BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

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

The following is a transcript of proceedings from the hearing held in the above-entitled matter, taken stenographically by ROSEMARIE LAMANTIA, CSR, a notary public within and for the County of Cook and State of Illinois, before AMY JACKSON, Hearing Officer, at 100 West Randolph Street, Assembly Hall Auditorium, Chicago, Illinois, on the 23rd day of August, 2000, A.D., scheduled to commence at the hour of 10:30 a.m., commencing at 10:45 a.m.

A P P E A R A N C E S:

HEARING TAKEN BEFORE:

ILLINOIS POLLUTION CONTROL BOARD,
100 West Randolph Street
Assembly Hall Auditorium
Chicago, Illinois 60601
(312) 814-3629
BY: AMY JACKSON, HEARING OFFICER

ILLINOIS POLLUTION CONTROL BOARD MEMBERS PRESENT:

Ms. Claire Manning, Chairman
Mr. G. Tanner Girard
Mr. Nicholas Melas
Ms. Elena Kezelis
Dr. Ronald Flemal
Ms. Marili McFawn
Mr. Samuel Lawton, Jr.
Mr. Anad Rao

MEMBERS OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS WELL AS OTHER INTERESTED ENTITIES AND AUDIENCE MEMBERS WERE PRESENT AT THE HEARING, BUT NOT LISTED ON THIS APPEARANCE PAGE.

HEARING OFFICER JACKSON: Good morning again everyone. We're ready to get started. I apologize for the slight delay in our start time. Apparently, the sign on the door directing people to the EPA hearing on the second floor caused some confusion so we were giving people enough time to get back down to this room. Sorry about that. And I think we've probably got a sign on the door now indicating that these -- this hearing is the hearing to be held by the Illinois Pollution Control Board regarding the peaker plants. So I appreciate your understanding.

My name is Amy Jackson and I'm the attorney assistant Board member to Elena Kezelis and at the request of Board chairman, Claire Manning, I am serving as the hearing officer for today's proceeding.

We are very pleased to have the entire Board present today. I would like to take a moment to introduce you to the Board members.

Chairman Claire Manning is immediately to my right.

CHAIRMAN MANNING: Good morning.

HEARING OFFICER JACKSON: Tanner Girard, G. Tanner Girard.

MR. GIRARD: Good morning.

HEARING OFFICER JACKSON: And Nicholas Melas is next to Mr. Girard.

MR. MELAS: Good morning.

HEARING OFFICER JACKSON: To my immediate left is Elena Kezelis.

MS. KEZELIS: Good morning.

HEARING OFFICER JACKSON: Dr. Ronald Flemal.

DR. FLEMAL: Good morning.

HEARING OFFICER JACKSON: And Marili McFawn.

MS. MCFAWN: Good morning.

HEARING OFFICER JACKSON: I do note that Samuel Lawton, Jr., who is also a Board member, has been unexpectedly delayed this morning and will be joining us later this morning.

Also, at the head table down to my far right is Anand Rao, who is the head of the Board's technical unit. He will also be participating in the questioning today.

MR. RAO: Good morning.

HEARING OFFICER JACKSON: As some of you may know, this matter was brought to the Board in the July 6, 2000, request by Governor George Ryan. In that request, Governor Ryan asked the Board to examine the

following issues.

Do peaker plants need to be more strictly regulated than currently provided under Illinois air quality rules and regulations?

Second, do peaker plants pose a unique threat or a greater threat than other types of state regulated facilities with respect to air, noise or water pollution?

Third, should new or expanding peaker plants be subject to citing requirements beyond applicable local zoning rules?

Fourth, if stricter regulations are needed, should new regulations apply to currently permitted facilities or only to new or expanding facilities.

And finally, fifth, how do other states regulate peaker plants.

Through the information presented at these hearings, through questions and through public comments, the Board will develop a complete and well-rounded record that will enable it to provide an informed and well-reasoned response to each of the Governor's questions.

At this time, the Board anticipates

being able to present an informational order to the Governor that will include all of the Board's findings and recommendations by the end of this calendar year. The last Board meeting that is currently scheduled for this year is scheduled for December 21, 2000.

As indicated in my hearing officer order of July 15, 2000, today's hearing will focus primarily on testimony and information from state agencies. Present to provide testimony today are the Illinois Environmental Protection Agency, the Illinois Commerce Commission and the Illinois Department of Natural Resources.

These agencies pre-filed their testimony and that testimony is available on the Board's website with a possible exception of the Illinois Commerce Commission and we are working on getting that on our website today.

We have also provided extra copies of this testimony at the table at the top of the auditorium and I understand that we are out of copies right now, but we are in the process of making extra.

Also present today to observe today's proceedings are representatives from the Illinois

Department of Nuclear Safety and the Illinois Department of Commerce and Community Affairs. While not planning to testify today, they are here to observe the proceedings and will offer their input if needed to the Board later on down the road.

The structure of tomorrow's hearing is very similar to today's except that tomorrow, we will focus on presentations of testimony and information from members of the peaker industry.

On the table by the entrance, there is also an informational sheet prepared by the Board's public information officer. This sheet contains general information about these inquiry hearings, such as the dates, times and locations of hearings and other general information that you might need to know. If you did not get one when you came in, please feel free to pick one up.

As I stated earlier, the pre-filed testimony for today and tomorrow is on the Board's website. Also on our website are all Board orders and hearing officer orders that have been issued in this proceeding.

We do have a court reporter present who will be transcribing everything that is said today. The

written transcript from all of our peaker hearings will be on the Board's website as soon as they're available. We have requested expedited transcripts from these proceedings so the transcripts should be available within three to five days after the hearing. You may download the transcript from the Board's website or if you need a hard copy, you can request a hard copy from the Board's clerk's office at 75 cents a page.

I also want to note that testifying before the Board is not the only way to provide information to the Board in this proceeding. The Board will be accepting written public comments until November 6th of this year. Those comments may be filed with the Board's clerk's office. The address is listed on the public information sheet that I referred to earlier.

To the extent practicable, we will be attempting to place all written public comments on our website as well. The Board's website for those of you who do not know it is www.ipcb.state.il.us.

One other thing I want to mention is we do have a notice list for these proceedings. For those persons wishing to be on the notice list, you will receive copies of all Board opinions and orders and all

persons on the notice list that you serve other people with your own filing. You will just be receiving more documents if you're on the notice list.

If you are not on the notice list and you wish to be put on the notice list, please contact the following person. Her name is Kim Schroeder. She is in our Springfield office. Her telephone number is area code 217-782-2633, or you can e-mail your request to Ms. Schroder at schroedk -- that's s-c-h-r-o-e-d-k@ipcb.state.il.us.

A couple of other housekeeping matters that I wanted to mention before I go on to tell you about the other hearings that we have scheduled in this case, we do have a videotape set up over to my left. The proceedings will be videotaped today. If anyone -- any of the witnesses has an objection to testifying in front of a videotape, please let me know and I'll make sure the videotape is turned off during your presentation.

Also, as you can see, we have some large exhibits set up on the stage. If you need to move in from the ends of the aisles, you might be able to see the exhibits better. We will attempt to focus them so

In addition to the hearings this week, the Board has also scheduled three hearings during the month of September. They will be held as follows: September 7th in Naperville; September 14th in Joliet; and September 21st in Grayslake.

These are the hearings where we really want to focus on presentations from interested members of the public, local government, citizen groups, et cetera. Because of the overwhelming public interest, we are expecting -- and the limited time we have for these hearings -- the procedures for these hearings will need to be very orderly.

If anyone knows in advance that they will be attending one of these September hearings and would like to make a comment on the record, I encourage you to contact me in advance. My telephone number and e-mail address are available on the public information sheet that I referred to earlier and on the Board's website. Those individuals that contact me in advance will be allowed to speak before others who are present wishing to give comment.

Speakers at the September hearings may

be limited in the amount of time they're allowed to speak depending upon the number of people that are

there wanting to speak on the record. Therefore, it would be very beneficial to you to have a prepared statement or set of questions that you would be easily able to read into the record during the hearing.

Our final hearings in this proceeding are currently scheduled for October 5th and 6th in Springfield. These hearings will provide an opportunity for those outside of the Chicago area to provide their thoughts and information to the Board.

Additionally, we hope to use these final days of hearings as sort of a wrap-up session to make sure that all of the questions the Board might have regarding the issues presented have been answered.

Before we begin receiving testimony today, I want to emphasize for everyone present that this is an informational proceeding. The purpose of the Board's hearing in these matters is to gather as much information as possible to make a well-informed decision and recommendation for the governor's office. This is not an adversarial proceeding. I ask everyone to act appropriately as if you were in a court of law.

At this time I will invite our chairman,

Claire Manning, and any of the other Board members who wish to make opening remarks to make them at this time.

CHAIRMAN MANNING: Good morning and welcome everyone. I'll be brief.

Welcome, particularly members of the public, representatives of government, industry and environmental associations to this -- the Pollution Control Board's inquiry of matters concerning peaker plants.

I see a lot of familiar faces out there, but for those who are unfamiliar with the Board, permit me just a moment to explain what we are a little bit and what our function is.

We are an independent state body, a bipartisan seven-member state body, with both quasi-judicial and quasi-legislative function.

In many ways, we operate, as Hearing Officer Jackson said, in specialized environmental court bringing impartial and technical expertise to bear on environmental issues and questions which are posed to us.

In addition to citing cases pursuant to the Environmental Protection Act, as most of you know,

we also promulgate rules and standards for the state generally pursuant to environmental rulemaking proposals brought to us by the Illinois EPA, followed by

full sets of state-wide hearings with regard to environmental reporting proposals.

For more general information about us, for those of you who are in need of that information, we have a very informational website found at www.ipcb.state.il.us.

In this matter and under these very special circumstances, Governor Ryan has asked us to make an inquiry authority to hold a set of state-wide hearings concerning commercial and environmental impacts of peaker plants.

As the hearing officer already indicated, we hope to have our informational order ready by the last Board meeting of this calendar year.

This informational order will, in fact, examine all of the information presented in the record and that will include all of the testimony we hear, all of the exhibits that are put into the record, and all of the public comments we receive in this matter.

Based on this record, the written order

will, in fact, address all of the questions posed to us by the governor.

At this time I'd also like to

specifically thank the participation and the welcomed participation of all of the state agencies whose expertise has been brought to bear on this question as well.

Director Tom Skinner is here from the Illinois EPA. He will be testifying shortly this morning, later this morning, probably not short in hindsight. But later this morning, Tom and his staff will be testifying from the Illinois EPA.

Charles Skinner, the executive director of the Illinois Power Commission, is here to testify as well. And we have two people from the Illinois Office of Science and Research, the Illinois Department of Natural Resources, Drs. Brian Anderson and Derek Winstanley, are here to talk as well.

So with those introductions, I would ask if there is any elected officials or government officials that would like to introduce themselves for purposes of the records that have not yet been acknowledged.

Seeing none, I think it is time we move forward, unless any of the other Board members have anything they would like to say to welcome the members.

HEARING OFFICER JACKSON: Okay. The order of presentation today will be as follows: The Illinois Commerce Commission will present first, followed by the Illinois Environmental Protection Agency and followed then by the Illinois Department of Natural Resources.

The presenters will not necessarily be reading their pre-filed testimony verbatim. However, they will be providing detailed summaries of their presentations.

At the conclusion of each presentation, I will simply ask you to each submit a copy of your pre-filed testimony and any exhibits to the court reporter so that they can be marked as exhibits and attached to the transcripts of these proceedings.

Do we have any questions before we get started?

Okay. We'll begin with the Illinois Commerce Commission, Mr. Fisher.

MR. FISHER: Thank you. Good morning. Thank you for the opportunity to offer my comments today. My

name is Charlie Fisher. I'm the executive director of the Illinois Commerce Commission. The Commission, as you know, regulates public utilities in Illinois including the electric industry.

In recent years, federal and state laws have required the Commission to oversee the transition of electric, as well as natural gases, the telecommunications industry from monopoly-based market structures to much more competitive market structures.

The Commission consists of a chairman and four commissioners appointed by the governor and approved with the advice and consent of the Senate. By law, the Commission jointly hires an executive director, who is responsible for the supervision and direction of the Commission staff.

I would note at the outset that the ICC as a body has not yet taken a position on any of the issues that Governor Ryan has asked you to address and that the comments are stated on my own and they do not necessarily represent the views of the Commission or of any individual commissioner. With that caveat, I do hope that they are helpful.

I have been asked to offer some

background for what will follow, as I understand in these proceedings, by talking about how the industry has come to this point and specifically why are so many peaker plants being or ultimately being proposed to be built in Illinois at this time.

I would like to first offer some general historical context. For most of the 20th century, the electric industry in the United States was thought best to consist of natural monopolies. Government agencies designated stockholder-owned companies to provide electric service to the public within specific service territories.

There are three major components in the provision of electricity to retail customers: The generation of power; the transmission of power, typically at high voltages from generating plants to substations; and third, the distribution of power, typically at lower voltages to homes and businesses.

For the most part, the industry has been vertically integrated, that is, public utilities owned the assets for all three components.

We have, in fact, the national electric transmission grid. The large map on the left is a map of that. Each and every day, excess power generated by

a company in one area may, in fact, be sold and delivered over transmission lines to a company in another area for resell to customers in that utility's service territory.

For the most of that last century, these

transactions were primarily made by regulated utilities in the interest of security and reliability of the grid. The wholesale sale and interstate transmission of power was regulated by the Federal Energy Regulatory Commission.

Distribution of power from the electric utility to the end-user customer is regulated in each individual state by a public utility commission, in Illinois, by the Illinois Commerce Commission.

Electric utilities did not historically, and do not today, have a total monopoly on ownership of generation, but there, in fact, was little development of large-scale independent generation in this country because the utilities controlled access to and availability of the transmission network. The price of the necessary transmission services was not conducive to the independent generation of electricity.

The model for traditional regulation

of electric utilities is seldom a regulatory bargain. The essence of the bargain was that in exchange for governmentally granted monopoly service territory, the electric utility was obliged to serve all retail customers without discrimination and without delay at a price set by the regulatory commission during periodic

cases which became known as rate cases.

Rates set in such proceedings were statutorily required to be, quote, just and reasonable, unquote, both for the utility and for its customers. The basic theory was to allow the utility to recover its reasonable expenses as well as to provide a fair return on the investment.

Focusing more specifically on the state of Illinois, today we have nine investor-owned companies that are certified as electric utilities. A map on the far right shows that service territories in the state of Illinois early in the last century split up the state.

Commonwealth Edison is the blue, serves the -- serves the northern part of the state, and by far, most of the customers in the state of Illinois. Illinois Power is the green area, serves many of the urban areas in central and downstate Illinois. The

yellow area is Central Illinois Public Service, its historical name. It was merged with the company that provides power in Missouri and in the East St. Louis area of Illinois two years ago. It is now referred -- now known as AMEREN. The Peoria area is the pink area and other parts of central Illinois is

Certified Central Illinois Light Company or CCILCO.

In addition, I should note that some cities, including commonly the city of Springfield, operates their own electric utility and some areas of the state are served by electric co-ops, which are, in fact, owned by their customers.

For the first two-thirds of the 20th century, rate cases generally resulted in a gradual lowering of prices as utilities enjoyed the efficiencies of technological improvements and economies of scale. Generating plants were built by each utility in anticipation of growth in demand for electric power to meet their obligation to serve.

In some circumstances, utilities chose not to build their own generating plants, but to import excess power from other utilities when doing so was, in

fact, less expensive.

In the '70s and '80s, things changed. Unexpectedly higher costs associated with building and operating nuclear plants resulted in significant increases in the price of electricity for customers of those utilities which chose to invest in nuclear power.

Other utilities faced varying degrees

of increasing costs to comply with air pollution standards and to keep up with general price inflation. As a result, while the retail price of electric power varied among utilities across the country and here in Illinois, there were significant price increases for most customers.

The price increases of the 1980s set the stage for significant change in government regulatory policy at both the federal and the state levels. At the federal level, Congress enacted the Energy Policy Act of 1992 making a number of changes in national energy policy.

Of greatest interest, for purposes of our discussion today, the new law gave the Federal Energy Regulatory Commission -- I'll refer to them as FERC -- clearly -- clear authority to require public utilities owning transmission lines to make those lines

available to wholesale market participants who wished to move electricity from one part of the grid to another. This is generally called wholesale wheeling.

Following these changes to FERC policy -- federal policy, the FERC issued its landmark order referred to as Order No. 888 in 1995. Order 888 required electric utilities to implement open access,

which means that access to the transmission grid had to be -- had to be provided to any generator that wanted to provide power.

Maybe I can give an example. If access -- if a generator in Ohio, for example, wanted to, in fact, provide power to Illinois, to customers in -- to a utility in Illinois, it probably would -- it would in turn supply to those customers the generator and would have to buy transmission authority from the utilities in Ohio and utilities in Indiana and the -- they didn't have to provide that to them before.

As a result of this order, they, in fact, had to provide it and have provided it at a fair price. This economically attractive possibility, in effect, spurred non-utility entrepreneurs to build new generating plants to

meet growing electric demand.

At the retail level, industrial customers, who were faced with increasing international competition in the late '80s and early '90s, strove to cut costs including energy costs. Some looked longingly at the price of wholesale power compared to the retail prices they were paying to their utility. They went to their state capitols requesting the right to purchase

power on the open wholesale market. Significant changes in state regulation happened first in California, then in Pennsylvania, and other states.

In late 1997, the Illinois Electricity Choice Law was enacted. Among other objectives, this law was intended to spur innovation and drive down prices through competition among Illinois' traditional utilities and to attract new competitive power suppliers to the state.

While the FERC's opening of the transmission grid to greater wholesale power transactions through Order 888 was a major impetus to the competitive generation of electricity, the Illinois Deregulation Law added to the economic attractiveness of non-utility generation.

But perhaps even more of a factor in the

growing economic interest in peaker plants is the increased peak demand for power. The remarkable economic expansion of the past several years, coupled with the proliferation of electronic devices in our homes and offices, has increased the overall demand for electricity.

While baseload capacity remains adequate to meet base demand, peaking capacity has not

expanded to keep up with increasing peak demand. As an example, one day last July, July 30th, I believe, ComEd set a new peak demand of 21,243 megawatts. Now, the previous -- the previous peak in the 19,000s was 2,000 megawatts more, 10 percent more than what had been set in the previous preceding peak year.

Usually, when you see a change in peak, it's at one percent, maybe a half of a percent. When you see a 10 percent change in one year, it was quite phenomenal. For your information, a megawatt of power serves approximately 500 homes at times of peak demand.

The midwest also experienced two very warm summers in 1998 and 1999. Utilities throughout the region had to pay very high prices for wholesale power on peak demand days during those summers. Those prices

attract new peaker plant development. Natural gas has become the fuel of choice for peaker generators. Peakers are typically powered by gas-fired turbines, similar in design, as you've heard, to aircraft jet turbine engines.

As a matter of comparative economics, the last least cost energy plan filed by ComEd with the Commission was in 1996. Before that, the requirement was discontinued with the 1987 Choice Act, identified

combustion turbines as the least cost alternative for construction of peaking capacity.

Modern gas-fired combustion turbines cost about $400 per kilowatt of generating capacity whereas new coal-fired plants are estimated to cost about $1,600 per kilowatt of generating capacity, and a nuclear generating plant costs between $2,000 and $5,000 per kilowatt of generating capacity.

During the '70s and '80s, federally imposed restrictions on building gas-fired generation existed because of perceived tightness in natural gas supply. These restrictions had been removed. However, a number of factors have combined to enhance the economic attractiveness of gas-fired generation including lower natural gas prices in the '90s --

however, it's not the case as we speak this summer; improved efficiency of gas-fired generation units; and the ease and speed of construction of gas-fired generation plants.

Although the cost of natural gas has risen, as I mentioned, the push for gas-fired generation does not appear to have dampened. The apparent environmental consequences of gas-fired generation as compared to coal-fired generation in the

absence of stigma and high costs associated with nuclear plants has also contributed to the increased economic desirability of gas-fired generation.

Furthermore, peakers are very flexible in terms of their operating schedules. They can easily be turned on and off as demand rises and falls. I got to personally see one operated by Municipal Utilities of Springfield that can be turned off and on by the internet without actually having someone there. Their relatively low capital cost permits them to provide high capacity to sell into the market for short periods of time when the market prices reflect peak demand.

Just as Illinois is a rail and air hub, many of the major natural gas pipelines terminate in or

otherwise may be available to provide service to the state. The middle map shows the natural gas pipeline in the state and many of those which go into the Chicago area.

In addition to ready access to fuel sources, electrical generating plants requires access to significant transmission capacity to move its product through the market. The closer a combustion turbine peaker is to a natural gas supply and electric transmission lines, the less expensive it is to bring it

on-line.

Public resistance to new power plant lines, transmission lines, has reduced the attractiveness of construction of those lines as a way to increase power availability.

While the FERC's order guaranteed open wholesale access to utility transmission lines, open access has a price. Under the current FERC-approved transmission tariffs, longer transmission hauls cost more. For the use and the power, the more it costs the company that is selling the power.

I would like to briefly address two other subjects, if I could. One, for decades, electric utilities would come to the Commission, Illinois

Commerce Commission, requesting the authority to grant new -- to construct new generating plants in specific sites.

Utilities sought a certificate of public convenience and necessity for a new plant when they were required to demonstrate at that time an economic need for the additional generating capacity. A lot of economic models forecasting of the demand for power were admitted into that record. If they did, and the ICC granted the authority, including its required eminent

domaine, non-utility generators did not have to request such authority, either before or after the '97 law.

Provisions of the Illinois law addressing -- siting of electric generating facilities have not changed. What has changed obviously is that utilities themselves are no longer primarily trying to build these plants. They're now trying -- they are now trying to be built by the -- by the private sector outletting utility industry. The FERC's order opened the interstate system to wider access and made non-utility generation economically attractive over short distance.

One final point I want to touch upon,

which is a concern, I think, in part brought on by what is going on elsewhere in the country which has to do with the price of retail power, retail price of power in Illinois.

