Rocky Road Power, LLC	Kane	~~1999-EP-3731~~	Minimal * and Intermittent	Turbine Washwater and Stormwater	TSS and Oil and Grease	Not Known
Facility	**County**	**Permits**	**Flows (MGD)**	**Wastestreams**	**Pollutants of Concern**	**Water Source**
Ameren Energy Generating Co.- Pinckneyville	Perry	2000-EE-0708	0.017 DAF	Cooling Tower Blowdown, Misc. Equipment Drains, Turbine Cleaning Wastewater, Sanitary	pH, Oil and Grease, TDS	Well and / or Muni-Supply
Ameren Energy Generating Co. - Kinmundy	Marion	NPDES and State Permits Pending	0.042 DAF	Turbine Cleaning Wastewater, Oil / Water Separator Effluent, Evaporative Cooler Blowdown, Sanitary	TSS, Oil and Grease, TDS	Muni-Supply
Dynegy - Stallings Granite City	Madison	IL0074837	0.025 DAF 0.062 DMF	Evaporative Cooler Blowdown	Temperature, Total Residual Chlorine, TDS	Muni-Supply

* This facility generates a very minimal amout of wastewater, which is collected and hauled to a centralized waste treatment facility

NOTE: Facilities of this type may also use various chemical additives for biofouling and corrosion control, either on a continual or intermittent basis.

Combined Cycle Plants	County	Permits	Flows (MGD)	Wastestreams	Pollutants of Concern	Water Source
LS Power - Minooka LSP Kendall Energy, LLC	Kendall	IL0073806	1.50 DAF 2.37 DMF	Misc Plant Drains, Oil/Water Separator Effluent, RO Reject, Demineralizer Regenerant, Cooling Tower Blowdown, Evaporative Cooler Blowdown, Stormwater	pH, TSS, Oil and Grease, Chromium, Zinc, Copper, Iron, Temperature, Total Residual Chlorine	Illinois River
LS Power / Lee County - LSP Nelson Generation	Lee	IL0074209	1.50 DAF 2.37 DMF	Misc Plant Drains, Oil/Water Separator Effluent, RO Reject, Demineralizer Regenerant, Cooling Tower Blowdown, Evaporative Cooler Blowdown, Stormwater	pH, TSS, Oil and Grease, Chromium, Zinc, Copper, Iron, Temperature, Total Residual Chlorine	Rock River and/or Private Wells
Constellation Power - Holland Energy, LLC	Shelby	IL0074268	1.4 DMF	Cooling Tower Blowdown, Evaproative Cooler Blowdown, Clarifier Sludge Dewatering, Plant Sumps and Drains	TSS, Oil and Grease,TDS, Sulfates, Temperature, Total Residual Chlorine, Zinc, Phosphorus, Chromium	Kaskaskia River
Duke Energy Kankakee, LLC	Kankakee	State Permit Pending	0.72 DAF 0.75 DMF	Cooling Tower Blowdown, Filter Backwash, RO Reject, Misc. Equipment Drains, Sanitary	TSS, TDS, Oil and Grease, Temp	Muni-Supply

NOTE: Facilities of this type may also use various chemical additives for biofouling and corrosion control, either on a continual or intermittent basis.

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that on October 4, 2000, I served true and correct copies of an AGENCY RESPONSE TO QUESTIONS, submitted on recycled paper, by placing true and correct copies thereof in properly sealed and addressed envelopes and by sending said sealed envelopes via overnight express delivery, upon the following named persons:

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street
Suite 11-500
Chicago, IL 60601

Amy L. Jackson, Hearing Officer
Illinois Pollution Control Board
600 South Second Street
Suite 402
Springfield, IL 62704

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Scott O. Phillips
Deputy Counsel
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544
217/782-9143 (TDD)