Original: 2302

ENVIRONMENT QUALITY BOARD

OF

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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In RE: Proposed amendments to Pennsylvania's air quality regulations and the state implementation plan-small sources of NOx, large stationary internal combustion engines and cement kilns.

Before: Dean E. VanOrden, Member
Terry Black, Member
Francine Carlini

Location: South East Regional Park
Main Conference Room
555 North Lane
Conshohocken, PA

Hearing: November 25, 2002
1:00 p.m.

WITNESSES: Michael Hoffman, Derek Grasso, Timothy Hartman

Reporter: Sharon Marsh

Sargent's Court Reporting Service, Inc.
(814) 536-8908

I N D E X

P R O C E E D I N G S

MS. CARLINI:

Good afternoon. I would like to welcome you to this Environmental Quality Board public hearing on proposed amendments to Pennsylvania's air quality regulations and the state implementation plan. My name is Francine Carlini and I am the air quality program manager for the Department of Environmental Protection in Conshohocken. Due to the unavailability of any EQB member to attend today, I will be chairing this public hearing. With me this afternoon from DEP are to my right, Dean Van Orden. He's chief stationary sources section Bureau of Air Quality. And Terry Black is to my left. He's chief regulation and policy development section, Bureau of Air Quality.

The proposed rulemaking upon which we will hear testimony today is a proposed two-part rule that would establish additional ozone season control requirements in Chapter 129 and new ozone season requirements in Chapter 145 of Title 25 of the Pennsylvania Code. The proposed rulemaking would reduce emissions of nitrogen oxides from small sources of NOx in Bucks, Chester, Delaware, Montgomery and Philadelphia Counties and from large stationary

internal combustion engines and cement kilns across Pennsylvania.

The proposed amendments for small NOx sources in Chapter 129 are based on model rules developed by the Ozone Transport Commission to achieve and maintain the health based one hour ozone standard. The amendments are consistent with recommendations of the Southeast Pennsylvania Ozone Stakeholders Working Group and propose a compliance date of May 1st, 2005.

The proposed amendments for the large stationary internal combustion engines and cement kilns in Chapter 145 are based upon proposals and models developed by the Environmental Protection Agency to reduce ozone transport throughout the eastern United States under the NOx State Implementation Plan Call, also known as the NOx SIP Call. The proposed rulemaking represents Pennsylvania's fair share in reducing transported air pollution and also proposes a compliance date of May 1st, 2005.

The regulations, if approved, will be submitted to the EPA as a revision to the State Implementation Plan. The SIP, which is a requirement of the Clean Air Act, is a plan that provides for the implementation, maintenance and enforcement of the

National Ambient Air Quality Standards in Pennsylvania.

Notice of the EQB's proposal was published in the Pennsylvania Bulletin on October the 19th, 2002, with a public comment period that is scheduled to close on December the 26th, 2002. Notice of this proposed rulemaking was also published in various newspapers across the state. In addition to the hearing today, two other public hearings were held for this proposed rulemaking. On November the 18th in Harrisburg and on November the 20th in Pittsburgh.

In order to give everyone an equal opportunity to comment on this proposal, I would like to establish the following ground rules. I will first call upon the witnesses who have pre-registered to testify at today's hearings as included on the schedule of witnesses. After hearing from these witnesses I will provide any other interested parties with the opportunity to testify as time allows. Oral testimony is limited to five minutes for each witness. Organizations are requested to designate one witness to present testimony on its behalf. Each witness is asked to submit three written copies of his or her testimony to aid in transcribing the hearing. Please hand me your copies prior to presenting your

testimony. Please state your name and address for the record prior to presenting your testimony. We will also appreciate your help in spelling names and terms that may not be generally familiar so that the transcript can be as accurate as possible. Interested persons may submit written comments in addition to or in place of oral testimony presented here. All comments must be received by the EQB by December the 26th, 2002. Comments should be addressed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, Pennsylvania 17105-8477. Comments can also be E-mailed to Regcomments, that's R-E-G-C-O-M-M-E-N-T-S, @State.PA.US. All comments received at today's hearing and in writing by December the 26th will be considered by the EQB and become part of a comment/response document prepared for the EQB --- prepared for the EQB's review prior to taking final action on this regulation. Anyone interested in a transcript of this hearing may contact the reporter here today to arrange to purchase a copy.

I will now call the first witness. We thought that the best place for the witness to sit would be right where you're sitting Terry. So if you wouldn't mind. So when you're giving testimony if you could just sit at this chair right here in the front

which would help the court reporter to make sure she gets your testimony accurately. The first witness who is pre-registered is Mike Hoffman.

MR. HOFFMAN:

Good afternoon. My name is Mike Hoffman. I am testifying today on behalf of my company, NiSource. In these comments I also represent five other natural gas pipeline companies, El Paso Corporation, Williams Gas Pipelines, Duke Energy Corporation, National Fuel Gas Supply Corporation and Dominion Transmission. Our companies operate natural gas stationary reciprocating internal combustion engines to pump natural gas through our pipeline systems to residential, commercial, industrial and electrical generation customers in Pennsylvania and other states in the northeast. We appreciate the opportunity to speak to the Environmental Quality Board about the proposed amendments to Pennsylvania Code Chapters 129 and 145 that would mandate a second round of retrofit NOx controls on the gas pipeline engines we operate in Pennsylvania.

We have three main areas of concern about the proposed amendments.

First, there are significant mistakes and other problems with the DEP regulatory analysis that

prevent it from being acceptable as justification for the proposed regulations.

Second, based on our experience with NOx control for gas internal combustion engines, we believe that the proposed NOx limits are technically infeasible.

And lastly, a number of the provisions in the proposed regulation will place an unnecessary compliance burden on the operators of stationary internal combustion engines.

First, I would like to discuss the problems with the DEP regulatory analysis. There are three serious mistakes in the Regulatory Analysis Form prepared by the Department of Environmental Protection. First, it does not take into account that the engines that will be impacted have already installed retrofit NOx controls. This means that there is little additional NOx reduction to be gained by the proposed rules, and that the cost-per-ton estimates are wrong.

Second, the regulatory analysis for the Chapter 145 proposal is premature in that it is based on an EPA proposal, not a final EPA regulation.

Finally, the regulatory analysis mistakes EPA's estimate of average control effectiveness with a

compliance emission limit.