The 1997 restructuring law froze the rates for -- for base rates for customers at the 1996 level. They are, in fact, frozen here in Illinois through the year 2004 under that law. That is associated with many other components of the law that are referred to technically in the law as the transition period.

Some of those rates in 1996, had already been in effect for a number of years. During the period that the utility rates had been frozen to date, wholesale electric power prices throughout the country and the midwest have been rising and it is anticipated that those prices will continue to rise if, in fact, the power supply in the country and in the area does not keep pace with the demands for electricity.

At the beginning of 2005, I anticipate -- we anticipate Illinois utilities that -- that are authorizing the law to be permitted to adjust the rates and they will come into the Commission to request to do that to reflect the wholesale price of

power that is in place at that time, and as a result, given -- if this were to happen today, there would, in fact, probably be great arguments made to increase the cost of electrical -- of retail power here in the state of Illinois.

Therefore, as policymakers address numerous issues related to the current boom in peaker plant construction, I -- they should be aware of, in fact, the need for reliable portfolio of electric power supply sources that are adequate to meet demand.

I'd be happy to answer any questions

and to admit my comments and attach them after to the record if that would be appropriate.

HEARING OFFICER JACKSON: That would be fine. Your comments are so admitted. If you would, just pass them down to the court reporter so she can mark them.

MR. FISHER: Thank you.

HEARING OFFICER JACKSON: Thank you. Would the Board members and the Board's technical unit like to ask any questions of Mr. Fisher at this time?

MS. KEZELIS: I have a question.

Thank you, Mr. Fisher, for coming here today. Can you generally describe for the record the

regulatory framework for natural gas as it exists today?

MR. FISHER: Natural gas -- the natural gas industry is -- is in addition regulated at the federal level by the Federal Energy Regulatory Commission and at the state -- the individual state levels by a public utility commission better known as the Illinois Commerce Commission.

The natural gas industry was, in fact, at the wholesale level de-regulated in the 1980s. In fact, the -- the model for the actions by the Federal Energy Regulatory Commission was based on actions they had taken which proved to be very

successful in the 1980s. They regulate the transfer of gas through pipelines -- through interstate pipelines throughout the country and, in fact, is a very competitive market. The prices of gas have come down.

I think today roughly between 40 and 50 percent of the customers in the state of Illinois -- retail customers in the state of Illinois buy their gas not from a utility, but from another provider. Excuse me. Forty to 50 percent of the gas, not of the customers itself.

At the state level, the gas industry is -- has been regulated, as I said, traditionally in

the judicial process in the electric industry. Currently, we have had some pilot projects that have gone around the state where customers -- where individual utilities are allowing certain numbers of customers and types of customers to, in fact, try to provide -- buy gas at the retail level through competitive suppliers.

Just last week, NICOR filed a proposal with the Commission to open up the market for all of their customers in the state of Illinois, which is about half the -- half of the gas companies in the state of Illinois.

MS. KEZELIS: Thank you.

CHAIRMAN MANNING: Mr. Fisher, can you explain what, if any, role the Commerce Commission now plays in keeping track of what Illinois' energy needs are, specifically to the state?

MR. FISHER: The commission -- the commission prior to the '97 restructuring law had a formal responsibility to have filed by each individual utility what was called a least cost of planning, and basically it was a 20-year forecast of power demand.

The '97 law took away that requirement

from -- from the utilities and, therefore, there is not a formal role for the Commission at this point in terms of the overall -- looking at the overall generation.

I would say that in my tenure of the Commission, in 1998 -- the '98/'99 summers were very hot and there was extraordinary pressures on the system and we have worked very closely to staff of the Commission -- the Commission has held several hearings -- with the utilities monitoring the generation of power.

When nuclear plants were down in 1998, in 1999, because of operating concerns from the Nuclear Regulatory Commission, there was a lot of pressure

there.

Right now, we are monitoring the development of both the existing plants in terms of their operating, looking at the existing life. One issue that's -- that we're looking at right now is the -- each of the nuclear power plants in the state have a licensed life at the NRC.

The question is whether or not the NRC would consider lengthening those lives. Nuclear power had gone through -- gone through a very interesting cycle. It was -- it was originally going to be

individually metered. It turned out to be more expensive than was thought. The plants had, you know, a lot of trouble with operating.

Right now, the plants in Illinois are being operated at an efficient rate, better than they even have in -- in at least 10 years, if not longer. And so some of the nuclear plants on the east coast have, in fact, already applied to -- applied to the NRC to lengthen those -- the terms of that.

But in answer to your question specifically, there is not a formal statutory role to continue least cost planning, but we are, in fact, continuing to look at the demand for power and supply of

power.

CHAIRMAN MANNING: Thank you.

MS. KEZELIS: I have one question, if I may, Mr. Fisher.

You testified generally about a de-regulation of the electric unit and the base rates were frozen until the end of 2004.

Can you briefly describe for the record what happens in 2005 under the laws currently in place, and what role, if any, peakers would play in that so we

can continue to build or not? Can you expand upon that?

MR. FISHER: Well, what will happen is that the utilities, I would suspect, sometime in 2004, will file with the Commission a proposal to adjust their rates to reflect current costs and these are the rates that are for delivery of power primarily. The -- and so what that will -- will be reflective of what the cost of power is at that time.

The cost of power is simply a function of supply and demand. As we're seeing right now, we had -- we have kind of an ironic situation, the last two winters have been very mild, which as a result, the natural gas industry has cut back on exploration and discovery of new gas supplies. We're now going into a

winter and looking at a very high priced -- looking at probably very high prices for natural gas as a result of that because -- just to meet normal demand.

The situation we have throughout the country in the California area this summer, they're having extreme heat and, therefore, facing some difficulties with situation.

They, in fact, de-regulated their -- they have taken on a different approach to de-regulation than we have and as a result, some of

that -- some of those costs of wholesale power, in fact, is being passed on directly to the retail customers and there has been some feedback from the public about it.

MS. KEZELIS: Okay.

MR. FLEMAL: Okay.

You mentioned that there has been an increase in the peak demands over the last several years that has been a thousand megawatts. Has there been a similar change in the base-load demand?

MR. FISHER: Base-load demand has also increased, yes, over that period of time. It -- one of the things that's interesting, and I don't have the direct statistics, but there was a report done by the

Federal Energy Regulatory Commission following the price spikes in the summer of 1998.

One of the observations that they made was that in the midwest, the -- the demand for electricity over the '90s, had grown at a rate faster than the rate in the nation as a whole and much faster than the rate on the coast. I'm just reflecting again the economy expansion that occurred during that time decade.

MR. FLEMAL: Have the state utilities been able to meet that increase in base-load demand?

MR. FISHER: In base-load demand to date, yes.

MR. FLEMAL: But not peak?

MR. FISHER: When the plants are operating, which they are today.

We did have a situation in 1990 to 1998, I think in 1999, when the major utilities in the state because, as I mentioned, nuclear power plants were not operating due to NRC concerns, that the utilities were importing substantial amounts of power and -- but that is not the case today.

In fact, in the summer of 2000, the midwest and in general, Illinois specifically, when we have had a few hot days, and they've been very limited

this summer, have -- have had plenty of excess in reserves.

MR. FLEMAL: You used a phrase in your comments that there is a need for a reliable portfolio of electrical power supply sources. I take it you're including in there as one of the portfolio elements the peaker plant, the peaker power source?

MR. FISHER: I think -- yes. I think it's -- yes. I guess I don't have any particular -- the

Commission doesn't have any particular preference of one power source over another, but I think it is important that the demand for power be considered as part of the equation when you are trying to decide your -- you're trying to address your issues.

MR. FLEMAL: Does the Commission have any information on the projected magnitude peak demand? Is that -- is the peak demand going to grow and at what magnitude?

MR. FISHER: We -- as I said, we no -- we're no longer required to go through this process of least cost planning. So there is -- there is no formal forecast of that, but we, in fact, have been working with -- working with utilities in trying to look at this issue in an informal basis.

But so I guess the answer to your question do we have a formal estimate of what peak demand is going to be in Illinois two years, five years from now, not at this time, we do not. But it is -- it is something obviously of great interest to us.

MS. KEZELIS: Is that a role that is partially played for the midwest area?

MR. FISHER: There is an organization -- again,

you can kind of see on the map here. There is an organization that is, in fact, responsible for reliability of the midwest. There are several of these organizations throughout the United States.

One of the things that we're -- and, in fact, that is their job on a full day, long-term basis and on a daily basis is to manage the flow of power.

Power, you know, when -- there has been a lot of heat in the south. There has been a lot of power flowing from Minnesota and Illinois down to the southern states and that is controlled through MAIN.

The -- one of the things that is going on today is that there is a change, again part of the -- what is going on at the federal level, that the order -- the traditional organizations such as MAIN are kind of being phased out in favor of these new independent

transmission organizations.

That is because MAIN has been primarily operating by utilities. It gets into that issue I mentioned before where the independent power producers want to be able to have independent access to the transmission network.

MR. MELAS: Mr. Fisher, I would presume that particularly this northeastern Illinois area, a

significant portion of the baseload is satisfied through the use of the nuclear generator.

What is the time frame when the NRC is going to be asking these plants to cease operation?

MR. FISHER: The -- I don't have the -- the exact date of the expiration. I think the first one is within the next 10 years. There is already a couple of units that have already been, in effect, shut down, the Dresden unit and the Zion unit.

But I would be happy to provide the -- provide the Board with the specific dates of the licenses of all of these plants.

MR. MELAS: Well, are there any specific plans being promulgated now -- being made now to replace the power that these plants are generating as they go off-line?

MR. FISHER: There are -- there are no coal or no nuclear power plants under construction or, to my knowledge, contemplated at this point. That is an issue that we'll be dealing with in the coming decade.

MR. MELAS: Thank you.

HEARING OFFICER JACKSON: Just for the record, I do want to note MAIN that was referred to earlier

stands for Mid America Interconnected Network, for any of you who might not know and for the court reporter.

MR. FISHER: Thank you.

MR. RAO: Mr. Fisher, do you have any information about how much energy is imported into Illinois and how much energy is sent from utilities in Illinois to other states?

MR. FISHER: The -- I don't have -- we -- for purposes of summer planning and so forth, we have information provided to us by the individual utilities. I do not have the specific information in the aggregate.

It is possible that that information is available through the Federal Energy Regulatory Commission and I'd be happy to research that for you and to provide that.

Increasingly, we're finding that the information which generally used to be very publically

available about transactions of power here and there is the -- the industry itself doesn't want that to be available, because that, in fact, gives a competitive advantage to your competitors. But to the extent that that information is available, I'd be happy to get it and provide it to the Board.

MR. RAO: Thank you. And on Page 3 of your

pre-filed testimony, you referred to electricity choice law. Would it be possible for you to provide a citation to this law for the record?

MR. FISHER: I will be happy to do so.

MR. RAO: Thank you very much.

MS. MCFAWN: You were talking about forecasting. How accurate is forecasting for demand peak and base-load where before in 1997, that requirement for the ICC was removed?

MR. FISHER: I guess the forecast that -- the long answer to your question is that in a -- in the early period of the '60s and the '70s, the forecast for demand was forecasted to increase at about a six percent rate on annual basis. That didn't happen.

That -- and -- and as a result for a period of time in the 1980s, we had an excess capacity of power here in the state of Illinois.

The forecasts that were made in the early '90s and the last forecasts that were made in the mid '90s have proven to be generally for base-load demand are generally accurate.

MS. MCFAWN: Did they foresee the peak demand that you referenced in your testimony?

MR. FISHER: No, they did not. That was not -- that was not projected. The -- part of that is, in fact, too, in 1998 -- I've learned a lot about the weather in this position.

In 1998 and 1999, we had two of the hottest summers certainly in the decade and -- and, in fact, in our workings with Commonwealth Edison over the last year, we have been debating the issue about how they should design their overall system, not just the generation, but also the distribution in terms of what is, in fact, the appropriate temperature.

Traditionally, the temperature was set at a 95-degree level. Now -- they are now redesigning it for 99. A forecast I saw from the -- from a U.S. government agency reading about the century -- about the temperature changing over the coming century, it suggests maybe we should sit down and talk some more, so.

MS. MCFAWN: You had mentioned also that transmission tariffs makes longer transmissions more costly. Could you elaborate on that?

For instance, what I'm wondering about in connection with that statement is what are those tariffs and will they -- how will they affect building

peaker plants?

MR. FISHER: The tariffs were filed with the Federal Energy Regulatory Commission and basically the tariff -- when you pass -- it's kind of like toll roads. When you try and pass your power from a site that is in, for example, from Ohio to Illinois, you're going through several different utility companies, each of which owns the individual transmission lines.

So you're required by the tariffs filed by those utilities to pay -- to pay, in effect, a cost to those. One of the things that is being looked at today is the idea of establishing through these independent transmission organizations a way of avoiding that what is referred to as pancaking of rates to try to figure out a way -- try to figure out a way of reducing the overall costs for purposes of transmission. And I'm not sure I answered your question.

MS. MCFAWN: But you explained how it works for me. Right now, do the tariffs discourage long haul transmission or encourage it?

MR. FISHER: I think they encourage it more than they used to. I think that independent power

producers -- and I understand you will hear from some of them -- would argue that the -- that there is a need for more changes in the -- at the federal level.

MS. MCFAWN: Thank you.

HEARING OFFICER JACKSON: Any other questions?

MS. MCFAWN: I have one question.

MR. FISHER: Sure.

MS. MCFAWN: I don't know if you can answer it or not. I've also heard there was some discussion about a natural gas pipeline across Lake Michigan. Would the ICC regulate that or be involved in that decision making?

MR. FISHER: No. The pipeline that is being proposed would be outside of the state of Illinois, first of all. It goes, as I understand, from Indiana to Wisconsin, and it would be -- it's a Federal Energy Regulatory Commission, because it's an interstate pipeline, they would be the ones that would have to -- that would have to sign off on that.

If the -- the Illinois Commerce Commission citing responsibilities are -- do have -- we had a situation a couple of years ago where there was a proposal to build an oil pipeline from Canada to the Joliet refinery by the Lake Head Company. They came to

the Commission requesting eminent domain authority before the public -- for the Commission to find it was in the public interest.

The Commission had hearings on that and decided not to grant eminent domain authority for that particular line, but I understand the line is in fact, being built anyway, just not as straight as it was originally proposed.

MS. MCFAWN: Interesting.

HEARING OFFICER JACKSON: Anything else?

Okay. I do want to note on the record that the Commerce Commission did file their pre-filed testimony yesterday along with the motion to file instanter. Just for the record, the motion to file instanter is granted.

Thank you, Mr. Fisher.

MR. FISHER: Thank you.

HEARING OFFICER JACKSON: Okay. At this point we'll ask the representatives from the Illinois

Environmental Protection Agency to step forward to the witness table, the presenter's table.

We'll go off the record for a few minutes and let them set up.

(Off the record.)

HEARING OFFICER JACKSON: What we're going to do with the Environmental Protection Agency is ask that each of the presenters today offer and make their presentation to the Board and then when all the presentations have been completed, then we will address our questions to the panel.

Okay. Please proceed.

MR. PHILLIPS: Good morning. Madam Chairman Manning, Madam Hearing Officer, my name is Scott Phillips. I'm an attorney with the Illinois Environmental Protection Agency.

This morning, the Agency will be presenting testimony --

THE COURT REPORTER: I can't hear you. Please speak into your microphone.

MR. PHILLIPS: This morning, the Agency will be presenting testimony from seven witnesses. Our first witness will be Director Thomas Skinner. Our second witness will be Christopher Romaine from the Bureau of

Air. The third witness will be Robert Kaleel from the Bureau of Air. The fourth witness will be Greg Zak from the Illinois EPA Noise Program. Our fifth witness will be Stephen Nightingale from the Bureau of Water. The

sixth witness will be Tom Marvel from the Bureau of Water presenting testimony on groundwater issues. And our seventh witness will be Todd Marvel from the Bureau of Land.

We have two group exhibits that I would like to get identified, marked, and into the record so we don't have to worry about those later on.

The first is Illinois Environmental Protection Agency Group Exhibit 1, which consists of the seven written pre-filed testimony that we submitted to the Board and I'll hand those to the court reporter at this time.

HEARING OFFICER JACKSON: They will be so admitted.

MR. PHILLIPS: The second group exhibit will be -- consists of the 20 exhibits that the Agency has already pre-filed with the Board and I believe those exhibits will be or are currently available on the Board's website as well. So I will hand those to the court reporter at this time.

HEARING OFFICER JACKSON: Exhibit 2 is also admitted.

MR. PHILLIPS: I would also like to note that

before we begin, there is just a correction on some numbers that were in Director Skinner's testimony regarding the number of permit applications. We have some more current information and thought we would provide those at this time.

There are permit applications submitted to the Agency for 46 sites. Twenty-nine permits have been issued. There have been two withdrawals. One permit application has expired and there are currently 18 permit applications pending for peakers. Some of these sites have more than one permit application that is why the numbers don't add up to the 29.

Director Skinner?

MR. SKINNER: Good morning. I'd like to thank all of you for the opportunity to appear before you, if for no other reason than the Agency has certainly been taking the brunt of the peaker heat, so to speak, over the course of the last 18 months, and it's nice to have someone to share the pure pleasure with, I guess.

To those members of the audience who don't often visit this particular building and thought

or made the statement that we were having this cool summer here, I would always welcome you to the State of Illinois Center.

Because the transcript does not always reflect attempts at humor, I'm going to forego the obligatory joke on behalf of the Environmental Protection Agency for another peaker plant in the air conditioning system in this building. Besides that's implicating, I would hate to have the videotape be played at a later date.

You have before you or in your offices my full written testimony as well as the written testimony of my colleagues up here with me. I don't intend to read that testimony verbatim into the record here today. You'll be even happier to know that my more technically oriented colleagues do not intend to read their testimony into the record either. Instead, we're going to provide you with summaries.

One of the things you probably noticed in the written testimony is that we have not really made any recommendations with regard to peaker plants. And to the extent that it was possible not to do so, we really haven't offered opinions with regard to peaker issues up to this point.

We did that quite intentionally. We wanted to provide you with some sort of background on

peakers and the facts of the situation to the extent that we had them in our possession.

On the other hand, having said that, we're more than happy to take questions and in adherence to the policy set by the hearing officer, we'll be glad to take those questions after we've all said our peace, I guess. We'll be glad to offer you our opinions if you want our opinions. Some of us are probably more easier than others to offer those opinions, but if you ask us a question, we'll be glad to answer it.

What I'll also do this morning in addition to giving you a brief overview of peakers, is to provide some comments as well on what I'll call local land use and citing issues related to peaker facilities. And I'm going to offer that perspective from my current position as director of the Illinois Environmental Protection Agency, but I will admit to you up front that those -- that that perspective will probably be colored by my experiences both as an elected local official and in my former life as an attorney who represented, at various times, folks on

both sides of citing issues. So you can filter it yourselves, I guess, but I'll try to give you a --

really one prospective on local citing.

In the past year and a half, you guys have seen a number, and it's an increasing number of permits, for what we call peaker power plants or natural gas-fired power facilities. We seem to get more every day. The current total is, as Scott said, 46. Sometimes we say 50. Sometimes we say 42. It really depends on how you interpret what a facility is and facilities are often made up of specific units.

Scott gave you the numbers as to issuance and withdrawal of the various permits. You know, please note that my comments are going to be directed specifically at natural gas-fired peaker power plants, which is the subject of, as I understand it, of these proceedings.

Peakers operate only during peak demand situations such as on hot summer days when residential and commercial usage of electricity creates more demands than the baseload plants that exist in Illinois make available.

I -- one of the things I found in the time that I've been in my current position is that I

have a series of regular correspondents, whether they be

from state government or from the citizens of the state at large, and one of my somewhat regular correspondents wrote to me a while back and said, in essence, in talking about peaker plants, you know, the problem since deregulation is that nobody is regulating these facilities.

It really caused me to stop and think about it. I found it kind of funny in a way, the way it was put, juxtaposing the de-regulation with the regulation. I understand what he was driving at, and I have to say that to some extent, I disagree with that. These facilities are regulated. They are regulated by our Agency, but they are regulated only with our Agency and with regard to certain issues, largely related to air, and as we'll hear from Christopher Romaine in a little while, the Bureau of Air does some extensive reviews when we get a peaker application.

The various technical and policy issues with regard to peaker plants can be complex and there is a lot of opinion on this. It's a developing situation, but I can tell you that from the Agency's perspective, from a regulatory standpoint right now, based on our given authority, it is fairly straightforward.

In the broadest sense, we categorize it

as three basic principals that we implement at this point. Number one is that no permit shall be issued for the construction of a peaker plant unless the permit applicant proves that the facility will not violate existing environmental laws and regulations.

The second principal is peaker plants must be constructed and operated in full compliance with their permits and in full compliance with existing environmental laws and regulations.

And third, that based on our growing experience and knowledge regarding these facilities, we as an agency are in the process of regularly reevaluating the standards that exist out there right now in order to make sure that we're adequately protecting human health and the environment and maintaining consistency with the national air quality standards. Now, I want to touch on each of those principals fairly briefly this morning.

With regard to the first principle, compliance with existing laws and regulations with regard to the environment, all peaker plants require air emission permits in order to construct and operate from our Agency. Peakers must pass air emissions and

therefore they're required to come to the state and to the Illinois EPA.

Depending on the characteristics of the particular project, some peaker plants require permits from our Bureau of Water as well if they have discharge, water discharge. We would consider what is commonly referred to as SPDS permit.

Groundwater withdrawal issues, which can exist with regards to some types of peaker facilities, are somewhat A different animal. Rick Cobb from our Bureau of Water will talk about that a little bit. We do not have authority right now over the ground leak withdrawal of groundwater, groundwater consumption of Illinois.

As you all are all too aware, I guess, Section 39(a) of the Environmental Protection Agency states that, quote, it shall be the duty of the Agency to issue a permit upon proof by the applicant that the facility will not cause violation of the act or of regulations, unquote, promulgated thereunder.

When we receive an application for a permit to construct a peaker or for any structure for that matter, we review the application to determine whether the proposal will comply with applicable state

and federal laws and regulations.

Where the permit application does not prove compliance and where the applicant cannot or chooses not to correct the problem, we deny the permit.

Where the permit application indicates compliance, on the other hand, by law, we have to issue the permit. However, we may and we often do include in the permit conditions that limit, to some extent, certain aspects of the operation of the project such as the number of hours that the equipment may operate or the parts per million of the emission or discharge of a pollutant into the ambient environment. All of this is intended to ensure compliance with applicable state and federal laws and regulations.

Public participation is an important part of our permit process and that's particularly true with regard to peakers. A number of residents of the localities where it is independent power producers sought to build new peakers have expressed their opposition, have expressed it eloquently and may have even expressed it loudly at times.

Concerns raised included emissions from peaker plants, the impact of those emissions on local air quality, impact on regional air quality, the impact

of those emissions on their health, and our interpretation and application of the regulations providing for permitting of these. Our testimony in these proceedings will address these concerns.

In addition, members of the public have also raised other land use issues, what I would term perhaps environmentally related, but not environmental issues such as esthetics of the proposed facilities, local zoning, citing, affect on property values and issues of that sort. I will touch on those issues briefly in a little while as well.

The second principal you may recall is that peaker plants must be constructed and operated in full compliance with their permits and full compliance with environmental laws and regulations. To further this objective, we have inspectors and other compliance personnel who investigate possible violations. If we find violations at a facility, we can tell the facility to correct them and if appropriate, we refer the matter to the Office of the Attorney General for the state of Illinois for prosecution and for a civil penalty.

Ordinarily, unless a particular compliance problem is identified of a peaker, we would

inspect facilities of this type and of this size every three years. In the interim, we would analyze the quarterly data which is required to be submitted on facilities operations.

However, because of the present number of peakers appearing in Illinois in a relatively short period of time, their relative proximity to residences in some instances, we have decided as a policy matter to conduct annual inspections rather than every three years of each natural gas-fired peaker plant. This, we hope, will allow us to identify and quickly address any violations of permitting conditions and environmental laws and regs, and we will, of course, continue on a quarterly basis to monitor very closely the data that we receive with regard to the ongoing operations of any and all of these facilities.

The third principal I referred to earlier is continual eval -- continual re-evaluation. I have to say over the past 18 months, we as an Agency, and I as director have spent as much or more time dealing with peaker issues as any other single subject.

We understand and we understand very clearly that there is significant concern among the residents of Illinois and among the folks who live near

these proposed peakers about the air quality and health effects that these facilities may have. Now, after a thorough analysis of computer runs and continuing that analysis and modeling, we do not believe the plants that have been proposed to date and permitted represent significant health or environmental threat.

However, as we gain additional experience with peakers, we will regularly re-evaluate whether the air requirements provide protection of health and environment, and be -- are consistent with national air quality standards. If and when we find the existing requirements are lacking, we either administratively address the problem, if we have the legal authority to do so, or we will propose appropriate regulatory changes to the Board or legislative changes to the Illinois General Assembly.

As examples of the first of those, since January of this year, we have made two administrative changes in the way we review peaker permits.

First, we have decided to hold public hearings on each construction permit. This is not a measure that is required by law. These proceedings are discretionary but as -- we really wanted to -- I've had more important acts that I've undertaken, but I have

undertaken to exercise that discretion across the Board with regard to peaker plants.

We now, as a matter of course, have a hearing before we take final action on a permit. That helps us in two ways. Number one, it allow us to receive additional information that might not otherwise be obtained and that sometimes does happen. And it also allows the peaker developers, proposed operators, if you will, and the Agency, to some extent, to provide additional information about the project and about our process for permitting the project to the public and specifically to residents in the area where the project is proposed.

The second change that we have undertaken is that we require applicants of peaker permits to perform and submit for our review a comprehensive analysis of the potential environmental effects. In essence, it's modeling the effect of the proposed facility on air quality.

We require that this modeling include emissions from all major sources near the proposed peaker source as well as all others proposed new electrical generating plants in the area. Prior to January of this year, this type of analysis was

performed only on so called major projects, a category that most of the peaker proposals do not fall.

Again, this change is not mandated by law, but what we decided to do is institute that requirement and to require the information as an additional safeguard and as an additional tool for us to use to consider these applications.

Finally, on a related issue, the effect on air quality of peakers, but also of other similar sources, in July of this year, as you all know, we proposed a rule to the Board to reduce statewide nitrogen oxides, or NOx, from electrical generator facilities among which peaker plants are a subcategory.

This proposal was in response to US EPA's call for state implementation plans requiring significant reductions in emissions or the so called NOx SIP call, an area in which Illinois, as a state, has been the leader nationwide among the states and has put in a significant amount of work over the course of the past five to 10 years.

Now, NOx is the main air pollutant produced by these peakers. There are other emissions, but NOx is the predominant emissions. The portion of the NOx SIP call applicable to peaker plants establishes

caps on NOx emissions from electrical generating units or EGUs.

The owners and operators of these units must relinquish an allowance for each ton of NOx emitted between May 1st and September 30th, usually categorized as the ozone season beginning in the year 2003.

If adopted, this rule will result in a reduction of NOx emissions during the ozone season from over 200,000 tons statewide to less than 31,000 tons statewide, which I think by any measure is a significant improvement and you will certainly diminish overall the effect that NOx has on air quality in Illinois.

Switching gears somewhat, I promised to talk about local land use proposals and sitings earlier and I would like to take the opportunity to do that.

As I mentioned during our public comment period, we frequently receive comments regarding the potential effect of peakers on things like aesthetics, appearance, traffic, property values, things that the folks in the local community would be expected to be concerned about.

I will state first that the Agency is

not authorized by state law to consider these types of issues in its review of permit applications. These types of land use issues are left to local units of government. And while we attach tradition occasionally to these air permits, we don't have the latitude to impose conditions that are unrelated to air quality.

Now, while important, these types of issues that I refer to historically have been left by the legislature to the local units of government on the basis that local government better evaluates these matters in determining its citizens preferences.

I'm particularly sensitive to the separation of local and state functions because in my -- in addition to my role at the Agency, I sit on the village board in a community north of Chicago, Lake Bluff, and I know when I take my state bureaucratic hat off and put on my village hat, the last thing I want and the last thing my village wants is some bureaucrat in Springfield telling us how we have to use our land, how we have to spend our money, or anything else for that matter.

As a result of that experience, I -- as I travel around to the various parts of the state, talking to groups and individuals with regard to peaker

plants in other areas, I try to emphasize the power the vote communities currently do possess through local zoning and land use to control whether peakers can be built.

I have tried to emphasize that the Illinois EPA air permit to construct a peaker plant does not supercede a local zoning land restrictive barriers. There are two separate issues, two separate areas of responsibility. The fact that the applicant may have met the air quality requirement or air emission requirements with regard to peaker plants, and, therefore, we issue a permit does not mean we've addressed the local issues. That's left to the locals.

In establishing this docket, the Board would like to comment on the following issues and that is a specific issue. Should new or expanding peaker plants be subject to citing requirements beyond applicable zoning requirements.

By this question, I assume that the Board was referring to what is commonly called the SP172 or local citing process with regard to pollution control facilities.

Our Agency has no direct involvement in the actual SP172 hearing process. Those hearings are

conducted locally. However, our role is essentially limited to making sure that the permit applicant submits approval of local siting was obtained pursuant to SP172.

We can, though, I think, provide the Board with a summary of the circumstances that gave rise to the existing state requirements for siting that are contained in the Environmental Protection Act and we have, in fact, done that in the written testimony that we submitted.

This summary, I hope, will provide a useful context from which you as Board members can evaluate whether peaker presents similar issues to pollution control facilities and whether they address warrant sections from beyond local zoning.

What I'll do, I think, right now is provide maybe a summary of the summaries as follows. In 1981, the Environmental Protection Act was amended to create the requirement that permit applicants for a pollution control facility must first obtain local citing approval from the applicable unit of the local government that is located within the municipality, that is a special hearing panel of municipality, the facility is located in an unincorporated area of the

county, it would be a special hearing panel of essentially the county board.

The concept of local siting I referred to embodied originally in Senate Bill 172. It was later enacted into law on November 12, 1981, but has been in the industry, I think, commonly referred to as SP172 since then.

Prior to 1981, the comments of local authorities in Illinois were not binding on the state and specifically were not binding under Illinois Environmental Protection Agency in the siting and permitting of sanitary landfills and other pollution control facilities such as transfer stations and incinerators.

SP172 dramatically changed that scenario, or dramatically changed the permit process by requiring the county or municipalities in which the facility was located to conduct hearings, specifically on the proposed project in order to determine whether the facility met certain enumerated statutory criteria.

The Agency may not issue development or construction permits until those criteria are met and local siting is obtained. SP172 resulted in division of

decision making responsibility and authority between

local government and the state.

The Agency itself acknowledged and continues to acknowledge that it does not have the same degree of local land use expertise that local units of government do. By splitting this authority, local governments and local citizens could then determine whether a proposed facility is appropriate to their specific area.

Section 397.2 of the act, which many of you are familiar, provides that local authorities are to consider nine criteria in reviewing applications for siting approval.

Section 39.2(g) also provides siting approval procedures, criteria and appeal procedures to be followed. The local siting authority may develop its own siting procedures, but only if those procedures are consistent with the act and if they augment or supplement rather than supplant the existing state requirements.

The end result of placing 172 siting, local siting's approval in their permitting issuing process was to place local government in the role of making all relevant decisions regarding location,

siting approval process or through tradition zoning ordinances.

Now, peakers are currently not subject to SP172 because the natural gas-fired peaker plant does not meet the definition in the statutes of a pollution control facility. Natural gas used in the peaker fashion does not meet the definition of a waste. Hence, the question of, as we sit here today, whether they should be subject to SP172 or something similar.

Now, as I pointed out earlier, it's not to say, though, that these facilities are exempt or preempted from any kind of restriction as to land usage because the mere fact that SP172 does not apply, does not mean the local zoning doesn't apply and does not relieve the peaker applicant from going to the local community in order to assure that it is compliant with all necessary zoning approvals as were necessary in obtaining either a special use permit or some other sort of zoning changes from the local government. The normal zoning process still applies in these instances.

When I've made that local control pitch in various places to various groups, I've heard

essentially two basic objections. The first is that most local government are not sophisticated enough to

undertake the necessary analysis with regard to these peaker facilities.

The second is that if a peaker is located on the edge of town, residents of the adjacent community do not have a meaningful opportunity to impact its neighboring community's land use decision.

To offer an opinion in the first instance, as to the former, I disagree with all due respect. Local governments address the aesthetic issues, traffic issues, property value issues every day. To a large extent, that is what local governments are there for, to kind of keep a large part of their function.

Now, while local communities can undertake air analysis separate from the air analysis that we undertake if they so desire and can impose, in fact, through their local process, stricter requirements, if they so desire, it is not necessary that they do that. There is a logical splitter of responsibility. The Agency is equipped to deal with the statewide, regional and local air issues while local government can deal with the traditional local

air issues.

On the other hand, there are instances

where I think, in fact, communities have undertaken these separate analysis. There's a current situation up in Libertyville, Illinois. Within a facility up there, there is an example where I think a great deal of time and money has been expended by the local community in attempting to determine whether or not the facility is desirable for them as a community and some of what they've undertaken is what I would describe as technical analysis that sometimes is left to us, but obviously sometimes it is undertaken by the local community as well.

As to the second objection, perceived lack of influence over existing government, I will fully agree that this is a legitimate issue and is something that the Board and perhaps the general assembly ought to consider.

However, it's also an issue that goes beyond peaker plants. It's an issue that existed in the SP172 context as well. It's an issue that has been -- there has been complaints about over the course of time. Some communities variably deal with it better

than others.

Libertyville is an example where folks that live outside of the actual municipality of

Libertyville had a fair amount of success in getting their viewpoints across to the local bodies that are going to make those procedural -- those land use decisions up there, but having said that, I think it is an issue that deserves further consideration.

I think what I'll do is stop there. If you have questions, I, of course, will be glad to take them now, but Hearing Officer Jackson being in charge has decided to hold them off and I'll take a breath and turn it over to Chris Romaine who is going to talk about air issues.

HEARING OFFICER JACKSON: Before you start, I just wanted to say we're probably going to take a lunch break around 12:30 today. We'll go ahead and get started with the next witness now. Obviously, we won't finish before lunch.

Okay. You may proceed.

MR. ROMAINE: Good morning. Thank you for allowing me to speak today. My name is Christopher Romaine. I have been manager of the utility unit in the air permit section since 1998.

The purpose of my testimony is to assist the Board in its inquiries by providing information on the air pollution control aspects of peaker plants and

emissions permitting.

As chairman of the utility unit, I oversee a staff of engineers who review all air pollution control permit applications for electric power facilities. This includes the review of construction permit applications submitted for proposed new power plants.

My tenure in the utility unit has coincided with the influx of proposals for new natural gas-fired power plants in Illinois, which apparently has accompanied economic deregulation of the generation of electricity in the state.

I have assisted in the review of many of these applications for these plants and have participated in most of the public hearings held by the Bureau of Air on these projects.

Through my work with applications for new peaker plants, I also have acquired a general familiarity with aspects of these plants unrelated to air emissions.

The first point I want to make is that peaker power plants are not a new phenomenon. There are a small number of existing peaker power plants in Illinois that have operated as needed to meet peak

electric power demands or provide emergency power.

In this regard, electric power is supplied by a mix of power plants. Economics dictates this mix of generating capacity because the use of and demand for electricity varies greatly depending upon the time of year and the time of day, and the power system must have the capability to respond to this variation.

This mix includes so-called baseload power plants and peaker plants. In fact, we can get more technical. People also refer to them in the intermediate category referred to as cyclic power plants.

In any event, baseload power plants run around the clock, essentially day in, day out, at relatively stable levels of operation. These are the least expensive and most efficient plants to operate and include fewer coal-fired boilers and nuclear plants.

Cyclic power plants operate on a daily cycle, tracking the daily cycle of power demand

as it rises and falls during the day. These plants include some of the older plants and some of the plants specifically designed to interpret the steam and boiler plants.

The peaker power plants have had a critical place in the power supply system as they have operated to meet the demand for electricity when the demand is at its highest.

In Illinois, this peak demand occurs on hot summer days due to the use of electricity for air-conditioning.

The engines that are used in peaker plants are the most expensive to operate because they use high cost natural gas, light oil. However, peaker plants can be turned on and off very quickly, compared to steam power plants, which allows them to respond to the demand in power.

As Director Skinner has already indicated, what is new in Illinois is the large number of peaker power plants proposed since mid-1998, coincidental with the economic deregulation of power generation in Illinois.

These plants are being proposed

throughout the state, not only in rural areas where new power plants were historically sited, but also in developed and developing areas in the greater Chicago metropolitan area.

In the Chicago area, some plants are

being sited for existing industrial locations, but many have selected sites that are not in industrial areas and might be best characterized as open, often close to residential areas.

Moreover, unlike existing peaker plants, which were developed by Illinois' historical electric utilities like Illinois Power or Commonwealth Edison, most of the new plants are being developed by companies that are new to Illinois, who, as we understand it, intend to sell power on the wholesale power market.

Thus, it is not clear whether all this additional generating capacity is needed to meet local needs or that proposed plants are being developed at the most appropriate locations.

At the same time, it is important to note that there are certainly new peaker projects that are being proposed by our historic utilities. Like the existing peaker plants, some of these projects are occurring at or adjacent to existing coal-fired power

plants.

At the same time, there are certainly some nuclear power plants that are being proposed by our historical utilities. Like these peaker plants, some of these projects are occurring at or adjacent to

existing peaker power plants.

Some doctrines are appropriate on what these units are when they already use gas turbines. These units are more commonly known as jet engines. They're also technically known as combustion turbines.

Simply speaking, a gas turbine is a rotary internal combustion engine with three major parts. I think somebody has an overhead for me at this point.

The three parts are the air compressor, burners, or combustion chamber and a power turbine. We have diagram on the overhead. There is also a diagram for you on the easel.

In the air compressor, a series of electric bladed rotors compresses the incoming air from the atmosphere. A portion of this compressed air is then diverted through the combustors or burners where fuel is burned raising the temperature of the compressed

air. This very hot gas is mixed with the rest of the compressed air and passes through the power turbine.

In the diagram, that's the turbine fan. Turbine fans are powered when the force of the hot compressed gas quickly expands and pushes another series of blades rotating the shaft. Some of the

energy produced by the power turbine is consumed to drive the air compressor. The remainder, however, is available for useful work in the diagram below. In case of a gas turbine power plant, the power turbine turns the generator and makes electricity.

In this basic form, gas turbines are compact, powerful machines. Unlike steam electric power plants, where a boiler is used to make steam and drive a steam turbine generator, in a gas turbine, the combustion of fuel occurs in the gas turbine itself. See, one piece of equipment fuels burning combustion chambers.

In addition, a separate cooling system is not required to condense steam for reuse. The waste heat from the exhaust -- from the gas turbine is directly discharged to the atmosphere with the exhaust gases out a short stack, which is typically no more than 100 feet tall. You can see this is the exhaust gases on

the atmosphere.

However, the trade off for the simplicity of the gas turbine is the required fuel. Gas turbines rely on the availability of a supply of clean fuel such as natural gas, kerosene, or light oil. In this regard, gas turbines are called gas turbines

because they work with a hot gas, not because they burn natural gas.

Due to their characteristics, gas turbines are useful in particular applications. One of these applications is providing peak electricity. It should be understood that as a point of background that gas turbines are also used to generate electricity in hybrid systems known as combined cycle turbines.

The diagram you have got in front of you is the simple turbine, the basic model. It shows you peak. In a combined cycle system, which aren't used at peak, the combined cycle system is, in fact, designed generally to operate year 'round to supply electricity.

The difference between the simple cycle turbine used for peaking and the combined cycle turbine is that in a combined cycle turbine, the hot exhaust gases discharged from the turbine do not go directly to

the atmosphere. Instead, the hot exhaust gases from the turbine which are typically about 1,000 degrees Farenheit, are ducted to a waste heat boiler and used to generate steam.

This steam is then used to drive the steam turbine generator as in more traditional steam power plants. If you look at this diagram, you'll be

adding another boiler on top of the hot exhaust gases. There would be steam. That steam would then also be used to drive another steam turbine involving a power load either the same generator or a separate electrical generator.

The recovery of the heat energy in the exhaust of a gas turbine in this combined cycle fashion can increase the energy efficiency of a combined cycle plant by about 50 percent as compared to a simple cycle turbine which doesn't recover any heat energy from its exhaust.

The additional electricity that can be produced by a combined cycle turbine is accompanied, of course, by additional capital expense, a waste heat boiler, the steam turbine and a cooling system. But the additional output of the plant makes the natural gas-fired combined cycle plant more cost-competitive

with coal-fueled plants for electric power generation.

In addition, combined cycle plants generally pose more issues than simple cycle plants. For example, they do have the cooling towers associated with the steam power plants. Combined cycle plants are also subject to regulatory requirements more stringent in certain respects than those for peaker plants.

Along with the influx of new peaker plants, Illinois has also experienced a much smaller influx of combined cycle plants. We've received applications for 10 new plants roughly. Six are permitted. One of the reasons that it is difficult to keep a standardized approach with the numbers of plants is that there is some overlap between simple cycle peaker plants and combined cycle plants.

In this regard two of new natural gas-fired plants are permitted to operate initially as peaker plants, but then they're also permitted to act additionally -- combined cycle use.

In addition, we have one permitted -- cylinder permitted to involve both simple cycle and combined cycle turbines even though at this point it's only constructed as simple cycle turbines.

Looking at the actual pieces of equipment, the actual turbine, there are two basic types of turbines, so-called heavy duty or framed turbines or an aeroderivative, that is an aircraft derivative turbine. Frame turbines are specifically designed for land based utility or industrial applications.

Aeroderivative turbines, while adapted

for land-based applications, are derived from aircraft engines and generally have counterpart models of engines that are used on jet aircraft.

There are a handful of manufacturers of utilities with gas turbines. The gas turbines are being proposed for plants being built in Illinois. Actually, they include turbines from all of the major manufacturers.

Each manufacturer makes a number of different models of gas turbines in a range in sizes. Gas turbines are rated by their power output, i.e., the amount of electricity in megawatts that they can nominally produce.

The new peaking plants being developed in Illinois have turbines that range in size from a nominal output of about 20 megawatts to 190

megawatts. Except for two small plants, the new peaker power plants being developed in Illinois have two or more turbines, which are usually the same model.

The largest number of identical units proposed at a single site is 16 units. This allows the plant to manage the amount of power produced by turning off and on turbines. Gas turbines normally operate in the upper load range, which is where they were.

A key factor in the design of a peaker plant is the capability to maximize the power output of the plant to be able to meet peak electric power demand. This leads to a number of variations on the basic simple cycle turbine, which are all due to the scientific facts that the power output of a gas turbine varies based on the density of the air being used in the turbine.

The denser the air, the more air that can be pushed through the turbine, the higher the power output. This means that in the absence of any adjustments, the output of a given gas turbine will be significantly less on a 95-degree Farenheit day in July, when peak power is most likely to be needed, than on a 20-degree Farenheit day in January.

To compensate for this phenomenon, the modern simple cycle turbines used in peaking plants are routinely equipped with devices to cool the air going into the turbine. While it may appear counterproductive to cool the air in a turbine before heating it, cooling the air allows more air to be handled by the air compressor, thereby allowing more fuel to be burned and increasing the power output of the turbine.

Gas turbines can be equipped with several different types of air cooling systems that vary in effectiveness with which they can cool the inlet air to boost a gas turbine's power output. In the simplest system, water is injected directly into the incoming air to cool the air by evaporative cooling. Clean demineralized water must be used to prevent excess build up of scale on the rotor blades in the turbine.

In more complex systems, water may also be injected at a point in the air compressor itself. The inlet air may also be cooled by indirect systems in which the air passes through cooling coils. In this case, water may still be used in an open cooling tower where evaporation of water is used to dissipate the heat generated by a mechanical refrigeration unit.