Each of the 17 gas transmission engines in the five-county Philadelphia nonattainment area, and Pennsylvania's ten large engines listed by EPA in the NOx SIP Call Inventory, have installed NOx controls since 1995 under Pennsylvania's NOx RACT rules. As I will discuss later in these comments, it is not technically feasible for all engines to meet the NOx emission levels proposed in these amendments. But even if it were possible to achieve additional control, most of the NOx reduction from these sources has already happened.

For example, an engine that was at 27 grams per brake horsepower-hour in 1990 is now controlled to around 3 grams per brake horsepower-hour. There is little incremental reduction available now in forcing the engine to 1.5 grams per brake horsepower-hour. Such an incremental reduction would be about six percent of the total reduction already achieved. For the Chapter 129 proposal this means that there is little potential contribution from the engine population in helping Pennsylvania meet the small NOx shortfall in the Philadelphia nonattainment area SIP.

For the Chapter 145 proposal, the

presence of NOx controls on engines which EPA counted as uncontrolled means that it is likely that no additional statewide engine NOx controls are necessary to meet EPA requirements. Finally, we question whether it is reasonable or equitable to require two successive rounds of NOx control for IC engines.

Our next major point is that we believe that it is both unwise and against Pennsylvania regulatory policy to justify the proposed amendments to Chapter 145 with a regulatory analysis based only on an EPA proposal rather than on EPA final regulation. DEP's regulatory analysis depends only on the proposal issued by EPA in February of 2002, and does not address two significant actions that EPA has taken since publishing the proposal.

To respond to comments on its proposal, EPA requested states provide additional information on the effectiveness of retrofit NOx controls installed on lean-burn engines. This information has now been placed in EPA's rulemaking docket. This information is relevant to the number that EPA adopts for the average control effectiveness used in calculating the engine portion of state NOx budges. In its proposal EPA indicated that it would select a number in the range of 1.5 to 3.0 grams per brake horsepower-hour.

The docket material appears to support a number at the higher end of this range.

A second development is that in August 2002, EPA issued a guidance memorandum on the content of state rules for engines submitted to EPA as a part of the NOx SIP Call. In its memorandum EPA states, quote, where states choose to regulate large internal combustion engines, EPA encourages the states to allow owners and operators of large internal combustion engines the flexibility to achieve the NOx tons per season reduction by selecting from among a variety of technologies or a combination of technologies applied to various sizes and types of internal combustion engines, end of quote.

Except for the provision for limited averaging, the proposed amendments are inflexible in requiring all affected engines to meet a single emission limit. The Pennsylvania proposal even removes the flexibility in the OTC model rules which allowed emission trading.

Our final point of concern with the DEP regulatory analysis is that it mistakes EPA's estimate of the average effectiveness of retrofit NOx control for a NOx emission limit. EPA is calculating a NOx budget, not writing an engine control regulation. The

difference is that for an average, roughly half of the engines will be above or below the estimate. And emission limit is far more stringent in that all engines will have to be below the number. In this regard the EPA number is significantly less stringent than the Chapter 145 proposal.

To sum up our comments about the regulatory justification for the Chapter 129 and Chapter 145 proposals, at this point DEP does not know the final NOx SIP Call budget for Pennsylvania.

DEP does not know the average percent NOx reduction from engines that will be used by the EPA in calculating the engine budgets.

DEP has confused EPA's average NOx reduction figure with a compliance limit.

And DEP has proposed a program that is inconsistent with the flexible approach advocated by EPA's recent guidelines.

I would like to turn now to the second section of my comments ---.

MS. CARLINI:

I'm going to have to ask you to wrap up, Mike.

MR. HOFFMAN:

Okay.

MS. CARLINI:

You can submit your written comments. Derek Grasso will be next.

MR. GRASSO:

You did say five minutes at the beginning but the published notice said ten minutes. So my --- at least the notice that I had said ten minutes. Mine will probably go a few minutes over five.

MS. CARLINI:

I'm not aware of the discrepancy.

MR. GRASSO:

I'll do my best to get it close to five.

MS. CARLINI:

Okay. Yeah, we have a number of people here. Are you all going to be providing testimony here today? How many people are providing ---?

UNIDENTIFIED SPEAKER:

It does say ten minutes.

MS. CARLINI:

Ten minutes. Well, in that case, I have to apologize to Mike. If you want to take your second five minutes.

MR. HOFFMAN:

I think I've already covered everything here and at other hearings.

MS. CARLINI:

All right. So you've made your point basically at other hearings. I'll amend the opening statement here and we'll allow ten minutes, but can I get a count of who is testifying?

MR. GRASSO:

I'll be testifying.

MS. CARLINI:

Right. And Tim and anyone else testifying? Okay. All right.

MR. GRASSO:

Good afternoon. My name is Derek Grasso, D-E-R-E-K. And I am manager of Regulatory Affairs for the American Refuel Company. Today I'm going to offer an overview of our preliminary comments concerning the Department's proposed additional NOx control requirements under Section or Chapter 129.201. Refuel will be submitting more detailed comments by the December 26th deadline. Refuel owns and operates the Delaware Valley Resource Recovery Facility in Chester. This facility combusts about 3,000 tons per day of municipal solid waste from the surrounding communities and converts it into about 80 megawatts of electricity. The primary purpose of the facility and others like it is the safe and environmentally sound

reduction of solid waste volume by 90 percent and the recovery of energy from that waste.

In addition to reducing landfill space requirements, the facility also provides other environmental benefits including the offsetting of fossil fuel use with an indigenous fuel, reduction of greenhouse gas emissions, and the recovery of metals from ash recycling.

Refuel operates under contract with surrounding Pennsylvania communities, some of which will directly bare at least half the cost of any costs associated with new regulatory requirements.

As you're aware the proposed section would expand recent ozone season NOx control measures to boilers which combust materials other than fossil fuels. This includes municipal waste, waste to energy facilities such as ours. Refuel believes that waste energy facilities should not be subject to the proposed rule. We base this belief on issues of technical liability, cost and the relative environmental benefit gained. Waste to energy is already required to meet NOx emission limits that were established by the US EPA under recent maximum achievable control technology rules that were derived specifically for these types of boilers. It's unclear

at this time if add on NOx control equipment is technically viable on the type of boilers that are used at Refuel's Chester facility. Even if it is viable, the estimated cost would be prohibitive, especially in comparison to the cost borne by facilities whose sole purpose is power production. Power production is only one purpose and benefit of waste energy and new standards applicable to them should take into account the entire environmental picture and not just one aspect of it.

Refuel would be happy to work with the Department to determine an appropriate NOx emission level for waste to energy. Our technical input and that of other stakeholders has often been requested when agencies are developing regulations of such major significance.

Waste energy boilers are not designed, constructed nor operated in the same manner as fossil fuel units because their fundamental purpose is different. Their primary purpose is the conversion of a relatively heterogeneous, wet municipal solid waste to energy. They do not use a uniform and consistent fuel, and as a result, there are technical and economic considerations that are unique to these types of units. Given the nature of the fuel, the units are

less thermally efficient than dedicated power production units, requiring larger amounts of excess air and less densely packed heat recovery systems. These boilers also do not have access to NOx reduction options that are available to other types of units such as low NOx burners, fuel switching during the ozone season or load curtailment.

It appears however, that the assumption has been made that one emission standard is appropriate for all boilers regardless of purpose, fuel or design. And that the only classification that matters is one of size.

It should be noted again that new federal standards, specifically for waste energy facilities, went into effect in 2000. These maximum achievable control technology or MAX standards are equivalent to the performance of the top 12 percent of all similar units in the country. NOx is one of the parameters regulated under that standard. The new emission standards were promulgated after years of technical review of the capabilities of these new types of facilities, and they represent the best level of control that can be reasonably obtained.

Refuel's Chester facility has six combustion units, each less than 250 million BTUs per

hour in size. These units are designed such that their NOx emission levels are actually very low compared to many other waste to energy facilities but they're still higher than the proposed limit of .2 pounds per million BTU. We're not aware of anyone who has considered additional NOx control on units such as ours because the emission levels have been recognized to be already quite low for municipal solid waste combustion. In order to achieve the proposed limit, Refuel currently believes that the facility would require the installation of selective catalytic reduction, or SCR. No waste to energy facility in the US is equipped with SCR. In part because its cost has shown to be prohibitively expensive for such relatively small facilities. Our units are much smaller than fossil fuel units that typically use SCR. SCR units such as ours may also require flue gas reheating, presumably with natural gas which would be ironic, given the normal nature of our fuel. SCR is typically considered only for large dedicated power production facilities where economies of scale apply. Installing SCRs in a small 80 megawatt plant would be economically out of line with requirements for large fossil fuel power facilities. We've not yet had the opportunity to develop detailed cost estimates,

however, based upon general information, we believe that the cost of an SCR installation to be roughly equivalent to more than $10,000 per ton of NOx removed. Recall that one half of that cost would be the responsibility of one Pennsylvania county.

Overall we question the environmental benefit of imposing emission limits more stringent than recent maximum achievable control technology standards for NOx on waste energy. We believe that one size does not fit all with regard to emission reductions and emission standards. The Department should encourage energy production from a wide range of fuels, including waste. And should establish stringent, yet achievable, emission standards that are appropriate for each. Many large dedicated natural gas or oil fired plants require little or no add-on NOx control to achieve current limits. Those that do require add-on control have the appropriate economies of scale. However, this rule would likely require the most expensive control technology available on waste to energy plants that produce a fraction of the electricity that the large fossil plants do, penalizing them and the communities that use them for providing an alternative local energy source. While we recognize the ozone season is the goal of the

proposal it should not be viewed in isolation from the other unique environmental benefits and purposes of waste energy. These include reductions in landfill space, the reduction of fossil fuel use and reduction of greenhouse gas emissions.

Thank you for the opportunity to comment. We will be submitting more detailed comments by the close of the comment period and I'll be happy to take any questions.

MS. CARLINI:

Okay. Derek, you were going to testify on behalf of the association?

MR. GRASSO

Yeah. Let me get that.

MS. CARLINI:

You might as well stay and ---.

MR. GRASSO:

Sure.

MS. CARLINI:

Now that you have the seat warm.

MR. GRASSO:

This is on behalf of the Integrated Waste Services Association. I spoke earlier to provide an overview of our company, American Refuel's comments concerning the Department's proposed rulemaking. I

now wish to testify on behalf of the Integrated Waste Services Association or IWSA.

The IWSA represents 68 waste energy facilities around the country, including the five facilities that convert Pennsylvania's trash into clean, renewable power. Refuel is a member of the IWSA. In addition to Refuel, IWSA members also include Cobanta Energy Company, Montaney Power Corporation and Willa-Brater (phonetic) Technologies as well as more than 25 municipalities that have certified waste energy plants and several dozen other organizations that work in the waste energy field.

IWSA members own and/or operate the five waste energy plants in Pennsylvania. US EPA recently released a comprehensive inventory of emissions from all waste energy facilities in the country documenting a dramatic, and in EPAs own words, outstanding reduction in air emissions from waste energy facilities due to the facilities' compliance with the new Cleaner Act Standards. The industry and their municipal partners spent more than one billion dollars to equip every large unit facility with state of the art emission control equipment. Large unit facilities represent more than 90 percent of the national capacity. Small unit facilities currently are

completing a similar retrofit of existing plants that will be completed by 2005.

It is important to stress that the New Cleaner Act Standards required EPA to analyze and make a determination of what constitutes that state of the art in pollution control. Such an analysis resulted in the promulgation of some of the toughest standards in the world for waste energy facilities. Municipal governments have made a significant investment to meet these standards, but by all accounts the money was well spent. Equipping facilities with the most modern pollution control resulted in significant pollutant emission reductions including a greater than 90 percent reduction in emissions for several facilities. EPA facility operators realize that NOx emissions can be lowered only to a certain level in waste energy facilities because of the inherent inefficiency of the fuel and poor design. These limitations, and the fact that our facilities are not significant sources of NOx, speak against the imposition of additional controls on waste energy facilities.

Waste energy is already required to meet stringent NOx emission rules. Addition pollution control equipment has not been determined to be technically viable on the basis used at these

facilities and the cost of experimenting to determine if emissions may be lowered, would be extremely costly after a significant amount of money has already been spent to modernize the plants. As I mentioned in my earlier testimony, waste energy boilers are not designed and are not operated in the same manner as fossil fuel units because their fundamental purpose is different. Their primary purpose is the effective destruction of relatively heterogeneous, wet municipal solid waste. These boilers do not have access to NOx control options that are available to many fossil fuel units, such as low NOx burners, fuel switching or low curtailment. The IWSA and its members would be pleased to work with the Department to determine the most effective method to control NOx emissions. The industry has proven its commitment to environmental improvements. We ask only that the regulators investigate and impose fair rules that maximize the environmental benefit by properly balancing all aspects of waste energy. Those benefits include the reduction of greenhouse gases that are released into our atmosphere, providing fuel diversity for energy consumers, lowering the environmental impacts associated with trash management and providing a dual benefit of clean, safe, trash disposal and renewable

energy generation. Thank you for your time today.