Alternatively, a dry cooling system may be used in which the heat generated by a refrigeration unit is dissipated to the atmosphere by dry cooling towers or radiators. Obviously, the more complex the cooling system, the greater the amount of energy that is consumed in its pumps and compressors, which offsets some of the additional increase in power output.

Another approach to boost power output

of a gas turbine is to inject clean water or steam into the burners or to inject steam after the burners. All these measures increase the gas flow through the power turbine and thus increases its power output. This can increase the effects on efficiency, however, because you do have to burn fuel to heat that water to evaporate.

In summary, while simple cyclic gas turbines are similar in concept, the new peaker power plants proposed in Illinois can vary greatly due to the type and number of turbines and the associated systems that have been selected by the developer.

Some comments on emissions and Director Skinner has mentioned the -- related to the greatest amount of gas turbines generally measured oxides. The

fact that gas turbines are no different than burning natural gas for any purpose.

The NOx is formed. It's not a cyclosporin, but is formed thermally by a combination of oxygen and nitrogen in the air at the temperatures and conditions experienced in the burners of the gas turbine.

In addition, gas turbines can and do also emit carbon monoxide or CO, which is formed as a result of incomplete combustion fuel. CO is

associated with most combustion processes and is found in low, but measurable amounts in turbine exhaust.

Volatile organic material, or VOM, which is also a product of incomplete combustion, is also present in smaller amounts. Factors affecting CO and VOM formation from a gas turbine again include burner design and firing rate, which directly influence the time, temperature and turbulence of the combustion conditions experienced in the burners and the efficiency of combustion.

In the absence of other measures, emissions of NOx and carbon monoxide and volitile organic material are generally considered to be related inversely. That is, everything else being equal,

increasing flame temperatures and turbulence in a burner, which improves combustion efficiency and lowers emissions of CO/VOM, results in conditions that are more conducive to formation of NOx.

Likewise, lowering peak flame temperatures and turbulence, which reduces NOx formation, tends to lower combustion efficiency and increase emissions of CO/VOM. Thus, one objective in combustion modifications to reduce NOx formation is to also take other compensatory steps to also maintain or

even improve combustion efficiency.

I've attached to my testimony a USEPA reference on emissions from gas turbines, which is a supplement of the chapter, USEPA's Compilation of Air Pollutant Emission Factors, and it provides a lot more information on emissions.

Due to the particular features of different gas turbines and continuing developments in burner design, however, the preferred source of information the expected emissions of a particular model of turbine is the manufacturer of the turbine.

Manufacturers prepare detailed data sheets providing the maximum expected emissions of

a particular model of turbine, along with other performance data, under different conditions of gas, turbine load and operating conditions and ambient temperature.

Once gas turbines are installed, actual emission rates can be determined by measuring the amount of pollutants in the exhaust of the turbine as it passes through the stack. In addition to the gas burners themselves, there are other emission units at peaker power plants other than gas turbines.

The other type of unit most commonly

found is fuel heaters. These heating systems are used to warm natural gas prior to its use as fuel. The fuel heaters are essential if the pressure of the natural gas pipelines serving a plant is above the pressure required for its gas turbines so that the natural gas cools when it is decompressed for use.

Ancillary boilers or engines, which may be used for start-up, power augmentation or emission control, and emergency firewater engines, if present, will also have emissions due to combustion of fuel in these units. Again, these types of emissions are similar to those of turbine -- turbine fuel.

Finally, cooling towers, if present,

will also be sources of emissions. This is due to the presence of dissolved or suspended solids in water droplets lost from the cooling tower and other substances in the water that may be lost to the atmosphere. Losses of particulate matter from cooling towers can be minimized by using high-efficiency mist eliminators which reduce the loss of water droplets and managing the solids content of the water being circulated in the cooling tower.

HEARING OFFICER JACKSON: Mr. Romaine, are you finished with your emission information right now?

MR. ROMAINE: Yes, ma'am.

HEARING OFFICER JACKSON: It looks like the next thing in your testimony goes to the applicable regulations. We will pick up with that when we return in exactly one hour.

Before we break, though, I do want to note for the record there was a NOx rule that is currently pending before the Board that was referred to in Director Skinner's testimony and just for those of you who may not be familiar with the Board's docket, that rule is currently docketed at R01-9. It is a fast track rule under Section 28.5 of the Environmental

Protection Act. The Board anticipates completion of this rulemaking, the NOx rulemaking, before the end of the year.

The first hearing is currently scheduled for next Monday in Springfield, that is Monday, August 28th, in Springfield. Cathy Glenn is the hearing officer for that rulemaking. If you have any questions today, I'm sure you can track Cathy down and ask her. She is around. So that is it.

We'll be back in exactly one hour. 1:30.

(Lunch break taken.)

HEARING OFFICER JACKSON: Good afternoon. Welcome back. I think we'll go ahead and get started. We're back on the record.

As indicated before we took a lunch break, we're going to pick up where we left off with testimony from the Illinois Environmental Protection Agency.

Mr. Romaine was just beginning to discuss the applicable regulations, in his pre-filed testimony. So, Mr. Romaine, I'll hand it over to you.

MR. ROMAINE: Thank you.

I'm now going to talk about the applicable air control standards for gas turbines.

Modern gas turbines are able to readily comply with the specific emissions standards that have been adopted for them, which address emissions of NOx and SO2.

Accordingly, my testimony focuses on the applicability of the federal rules for Prevention of Significant Deterioration of Air Quality or PSD.

The Illinois Environmental Protection Agency administers the PSD permit program for sources in Illinois under a delegation agreement with the U.S. Environmental Protection Agency.

PSD can have an effect on a proposed peaker

project because a proposed plant that qualifies as major for a pollutant under PSD is subject to additional requirements for that pollutant under the PSD rules. In particular, a major plant must be operated to comply with control requirements that represent best available control technology, or BACT, for a pollutant, as determined and approved on a case-by-case basis during issuance of a construction permit for the project.

A construction permit that contains such approval is commonly referred to as a PSD permit. Otherwise, with respect to the PSD rules, a "non-major" peaker project need only manage and control its future

emissions so as to comply with the terms of its permit so that it does not constitute a major source. Most, but certainly not all, of Illinois' new peakers are not major sources and are not subject to BACT under the PSD program.

Given this situation, interest has been expressed by the public as to why such peaker plants are not considered major so as to be subject to BACT or some other stringent level of emission control set on a case-by-case basis during permitting, especially since peakers will likely operate on the hot summer days that are most conducive to the formation of ozone.

The need for a PSD approval or a PSD permit for a proposed project is determined by its potential emissions of pollutants. Because enforceable limits must be considered in determining potential emissions, the permitted emissions of a proposed new source effectively become the source's potential emissions. Permitted emissions generally reflect the hours of operation or throughput requested by a source in its application, with emissions in compliance with applicable standards or at such lower rate as also specified in the application. Accordingly, the need for

a PSD permit is triggered for a proposed new peaker plant, if the permitted emissions of a pollutant, for example, NOx or CO requested by the applicant equal or exceed the major source threshold of the PSD rules. For peaker plants this threshold is 250 tons per year.

One question about the applicability of PSD to new peaker plants arise because of the seasonal nature of peaker plants, where peaking plants will operate primarily on a relatively small number of days during the summer. In contrast, the applicability thresholds of PSD are expressed in terms of annual emissions. People wonder whether a program like PSD should be applied to the new peaker plants as if the peaker plants

would operate the rest of the year as they are allowed to operate in the summer months. Certainly, the impacts of a peaker plant on the days that it operates are potentially much greater than a comparable manufacturing plant permitted for the same amount of emissions but operating over the course of an entire year. However, the applicability provisions of the PSD rules do not provide a basis to trigger applicability of PSD on a basis other than annual emissions. Section 169 of the Clean Air Act clearly provides that for purposes of PSD, major sources are to be defined in terms of their annual

emissions.

Another question about the applicability of PSD to peaker plants arises only for peaker projects in the Chicago ozone nonattainment area. In particular, why is only PSD being considered for NOx? If NOx were considered to be an ozone precursor in this area, a proposed new peaker plant would have to be addressed under the nonattainment new source review rules as well as under PSD. This is because the applicability threshold for a major new source under the nonattainment new source review rules in a severe ozone nonattainment area like Chicago is annual emissions of only 25 tons of an ozone precursor. Applicability of the nonattainment

new source review rules would almost certainly require any new peaker plant proposed in the Chicago metropolitan area to comply with the lowest air emission rate for NOx. The answer to this question is that the U.S. Environmental Protection Agency has granted the states bordering to Lake Michigan a -- called a NOx waiver under Section 182(f) of the Clean Air Act. This waiver is based on the scientific analyses that found that controlling NOx emissions only in the nonattainment area would actually increase ozone levels in the air,

instead, for NOx reductions to improve ozone air quality must be provided on a statewide basis and preferably on a multi-state regional basis.

Because of these questions concerning the applicability of PSD to a new peaker plant, the Illinois Environmental Protection Agency formerly sought guidance from U.S. Environmental Protection Agency on these points. U.S. Environmental Protection Agency confirmed that the Illinois Environmental Protection Agency is properly implementing the applicability provisions of the PSD rules for these plants.

A review of the regulatory programs in other states indicates that there are states that are similar to Illinois that apply BACT to a proposed project only

when triggered by the federal PSD rules. Wisconsin is an example of such a state. There are other states like Indiana and Ohio where there are state-based BACT requirements that apply to proposed projects that would not trigger BACT under the federal PSD rules. A brief description of the requirements in other states is provided in Attachment 2 to my testimony. This attachment also includes some information on the state process for approval of the sitings of new plants, if such a process exists. It also includes what I would

characterize as anecdotal comments, opinions about people that we talked to about the situation with regard to peaker plants in their particular state.

The next topic of my testimony is emissions control technology. Emissions from turbines can be reduced by combustion modifications and by add-on control devices. As emissions of pollutants like NOx and CO from gas turbines are related to combustion conditions, combustion modifications are the preferred control technique as they can reduce the formation of pollutants. Combustion modifications involve only the burners of a turbine and other components of the turbine may be unchanged. Over time a particular design of gas turbine may be produced with several different models of

burners, as the turbine manufacturer makes improvements in the design of the burners, which then become available for newer units.

One approach to modifying the burners of a gas turbine to reduce NOx emissions is to inject water, either as a liquid spray or as steam, into the burner in the immediate vicinity of the flame. This reduces the peak temperatures in the flame zone, "slowing down" the combustion process to reduce the formation of NOx. This

technique can reduce NOx emissions by 60 percent or more. Depending on the particular design, the amount of water injected can range from about half a pound to 2 pounds of water per pound of fuel.

The other approach to combustion modifications doesn't involve water, instead it focuses on the way that air and fuel mix so as to minimize the "hot spots" in the flame where NOx is actually formed. These types of burners are commonly referred to as "dry low NOx" burners. When they are available for a model of turbine, dry low NOx burners can be very effective when burning gaseous fuels, achieving 90 percent or more reduction in NOx emissions when compared to the earlier models of conventional burners.

Add-on control devices are not commonly used for

NOx emissions from simple cycle gas turbines. Nevertheless, some familiarity with these types of systems is appropriate so as to be able to understand some of the reasons why these systems are not used. The traditional add-on device for NOx emissions from a gas turbine selective catalytic reduction is also known as SCR. SCR relies on a catalyst material, which facilitates a reaction between ammonia and NOx that reduces the NOx to nitrogen, forming water as a

by-product. Beds of catalyst are installed at an appropriate location in the exhaust ductwork of the turbine. Ammonia is injected into the hot exhaust gas through a grid system located upstream of the catalyst. The difficulty with SCR is that conventional selective catalytic reduction of catalysts typically have an operating temperature window ranging from 450 Farenheit to 850 Farenheit, however the exhaust gas temperatures of a simple cycle gas turbine are typically above 900 degrees Farenheit. So these systems are in the correct temperature range for simple cycle turbine exhaust.

There are high-temperature SCR catalysts that are being built and are available but they are not as rugged as the conventional catalysts and there is limited experience with their use. One of the concerns

with the SCR system in making sure that it operates properly is that some of the ammonia passes through the SCR system unreactive. This ammonia slip becomes larger as the amount of the ammonia injected into it is increased either to get greater removal or to compensate for deterioration of the catalyst. Although ammonia is not a criteria pollutant, it is of environmental concern. Like NOx itself, emissions of ammonia do

contribute to fine particulate matter levels in the atmosphere. They also contribute to acid deposition.

Add-on control devices are also available for CO and VOM emissions from gas turbines. These devices use an oxidation catalyst to complete the combustion of CO and VOM, which are products of incomplete combustion. These devices are installed in an appropriate location in the exhaust ductwork of the turbine and allow combustion to be continued at the temperatures in their -- present in the exhaust ductwork without the need for supplemental heat. The new peaking plants in Illinois, which rely on -- do rely on good combustion practices to minimize emissions that are not routinely used in oxidation catalyst systems. There is an exception to that, that is the peaker plants approved proposing to use Pratt & Whitney aero-derivative

turbines. On a national basis, oxidation catalysts are used more commonly in areas of the country where ambient air quality problems with the CO have been experienced.

For detailed information on NOx control measures for gas turbines, I recommend that you look at the Alternative Control Techniques Document prepared by U.S. Environmental Protection Agency in the early 1990s. It's a little bit out of date but it does have a lot of

good information.

And onto my final comment, permitting of gas turbines. I have to make a pitch for the Agency.

The volume of applications for new natural gas-fired power plants, including peaker plants, has strained our resources and is slowing down other initiatives, notably the issuance of initial Title 5 permits to sources. These applications for new peaker plants consume effort in review of applications, review of modeling, responding to requests for information, holding public comment periods and especially hearings and other outreach activities.

Like other construction permit applications, construction permit applications for peaker plants are reviewed to determine whether the application shows compliance with the applicable air pollution control

requirements. If compliance is shown, permits are prepared with detailed conditions that identify applicable rules and requirements and, that is, set forth appropriate testing, monitoring and record keeping to verify compliance when and if the proposed facility is built.

As previously stated, modern gas turbines

readily comply with the adopted emission standards that apply to them. The principle technical task in processing an application for a peaker plant is to address the federal PSD rules, as it may establish project-specific emission standards. As previously explained, based on the data for maximum emissions and operation provided in the application, a proposed plant or project may constitute a major source subject to PSD for one or more pollutants. Alternatively, it may constitute a non-major source for many or all pollutants, as is the case for most new peaker plants proposed in Illinois.

For a proposed minor source, the task in permitting is to develop a permit that contains appropriate conditions to limit the emissions of the relevant pollutant from the source to below major source thresholds. This generally requires establishment of

first short-term limits on emissions, usually expressed in pounds per hour; second, long-term limitations on hours of operation or fuel consumption; three, annual limits on emissions expressed in tons per year and provisions for testing, monitoring and record keeping.

For a proposed major source, conditions delineating permitted emissions must also be developed

as described above for a minor source. However, the limits for a major source provide for permitted emissions in excess of major thresholds and are based on the emissions described in the application, which are addressed by the BACT determination, impact analyses and other requirements for major projects.

Permit analysts rely on the information in the application, including the emission data provided by the manufacturer of the gas turbine.

Emission data -- or testing to date has shown the turbine manufacturers are able to reliably predict maximum emission levels of new turbines as needed for the purposes of permitting. Actual emission testing shows compliance with projected emission rates, often with a substantial margin of compliance for pollutants other than NOx where manufacturers are more conservative in their predictions.

Likewise, while many peaker projects request permitted emission levels just below the PSD applicability threshold of 250 tons per year, it is not apparent that developers are unrealistically constraining the operation of projects. It is quite probable that the actual operation of some plants is

being overstated, so as to maximize their capability to provide peak power. In this regard, independently owned peaker plants do enter into advanced contracts to provide the power on demand. Accordingly, the requested level of operation may be related to the ability to establish contractual obligations, even though the plant's anticipated levels of actual operation are much lower than that. In any event, the developers of peaker projects have generally demonstrated an interest in maximizing the permitted hours of operation of plants and their ability to supply power. For certain plants, this certainly makes it necessary for the developers to select new models of gas turbines that have low NOx emission rates, if the plant is to be permitted as a non-major source.

For a major project requiring a PSD permit, the additional technical tasks in permitting are to review the air quality impact analysis and the BACT

demonstration submitted as a part of the permit application. The air quality impact analysis prepared for peaker plants subject to PSD indicate that these plants do not pose a threat to air quality.

Since January of this year, the Illinois Environmental Protection Agency has also been requiring

applicants for non-major peaker plants to provide air quality impact analyses to support their applications. These analyses also show that the proposed peaker plants that are non major do not threaten air quality. In most cases, peak impacts are below the numerical significant impact levels set in the PSD rules. This is a consequence of low concentration of pollutants in the exhaust of modern gas turbines accompanied by good dispersion to the high temperature of the exhaust.

As already indicated, most peaker plants are being developed as non-major sources. To date, there have only been three BACT determinations for NOx that have been made for simple cycle turbines in Illinois. All involved, General Electric frame turbines burning only gaseous fuel. Dry low-NOx burner systems were determined to constitute best available control technology. Add-on control devices have not been required as best available control technology for either

NOx or CO. The BACT demonstrations in these applications have evaluated the use of add-on controls, and the demonstrations have shown that add-on control devices were not routinely being used on new simple cycle turbines. The cost-effectiveness of the add-on

devices, if they were to be applied, was shown to be in excess of a level considered reasonable. Lastly, air quality impacts of the new peaker plants, as addressed in the modeling analysis, have not necessitated further control of emissions to protect the ambient air quality. Applications are currently pending that require determinations of BACT for additional General Electric frame turbines burning only gaseous fuel and for frame turbines with burners designed for both natural gas and fuel oil as a backup fuel and also for aero-derivative turbines.

The further tasks associated with the Illinois EPA's processing of applications for peaker plants are related to public involvement in the permitting process. The Illinois EPA's administrative rules dealing with public comment periods mandate a public comment period on a draft permit before a construction permit is issued for a major source of engine modification. This allows for public input before a case-by-case BACT

determination is made. These rules also provide for a public comment period on any construction permit application at the discretion of the director of the Illinois Environmental Protection Agency. Under this authority, the Illinois Environmental Protection Agency

routinely holds public comment periods, usually with a public hearing, for proposed projects in which the public has expressed a significant degree of interest or opposition. Because of the interest in proposed peaker plants generally expressed by the public, Director Skinner has indicated he has decided that all applications for proposed new peaker plants will be subject to a public comment period before a permit would be issued. As with the public comment period for a major project, a public hearing is held as part of the comment period, if one is requested, by the applicant or in response to request from the public or local elected officials or if the Illinois Environmental Protection Agency expects a significant degree of public interest in a particular project.

As a result of this, almost half of the peaker permits that have been issued have been through public hearings and certainly if there was any sort of request for public hearing, it would be allowed.

At hearings, the public expresses many concerns about the proposed peaker plants. It's already been indicated the public is certainly concerned with the potential effects of the emissions from these plants,

and also with impacts on water quality and noise. Members of the public also routinely express concerns about the impacts of proposed plants on property values, local water wells and the character of the area in which the plant is proposed to be located. They are also concerned that proposed plants are not needed to provide local power, believing that the plants would be better developed elsewhere.

In response to these latter types of concerns, the Illinois Environmental Protection must explain that its authority under state law is narrowly limited to consideration of environmental issues and in the case of construction permits for emission sources, matters related to emissions and air quality.

In conclusion, peaker power plants are not a new phenomenon in Illinois. What is new, however, is the large number of new peaker plants that have been proposed in the two-year span since mid-1998 in conjunction with the economic deregulation of electric power generation. These plants do pose a range of

concerns for the public. The Bureau of Air has enhanced its procedures for reviewing peaker plant applications to attempt to address concerns expressed by the public to the extent that such concerns are within the existing

scope and authority of the Illinois EPA.

When the panel concludes, we will be happy to answer questions.

HEARING OFFICER JACKSON: Thank you, Mr. Romaine.

We'll have the next agency witness, please.

MR. PHILLIPS: The next agency witness will be Robert Kaleel. Mr. Kaleel will be providing testimony on air modeling as it relates to peaker plants.

HEARING OFFICER JACKSON: Thank you.

MR. KALEEL: If it is okay, I was going to use the overhead projector and perhaps be a little less formal in my presentation than some of the prior ones. I apologize for the lights here.

MS. KEZELIS: If you would move one of the speakers. Thank you.

MR. KALEEL: Are you ready to proceed?

My name is Robert Kaleel of the Air Quality Modeling Unit in the Illinois Environmental Protection Agency, Bureau of Air, proposed planning section. My

responsibilities include the supervision and oversight of modeling that is performed both for permitting of major new sources and also in air quality and planning

for non-attainment areas where we have requirements to show the administrative attainment over a specified time period.

As I was -- I guess my presentation is based on the information that is in the presubmitted testimony. This particular table computers in Exhibit 10 of my presubmitted testimony, for those of who you have a little difficulty reading that, hopefully, I'm not blocking the view of too many people back in the audience.

The Agency has been engaged in performing or requiring performance of air quality modeling for all of the peaker plants that have been the subject of this hearing. As Chris Romaine had indicated earlier, most of these sources are not large enough to trigger the requirements for modeling as under the provision of significant deterioration program or the PSD program. The threshold for requiring modeling are emissions based and many of these sources, at least on a tons-per-year basis, are too small to require air quality modeling. The Agency has been requiring this kind of detailed

modeling of all of these sources whether they were big enough to trigger PSD or not, so at least since January of this year, as Director Skinner had indicated.