MS. CARLINI:

Thank you. Did you want to give us copies?

MR. GRASSO:

Is it all right if I e-mail them to the appropriate person tomorrow? There were some 11th hour changes to this.

MS. CARLINI:

Sure. Tim Hartman.

MR. HARTMAN:

Good afternoon and thank you for this opportunity to speak with you today. My name is Tim Hartman, H-A-R-T-M-A-N. I'm the Executive Director of the Waste System Authority of Eastern Montgomery County. The office is located at 151 West Marshall Street, Building #3, Suite 100, Norristown, Pennsylvania 19401.

I am speaking on behalf of the Board of Directors of the Waste System Authority of Eastern Montgomery County. As the public sector partner of Montenay's waste to energy project in Plymouth Township, Pennsylvania, the Authority pays approximately 90 percent the cost of operating this facility and will so for the duration of our service

agreement which ends December 31st, 2014. Any additional project costs resulting from the proposed regulations fall squarely on the Authority, its 22 member municipalities, their residents and businesses. Late last week we were notified by Montenay Montgomery Limited Partnership that the proposed regulations might apply to the Montgomery County Resource Recovery Facility.

Earlier it was my understanding that the proposed regulations were not intended to cover waste to energy facilities. It is also my understanding that the Air Quality Technical Advisory Committee did not contact waste to energy facilities as part of their evaluation of the proposed rulemaking.

Under Section 111(d) 129 of the Clean Air Act the Environmental Protection Agency promulgated Emission Guidelines to control the emission of combustor gases of existing large municipal waste combustors. The Guidelines are codified in 40 CFR Part 60, Subpart Cb. These guidelines comprehensively regulate emissions of specific pollutants, including NOx, for all large waste to energy facilities constructed on or before September 20th, 1994 in the United States. In 1998 the Pennsylvania Department of Environmental Protection submitted a state plan for

large waste to energy facilities to EPA. In accordance with the plan, the Department has implemented the Emission Guidelines by incorporating the applicable requirement of 40 CFR Part 60, Subpart Cb into Federally Enforceable State Operating Permits. Years of effort were expended by the Department personnel and industry representatives to develop fair limits consistent with the federal guidelines issued by EPA. The Waste System Authority of Eastern Montgomery County and Montenay have been proactive in our operation of the resource recovery facility regarding the reduction of NOx. The Authority has spent in excess of $1.7 million to install a NOx reduction system to comply with 40 CFR Part 60, Subpart Cb. Our NOx reduction system has been operating continuously since 1999. In addition, due to the existing market for emission reduction credits, Montenay and the Authority have been investigating the over control of NOx below the existing permit limits. The proposed rule would undermine our efforts to control beyond the permit limits for all 12 months of the year.

In our view, the Department should amend these proposed regulations to exclude the existing waste to energy facilities that are subject to the

federal and state implemented Emission Guidelines.

Thank you, again, for this opportunity to address the panel.

MS. CARLINI:

Is there anyone else who would like to give testimony?

In that case I hereby adjourn this hearing. It's 1:30.

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HEARING CONCLUDED AT 1:30 P.M.

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C E R T I F I C A T E

I HEREBY CERTIFY THAT THE FOREGOING PROCEEDINGS WERE REPORTED STENOGRAPHICALLY BY ME AND THEREAFTER REDUCED TO TYPEWRITING AND THAT THIS TRANSCRIPT IS A TRUE AND ACCURATE RECORD THEREOF.

SARGENT'S COURT REPORTING SERVICE, INC.

COURT REPORTER

(Conshohocken Hearing)

Comments on Proposed Rulemaking
to amend 25 PA Code Chapters 121, 129 and 145
Small Sources of NOx Cement Kilns and large Internal Combustion Engines

Public Hearing held at the
Department of Environmental Protection
Southeast Regional Office
Conshohocken, PA

Original: 2302

November 25, 2002

My name is Tim Hartman, Executive Director of the Waste System Authority of Eastern Montgomery County, located at 151 West Marshall St., Bldg. #3, Suite #100, Norristown, PA 19401.

I am speaking on behalf of the Board of Directors of the Waste System Authority of Eastern Montgomery County. As the public sector partner of Montenay's waste to energy project in Plymouth Township, the Authority pays approximately 90% of the cost of operating this Facility for the duration of our service agreement, which ends on December 31, 2014. Additional project costs resulting from the proposed regulations fall on the Authority, its twenty-two member municipalities, their residents and businesses. Late last week, we were notified by Montenay Montgomery Limited Partnership, that the proposed regulations might apply to the Montgomery County Resource Recovery Facility.

It is my understanding that the proposed regulations were not intended to cover waste-to-energy facilities. It is also my understanding that the Air Quality Technical Advisory Committee did not contact waste-to-energy facilities as part of their evaluation of the proposed rulemaking.

Under section 111(d)/129 of the Clean Air Act, the Environmental Protection Agency (EPA) promulgated Emission Guidelines to control the emission of combustor gases from existing large municipal waste combustors (December 19, 1995 and August 15, 1997). The guidelines are codified at 40 CFR Part 60, Subpart Cb. These guidelines comprehensively regulate emissions of specific pollutants, including NOx, for all large (capable of combusting more than 250 tons per day) waste-to-energy facilities constructed on or before September 20, 1994 in the United States. In 1998, the Pennsylvania Department of Environmental Protection submitted a State Plan for large waste-to-energy facilities to EPA. In accordance with the Plan, the Department has implemented the Emission Guidelines by incorporating the applicable requirement of 40 CFR Part 60, Subpart Cb into Federally Enforceable State Operating Permits. Years of effort were expended by Department personnel and industry representatives to develop fair limits consistent with federal guidelines issued by the EPA.

The Waste System Authority of Eastern Montgomery County and Montenay have been proactive in our operation of the resource recovery facility regarding the reduction of NOx. The Authority has spent in excess of $1.7 million to install a NOx reduction system to comply with 40 CFR Part 60, Subpart Cb. Our NOx reduction system has been operating continuously since 1999. In addition, due to the existing market for emission reduction credits (ERC's), Montenay and the Authority have been investigating the over control of NOx below the existing permit limits. The proposed rule would undermine our efforts to over control beyond the permit limits for all twelve (12) months of the year.