There are two different types of air quality limits that we're looking for in the performance of air quality modeling. The National Ambient Air Quality Standards shown in this column on this table. The National Air Quality Standards and National Ambient Air Quality Standards or NAAQS are based on health studies performed and reviewed by the United States Environmental Protection Agency on an every five-year basis. The health studies or other facts are human health effects with some margin of safety and these standards are revised from time to time. Even to think of the NAAQS or these specific pollutants as being limits that are generally not conceded anywhere in the country including the state of Illinois, the form of the standard does allow for occasional exceedances on short-term basis. For example, the 24 hour standard for sulfur dioxide, which is a value precursing 365 micrograms per cubic meter can be exceeded at a given location on a once per year basis. The ozone standard, which many people are familiar with, can be exceeded as many as three times in a three-year period. It isn't

until the fourth exceedance in a three-year period at a given location that constitutes a violation. But at any

rate, you can think of each of the NAAQS limits as a meet limits that are not to be exceeded. There are specific averaging times for each of these limits based on whether the health effects that have been identified through health studies are acute or short term or whether they're more chronic or long term. So they're both annual and short-term standards.

Also, shown on the table are what are called PSD increments or Class II readings. In both areas a Class II reading. PSD or prevention of significant deterioration increments are defined again by U.S. Environmental Protection Agency on a pollutant by pollutant basis and for specific averaging times. These also are fixed limits but they apply to attainment areas, to areas already meeting the air quality standard. The idea is that PSD or prevention of significant deterioration program is that air quality is never allowed to get much worse than it was after a specific baseline date. For most pollutants the baselines were established shortly after the PSD programs, I believe, implemented in 1978 but they -- the idea is if an air -- a region has air quality that meets

or much better than the air quality standard that for all time it's never going to get significantly worse.

Air quality as predicted through modeling or measured through monitoring that is worse than the baseline, above the increments that are shown, that's called a significant deterioration and that would violate the PSD programs. So that is what we're looking for in terms of air quality degradation, is it a significant deterioration above the baseline as provided by the PSD program or does it exceed the primary or secondary National Air Quality Standards. And in the case of the NAAQS, we're looking not just at the effects of the new source but of all existing sources in the region.

There are a number of different types of air quality models that the Agency uses for a range of different applications. You will see the title. In this particular figure, I should point out, which is contained in Exhibit 11 of my testimony, the impact that we're showing here was a result of a commonly used air quality model. I need to, I guess, take a minute and describe some of the kinds of models that we would use for the different applications before us. In areas where we're looking at concentrations on very low scales, such as the impacts of individual emission

sources like a peaker or any new industrial facility, we

would use what's called a house seating room or a steady state or sometimes referred to as a dispersion model. We would look at something that impacts very close to the source, within a matter of kilometers or miles from a particular source, varying neighborhood scale effects. These models are very good for them. One thing that these models don't do is account for chemical reaction to the transformations in the atmosphere. So these models are not appropriate for pollutants like ozone where we obviously have a -- chemical reactions that cause the ozone pollutant. In this particular case, we're using the steady state models I described. They're called the industrial source complex model or ISC. We've modeled a large peaker, I wasn't going to use the name of a peaker but it is one of the largest ones that is before the Agency, is a 950 megawatt plant. I'm using this one just as an example of the types of air quality mix that we've seen submitted by the various applications before us.

NOx standards as shown in previous slides is an annual standard as to what the impact footprint, if you will, that we're showing in this particular figure based on the application of the ISC model is an annual

concentration. Under the PSD program, there is a

definition of what kind of an impact is called significant. And I try to -- it's an unfortunate choice of words, a significant impact versus a significant deterioration, I'll try to distinguish those. In terms of what is a significant impact, of course, what's significant, I guess, depends on who it is that is looking at it but for the -- what the Agency uses as the definition of significance as contained within the PSD rules. Significant impact isn't one that is unlimited like the increments are or like the NAAQS are. A significant impact is really a trigger for the Agency to require more detailed modeling. In the case of all of these peakers, we not only require re-modeling, but we're required to fund the modeling, so it isn't serving a function as far as the Agency's requirements here but I'm using it as a way of giving you an idea of how important these impacts are, at least based on objective determination of what is significant.

For NOx, the PSD definition of a significant impact is any impact that is above 1 microgram per cubic meter on an annual average. And this is -- this grey shaded area represents the area where this hypothetical, if you will, peaker plant has an impact that exceeds 1

microgram per cubic meter. Of course, areas further down where you got lesser impacts, but at least the impact that is considered by the Agency to be significant is shown in the shaded area on this map. The highest concentration is 3.24 micrograms per cubic meter. So in this case the impact of a peaker is significant, at least for NOx for the very larger peakers. One other thing to note on this particular image is that the -- most of this impact is actually due to fuel heaters and not due to the actual natural gas-fired turbine itself. The turbine didn't act as less than a tenth of a microgram, certainly would not be significant, but for completeness we wanted to show you the footprint of the entire facility, not just of the peaker itself. In terms of spatial extent, the impact is relatively small. I guess some of that depends on whether or not your house is underneath that -- that particular shaded area. But, in general, I guess, looking at the scale of the distance that we're dealing with here, the impacts are certainly less than a mile, probably in the range of hundreds of feet, maybe a thousand feet down wind from the facility's fence line.

With reference to the NOx PSD increment whether or not this represents a significant deterioration of

air quality for the NOx, the PSD increment is 25 micrograms per cubic meter, so even though the source has a significant impact, it does not exceed or cause what we would call a significant deterioration under the PSD program. This is a similar type of a depiction of the air quality footprint for the same large peaker unit. I should point out there are some, I've certainly seen, that have higher impacts. The vast majority of them have much lower impacts but, again, this is a fairly large one. I can give you an idea of what kinds of things we're seeing. This figure, by the way, appears in Exhibit 11, again, in my pre-submitted testimony. This is an 8 hour concentration for the print. The footprint is even somewhat smaller than it is for NOx. And I should refer back to the significant impact threshold that I described before, which is kind of a trigger that we use to decide when a more detailed modeling would normally be performed. For carbon monoxide, that significant threshold is 500 micrograms per cubic meter. The footprint I'm showing is for 50 micrograms per cubic meter or only 10 percent of what we would be considered to be significant. So, I guess, the message that I will leave you with on this particular figure is for carbon monoxide, even the largest

facilities, do not have a significant impact. There is no PSD increment for carbon monoxide but certainly this source would not exceed what we would consider to be significant or call what we would consider to be significant impact.

I should point out this 50 microgram can impact the air quality standard for an 8 hour basis is 10,000 micrograms per cubic meter just as a reference.

This is a footprint for our 24 hour PM10 concentration particulate matter of 10 microns or less. Again, the footprint that we're looking at is very small. The significant impact threshold under PSD is 5 micrograms. The highest concentration from this facility is actually less than 5. So this wouldn't be considered a significant impact. Peak occurs right at this little pencil line. The PSD increment is 30 micrograms for 24 hour averages, and, again, this doesn't approach the PSD increment. The Ambient Air Quality Standard for 24 hours is 150 micrograms per cubic feet. Again, this figure appears in Exhibit 11 in my testimony. This impact is for sulfur dioxide or SO2. Again, this is a 24 hour ambient concentration. The significant threshold under PSD is 5 micrograms per cubic meter. There were no hurdling impacts from this

particular source of 5 micrograms. The highest impact is only .13 micrograms per cubic meter. And the area I'm showing is .05 micrograms per cubic meter. This is, what, about 1 percent of the significant impact threshold. So this is a very insignificant source at least as far as sulfur dioxide is concerned. The PSD increment is 91, just as a point of reference, the NAAQS for 24 hour impact is 365 micrograms per cubic meter.

So for each of the pollutants of concern, NOx, sulfur dioxide, PM10 and carbon monoxide, the modeling has indicated, modeling we reviewed today supplied by the elements, has indicated that PSD increments will not be exceeded as a result of any of these projects, even the largest ones, so, therefore, we wouldn't consider the deterioration of air quality to be significant. Certainly don't exceed those increments. In terms of whether or not we would exceed the actual health based Ambient Air Quality Standards, I'll spare you the details of going through all of these air quality studies one at a time. What I've done on this particular table, which, again, appears in -- I guess this is in Exhibit 10 of my testimony, is compared with the National Ambient Air Quality Standards with the sum of the peaker impacts, a representative background

concentration and a total concentration. And I'll walk you through each of those columns. In terms of the maximum peaker impact, we've looked at new ones, different air quality studies from a whole range of sizes. What I've done for this particular table is select the highest impact for that -- that pollutant in that averaging time. Highest impact from any of the peakers, subject -- the 2 microgram PM10 impact, for example, may not be from the same plant for the same location causing the 12. What I'm representing here is a 2 PM10 impact is the highest one we see from any one of the peaker plants. The 12 also similarly is the highest 24 hour from any of the plants anywhere.

To represent the background concentration, I've selected from our ambient air monitoring data the highest concentration recorded anywhere in the Chicago area during 1999. So we're trying to be very conservative in my representation of impacts from background sources. All the sources other than the peakers are subject to the modeling. Of course, when we do the modeling on an individual basis, we provide emissions inventories to the consultant, to the application's consultant and they would incorporate all major sources in the area of the modeling study. They

would explicitly model those. In addition, we explicitly model any of the peakers that happen to be nearby along with what the applicant's looking at. So we've done a much more thorough job in modeling than what I'm trying to represent here, but here I think what I'm trying to do is just show that even in the areas of Chicago where you have the worst major air quality for each of these pollutants and the highest impact from any of the peakers, of course, these impacts wouldn't be coincident, just bear with me assuming that they are, compare the total of the sum of these two columns and compare this total concentration to the values in the -- in this column, which represent the air quality standards, in each and every case these sum or total concentrations are less than the Ambient Air Quality Standards. So we, I think, have shown here that these peakers will not be a threat to attainment for any of the groups that we've modeled for this -- for this type of a model.

Now, I mentioned before that the dispersion models that we've -- that we've required to be used for each of these sources on a case-by-case basis are not appropriate for use for ozone. In fact, the ozone modeling techniques that are required are very complex,

those ones that -- as a result of a complex series of chemical reactions in the atmosphere. It's not a pollutant that's emitted directly from a stack but it is the sum or the end product of a series of reactions from what are called precursor emissions. NOx, what I'll call again compounds and carbon monoxide.

The different modeling approaches we require are called the urban air shed models, it's a grid based model, that's a much, much more complicated modeling approach. We don't require that of individual applicants for a couple of reasons. One, it's probably cost prohibitive on a project-by-project basis, but more importantly, you'd never see the impact from the individual sources, even large ones under the PSD program would not appear in the context of a poor chemical grid modeling.

Before I get into the modeling results, I wanted to, I guess, kind of set the stage by looking at where we are today with ozone air quality in the Chicago or Lake Michigan region and what the trends have been over the last several years. What I'm preparing in this slide is a side-by-side slide or image is the monitor of this ambient value at each of the monitors in the Lake Michigan area from 1987 to '89 period, and contrast that

with the measurements in the most recent three-year period we have data available, only those monitors that have the measured violations of the standard. In other words, design values above 125 as shown on them. Now, I've -- I guess before I get too much further I should define what a monitor design value is. The form of the ozone standard, as I mentioned before, the standard allows for three exceeds in a three-year period. Three-year exceeds on a given monitor is okay. It's the fourth one that triggers the violation. So what I'm showing in this particular slide design represents the fourth highest in a three-year period. Back in the '87 - '89 time frame the highest design values in the region were occurring just at the Illinois, Wisconsin border. The highest in that time frame was 190 parts per billion or actually in the context of this slide, .19 parts per billion. I'll just use parts per billion as my convention here. Design value concentration above the standard occurred throughout the Chicago area as well as in Wisconsin and Michigan and Indiana. Design values of this type occurred in 70 parts per billion occurred right in downtown Chicago. 180 parts per billion over in Michigan City. See that we had a pretty serious problem 10 years ago, and, of course, the Agency

proposed has many things and the Board has acted on many things to reduce precursor emissions over the last 10 years and through the limitation of those programs and programs required by the U.S. Environmental Protection Agency made tremendous strides. In the last three-year period we have data available, I guess we're happy to report that we only have exceedances in Wisconsin and even those are much lower than they were ten years ago. There are no exceedances in northern Illinois, I shouldn't say exceedances, no violation, no designed values greater than the level of standard in northern Illinois in the last three-year period. None in Indiana. None in Michigan. So there has been tremendous improvement. The highest one in the region now is 134, maybe not marked here, just over in Milwaukee, kind of contrasted in the 190 that we had 10 years ago.

So there have been major improvements on ozone. We still have a little ways to go. We're still not showing attainment. And the Agency, through the NOx SIP call, what we were maybe talking about earlier, will be presenting its case, I guess, for additional control measures that should be in containment in the coming years. I didn't present you with results for the metro

east area, that's another remaining non-attainment area. The results from trends are very similar. There is still some monitor exceedances in the metro east and St. Louis region, but the trend is very favorable, similar to what we're seeing here.

I guess I apologize to the audience, you don't necessarily have these figures available to you and the colors are really kind of looking kind of bad here, but try to bear with me.

This particular figure is -- I believe this is Exhibit 13 of my testimony. I didn't have it written down, but I think you have it available to you. Ozone modeling is a completely different animal than modeling that I described to you before. What we try to do with that ozone model is try to account for the chemical reactions that cause ozone concentrations. Typically we use what is called the grid model or the region or domain subdivided into series of grid squares, 4 kilometers on side is usually about the finest resolution we use. With a 4 kilometer resolution, of course, you can't look at very low scale effects. You're looking at regional or urban scale effects. What I've represented in each of the panels on this figure are the results, a highest 1 hour concentration

projected by the model for each of a series of days in an episode. I'm going to try to explain that.

What we try to do with ozone modeling is to try to show the photochemical model, in this case, the UAM, urban air shadow model, can accurately reproduce a historical event or a historical episode. Back in 1991, which the dates you'll see across each of these figures, both Illinois and Wisconsin, Indiana, Michigan, under the direction of the Lake Michigan area looking for a landfill sponsor in a major field study, $6 or 7 million field study, were collected, are data, air quality data and UR logical data, solely for the purpose of validating this model, developing this model to try to show that it works. We have been working on getting this model over the Chicago region for over ten years now. And what we've -- what we're trying to do here is to use either logical conditions that occurred during that episode to make a leap of faith that these same meteorological conditions will occur in the attainment area in Chicago in the year 2007, will overlay future year emissions or control strategies for the year 2007 on these historical meteorological conditions and project these kinds of concentrations. So it's, I guess, kind of a different animal, trying to use the

model in a predicted way. We can't predict what the year modeling conditions will be in the year 2007, but we know these kinds of conditions have happened in the past and something like this will undoubtedly occur in the future. So, each of these periods represent an episode case and these would be the peak predicted 1 hour ozone concentrations in our modeling domain, assuming all of the controls required by the Clean Air Act. This includes our enhanced special maintenance program, reformulated gasoline, the state's 15 percent programs, all of the previous NOx, the COC limits approved by the Board are in the ranking program. Everything that is in the Clean Air Act except the SIP call is represented in this particular figure. On each of these episode cases, I guess what were looking for -- I apologize again to the audience, what our attention is focused on are the red zones. These are areas where the predicted concentrations exceed 120 parts per billion, roughly the level of your air quality standard. There are still some violations that are shown, our exceedances that are shown, mostly along the Ohio River Valley, southern Indiana and around Cincinnati. In Illinois, the Clean Air Act Controls, for the most part,

of the standard. Of course, as I mentioned before, may be hidden, we're showing -- we're not seeing the exceedances of violation even today. But there is at least one day of this ozone episode of a modeling where violations are shown, exceedances are shown, levels above 120 parts per billion both in the metro east and in the Lake Michigan region, not in Chicago per se, but in the Lake Michigan region. That corresponds pretty well to -- are still observing high ozone along the eastern Wisconsin shoreline.

This figure is, I believe, Exhibit 14. These are the results that we're seeing from the model as a result of not only the Clean Air Act Controls that I described previously but also any limitation of the NOx SIP call. It's a little hard to compare visually two figures against, you know, one against the other when you don't see them both in front of you, even harder when the colors are blurry but throughout Illinois concentrations have been reduced as a result of the SIP call and many of the exceedances that were shown along the Ohio River Valley are either gone or much, much less prevalent than they were before. There is still one small sliver of exceedances shown over Lake Michigan,

Wisconsin. Again, no exceedances shown in Chicago, only very minor exceedances shown in the metro east area on this particular item. I guess my purpose here is not to try to show attainment, I'm not here making an attainment demonstration here today. What I wanted to show or convey to you was that the NOx SIP call is providing very large benefits and when you overlay the results, when we obtain -- when we overlay the emissions of the peakers in the next results that I'll show you, you kind of get an idea of whether or not emissions in those peakers will affect our ability to attain in Chicago in 2007. I won't spend too much time on this one because you're not able to really see it too well anyway.

I wanted to introduce a different way that we process the modeling results. This is called a difference plot. This doesn't depict the concentrations that occur at any given red zone. What this is actually showing is the difference between two different scenarios. In this case, what we're looking at is the difference between the Clean Air Act scenario in the year 2007 to the SIP call scenario that I described

previously. The benefits of the SIP call, if you will, are shown, I believe, in the blue colors, the benefits

accrue or get more intense on each successive day of the episode, which is expected, the lowest ozone concentration occurring early and are largely locally generated by the time we're well within the episode, we have much more of an effect from transporting ozone and, therefore, the effect of the transport or SIP call is much greater. Benefits due to the SIP call and throughout Illinois is as high as -- as -- based on this color scale, 10 parts per billion, 14 parts per billion, 18 parts per billion in some areas. And in the Chicago region, Lake Michigan, benefits of at least 2 to 6 parts per billion are evident across Lake Michigan on its hottest days and in some cases those benefits are even greater, as high as 10 to 14 parts per billion just due to the NOx SIP call.

In this modeling scenario, back to showing you, peak ozone concentration, peak hourly, but in this case, added to the previous scenario, a NOx SIP call scenario, the emissions from all of the peakers. Actually, we went overboard at adding Michigan in this particular scenario. We added not just the peakers but all the combustion sources that we have permits before us and

we've added not just those at -- where we received permits or already been instructed but all of the ones

that we know about to this date. So some of those that are still pending before the Agency they're in here.

Now, the peakers, at least as -- as it rolls before the Pollution Control Board in that that is implemented, peakers would fall under the control requirements of the NOx SIP call. In this modeling, I'm adding them to the SIP call. So this is a worst case scenario. We're looking at impacts above the SIP call, and, in fact, they would have all of those caps.

And, I guess, I put this up there to try to compare those to what we saw before just for the SIP call. Maybe we won't do this very well. Let's just try to look at this one hot day, which is July 20, 1991. At least looking at these colors that are nice and bright in front of you, I don't know if you folks can see here or not, you can't notice any difference between these two scenarios based on looking only at peak ozone. The impacts or the response to the model to these additional emissions is very small. Probably the better way to look at the effect of the peakers is through that other type of plot that I gave you just a minute ago, this

so-called difference plot where we look at the incremental effect of the peakers on top of the impact of the SIP call. Now, in terms of their impacts stated

they are relatively small. The color scale I changed here, instead of being a 2 ppb from an increase or an increment on both scales a half of a ppb at a small scale just so that you can see the effect. There are effects that are occurring, generally very low, low effects on the early days of the episode. The further in the episode, the more important transport is occurring now, by these later days or certainly July 19th, 1991, there is transport even from those peakers, they're located downstate, all the way up into the Lake Michigan area.

Are these effects significant, I don't know. There is no real clear definition of what significance is. In EPA's NOx SIP call, they didn't make an attempt to define significance, but it is a very murky definition, I think deliberately on the part of the Environmental Protection Agency to -- people are really saying particulate impact is significant. The -- the basic idea of the NOx SIP call was that the entire state's emissions is judged against some threshold of significance, not just incremental emissions from one

particular category of emissions. So, I would -- I guess I'm going to try to avoid saying whether or not these effects are significant. What I will say is that

in the Chicago area and on some days we have impacts that we're seeing through the peakers of as much as 1 or 2, maybe in some cases 3 parts per billion in the metropolitan area, Chicago, and in other areas of the state. In the key areas where we need to be able to demonstrate attainment, in those areas along the eastern shore of Wisconsin, we have impacts on more like half a part per billion to 1 and a half. So the effects are not real admissable along any areas that we're still showing a high ozone. They can certainly pose an air quality issue in Chicago will be worse but as I demonstrated both with modeling and with monitoring, we're already maintaining the standard in Chicago. We expect that we will continue to. Elsewhere in the Lake Michigan region it doesn't appear that the effects are occurring in the worst locations.

So does this result of a peaker complicate our efforts to showing attainment? It certainly complicates our efforts. It would be easier to demonstrate attainment without having synergies.

The Agency is in the process of preparing its attainment demonstration. It needs to be submitted to U.S. EPA by December of this year. We will consider the effects of these peakers in the demonstrating attainment

for the Chicago state implementation plan or that submittal. Whether or not we're able to show attainment, I guess my expectation is that we probably will, but that we think SIP call shows attainment and that the effect of the peakers is not so great as to really affect that judgment, that the improvements that are seen from all of the programs that have been implemented to date far exceed the negative consequences of the peaker emissions. With that I'll conclude my testimony.

HEARING OFFICER JACKSON: Thank you, Mr. Kaleel.

MR. PHILLIPS: The next Agency witness will be Greg Zak. Greg will be providing testimony on the noise pollution implications of peakers.

HEARING OFFICER JACKSON: You may begin whenever you're ready. Mr. Zak.

MR. ZAK: Thank you. My name is -- ladies and gentlemen of the Board, my name is Greg Zak. I'm the noise advisor for the Illinois Environmental Protection Agency. I've been asked to testify today to provide

information related to potential noise issues at natural gas-fired peakers plants.

I'm going to skip over my background. I think a lot of you are familiar with it and to save time, I'll

go right to the issue here, which is the potential noise impact of the proposed peaker plants.

I currently manage the noise program at the Illinois Environmental Protection Agency. My annual responsibilities include assisting approximately 2,000 citizens with noise complaints and approximately 1000 informational calls dealing with technical questions about noise pollution measurement and control. I also testify at many enforcement hearings. I take noise measurements when necessary.

In addition to the noise advisor, there is an additional person in the noise program. This person is an assistant.

The current responsibilities of the noise program consume all of our available work hours.

Since previous testimony has described peaker plants in detail, I will confine my narrative to potential noise issues related to today's topic.

Peaker plants propose a greater threat than

other types of noise -- I'm sorry -- than other types of state regulated facilities with respect to noise pollution because the gas turbine engine used in peakers is one of the most powerful, loudest, noise sources in the United States. The noise power that must be

contained and neutralized in the peaker is tremendous. The potential for releasing great amounts of sound power poses a greater threat than most other types of state regulated facilities. Its characteristic emissions can be described as nuisance noise, broadband noise and tonal noise.

Peaker noise emissions can greatly exceed the limits required in the Board's noise regulations. This can occur if the noise is not controlled in the peaker housing and also utilizing whatever land buffer or setback is needed when choosing a site.

Peaker noise control is accomplished through four major noise control strategies.

The first three of these address noise reduction at the peaker itself. Rough approximations are presented in the form of percentages rather than in detailed decibel limits found in the noise regulations. I've included these percentages because I think they're easier for the average person to understand who is not

acoustically inclined.

Accurate and adequate noise control of peakers must be based on the decibel limits set in the Board regulations. The first control strategy is comprised of combustion air intake silencers, which when properly

designed and installed in the average peaker reduce the intake noise to a tiny percentage of uncontrolled level.

Second, a hard acoustic enclosure completely contain the gas turbine you will trap approximately the same amount of sound as the intake does, silencers will, down to a very tiny percentage.

Third, a combustion gas exhaust silencer, which when properly designed and installed, reducing the exhaust noise even less -- to even lesser amount than the intake silencer in the enclosure.

Finally, a buffer of land controlled by the peaker plant sufficient to provide enough distance for the noise escaping the plant to dissipate sufficiently to meet all state noise pollution requirements. This land buffer should be based on the amount of noise reduction needed at the property lining the power facility.

Another control strategy involves a new

technology called active noise cancellation. This promises the potential of being able to cancel much of the very low frequency, rumble type sound associated with large gas turbines. This technology should be viewed with caution, however, due to its unproven record when used in low cost applications. However, it could

be considered when the more traditional silencer technology is not able to satisfactorily address the rumble problem.

Setbacks are an important concept in addressing peaker noise. A need exists for setbacks, land buffers, consisting of land owned or controlled by the peaker plant. The setback distance necessary would depend upon what level of noise abatement was included in the initial design of the peaker plant. The most frequently encountered noise pollution problem seen in complaints and noise pollution enforcement cases before the Board, is at a residential development eventually coming to a noise -- a nuisance noise emission source. A facility may be in compliance even though noisy because it is not near residential property. If the facility does not control the use of the surrounding property, such a scenario is likely to occur. There is nothing to stop the farm owner, which is a typical situation, from

selling his air cultural land for residential development and the facility then no longer has the luxury of a large distance to the nearest home.

To avoid the problem of peaker noise impacting noise sensitive areas, compliance reviews on paper of the facility designs are essential to insure future

compliance with the noise regulations. Then before full operation is started, peakers should show that it can operate at or below the nighttime limits of the Board. If a peaker plant cannot show compliance through demonstration, the problems then would be resolved at the beginning. All this argues strongly the design and noise compliance review of that design are the most important project events. Designing and adding on noise compliance after the plant is built may be next to impossible.

Other state noise programs were reviewed to see if new or unique regulatory methods are in use. My review of report of noise regulation in the United States, see our Exhibit No. 19, shows that noise abatement is not regulated by 43 states. Six states have very little noise regulations. Illinois is more active than the others in regulating noise. Peaker

noise is not regulated by the other regional five states, California, Texas or New York. However, please remember that the noise may be regulated by local ordinance in some of these states. It should also be noted that in many of these states that have little state regulations, the larger cities may conduct regulation of noise through local ordinances. Finally,

peaker noise is not regulated at the federal level.

Another concern over potential peaker problems is the potential for impacting property values, as with any other type of industrial noise source, if peakers exceed the noise regulations, they could significantly affect negatively on property values. Noise at such levels would likely be noticeable by prospective purchasers of property and any potential commercial investors.

Local zoning has been a significant factor in many of the noise complaints I've handled. In my experience with the noise complaints filed with the Board, it appears that local zoning has not been considered -- is not considered the land buffer component of noise control in making zoning decisions. Of course, the reason may be that the local -- that the noise level from the facility may not be appreciated or

even understood until the facility is built and operated.

This issue also strongly argues for the importance of preconstruction design review. The Illinois Environmental Protection Agency has received no noise complaints regarding existing peaker plants so it would be difficult for me to comment on the more

stringent regulation of existing plants. Stricter noise emission controls could first be considered for new facilities and expansions. Upgrading costs would be extremely high, if not prohibitive, for added noise control, in other words -- noise control is -- I tried to -- is added after the plant is built. Silencing equipment comprises the bulk of the peaker plant and is carefully tuned to match the turbine. In some cases it may be less expensive to install a whole new unit than try to upgrade the old one.

Questions will arise regarding the economic impact of potential additional requirements. The cost could be anywhere in the spectrum depending on how stringent the requirements are made. However, I can confidently say that additional noise control in the design stage is much less expensive than adding it on

after the installation is operational.

I cannot say that there are currently any gaps in the regulations. It may be that there is inadequate preconstruction design work and design review relevant to noise compliance issues. I believe that considerable information would be available from a turbine manufacturer that could be evaluated by a competent noise consultant to help design for the four components

of noise control I mentioned earlier. Intake, turbine enclosure, exhaust and the land buffer. Failure to adequately plan for any of the four could lead to future non-compliance. It may be too late and/or too expensive to look at the problem only after numerous citizens are impacted by the noise.

Thank you for listening.

HEARING OFFICER JACKSON: Thank you, Mr. Zak.

We'll go ahead and take the next Agency witness then.

MR. PHILLIPS: The next agency witness would be Steve Nightingale who will be testifying as to water pollution implications of peakers.

MR. NIGHTINGALE: Good afternoon.

My name is Steve Nightingale and I am the manager of the Industrial Unit in the Bureau of Water's

permit section at the Illinois Environmental Protection Agency. I've been with the Agency for just over 14 years and I am a licensed professional engineer.

The testimony that I have submitted is response to the governor's question with regard to the impact of natural gas-fired peak load electrical power generated facilities or peaker plants on water.

Initially, it must be stated that not all peaker

plants produce wastewater. However, if wastewater is generated from the peaker plant, the discharge from the plant will be subject to existing local, state and federal regulations.

The testimony is -- this testimony is intended to address peaker plants that are used during peak power demand to generate electricity. They are natural gas powered turbines, peaker plants that may choose to discharge directly to surface waters or to a publically owned treatment works or POTW and discharge its surface waters.

General speaking, wastewater generated from peaker plants will either be subject to the Federal National Pollutant Discharge Elimination System or NPDES permit program or the state construction and/or

operating permitted program, depending on actual wastewater disposal method. The Illinois Environmental Protection Agency administers both permit programs.

Surface water discharges will be required in an NPDES permit in accordance with Board CFR 122 and 35 Illinois Administrative Code 309. Permit limits that will apply will be the water quality limitations from 35 Illinois Administrative Code 302, the effluent limitations found in 35 Illinois Administrative Code 304

or other technology based limitations using best professional judgment in accordance with 40 CFR 125.3. It has been determined that surface discharges from these facilities are not subject to any federal industrial categorical effluent guideline discharge limitation. Discharges to a POTW will be required to obtain a state construction and/or operating permit in accordance with 35 Illinois Administrative Code 309. Applicable limitations that will apply are those established by the local POTW, 35 Illinois Administrative Code 307 and the federal general pretreatment regulations found in the 40 CFR 403.

During the NPDES permit review process, a draft permit will be developed with the required applicable limitations. In addition, the draft memo will also

include appropriate monitoring requirements and special conditions to verify continued compliance.

Upon completion of the Illinois Environmental Protection Agency review process, a public notice, fact sheet and a draft permit will be sent out on a 15-day notice, followed by a 30-day public notice period. Changes can be made to the draft within following the notice period and the general public has the opportunity to participate in the process through hearing comments.

Some peaker plants will require a construction authorization from the Illinois Environmental Protection Agency if they must treat the wastewater to a level below NPDES permit limitation.

Final action on the construction authorization will not be taken until the NPDES permit has completed the public notice period and the permit is ready to be issued.

The state permit review process is followed when peaker plants propose to discharge to a POTW.

As previously stated, the state construction in our operative permits are required in accordance with 35 Illinois Administrative Code 309. Prior to permit and issuance, the applicant must be able to show the

discharge will be in compliance with the limitations established by the local POTW, 35 Illinois Administrative Code 307 and in compliance with the federal general pretreatment regulations found in the 40 CFR 403.

The composition of the wastewater generated from peaker plants will vary and is dependent on the type of plant design. Waste streams that have been identified in the permit applications submitted to the Illinois Environmental Protection Agency include evaporative

cooling water blowdown, cooling tower blowdown, reverse osmosis waste discharge, demineralization blowdown, filter backwash, chiller system water, various drains and sanitary waste.

Pollutants that could be expected in the wastewater includes such things as total suspended solids, total residual chlorine, PH, temperature, total dissolved solids, calcium, magnesium, iron, manganese, sulfate, chloride, oil & grease, water conditioning chemicals for bio-fouling and corrosion control as well as radioactive isotopes in some areas.

There may be some peaker plants that generate wastewater containing a thermal component, but the quality of the wastewater would be small as compared to

other types of power plants. As a result, these plants should be able to be operated in a way that is in compliance with appropriate discharge regulations.

Illinois Environmental Protection Agency expects that all sanitary wastewater should be discharged to a sanitary sewer.

My testimony has not addressed radioactive isotopes because they are to be under the jurisdiction of the Illinois Department of Nuclear Safety.

I have included an Illinois Environmental

Protection Agency Exhibit 18 as an overview of the information received by the Illinois Environmental Protection Agency's Bureau of Water as part of the permit application process.

The Illinois Environmental Protection Agency's Bureau of Water does not participate in the accuracy of environmental impact on the waters of the state as a result of the discharge from peaker power plants, provided the appropriate permits are obtained and the established permit limitations met.

This concludes the summary of my testimony. I would be happy to address any questions.

HEARING OFFICER JACKSON: Thank you, Mr.

Nightingale.

Before we go on with the final two Agency witnesses, just a procedural note, we have two individuals from the Department of Natural Resources and I know one of them is going to be needing to catch a train later this afternoon, so what we're going to do is -- I don't think we've got a whole lot more from the two remaining Agency witnesses. We'll conclude with them, take a very brief recess and then bring the Department of Natural Resources on for their witnesses to present their testimony to us, and then ask if the

Agency would be kind enough to please come back after that and answer any questions that the Board might have. Okay. That's the plan.

Thank you. Go ahead.

CHAIRMAN MANNING: The Board may, in addition to that, we have lots of prepared questions that we've done because of the pre-filed testimony. Those that we're not able to ask you orally today we will put in writing and we will ask you to respond either in writing or in one of our future hearings. So a lot of the detailed questions that we have for you today we may follow up with the written hearing officer order.

MR. PHILLIPS: Okay. Thank you.

Our next witness then will be Rick Cobb. Rick has a few brief comments on the groundwater limitation of peaker plants.

MR. COBB: As Mr. Phillips indicated, my name is Rick Cobb and I manage the groundwater sections of the Bureau of Water of the Illinois Environmental Protection Agency.

My testimony is really just to respond to the governor's executive order, he did ask us to address particular groundwater related issues and as Director Skinner indicated, testified earlier today, the Agency

has no authority under the Environmental Protection Act to regulate the quantity of groundwater, however, we do have regulations for the Pollution Control Board and the Environmental Protection Act that do relate to groundwater quality protection provisions.

However, just to touch on what type of law does apply to groundwater quantity, simply because we have had numerous questions and that is a related topic and one of the issues that the Governor indicated in his executive order. Essentially, the law that does apply is what is called the Water Use Act of 1983, and in January of 1984, really brought Illinois

under identified I guess doctrine of common law, which covers the development and use of both surface and groundwaters.

That public act in Section 3F includes the definition of reasonable use. And key thing there is the -- primarily the groundwater is -- that for groundwater is non-restricted except from malicious and wasteful purposes of that water.

Concurrent with the executive order that require these hearings, it also required the establishment of the Water Resources Advisory Committee.

And that committee's task is to examine the

various economic and social issues related to energy producing facilities and water use in Illinois. That committee has not convened yet. The first meeting is actually August 31st. And as I understand, I will be participating in that committee.

Secondly then in terms of groundwater quality, and I'm sure the Board is aware of the authority through the Board's groundwater quality standards regulations, non-degregation provisions, the regulation in total are applicable as well as force of water under Section 12A of the Environmental Protection Agency Act.

That really concludes my testimony with respect

to potential groundwater issues from an agency perspective.

HEARING OFFICER JACKSON: Okay. Thank you, Mr. Cobb.

Looks like Todd Marvel is the last witness.

MR. PHILLIPS: The final Agency witness, last but not least, is Todd Marvel, who will be providing some brief comments on the land pollution implications of peakers, limited as they are.

MR. MARVEL: Good afternoon.

As Mr. Phillips said, my name is Todd Marvel. I'm employed with the Illinois Environmental Protection

Agency's Bureau of Land as the assistant manager of the field operations section and as the RCRA coordinator and U.S. Environmental Protection Agency liaison for the hazardous waste programs. And RCRA is an acronym. It's spelled R-C-R-A, all caps. And, of course, as we hopefully all know, it stands for the Resource Conservation and Recovery Act, which was passed by Congress in 1976. And it established standards for the identification and management of hazardous waste, federal standards.

The Illinois Environmental Protection Agency is

authorized by the U.S. Environmental Protection Agency to implement the RCRA hazardous waste program in the state of Illinois and my testimony will address land pollution issues as they relate to natural gas-fired peaker plants.

Peaker plants may generate various types of waste that must be managed in accordance with waste disposal regulations found in Subtitle G of Title 35 of the Illinois Administrative Code.

By comparison, peaker plants are no different than any other generator of the following types of wastes in terms of how the waste is regulated.

Any municipal waste generated at the facility,

such as general office waste, must be sent to a facility permitted to treat, store or dispose of municipal waste.

Any special waste generated at the facility, must be managed properly in accordance with the regulations applicable to the specific type of waste that is generated. Special waste is defined as industrial process waste, pollution control waste or hazardous waste.

And all special waste is subject to the requirement to make a hazardous waste determination, which is found in the RCRA Subtitle C hazardous waste

regulations.

If the waste is determined to be a non-hazardous special waste, the waste cannot be accumulated on site for any more than one year. Typically they are sent off site on a regular basis. In general, such waste must also be properly sent off site to a permitted treatment storage or disposal facility and this waste may be declassified as municipal waste if certain requirements are met and certain documentation is maintained.

If any special waste generated at a facility is determined to be a hazardous waste, such as waste cleaners or solvents, then the facility must consider the amount of hazardous waste generated on a monthly

basis in order to determine their generator category and subsequent regulatory requirements.

The Illinois Environmental Protection Agency anticipates that most, if not all, peaker plants will generate less than 100 kilograms per month of hazardous waste. Such facilities would be classified as a conditionally exempt small quantity generator.

A conditionally exempt small quantity generator is subject to three primary regulatory requirements.

First, as I said before, a proper hazardous

waste determination must be made on all special wastes generated at the facility.

Second, the hazardous waste generated must be accumulated in tanks or containers.

And third, these wastes must eventually be sent off site to a permitted hazardous waste treatment storage or disposal facility.

The other two categories of generators are a small quantity generator and a large quantity generator. There is some more detail in my testimony, which I won't go into, but I will just say that there are differing levels of regulatory requirements and waste accumulation time limits that apply to the three different categories of hazardous waste generators.

If these requirements are met, no hazardous waste permit or typically any other permit would be required from the Bureau of Land.

Finally, I'll briefly address some past -- I'll briefly address past land use information that is available from the Illinois Environmental Protection Agency and specifically the Bureau of Land.

Peaker plants may be located on property that was once used for commercial or industrial activities such as gas stations, small manufacturing and assembly

operations. Information regarding whether or not there have been any reported releases to the environment at these sites can be obtained from Illinois Environmental Protection Agency, as well as documentation of any cleanup activities that have been completed in response to these releases.

Thank you.

HEARING OFFICER JACKSON: Thank you, Mr. Marvel. Mr. Phillips, do you have any concluding remarks that you would like to make or would you like to reserve them for questions the Board may --

MR. PHILLIPS: We'll reserve them for later.

HEARING OFFICER JACKSON: All right. Why don't we take a very short break. Let's say five minutes.

Try to be back here as quickly as possible. We need to get in line because of the Department of Natural Resources testimony.

(Off the record.)

HEARING OFFICER JACKSON: Okay. We're going to go back on the record. We have some presentations from the Department of Natural Resources now. Mr. Anderson, if you want to begin.

MR. ANDERSON: Thank you.

First of all, I'd like to thank the Board for the opportunity to appear today and also thank you for indulging our schedule.

My pre-filed testimony is short. My summary of that testimony will be shorter.

I am Brian Anderson. I am the Director of the Office of Scientific Research and Analysis of the Illinois Department of Natural Resources.

I have three purposes here today. The first of those is to extend the expertise in Illinois Scientific Survey to the Pollution Control Board and their staff in these deliberations. Secondly, I'm here to represent Director Brent Manning, Director of the Department of Natural Resources. Director Manning and Director Skinner are co-chairing the Governor's Water Resources

Advisory Committee. And you've already heard something about that committee today. You may ask, others may ask, why do we need to be discussing peaker power plants in two different forms, your deliberations and the discussions that will take place in the Water Resource Advisory Committee? That has somewhat been alluded to by the Agency but let me be more explicit. In Illinois, except for withdrawals of water from Lake Michigan, there is extremely limited regulatory authorities

associated with water withdrawals from our other surface waters and from groundwater. It's, therefore, more appropriate to deal with water quantity issues in front of -- in the context of Water Resources Advisory Committee, however, we do acknowledge the relationship between these issues and I have asked Dr. Derek Winstanley, Chief of the Illinois Water Survey, to provide a concise summary of some of the water quantity issues relating to peaker power plants.

That ends my testimony and I ask that my pre-filed testimony be entered into the record.

HEARING OFFICER JACKSON: It will be so entered. Thank you.

DR. WINSTANLEY: Thank you. My name is Derek Winstanley. I am Chief of the Illinois State Water

Survey. We are a division of the Department of Natural Resources. We're also an affiliated member of the University of Illinois at Champaign, Urbana.

I will be speaking about groundwater resources as they relate to peaker power plants. I will provide a summary of some of the key points in my written testimony that I've already submitted. I do also plan to give testimony at the first meeting of the Water

Resources Advisory Committee at its first meeting on the 31st of August where I understand water resource issues relating to power plants will be the subject of more detailed discussion.

One focal point that I do wish to make is that the discussion of peaker power plants and the impacts on groundwater resources should be placed within the context of all other water demands including those for combined cycle plants as well as Illinois' growing water needs for domestic, municipal, agricultural and other industrial uses. We do need to look at total demands from the groundwater resources as a basis for sound water resource management. The water demands from the peaker power plants vary widely depending upon plant design, their intended use and the number of days of operation.

I would like to give you some examples of the quantities of water that may be associated with operations of peaker power plants by putting that in context of some other water uses. First of all, peaker power plants, and I am going to focus on just a simple cycle power plant when I refer to the peaker power plants, these are typically small producing a few tenths to a few hundred, perhaps a thousand megawatts of

electricity. They do not operate everyday of the year. The typical period of operation is from perhaps 20 to 90 days per year. The range of water use there is from less than 100,000 gallons per day to about 2 million gallons per day. Translating that into an annual use that gives us a range of from about 1.4 to 180 million gallons of water per year.

Turning to baseload power plants, which is combined cycle, these are obviously much larger, typically generate maybe 500 to several thousand megawatts of electricity and are intended to operate more or less continuously throughout the year. They consume water within the range of about 5 to 20 million gallons per day. Translating that to an annual water use, that gives us a range from about 1,500 million gallons per year to 6,000 million gallons per year.

So in context, the peaker power plants consume about a fraction of 1 percent to about 3 percent of the water used by typical baseload combined cycle plants.

Another example of water use, municipal water use, and I give you data from Champaign, Urbana, for context. Champaign, Urbana, has a population of about 120,000 people, and they need that water supply

regularly 365 days per year. Champaign, Urbana, currently consumes about 20 million gallons per day of groundwater, which translates into an annual use of about 7,300 million gallons per year.

So to put the water use by peaker plant in context of a municipal use, a typical peaker plant would use the same amount of water as between about 25 and 3,000 people, depending upon the nature of the peaker.

One concept that is important in examining not only peaker power plants but all groundwater use is the concept of sustainable yields. And in my written testimony, I refer to that as potential yield. Sustainable yield is a fairly diffuse concept but generally, it tends to mean the yield of water that can be sustained over the long term so that it can be used not only by the current population but also by future generations and a yield that will have no significant

impacts.

The determining sustainable yield is a complex scientific exercise that involves consideration of variables such as rainfall, recharge rates, geology and impacts. Impacts not only on existing wells, but on peaker systems and on stream flows.

The point here is that for most aquifers in

Illinois, we do not have a very highly accurate estimate of sustainable yield. We need much better scientific data and modeling capabilities to be able to estimate sustainable yields.

Another important point is that aquifers themselves are not very sensitive to the end uses of water. That is an aquifer doesn't really differentiate whether a million gallons of water is going to be used for drinking water or for peaking power plants or for golf courses but the public often does differentiate among those end uses and, I think, trying to incorporate the public values and preferences into the equation on water resource management is an important consideration as well as the actual amount of water used.

Water quality has been mentioned by people from Environmental Protection Agency giving previous testimony. There are natural occurrences of various

chemicals in the groundwaters throughout Illinois. These lead to mineral concentrations that can effect not only the operation of the peaker plants, but also the discharges from the peaker plants. So the water quality also needs to be considered.

In conclusion, I would like to make two points,

one focusing exclusively on groundwater, the other combining groundwater with surface water.