In our view, the Department should amend these proposed regulations to exclude the existing waste-to-energy facilities that are subject to the federal and state-implemented Emission Guidelines.

Original: 2302

Comments of Six Natural Gas Pipeline Companies on
Proposed Amendments to Pennsylvania Chapter 129 and Chapter 145
NOx Emissions Control Requirements for Stationary IC Engines

Good afternoon. My name is Mike Hoffman. I am testifying today on behalf of my company, NiSource. In these comments I also represent five other natural gas pipeline companies: El Paso Corporation, Williams Gas Pipelines, Duke Energy Corporation, National Fuel Gas Supply Corporation, and Dominion Transmission. Our companies operate natural gas stationary reciprocating IC engines to pump natural gas through our pipeline systems to residential, commercial, industrial and electrical generation customers in Pennsylvania and other states in the Northeast. We appreciate the opportunity to speak to the Environmental Quality Board about the proposed amendments to Pennsylvania Code Chapters 129 and 145 that would mandate a second round of retrofit NOx controls on the gas pipeline engines we operate in Pennsylvania.

We have three main areas of concern about the proposed amendments:

First, there are significant mistakes and other problems with the DEP regulatory analysis that prevent it from being acceptable as justification for the proposed regulations;

Second, based on our experience with NOx control for gas IC engines, we believe that the proposed NOx limits are technically infeasible; and,

Lastly, a number of the provisions in the proposed regulations will place an unnecessary compliance burden on the operators of stationary IC engines.

First, I would like to discuss problems with the DEP regulatory analysis.

There are three serious mistakes in the Regulatory Analysis Form prepared by the Department of Environmental Protection (DEP). First, it does not take into account that

the engines that will be impacted have already installed retrofit NOx controls. This means that there is little additional NOx reduction to be gained by the proposed rules, and that the cost-per-ton estimates are wrong. Second, the regulatory analysis for the Chapter 145 proposal is premature in that it is based on an EPA proposal, not a final EPA regulation. Finally, the regulatory analysis mistakes EPA's estimate of *average* control effectiveness with a compliance emission *limit*.

Each of the seventeen gas transmission engines in the five-county Philadelphia nonattainment area, and Pennsylvania's ten "large" engines listed by EPA in the NOx SIP Call Inventory, have installed NOx controls since 1995 under Pennsylvania's NOx RACT rules. As I will discuss later in these comments, it is not technically feasible for all engines to meet the NOx emission levels proposed in these amendments. But even if it were possible to achieve additional control, most of the NOx reduction from these sources has already happened.

For example, an engine that was at 27 grams per brake horsepower-hour in 1990 is now controlled to around 3 grams per brake horsepower-hour. There is little incremental reduction available now in forcing the engine to 1.5 g/bhp-hr. Such an incremental reduction would be about 6% of the total reduction already achieved. For the Chapter 129 proposal this means that there is little potential contribution from the engine population in helping Pennsylvania meet the small NOx shortfall in the Philadelphia nonattainment area SIP.

For the Chapter 145 proposal, the presence of NOx controls on engines which EPA counted as uncontrolled means that it is likely that no additional statewide engine NOx controls are necessary to meet EPA requirements. Finally, we question whether it is reasonable or equitable to require two successive rounds of NOx control for IC engines.

Our next major point is that we believe that it is both unwise and against Pennsylvania regulatory policy to justify the proposed amendments to Chapter 145 with a regulatory analysis based only on an EPA proposal, rather than on an EPA final regulation. DEP's

regulatory analysis depends only on the proposal issued by EPA in February 2002, and does not address two significant actions that EPA has taken since publishing the proposal.

To respond to comments on its proposal, EPA requested states provide additional information on the effectiveness of retrofit NOx controls installed on lean-burn engines. This information has now been placed in EPA's rulemaking docket. This information is relevant to the number that EPA adopts for the average control effectiveness used in calculating the engine portion of state NOx budgets. In its proposal EPA indicated that it would select a number in the range of 1.5 to 3.0 g/bhp-hr. The docket material appears to support a number at the higher end of this range.

A second development is that in August 2002, EPA issued a guidance memorandum on the content of state rules for engines submitted to EPA as a part of the NOx SIP Call. In its memorandum EPA states:

> "Where States choose to regulate large IC engines, EPA encourages the States to allow owners and operators of large IC engines the flexibility to achieve the NOx tons per season reductions by selecting from among a variety of technologies or a combination of technologies applied to various sizes and types of IC engines."

Except for the provision for limited averaging, the proposed amendments are inflexible in requiring all affected engines to meet a single emission limit. The Pennsylvania proposal even removes the flexibility in the OTC model rules, which allowed emission trading.

Our final point of concern with the DEP regulatory analysis is that it mistakes EPA's estimate of the *average* effectiveness of retrofit NOx control for a NOx emission *limit*. EPA is calculating a NOx budget, not writing an engine control regulation. The difference is that for an *average*, roughly half of the engines will be above or below the estimate. An emission limit is far more stringent, in that *all* engines will have to be below the number. In this regard the EPA number is significantly less stringent than the Chapter 145 proposal.

To sum up our comments about the regulatory justification for the Chapter 129 and Chapter 145 proposals:

- At this point DEP does not know the final NOx SIP Call Budget for Pennsylvania;
- DEP does not know the average percent NOx reduction from engines that will be used by EPA in calculating the engine budgets;
- DEP has confused EPA's average NOx reduction figure with a compliance limit; and,
- DEP has proposed a program that is inconsistent with the flexible approach advocated by EPA's recent guidance.

I would like to turn now to the second section of my comments: our concern that the proposed NOx limits are not technically feasible for all engines.

In these proposed amendments, DEP has neither presented data showing that the NOx limits envisioned by the Chapter 129 and 145 amendments are technically feasible, nor countered previous statements of industry concerns about such technical feasibility. Industry presented concerns about technical feasibility of these limits in May 2002. The AQTAC has also asked DEP to address this area. The proposed amendments, however, are not accompanied by any technical data or analysis of technical feasibility, nor is the presumed control technology for compliance identified.

Our second point regarding the technical feasibility of the proposed NOx control levels is that these levels are significantly more stringent than any level that could be derived from EPA's assessments of engine NOx controls. As discussed above, we believe that because of the additional docket data, it is likely that EPA will select 3 g/bhp-hr or another number at the high end of the range as the average for NOx control effectiveness. This is significantly less stringent than the 1.5 g/bhp-hr number proposed by DEP. Secondly, as discussed previously, an average is not as stringent as an emission limit. The DEP NOx limits are therefore significantly more stringent than what will be required by the U.S. EPA.