Focusing on groundwater, it's important to recognize that in the use of groundwater resources, all uses of groundwater, not just peakers, that we need to consider the scale of the natural resource, that is the aquifer.

Groundwater typically is found in discrete aquifers that transcends political jurisdictions. They cut across municipalities, counties and even states. Plumbing management by individual communities will not solve problems in the long term, we need to take an aquifer-wide perspective. Beyond just groundwater, I think that we need much more consideration of the conjunctive use of surface and groundwater. There can be many efficiencies gained in water supplying usages by considering conjunctive uses of surface and groundwater.

So my bottom line is that I think Illinois would

benefit from moving towards much more comprehensive regional water resource planning and management. This will bring together communities and cut across jurisdictions and we'd -- much more appropriate to the scale of the natural resources, that is the aquifers in the case of the groundwater supplies and river basins

and water sheds for surface waters.

With that I conclude my testimony and will be pleased to take any questions.

HEARING OFFICER JACKSON: Thank you, Dr. Winstanley.

Do the Board member have any questions for the Department of Natural Resources?

MS. KEZELIS: Doctor, I do. With respect to your testimony that comprehensive groundwater quantity law in Illinois is needed, and you don't need to answer this now, but I would like to see some factors that you would propose such a law include or some other state that you would propose that such a law would be modeled after.

DR. WINSTANLEY: Could I clarify what I think I said, may be the difference between your question and what I was recommending?

I was recommending comprehensive regional water

resource planning and management, not necessarily new laws. It may require new laws.

Let me give you one example I think is an excellent model of what is going on in one part of Illinois and that is in central Illinois. We have a

major aquifer, the Muhammed aquifer, that extends from the Illinois River across to Indiana, which embraces 15 counties. Now, in the past couple of years, the local communities in that 15 county area have bonded together to form what is called the Muhammed aquifer consortium and they're collectively concerned about the future of their own water resources, want to better characterize those resources and opportunities as a basis for self-management to the water resources.

So, I think, on the one hand we may need new laws, regulations, but I think we also need to encourage local communities to attempt to solve their own problems.

MR. ANDERSON: I might also -- in my testimony, I referenced the 1966 assessment of Illinois water law.

HEARING OFFICER JACKSON: Use the microphone phone, please.

MR. ANDERSON: I'm sorry.

In my testimony, I referenced the 1966

assessment of Illinois water law. It provides a very good and detailed assessment of existing statutes in Illinois, does some comparisons with other states in terms of regulating water withdrawals and looking at water quantity and it does reference several model

codes.

HEARING OFFICER JACKSON: Anything else?

MR. RAO: I have a question for Dr. Winstanley. In your testimony you focused a whole lot on the use of --

HEARING OFFICER JACKSON: Anad, use --

MR. RAO: Oh, I'm sorry.

In your testimony, you focused a lot on the use of surface water and groundwater for the peaker plants. Have you considered use of other sources -- other sources like reclaimed exposed lake water, you know, to be used in peaker plants or any such, you know, power plants?

DR. WINSTANLEY: I think we should look at all alternative sources of water. I focused on groundwater because that was my requirement in presenting testimony here today. But we equally need to look at alternative sources from rivers and streams, lakes, reservoirs, Lake Michigan and conservation and water reuse. That is why

I'm advocating a comprehensive regional approach that would incorporate all of those considerations.

MR. RAO: So the water resources that try to be -- focus on other sources of water --

DR. WINSTANLEY: I cannot speak for the committee. It is not made yet and I have had no input into the agenda.

MR. RAO: Thank you.

HEARING OFFICER JACKSON: Anyone else?

Okay. Thank you. Mr. Winstanley, if you would also provide a copy of your testimony to the court reporter so she can mark that as an exhibit.

DR. WINSTANLEY: I'd be happy to record my written testimony in the record.

HEARING OFFICER JACKSON: Yes. Thank you very much.

At this point we'd be happy to invite the IEPA to come forward again.

Express on the record my sincere appreciation for the Agency's patience in dealing with these scheduling problems.

We do have some questions that the Board members and the technical unit would like to ask on the record. However, as Chairman Manning indicated earlier, a

majority of our questions will be submitted in written form to the Illinois Environmental Protection Agency and we would also ask them to respond in written form to the Board then so that will become part of the record as

well.

CHAIRMAN MANNING: I have a question. I'll go ahead and start.

Director Skinner, as one of the co-chairs of the Water Resources Advisory Committee, I note pending their first meeting on August 31st, is it your understanding that the subject of those committee meetings is going to be the whole idea of the use of water and those kinds of things in terms of what the committee will be doing?

MR. SKINNER: Yes. The answer to that in short is yes. It's kind of interesting. The -- the separate committee came about in part because of the peaker plant question in general. I mean, water consumptions, is one of the issues that is often raised as something we ought to be concerned about with regard to peaker plants.

When we sat down to actually start to hash that out a little bit, it became clear in very short order that this wasn't strictly a peaker plant issue, that it really cuts across any number of types of facilities and then when you attempt to even to start to put numbers to

limits to groundwater withdrawal, you start to impact operations across the boards; agricultural operations, utilities, manufacturing operations. So, it has many

more components to it than strictly peaker plants.

For that reason, I think the Governor decided to go ahead and appoint this separate panel to really consider those broader issues with -- in order not to distract the Board from considering the specific peaker plant issues. But, yes, groundwater consumption and water use in general is the main mission of that separate board.

CHAIRMAN MANNING: I have a question, too, for the panel directly. On the issue of noise regulations and whether a particular facility that is going through the permitting process as the Environmental Protection Agency, does a facility have to make a demonstration at all that they will meet the way -- they're construction and design will meet any of the Board's noise regulations in order to get any of the air permits or is the noise process completely separate from the air permitting process? Can you sort of explain that connect?

MR. SKINNER: Sure. I'm trying to decide where to start.

You may have noticed from Greg's written testimony that very few states across the country have state noise programs.

In fact, we're one of the exceptions to the rule to the extent that we have a noise expert that works with communities and that keeps Greg busy year round. Most noise regulation and enforcement is left to locals across the country.

We do have -- there are noise standards in Illinois. We do not, as a state -- and we don't, as an agency, have a -- what I would consider to be a substantial noise enforcement program because of resource limitations.

The way that we chose to approach it is to make Greg, our expert, available to local communities to the extent that they have noise problems that arise. Greg works with them to try and kind of walk through the issues and in some cases ends up testifying in court, if the cases end up going to court.

With regard to peaker plants specifically, we don't do noise permitting. So, while companies may submit documentation and, again, Greg, you can stop me if I'm wrong, submit documentation with regard to what their noise output is going to be, It's not something

that we review in the course of issuing our air permit.

MR. ZAK: That's correct.

CHAIRMAN MANNING: That's correct. Is that correct?

MR. SKINNER: Yes. That's correct.

MR. FLEMAL: Just as a follow-up. Mr. Zak, have you actually looked at any of the applications that are before the Agency to see whether or not the kind of noise abatement devices you've mentioned are employed in these?

MR. ZAK: No, I have not.

MR. FLEMAL: Is it your understanding generally that it is a standard practice to include abatement procedures --

MR. ZAK: As far as --

MR. FLEMAL: -- in designs?

MR. ZAK: Well, as far as noise is concerned, I think that it's only rarely submitted with the -- with the -- through the permit process. I think Chris Romaine addressed that more -- in more detail as far as what actually comes in on a permit, but --

MR. FLEMAL: I guess I am not really so concerned whether it is in the permit application or not. I am concerned whether or not noise abatement is a

standard part of the design of peaker plants, whether or not it is mentioned in the permit.

MR. ZAK: Yes. The -- all the peaker plants I've seen to date have noise control built in to varying degrees, but they are not uniform in the way they would handle the noise question. Some have more noise control built in and some less.

To date, we have had many that you might say are on the noisier side that have been located in a residential area. Fortunately, those have been placed in rural areas where they don't create a problem, that there is enough buffer there to prevent there from being a problem.

CHAIRMAN MANNING: Mr. Zak, can you explain in laymen's terms or scientific terms, whichever works best for you, what kind of noise we're talking about as far as levels as well as types?

You had mentioned a rumbling noise and also you did put it in percentages as far as the reductions that can be achieved, but I wonder how noisy are they, in general?

MR. ZAK: The -- the noise emissions associated with your peaker tend to be in the broadband area a low frequency noise, more of a rumbling type noise. That's

one noise characteristic of the peaker.

The other characteristics that can be there are tones. Although they're not exactly the same, I would kind of draw an analogy to the jet engine, you hear on an aircraft. You'll notice that on your jet engine you hear a rumbling sound that can be heard for really several miles away from a large aircraft that is under full power. You'll also tend to hear a bit of a whining sound. That would be the tone.

So the areas you've got that generate noise would be of a rumble sound, of a whining sound, and all these different types of -- these two types of sounds can be controlled in the design stage of the peaker. As a matter of fact, I think that a large portion of the cost of the entire system is -- consists of noise control.

MR. MELAS: Staying on that same area of the noise, Mr. Romaine, does the Agency have a policy as you have it right now to require in the permit application that they indicate whatever noise controls they are planning before a peaker plant permit is granted?

MR. ROMAINE: I can't speak to our authority. As a practical matter, following the Reglet decision, our air permit section, as a matter of policy, or as a

matter of law, does not go out beyond issue of air

pollution control issues. We have certainly allowed people to include information on noise with their applications as an attachment, but it is not something that we review as part of our decision on the air pollution control application.

MS. KEZELIS: Mr. Zak, can you explain for us in a bit more detail what active noise cancellation is?

MR. ZAK: Yes. Active noise cancellation is a relatively new technology and what it consists of is a computerised system that -- I'll put this in very much laymen's terms, and -- the system itself will listen to the sound and analyze what the sound is like and it will then, through a speaker, generate the same sound, but what it does to it is it reverses it by 180 degrees. When they -- this new -- the sound creates combined with the existing noise, they cancel each other out. In other words, you've got -- let's say the wave goes positive by a factor of one, it will generate a wave that is negative by a factor of one and that will then cancel out the sounds.

The technology has been used by the Department of Defense in a number of engine applications where cost was of no consequence. They simply wanted to quiet

something down and they didn't -- they wanted to do it in a -- without putting in a -- very, very large muffler. So, the big advantage factor of noise cancellation is that it allows you to, with a relatively small device, to cancel quite a bit of noise, but, again, the cost factor has to be considered. It's much more expensive than the conventional one.

MS. KEZELIS: Is there a difference in the noise emitted by coal-fired peakers as opposed to the gas -- natural gas peakers that we're talking about today?

MR. ZAK: Well, if I can expand upon that a little bit. I think perhaps what you mean, in coal-fired powered plants, you wouldn't normally have the peaker associated with that just because -- it's my understanding the fuel isn't quite right, solid fuel as opposed to say liquid or gas fuel. The -- but historically with the coal-fired plants, we have had some noise problems. Specifically, the induced raffans(phonetic) used in some of the plants have created tonal noise problems, specifically under Section 901.106.

Again, what we were talking about there is usually -- I would describe it as something like the sound you have for your home vacuum cleaner. The vacuum

cleaner sound is an example of a medium to low frequency pure tone. And we've had those type of sounds come from coal-fired plants. And they have been corrected with the use of silencers.

And in the peaker, again, we have the potential for that to happen. So far, we've had no complaints on peakers. However, with the new influx of permit applications and peakers coming on-line, we're keeping an eye on that to see if we do have a -- have a problem. And I tend to think that the -- the proper way to address that in my testimony was to examine the -- the plans for the installation before it's actually built, again, to the benefit of the peaker company whether -- whoever does the actual work, say it's a private consultant, a local zoning authority, whoever, needs to look at that to determine if there is going to be a problem or not before the plant actually comes on-line.

MR. GIRARD: I have a question, Mr. Zak. Do you know of any local governments in the state that have more stringent noise standards than the state standards?

MR. ZAK: No, I do not.

MR. GIRARD: Do you know of any reason why a local government could not pass a more stringent standard in relation to peaker plants?

MR. ZAK: They could. The -- I think the reluctance on some of the local governments, though, is the cost of the personnel and the instrumentation in order to enforce that type of noise regulation. It is -- the instrumentation is expensive and typically the salaries are also expensive for the folks that can take those kind of measurements and enforce those kinds of regulations.

MR. GIRARD: Thank you.

CHAIRMAN MANNING: Some one of the Agency witnesses, I think it was Mr. Romaine, testified that peaker plants have been around for a long time. They're just really increasing in numbers at this point in time.

Mr. Fisher asked actually as well and the Commerce Commission gave an example of one we've have had in Springfield that I was honestly unaware of.

I guess my question is are the peaker plants that are being proposed now in up state -- in the Northern part of Illinois, are they larger in terms of days of output or days of usage and those types of things compared to those that might have historically been built over the course of the years in downstate Illinois?

MR. ROMAINE: I'm not in a position to answer

that question. The existing power -- peaker power plants have been grandfathered sources. They have not gone through the construction permitting process so they have not been subject to limitations on their operating hours.

Many of them are, in fact, permitted -- could operate around the clock, if they wanted to. So they've been constrained really by the demand for their services. To the same extent that the proposed plants are constrained by the demand for their services, they may operate in similar period of time. And I've heard statements that say the new power plants because they're larger, more efficient, may, in fact, be operated preferentially to the existing peaker power plants. So because of that they may, in fact, operate more hours than the peaker plants would operate. In fact, some developers have suggested they will replace the existing peaker power plant.

So I think it would be speculation on the Agency's part to comment on what is going to happen in terms of actual operations comparing the new peaker power plants to existing peaker power plants. All we can tell is what they have requested and what they're being permitted for.

MR. SKINNER: That's from a more technical perspective. I think from the more day-to-day common sense perspective what we're is seeing different now compared to the peaker plants that exist currently is that they're being proposed for different areas, in closer proximity to where people live.

I mean, to the extent that the older facilities are located adjacent to or near by the existing baseload power plants, intuitively, I believe that it is not going to be as big an issue as if you take a facility and propose it for someplace where its surrounded by residential homes or at least, you know, within a half a mile. That's more what we're seeing. We're seeing it more in northeastern Illinois than we have in the past.

CHAIRMAN MANNING: Right. I understand the density issue. I was more concerned about whether we knew anything about whether they were larger or more noisy or more output than some of the ones that are proposed.

MR. SKINNER: You know, again, just from my perspective, I doubt very much whether there are any -- I think they're probably cleaner. The technology has come much further than when these old facilities were first proposed. So from an emission standpoint, you're

getting more state-of-the-art engines at this point than you did previously. State-of-the-art has advanced.

MS. KEZELIS: Director Skinner, you testified that you would be -- that your agency would be inspecting these peakers annually as opposed to tri-annually as would have been the case but for their number. Do you -- you do not inspect peakers today or do you?

MR. SKINNER: No.

MS. KEZELIS: The old ones we're talking about, you inspect those every three years?

MR. SKINNER: Yeah. No, we -- right.

MS. KEZELIS: Can you describe for us generally the type of inspection that is undertaken?

MR. SKINNER: Sure. And I think I'll let Chris do that, but before I do, when we say we generally inspect every three years, it is a general statement. I mean, there are facilities that we inspect with much more frequently than every three years. We're kind of averaging it out and we're taking a stab at a number. If we believe that there is a problem, we get complaints from the public, from local governments, if they think something is wrong, we're out there right away. And I'll let Chris talk about -- walk you through what an

inspection or -- forgot what an inspection really looks like.

MR. ROMAINE: Well, I want to stress what Director Skinner said, that certainly the frequency of inspection does depend on the performance of a facility and if a facility triggers complaints or previous inspections have indicated problems, we will inspect them more frequently.

I -- inspecting a peaker plant may, in fact, be a difficult activity given the nature of their operations. By that, I mean it may be difficult to actually get to a peaker plant when it is operating. So that would require specific effort on our part to try to track down a hot summer day when they're operating and have an inspector present.

So, I think in a lot of cases, what the investigators will really be looking at is operating records for the facility, the logbooks, the records for a facility, fuel usage and that sort of information to make sure that we are getting accurate information from a report that we are receiving from a facility.

If there were complaints, then there would be specific effort made to get to the facility while it was in operation, working it out with a company and having

them notify us when they expect to be operating or, alternatively, to make arrangements to visit the facility when they're doing some of their test operation. Facilities of this type, in addition to actually working to supply power, they certainly have to operate for some small period of time to make sure they are available to operate. You don't want to have an emergency engine, which these really are, that has not been exercised. So that would be another option to coordinate an on-site inspection during the exercising of the engine.

MS. KEZELIS: Several of the Agency witnesses had suggested that their department or bureaus resources are being taxed by peakers.

Are your resources sufficient to handle the additional load of inspections?

MR. SKINNER: I don't know whether you noticed, but I specifically, in my comments, did not talk about how our resources are being taxed.

MS. KEZELIS: I noticed that.

MR. SKINNER: Because it -- generally, it tends to be counterproductive. It is our job to insure that there is a safe environment and that the state's citizens are being protected and nobody out there wants

to hear that, you know, we can only get to a facility every three years because we don't have enough money no do that.

The answer to your question is we're still doing what we need to be doing. It means that our people are working harder to do it than they -- than they might otherwise be and I know we all, as a state, appreciate their efforts in doing that. We would love to have more resources. I haven't run across a state government entity yet that would say it wouldn't love to have more resources.

You know, the Illinois' program is an example of something where -- an area where if we had any kind of funding to run those programs, the program would look different than it does today, but I know it is not within your authority to grant us those extra dollars. So, you know, we do what we can with the resources that we have. We think we have an effective noise program. If the general assembly wants us to be expanded in some way and more active with regard to peaker plants, for example, then we'll have to have that discussion with them.

MS. KEZELIS: Thank you.

MR. FLEMAL: Mr. Romaine, you observed that some

gas turbines may be fueled by fuels other than natural gases.

Are any of the peaker turbines that have come to you in applications been non-natural gas proposals?

MR. ROMAINE: All the applications have proposed use of natural gas as their primary fuel, but some applications have also included provisions to have fuel oil as a backup fuel.

MR. FLEMAL: I gather from statements that were made earlier today that natural gas prices have been quite mobile recently and would lead to the possibility that some of these plants originally intended for natural gas may ultimately use a different fuel should the market allow that or promote it?

MR. ROMAINE: That certainly could occur. My understanding is the plants that are going in with fuel oil capacity are really looking at being able to supply the winter peaking market. And certainly during winter period of time, there can be both much higher natural gas prices as well as possible shortage of natural gases used at peaker plants. So I think that's their principle reason for going to fuel oil, but I have to agree that certainly gives the peaker plants more flexibility to operate with oil, when oil becomes less

expensive than natural gas at some point during the summer.

MR. FLEMAL: So far, we've heard that all of the peak demand, though, is summer. Is there, in fact, a peak demand that occurs on occasions in winter?

MR. ROMAINE: I think I'd have to let the sources answer that question tomorrow.

The point that has been made to us is that peaker plants do serve emergency supplies of fuel. So if there is an unexpected outage of a power plant during the winter period of time, there is an event to be able to turn on the peaker plant. So that would be a time where we might call upon a peaker plant some other period of the year than summer.

MR. FLEMAL: Assuming we had a non-natural gas peaker plant operating during the summer season for whatever reason, I mean, or other, would we expect any difference in the character of the emissions, any of the environmental problems or conditions associated with peakers that have been addressed today?

MR. ROMAINE: The emissions would certainly be higher because --

MR. FLEMAL: In all of the pollutants that have been mentioned? Probably?

MR. ROMAINE: In general, yes. Certainly it's more difficult to control nitron ox as compared to oil than it is burning natural gas. Oil has more ash than natural gas. Oil has some fats as our sulfur engine creates sulfur dioxide. It's a more difficult fuel to burn than natural gas, higher emissions. When facilities do have the ability to burn oil, our modeling evaluation do address them as if they were burning that type of fuel, the impacts may be higher but, again, they do not pose a threat to the ambient air quality standards.

MR. FLEMAL: Fair, but it's still small? Is that a fair characterization?

MR. ROMAINE: Yes, it is.

CHAIRMAN MANNING: When the Agency analyzes an air permit for a peaker plant, what consideration or what information do you have regarding the expected hours of operation and how does that fit into either the modeling analysis or the permit analysis?

MR. ROMAINE: The information that we have on expected hours of operation is the information given to us by the applicant. So the applicant is basically telling us we'd like to have a permit that allows us to

burn this much fuel per year. That information on operating hours doesn't enter into short term modeling.

The short term modeling assumes that the facility is operating during that particular hour or eight hours a day. Where the operating hours may factor in the modeling is when you're looking at annual air quality standards. So for purposes of annual air quality modeling -- standard modeling, you can factor in the annual emission rates and you -- one approach to that is simply assuming that the facility operates at an average annual emission rate.

CHAIRMAN MANNING: Is that the approach that agency generally uses when it deals with that question?

MR. ROMAINE: Some facilities have simply assumed that the facility is operating day in, day out, at the short term emission rates. Others have, in fact, used the average emission rates. So both approaches have been used.

MR. GIRARD: I have a follow-up question in terms of that.

In terms of the annual air modeling, do you look at the cumulative effect of potentially all 46 peaker plants operating at the same time or do you do it

1 application?
2 MR. KALEEL: I guess in terms of the annual
3 modeling or even short term modeling that I was
4 describing in my testimony, we would actually look at a
5 couple of different levels of analysis. For PSD type
6 projects, where we're only looking at impacts of new
7 sources then the applicant would model their source in
8 addition to any other new sources including in new
9 peakers address the increments. If we're looking at the
10 ambient air quality standards, where it is more of a
11 cumulative impact of all sources, we would include the
12 emissions of the new source and I guess to reiterate one
13 that Chris made, we would do that at maximum operating
14 rates with the worst case fuels. And in conjunction to
15 that, we would add any nearby sources, including nearby
16 peakers, and add on top of that a background
17 concentration that would represent impacts from very
18 distant sources or low level sources, various sources,
19 other types of sources that are too numerous or too
20 small to include in modeling. So it is a cumulative
21 effect. We try to look at the effects of all emission
22 sources both close by and I guess through the background

sources that are more distant.