Our third point regarding technical feasibility is that it is unreasonable to expect additional NOx control when the control technology to be used is the same as that already installed on the affected engines. EPA has taken the position, with which we agree, that the lean-burn engine retrofit control technology to be used in the NOx SIP Call is low emission combustion (LEC). This is the same technology that was used by most of the RACT-controlled engines in Pennsylvania. EPA has found that SCR technology, contemplated in the original NOx SIP Call regulation in 1998, may work on diesels or constant-load modern engines used in electric generation, but that SCR has not been demonstrated on load-following pipeline engines. At this point there is no technical basis identified by DEP showing that existing pipeline engines can achieve 1.5 g/bhp-hr.

The central technical feature of IC engines NOx control is the significant variability in the NOx emissions between various engine subcategories, between various makes and models of engines, and even between similar engine models. This variability extends to both uncontrolled emission rates and the effectiveness of various NOx control retrofits. Because of this variability, there is little technical basis for adopting a single stringent NOx emission limit with the expectation that it can be achieved by all affected engines. This is the rationale for the flexible approach recommended by EPA.

We note that the Chapter 129 amendments set a single control level for spark-ignited gas engines, without differentiating between rich-burn and lean-burn engines. These subcategories require distinctly different control technologies.

In summary, we urge Pennsylvania not to attempt to adopt the proposed NOx limits without further investigation as to their technical feasibility. We recommend that any additional engine control measures, if truly needed, adopt the flexible approach recommended by EPA, focus on reduction of NOx tons rather than apply a single emission rate to all engines, and take into account pre-existing NOx RACT controls on IC engines. If DEP does decide to propose IC engine NOx limits, these should be based on an assessment of the control technologies to be used aligned with the principal engine subcategories to be controlled.

We also believe that final action now on these proposals, in the absence of the EPA regulation, would represent a violation of Pennsylvania's requirement that control measures be no more stringent that those required by the Clean Air Act.

I now turn to our last point: we feel that there are a number of the provisions in the proposed regulations which place an unnecessary compliance burden on the operators of stationary IC engines.

Our experience with natural gas transmission engines is that there is significant variability in the NOx emissions between various engine subcategories, between various makes and models of engines, and even between similar engine models. The variability extends to both uncontrolled emission rates and the effectiveness of various NOx control retrofit.

Because of this variability there is little technical basis for adopting a single stringent NOx emission limit with the expectation that it can be achieved by all affected engines. A single NOx limit for these rules is the principle source of unnecessary compliance burden in the proposed amendments.

The amendments proposed by Pennsylvania are inconsistent with recent EPA guidance related to state measures to reduce NOx from stationary reciprocating IC engines. In August 2002, EPA issued implementation guidance related to Phase II of the NOx SIP Call. This guidance recognized the difficulty in setting a single compliance target for the existing heterogeneous population of spark-ignited engines, and recommended that states focus on obtaining a NOx tonnage reduction rather than trying to make all affected engines achieve a single NOx limit.

EPA's memorandum stated that:

> "...individual engines or engine models may respond differently to control equipment,"

Because of the inherent variability of engine NOx emissions, EPA encourages states to,

> "Allow owners or operators of large IC engines the flexibility to achieve the NOx ton per season reductions by selecting from among a variety of technologies or a combination of technologies applied to various sizes and types of IC engines,"

The AQTAC also requested that DEP address the issue of flexibility. Our industry also urges Pennsylvania to incorporate this flexible approach in any additional measures for NOx control from IC engines. The DEP proposals as they now stand, however, would set a single NOx compliance level for all affected spark-ignited engines, whether or not the compliance level is actually achievable for that engine.

Another area of unnecessary compliance burden in the proposed amendments is the requirement in Section 145.114 that compliance using averaging must be demonstrated with a Continuous Emissions Monitoring System, known as a "CEMS". This is in conflict with EPA's August guidance letter, which states that periodic monitoring or predictive emissions monitoring can be sufficient to demonstrate compliance. Also, CEM systems are very expensive, and frequently unreliable. In rough numbers, the capital cost of a single CEMS is more than $150,000, with operating costs greater than $50,000 per year. We are not aware of any IC engines in Pennsylvania that are required to have CEMS, or of any other source category of comparable size to the IC engine category that has such a burdensome requirement. Further, at a recent presentation, DEP and the EPA categorically emphasized the fact that CEMs would not be mandatory for sources subject to the Compliance Assurance and Monitoring (CAM) rules. Rather, the DEP and EPA expect companies to ensure compliance through parametric methods. It should also be understood that the IC engines are not part of the Cap and Trade program and hence the use of CEMs for compliance demonstration would be unwarranted. Compliance can be demonstrated through alternate methods already established as part of

current RACT rules (Part 127) or established parametric methods employed by IC engine operators.

There are three other key areas of unnecessary compliance burden that need to be changed in the proposed amendments:

First, the uncertainty associated with the applicability criteria;

Second, permitting issues; and

Third, the schedule for compliance.

The language in Section 145.111 that an engine is included if it exceeded the NOx tonnage threshold during the ozone season in 1995, *or during any year thereafter,* is a problem because it introduces uncertainty into a technical decision. To have the applicability base constantly changing would severely hamper a company's ability to strategically plan retrofit control activities. Also, the proposed rules do not specify the compliance deadlines for newly affected engines, and these deadlines may trigger this applicability criteria in some future year.

Retrofit NOx control installations are not only expensive, but they also represent an administrative burden. Permitting requirements add months to the time needed to install controls. We urge Pennsylvania to streamline state permitting requirements for facilities that are required to install retrofit NOx controls. As pollution control projects, these permit actions should also be exempt from EPA's major New Source Review. NSR review is expensive and can increase the time required to comply with emission reductions by more than a year. In its August 2002 guidance letter, EPA said that installation of combustion modification technology on natural gas-fired engines can be *presumed to be environmentally beneficial,* and therefore such a modification may exempt the engine from undergoing NSR review.

My final area of comment concerns the proposed compliance schedule. A compliance deadline of May 2005 would represent about a two-year period from the date that these

amendments would become effective. There are a number of reasons why this schedule is not realistic:

First, these retrofits are not "off the shelf" technology. In each case, the installation of retrofit controls requires site-specific engineering design followed by solicitation of bids.

Second, there is the inevitable time required to apply for and receive construction permits. Our experience with the regional offices is that the department is not meeting its money back guarantee program deadlines of six months for minor construction permits and two years for major modifications.

Third, there is the time needed to actually install and test the NOx control system and other needed modifications to the facility.

For natural gas pipelines there are also other industry-specific problems. First, during some periods of the year, demand for gas simply does not allow us to schedule units to be off-line. In addition, FERC and the PUC require pipelines to provide reliable service of clean burning natural gas for the gas-fired electric generating plants. Second, there are a limited number of experienced vendors capable of installing NOx control systems on older 2-stroke and 4-stroke integral engines. Our previous experience with RACT showed that a three- to four-year schedule is required for installing retrofit NOx controls.

Again, I appreciate the opportunity to speak to the Environmental Quality Board about the proposed amendments to Pennsylvania Code Chapters 129 and 145 regarding NOx emissions from natural gas-fired stationary internal combustion engines. I look forward to amplifying these remarks in a later submission of written comments, and to answering any questions you may have.

Original: 2302

ENVIRONMENTAL QUALITY BOARD

IN RE: PROPOSED AMENDMENTS TO PENNSYLVANIA'S AIR QUALITY REGULATIONS AND THE STATE IMPLEMENTATION PLAN

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PUBLIC HEARING

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BEFORE: WILLIAM CHARLTON, Chair
Terry Black, Member
Dean Van Orden, Member

HEARING: Wednesday,
November 20, 2002
1:03 p.m.

LOCATION: DEP Southwest Regional Office
500 Waterfront Drive
Pittsburgh, PA

WITNESSES: Steve Burkett

Reporter: Toni Dinardo

I N D E X

E X H I B I T S

Number	Description	Page Offered
	NONE OFFERED	

P R O C E E D I N G S

CHAIR:

I would like to welcome you to this Environmental Quality Board Public Hearing on proposed amendments to Pennsylvania's air quality Regulations and the State Implementation Plan.

My name is William Charlton, and I am the New Source Review Section Chief for the Department of Environmental Protection in the Pittsburgh Regional Office. Due to the unavailability of any Environmental Quality Board member to attend today, I will be chairing this public hearing.

With me this afternoon from the Department of Environmental Protection are Dean Van Orden, Chief of the Stationary Sources Section with the Bureau of Air Quality, and Terry Black, Chief of the Regulation and Policy Development Section, also with the Bureau of Air Quality.

The proposed rulemaking upon which we will be hearing testimony today is a two-part rule that would establish additional ozone

season control requirements in Chapter 129 and new ozone season requirements in Chapter 145 of Title 25 of the Pennsylvania Code. The proposed rulemaking would reduce emissions of nitrogen oxides from small sources of nitrogen oxides in Bucks, Chester, Delaware, Montgomery and Philadelphia Counties and from large stationary internal combustion engines ad cement kilns across Pennsylvania.

The proposed amendments for small NOx sources in Chapter 129 are based on model rules developed by the Ozone Transport Commission to achieve and maintain the health-based one-hour ozone standard. The amendments are consistent with recommendations of the Southeast Pennsylvania Ozone Stakeholders Working Group and propose a compliance date of May 1st of 2005.

The proposed amendments for the large stationary internal combustion engines and cement kilns in Chapter 145 are based upon proposals and models developed by the Environmental Protection Agency to reduce ozone transport throughout the eastern United States under the NOx State Implementation Plan Call,

commonly referred to as the NOx SIP Call. The proposed rulemaking represents Pennsylvania's fair share in reducing transported air pollution and also proposes a compliance date of May 1st of 2005.

The regulations, if approved, will be submitted to the EPA as a revision to the State Implementation Plan. The SIP, which is a requirement of the Clean Air Act, is a plan that provides for the implementation, maintenance and enforcement of the National Ambient Air Quality Standards in Pennsylvania.

Notice of the EQB's proposal was published in the Pennsylvania Bulletin on October 19th of 2002, with a public comment period that is scheduled to close on December 26th of 2002. Notice of this proposed rulemaking was also published in various newspapers across the state. In addition to this hearing today, a public hearing was held last Monday in DEP's Southcentral Regional Office in Harrisburg, and another hearing is also scheduled for next Monday, November 25th, in the DEP's Southeast Regional Office in Conshohocken.

In order to give everyone an opportunity to comment on this proposal, I would like to establish the following ground rules. I will first call upon the witnesses who have pre-registered to testify at today's hearing as included on the schedule of witnesses. After hearing from these witnesses, I will provide any other interested parties with the opportunity to testify as time allows.

Oral testimony is limited to five minutes for each witness. Organizations are requested to designate one witness to present testimony on its behalf. Each witness is asked to submit three written copies of his or her testimony to aid in transcribing the hearing. Please provide your copies prior to presenting your testimony.

Please state your name and address for the record, prior to presenting your testimony. We would also appreciate your help in spelling names and terms that may not be generally familiar so that the transcript can be as accurate as possible.

Interested persons may submit written comments in addition to or in place of

oral testimony presented here. All comments must be received by the Environmental Quality Board by December 26th of 2002. Comments should be addressed to the Environmental Quality Board, Post Office Box 8477, Harrisburg, PA, 17105-8477. Comments can also be e-mailed to RegComments, that's R-E-G-C-O-M-M-E-N-T-S, @state.pa.us.

All comments received at today's hearing and in writing by December 26th of 2002 will be considered by the Environmental Quality Board and become part of a comment/response document prepared for the EQB's review prior to taking final action on this regulation.

Anyone interested in a transcript of this hearing may contact the reporter here to arrange to purchase a copy.

I will now call the first witness. Is Dave Henzel present? Is Steve Burkett present?

MR. BURKETT:

Here.

CHAIR:

Would you please present your testimony to us at this time.

MR. BURKETT:

Thank you. My name's Steve Burkett and I'm employed by Dominion Energy. Their address is 625 Liberty Avenue, Pittsburgh, Pennsylvania. The ZIP is 15241. I'm testifying today on behalf of my company, Dominion Transmission. In these comments I'm also representing five other natural gas pipeline companies, El Paso Corporation, Williams Gas Pipelines, Duke Energy Corporation, National Fuel Gas Supply Corporation and NiSource.