MR. GIRARD: But I guess are you looking at all

of the past that can potentially be cited or is it just the ones that have been -- are operating up to that point in time while you're reviewing a particular application for a peaker in one area?

MR. KALEEL: We would provide the inventories for all of the plants that would be expected to impact the impact area of the peakers we're aware of through prior permit application, even if it hasn't been permitted yet, we would include that information to the modeling organization, consultant or who ever to include in their modeling. So it is -- as we find out about it, we are continually updating the inventory we provide to the consultants so all of them are included in and at least those that we know of at the time that were first approached by a company.

MR. GIRARD: Thank you.

MR. RAO: May I follow up?

SPEAKER: Go ahead, Anad, and then I have a follow up.

MR. RAO: Thank you.

Mr. Kaleel, in the -- this portion of modeling that you do to evaluate for PSD increment, in that case,

do you just consider only the proposed -- emissions from the proposed plant only?

MR. KALEEL: We would typically include from the proposed plant and any other proposed plants and any other sources that have been permitted that trigger PSD and that --

MR. RAO: But when you have modeling -- when you are modeling the impact on the local area?

MR. KALEEL: Yes. When we're -- we're trying to evaluate whether or not increments, PSD increments have been consumed or that the increment thresholds have been exceeded, we're required through the PSD program to address all PSD sources, that is, all source, that have been permitted since the baseline date has been triggered. Baseline dates vary from area to area and pollutant to pollutant, but we include all sources of increment. We provide that to the consultants when they do their modeling.

MR. RAO: So any impact of clustering of these peaker plants in a particular area is considered in your evaluation?

MR. KALEEL: Yes.

MR. RAO: Thank you.

MS. KEZELIS: Mr. Kaleel, the figures that you discussed with us, Figures 1 through 4, the significant area -- impact areas for NOx, carbon monoxide and so on,

was the modeling performed by the peaker plant or was this performed by the Agency?

MR. KALEEL: The modeling is performed by the applicants and we wouldn't serve in advance of this little -- or modeling to provide guidance as to what it is we're looking for, what kind of models, what kind of procedures they should use, what kind of inventories they should apply to the modeling.

Once they've submitted the application, we do a thorough review to make sure that they follow what we told them to do and we would also perform an audit where we would -- without letting them know exactly which one we're going to do, we try to redo one of their runs and make sure that we agree with the results that they have.

MS. KEZELIS: So for clarification, Figures 1 through 4 were peaker applicant prepared or Agency prepared?

MR. KALEEL: Actually, my staff had prepared those maps, but we used model results provided by an applicant.

MS. KEZELIS: By the applicant. Okay.

The significant impact areas for NOx, for example, that is reflected in Figure 1, is that at the emission point of the smoke stack or is that at ground

level? Where is that?

MR. KALEEL: The ambient concentrations that are depicted in all of those figures represent ground level impacts. The modeling, of course, takes into account the height of release of each emission point. So if a source has a 100-foot stack or a 30-meter stack, that is the common form of modeling.

MS. KEZELIS: And modeling also takes into account if, for example, the largest applicant at this time is -- is it 16 turbines, is that correct? I think that is what somebody testified to. So there is 16 smoke stacks. So it would be the cumulative of that or 16 operating simultaneously, if that were the source of this particular modelling?

MR. KALEEL: I guess I would refer to Chris. My -- guess I my understanding is that it would typically involve their emissions to fuel stacks. But there could be -- depending how many were operating, there could be multiple units vented to one or more stacks. If there are multiple stacks, we would model the stacks, but --

MS. KEZELIS: For clarification, is there -- is there more than one turbine per stack?

MR. ROMAINE: The usual configuration is one stack per turbine. The particular application with the

16 units, though, is not a usual application. It is, in fact, proposed to combine turbines to go to a control device that go through -- I don't know, a limited -- a fewer number of stacks.

This is one of the peaker applications that would, in fact, be large enough to be subject to PSD. When we started our BACT evaluation, the conclusion was that they had not proposed that with technology. It appears as those turbines may, in fact, be amenable to their size on one hand and high emission rates that has been proposed on the other to use of that on control. Sources then proposed to put an add on control once flexibility is either installed, simple cycle turbine or combined cycle turbine, it hasn't made up its mind yet. It's a very curious application that we're doing.

CHAIRMAN MANNING: Could you explain what type of information you expect to get within the BACT demonstration?

I mean, just typically, just for purposes of the record, could you sort of go through what a typical BACT

demonstration might entail, what kind of information the applicant is going to have to provide?

MR. ROMAINE: Well, one piece of information for the record is that we do require people to follow the

United States Environmental Protection Agency's guidelines for PSD applications. That includes going through the so-called top-down BACT methodology that U.S. Environmental Protection Agency has developed.

The first step in that evaluation is to go through an evaluation of the types of control techniques that could theoretically apply to a particular unit. This is sort of an across-the-board technology evaluation.

The next step is to determine whether some of those techniques are, in fact, technologically infeasible. If they are, then they don't have to be pursued.

The next step then is to evaluate the effectiveness of the techniques that are feasible. And If the applicant is proceeding with the most effective technique, then the application doesn't to be pursued or the demonstration doesn't have to be pursued. That's the end of it.

If on the other hand, the applicant is proposing something less effective than the most effective technique, then they have to go through and do a cost evaluation or design study to decide how costly that technique would be, how effective it would be, if, in

fact, it were applied to the facility. They also have to go through an evaluation or a search of the US Environmental Protection Agency's records of other states, back through their clearing house, to determine what has been complied at other facilities that are subject to BACT requirements.

Based on that information, we have to make a judgment as whether something less than the technology that has been applied somewhere else would be acceptable as BACT or not. Obviously, if we have gone to the top, that is fine, we wouldn't pursue it, but given the fact that there are what I would call special projects in places like California where they have applied SCR to simple cycle turbines, we have to go through the full evaluation to evaluate whether or not, in fact, as applied to the proposal in Illinois, whether that would be appropriate or not.

So far, those detailed evaluations of SCR, controlled technology that could applied to the turbine,

have been concluded that is not appropriate to apply them on projects in Illinois. And part of the reason for that, again, is going back to the list, what determinations have been made for projects and in examining them, you find out that places like Texas, the

Midwest and other areas outside of California, control devices are not routinely being used for simple cycle turbines. In that circumstance, we don't think it is appropriate to use what might be done in California given their circumstances as an appropriate level of control with Illinois.

MS. KEZELIS: Mr. Kaleel, Exhibits 13 through 17, which address ozone concentrations, can you generally describe for me the metrological conditions that existed during this July 16th through 20th, 1991, period? Only for purpose of my own understanding whether that was anomalistic set of meteorological conditions creating a high ozone level in the Illinois region or whether it was typical of summer months in the Midwest?

MR. KALEEL: Sure. I'd be happy to.

What the various annals on each of those blocks represent are peak ozone concentrations predicted by the

model for individual days. Obviously, for a multi-day period or multi-day episode, meteorological conditions changed slightly, but we got a lot of familiarity through the years as to the types of meteorological conditions that cause high ozone in the Lake Michigan area.

Typically, we're looking at the kinds of conditions that will occur in the mid summertime period, kind of on the back slide of a high pressure system, basically high pressure systems centered over Ohio or some point east of Chicago, under those kinds of conditions, where we're looking at light wind speeds, clear skies, hot, humid conditions. Typically, the wind directions vary a little bit through the duration of the episode as the high pressure system migrates to the east. Typically, early in the episode, perhaps on July 16, July 17, winds would be in Chicago basically southeasterly or easterly. As the high pressure system migrates, winds turn and become more and more southerly. By the end of the episode, July 19th and 20th, we're looking at southerly and southwesterly winds in Chicago. The July '91 period was -- I don't know whether I want to characterize it as typical, but it was probably above average as far as ozone severity or ozone conduciveness.

Certainly, it's not the most extreme measurement that we've seen over the last ten years, but certainly above average. It is a good episode for ozone planning.

MS. KEZELIS: Thank you.

MR. KALEEL: Again, I should mention when I say hot, we're looking at conditions above 90 degrees, those

kinds of things.

CHAIRMAN MANNING: Mr. Romaine, you discussed California. In your prepared testimony, you have a list of other states and controlled -- different kinds of issues that they've been dealing with the peaker plants in their states.

Do you care to comment on any of the states that you have listed in your attachment to sort of compare them to the strategies Illinois -- you may suggest Illinois may or may not want to consider, what -- what they're doing and why those states are doing what they're doing?

MR. ROMAINE: Simply stated, there are other states that do have BACT programs that apply at lower thresholds. Simply, as part of the history of the development of their state programs, they have decided that it's an appropriate practice in their state to have

best available control technology at some lower threshold. For example, I believe Indiana has a threshold of 25 tons per year for new source. Beyond that, I guess the information speaks for itself.

MR. SKINNER: Just to supplement that somewhat, it's difficult to define, as we sit here in Illinois today, the exact reasons that other states here adopted

whatever measures they've adopted; some more strict, some less strict than Illinois has.

There may be legislative policy reasons, things as simple as, you know, a state wanted to encourage the use of coal as opposed to the use of natural gas so they imposed stricter standards than otherwise might be the case in natural gas facilities. I say that only to caution you that it's almost impossible to define intention in what we do on a day-to-day basis.

And it will probably be somewhat difficult without substantial research and one-on-one conversations for the Board to determine the same thing. That is not to say that the Board shouldn't look at what other states have done and determine whether or not something stricter is appropriate for Illinois.

CHAIRMAN MANNING: I understand that. And I was just responding to one of the specific questions the

Governor asked us to consider as to what other states are doing and to the extent to which the Agency wanted to offer any information, we'd welcome that and we thank you for the appendix that you've attached to the testimony.

MR. ROMAINE: I guess just one point to follow up, those are states that have statewide BACT

departments for all projects. These are not statewide BACT requirements. They're simply focusing on peakers.

CHAIRMAN MANNING: Okay.

MR. ROMAINE: And that ties in with the director's statement that these reflect historical development and policy in their states.

MS. MCFAWN: You mentioned that New York takes about 18 months to get a permit. Well, actually get settled. How long does it take to get through the permit process -- the air permit process -- on average, if you can tell us?

MR. SKINNER: Well, by law, it's 180 days. Now, there are instances where we get a permit out more quickly than that. There are instances where we go back and request further information and get an extension. And there are instances where the applicant will

withdraw the application and it's happened quite a bit and in order to modify it as a result of some more recent developments.

In terms of an average time that we process a permit, they vary so much from permit to permit because of the complexity or simplicity of the type of operation they're proposing, but, you know, it's somewhere in the neighborhood of 120 days probably, isn't it?

MR. ROMAINE: Right.

MR. SKINNER: Probably more.

MR. ROMAINE: More.

MR. SKINNER: Yes.

MS. MCFAWN: That's what I would have expected.

MR. ROMAINE: I think, in fact, if that's something you would like information on, we just provide it project by project in written form.

MS. MCFAWN: If you wouldn't mind, it would just give us a good sense of, you know, are we expeditious? Are we frugal? Or, you know, how are we behaving?

MR. SKINNER: Well, I think one of the things that we have made a decision to do internally is not to rush through with regard to peaker permit applications and to do a very careful analysis of each one that comes in and oftentimes, if not usually, that means that we're

bumping up against the 180-day limit by the time we get the permit out.

But given how rapidly changing this situation is right now, we just felt that was appropriate. If -- we often get requests from applicants to move more quickly and they give us all sorts of compelling reasons to do that.

If it's a project where it is very simple and

very clear, and we have seen ten of them before, maybe we can get it out for them in 180 days, but we're taking a fair amount of time to do this.

MS. MCFAWN: Thank you.

MR. SKINNER: I might just supplement that answer a little bit on an issue that is related, but not exactly the same, and that is there have been calls from various folks for the Agency and/or the Governor to impose a moratorium on issuance of peaker permits. We've looked at that issue extensively and concluded that we don't have the authority to do that.

By operation of law, these permits issue after 180 days. So, we've had it suggested to us, well, just don't act on it. That doesn't do any good. I mean, if we don't act on it, the permit is granted. That

actually is counterproductive compared to what we want to do. So we're forced to proceed. Similarly, the Governor has concluded that he doesn't have the legal authority to impose a moratorium by executive order. It literally requires legislative action.

HEARING OFFICER JACKSON: Do we have any other questions at this time for our Agency panel?

MS. MCFAWN: Well, I had some more questions about the noise area, if we can return to that, Mr. Zak.

MR. ZAK: Yes.

MS. MCFAWN: I'm curious as to how these peaker plants fit into our existing noise regulation. You stated in your testimony that we don't have any gaps in our regulations. So are you saying there then that the existing noise regulations would apply to peaker plants could be used to enforce adequately noise control?

MR. SKINNER: Before I pass the microphone to Mr. Zak and let him answer that question, obviously noise is an issue that seems to be of great interest to the Board. I would only reiterate something that Greg said earlier, which is we have -- I don't know, somewhere more than five of these facilities operating currently. I don't have the exact number in front of me. We have not received a single noise complaint from

any of these -- from any residents nearby the facilities up to this point. So -- and I feel comfortable saying that if noise were a big issue for any of those folks, they'd be making their own noise about it because they're very sensitive to it.

I think to some extent the applicants, when they propose these projects, are well aware that noise is an issue or going to be an issue for their operation. And I think they are taking measures, if you want to call it

on their own, I guess voluntarily, I guess you could, but it's compulsory almost for an applicant, a developer, at this point to do that. So, I don't want to at all inhibit the line of questioning, but to me, it's probably not the biggest issue that we face with regard to peakers. That's something that a lot of times is going to be worked out between the developer and the local municipalities as opposed to us at the state level. Having filibustered for awhile, I'll pass the mic to Greg.

MR. ZAK: I'm sorry. But can you kind of repeat the question? I lost my train of thought there.

MS. MCFAWN: Certainly.

I'm curious, you state in your testimony that

you reference our existing noise regulations, three sections exactly, and then you say there is no gap in the regulation. And I just want to make sure that those regulations are adequate, that if there is a noise problem, you feel that they would be applicable and would be sufficient for enforcement purposes and health purposes and that type of thing.

MR. ZAK: Yes, they would be. I can fairly competently say that, the -- if we look at all of the various types of noise emissions we can have associated

with a peaker system, the current regulations that we have will address all of those issues and in addition, if we have something a little unusual happen, let's just say that we had some infrasonic sound that is associated with a peaker, and just throwing this out as a possibility, not that we've ever had this problem yet, but in infrasonics, what they will do is it will appear as vibration to most people and people will think that their house is vibrating, the ground is a vibrating and in effect, what it is is an air wave that is being generated by the -- let's say the Agency example, the peaker, that can be addressed through the Board's nuisance noise regulation even though the numeric regulations only go down to, say, really 31 and a half

hertz, which is a low frequency end of a regulations, infrasonics typically occur below 20 hertz. We can still measure something, say, between 10 and 20 hertz, and make a good nuisance case before the Board, if there was a problem where we had significant a number of residences that were experiencing this type of problem from a peaker facility.

So, yes, I think to answer your question that the current regulations that we have will address, I think, virtually any noise issue that would happen to

come forward from a peaker facility.

MS. MCFAWN: Thank you.

MS. MANNING: Director Skinner, you said that noise wasn't one of our biggest issues. Do you care to comment on what you feel are the biggest issues in terms of what we're doing today with the peaker power plant?

MR. SKINNER: No.

CHAIRMAN MANNING: Well, I'll ask a follow-up.

MR. SKINNER: I sat here and jotting down notes in terms of the very brief summary for conclusion, conclusion notes, if I was going to make conclusionary remarks, but maybe I'll give you that part of it now.

It strikes me that the General Assembly made a

decision a couple of years ago with regard to the question of electric supply and whether or not we needed more electric supply. I mean, they made the decision to deregulate the electric industry in Illinois. Implicit in that is taking off of the ICC's docket the question of whether or not we ought to be building more electric power plants and whether -- implicit in that question is whether the power is going somewhere within the state or outside of the state.

Now, that may be a question that the General Assembly ought to readdress. I don't know whether there

were unforeseen ramifications or consequences to deregulation or not. There -- peaker plants may have been an unforeseen development, if you will, of the deregulation process, but it's certainly not within our Agency's authority to consider that question. I'll leave it to you to determine whether or not it is within your authority to consider that question.

The Agency -- I mean, we're peaker neutral, if you will. We're neither for nor against the development of these facilities.

Our foremost concern is when presented with a proposal to determine whether or not it's -- the proper controls are being applied and whether they are

adequately protective of the environment and of human health. We've devoted a lot of resources to trying to make sure that that is the case.

My own opinion is that if gaps exists right now, they largely exist on the sitings or local control side of this issue. Property values, noise, esthetics, those are to a large extent the complaints that were we're hearing that ring truer, if you will, than some of the complaints about emissions.

The fact of the matter is whether we like it or not and whether the opponents of peaker plants like it

or not, these facilities are cleaner in terms of their power production than our coal-fired facilities.

So, I think when pressed, some of the environmental groups would say that given a choice, assuming the demand is going to be what it is, or increase, and assuming that power to meet that demand is going to come from some place, either a coal-fired plant or a peaker plant, my guess is that even some of the environmentalists would say, well, given that choice, we prefer peakers over increased coal production.

But be that as it may, I guess I would -- in answer -- in direct answer to your question finally, I

have would say that the siting aspects of this deserves some scrutiny. I don't know whether I really believe that the full blown SP172 requirements ought to be applied in the peaker context, but I can see an argument, I can make an argument that some sub set of those ought to be applied, if only the subset that prescribes certain procedures with regard to consideration of these applications because those procedures provide resources to the local hearing panel that allow them to deal with some of these issues, to hire the lawyers and the consultants that they might find necessary to address the concerns that are being

raised by the constituents.

The other question that I think you've been asked to consider it and it's fully appropriate, is whether BACT or some additional controls ought to be imposed upon these peaker plants.

Now, I think we've answered the question to the best of our ability as to whether these facilities are being permitted in a way that meets the National Ambient Air Quality Standards and protects human health and the environment. In terms of those standards, we believe that, in fact, we're permitting these facilities the right way. We're imposing the right level of controls

on them to meet those standards.

You're really being asked to go beyond that and say that is a given, should we impose controls beyond that, for whatever reason, in order to be more protective of health and the environment. Again, that is a question that is really outside, I think, the purview of the Agency. When you get to that level of question, it becomes a cost benefit analysis as to are you going to -- is the added cost so significant that you're going to discourage these power plants from coming in? Is that a good thing or a bad thing? That is something that I have no desire to get into nor any

real expertise. The whole power side and supply side and demand side of the issue is frankly beyond me.

CHAIRMAN MANNING: Thank you.

I would just like to thank all of you from the Environmental Protection Agency for all of the work you did in the presentation, obviously straining your resources, in terms of obviously you've spent a lot of time and a lot of work advising us and, you know, for purposes of the public that are present here today, the Agency staff would continue to be present throughout the rest of the hearings for us if questions come up that

need to be answered. Certainly, the last set of hearings on October 5th and 6th, we will regroup and if there are other questions that we need answered or asked, we'll go ahead and do that.

MR. SKINNER: We'll have some subset of the folks that are here today at the subsequent hearings. To the extent that you can anticipate that you're going to want certain areas of expertise represented, I guess, you can let us know ahead of time. We're glad to accommodate that. To the extent that you want me there at these -- any of these particular hearings, I would discourage you, but I would -- but I would be willing.

CHAIRMAN MANNING: I'll bet you'll work that

out.

MR. SKINNER: Yeah. I would be willing to accommodate you in any event.

HEARING OFFICER JACKSON: I get all the fun.

Okay. Before we conclude, I just want to make a couple of final remarks on the record.

Right. We do still have some written questions that we'll be submitting to the Agency and we'll get those to you as soon as possible.

MR. SKINNER: Sure.

HEARING OFFICER JACKSON: I'm just told that

we'll also be posting those written questions on the website, for anyone here who would like to take a look at those additional questions that we will be posing to the Agency. They will be on the website as soon as they are available.

Okay. I also want to note Director Skinner mentioned that we seem to be asking a lot of noise questions. I just want to point out for everyone that the Board members may ask a variety of questions at these hearings, that they're not intending to focus the scope of the hearings on any particular issue. They're just simply trying to develop a complete and concise record. So please don't assume anything other than the

development of a complete record by any of the questions that are asked by any of the Board members during today's proceeding or any other proceedings of this matter.

We still have a lot of information to gather before we're completed with these proceedings and the Board will not begin its deliberation until all the information is submitted and the record is closed.

Okay. I would mention again that we have requested expedited transcript. As soon as that is

available, we will be posting that on our website. If you require hard copies of the transcript, please contact the Board's clerk's office and hard copies can be obtained at a cost of 75 cents a page.

The next hearing in this matter will begin tomorrow, August 24th at 10:30 a.m. We'll be in the same room and the procedures for tomorrow's hearing will be very much like today's. Tomorrow, we'll be focusing on presentations by members of the peaker industry and we'll again be focusing on questions from the Board members and the Board's technical unit. If any member of the public here today has questions prepared by today's presentation, please feel free to submit those questions to the Board in the form of a written comment.

That's all I have.

Thank you all for attending. We appreciate your patience and your attention and we're adjourned for today. See you tomorrow.

(Whereupon, the proceedings in the above-entitled cause were adjourned scheduled to reconvene on August 24, 2000, at 10:30 a.m.)

(OFFICIAL copies of this transcript can also be ordered directly from the reporter for 75 cents a copy by calling (800)419-3376.)

STATE OF ILLINOIS)
)SS:
COUNTY OF DU PAGE)

I, ROSEMARIE LA MANTIA, being first duly sworn, on oath says that she is a court reporter doing business in the City of Chicago; that she reported in shorthand the proceedings given at the taking of said hearing, and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid, and contains all the proceedings given at said hearing.

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12 ROSEMARIE LA MANTIA, CSR
License No. 84 - 2661

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14 Subscribed and sworn to before me
this day of , 2000.

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16 Notary Public

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