Our companies operate national gas stationary reciprocating internal combustion engines to pump natural gas through our pipeline systems to residential, commercial, industrial and electrical generation customers in Pennsylvania and other states in the Northeast. We appreciate the opportunity to speak to the Environmental Quality Board today about the proposed amendments to Pennsylvania Code Chapters 129 and 145 that would mandate a second route of retrofit NOx controls on the gas pipeline engines we operate in Pennsylvania.

We have three main concerns about the proposed amendments. First, there are

significant mistakes and other problems with the DEP regulatory analysis that prevent it from being acceptable as justification for the proposed regulations. Second, based on our experience with NOx control for gas IC engines, we believe that the proposed NOx limits are technically infeasible. And lastly, a number of the provisions in the proposed regulations will place an unnecessary compliance burden on the operators of stationary IC engines.

First, I would like to discuss the problems with the DEP regulatory analysis. There are three serious mistakes in the Regulatory Analysis Form prepared by the DEP. First, it does not take into account that the engines that will be impacted have already installed retrofit NOx controls. This means that there is little additional NOx reduction to be gained from the proposed rules and that the cost-per-ton estimates are wrong.

Second, the regulatory analysis for the Chapter 145 proposal is premature in that it is based on an EPA proposal, not a final EPA regulation. Finally, the regulatory analysis mistakes EPA's estimate of average control

effectiveness with a compliance emission limit.

Each of the 17 gas transmission engines in the five-county Philadelphia nonattainment area and Pennsylvania's ten large engines listed by EPA in the NOx SIP Call Inventory have installed NOx controls since 1995 under Pennsylvania's NOx RACT rules. As I will discuss later in these comments, it is not technically feasible for all engines to meet the NOx emission levels proposed in these amendments. But even if it were possible to achieve the additional control, most of the NOx reduction from these sources has already happened.

For example, an engine that was at 27 grams per brake horsepower-hour in 1990 is now controlled to around three grams per brake horsepower-hour. There is little incremental reduction available now in forcing the engine down to 1.5 grams per brake horsepower-hour. Such an incremental reduction would be about six percent of the total reduction that's already been achieved. For the Chapter 29 proposal, this means that there is little potential contribution from the engine population in

helping Pennsylvania meet the small NOx shortfall in the Philadelphia nonattainment area State Implementation Plan.

For the Chapter 145 proposal, the presence of NOx controls on engines which EPA counted as uncontrolled means that it is likely that no additional statewide engine NOx controls are necessary to meet EPA's requirements. Finally, we questions whether it is reasonable or equitable to require two successive rounds of NOx controls for IC engines.

Our major point is that we believe that it is both unwise and against Pennsylvania's regulatory policy to justify the proposed amendments to Chapter 145 with a regulatory analysis based only on an EPA proposal, rather than on an EPA final regulation. DEP's regulatory analysis depends only on the proposed issued by EPA in February of 2002, and does not address two significant actions that EPA has taken since publishing the proposal.

To respond to the comments on its proposal, EPA requested states provide additional information on the effectiveness of

retrofit NOx controls installed on lean-burn engines. This information has now been placed in EPA's rulemaking docket. This information is relevant to the number of EPA adopts for the average control effectiveness used in calculating the engine portion of state NOx budgets. In its proposal EPA indicated that is would select a number in the range of one and a half to three grams per grams per brake horsepower-hour. The docket material appears to support a number at the higher end of this range.

A second development is that in August 2002, EPA issued a guidance memorandum on the content of the state rules for engines submitted to EPA as a part of the NOx SIP Call. In the memorandum EPA states, where states choose to regulate large IC engines, EPA encourages the states to allow owners and operators of large IC engines the flexibility to achieve the NOx tons per season reductions by selecting from among a variety of technologies or a combination of technologies applied to various sizes and types of IC engines.

Except for the provision for

limited averaging, the proposed amendments are inflexible in requiring that all affected engines meet a single emission limit. The Pennsylvania proposal even removes the flexibility in the OTC model rules, which allowed emission trading.

Our final point of concern with the regulatory analysis is that it mistakes EPA's estimate of the average effectiveness of NOx control for a NOx emission limit. EPA is calculating a NOx budget, and not writing an engine control regulation. The difference is that for an average, roughly half of the engines will be above or below the estimate. An emission limit is far more stringent, in that all engines will have to be below the number. In this regard the EPA number is significantly less stringent than the Chapter 145 proposal.

To sum up our comments about the regulatory justification from the Chapter 129 and Chapter 145 proposals, at this point DEP does not know the final NOx SIP Call Budget for Pennsylvania. DEP does not know the average percent NOx reduction from engines that will be used by EPA in calculating the engine budgets.

DEP has confused EPA's average NOx reduction figure with a compliance limit. And DEP has proposed a program that is inconsistent with the flexible approach advocated by EPA's recent guidance.

I would like to turn now to the second section of my comments, our concern that the proposed NOx limits are not technically feasible for all engines. In these proposed amendments, DEP has neither presented data showing that the NOx limits envisioned by the Chapter 129 and 145 amendments are technically feasible, nor countered previous statement of industry concerns about such technical feasibility. Industry presented concerns about our technical feasibility of these limits in May 2002.

The Air Quality Technical Advisory Committee has also asked DEP to address this area. The proposed amendments, however, are not accompanied by any technical data or analysis of technical feasibility, nor is the presumed control technology for compliance identified.

Our second point regarding the technical feasibility of the proposed NOx

control levels is that these levels are significantly more stringent than any level that could be derived from EPA's assessments of engine NOx controls. As discussed above, we believe that because of the additional docket data, it is likely that EPA will select three grams per brake horsepower-hour or some other number at the higher end of the range as the average for NOx control effectiveness. This is significantly less stringent than the 1.5 gram per horsepower-hour proposed by DEP. Secondly, as discussed previously, an average is not as stringent as an emission limit. The DEP NOx limits are therefore significantly more stringent than required by the U.S. EPA.

Our third point regarding technical feasibility is that is it unreasonable to expect additional NOx control when the control technology to be used is the same as that already in place on the affected engines. EPA has taken the position, with which we agree, that the lean-burn retrofit control technology be used in the NOx SIP Call is low emission combustion. This is the same technology that was used by most of the RACT-controlled engines

in Pennsylvania. EPA has found that selective catalytic reduction technology contemplated in the original NOx SIP Call regulation in 1998, may work on diesels or constant-load modern engines used in electric general, but that selective catalytic reduction has not be demonstrated on load-following pipeline engines. At this point there is no technical basis identified by DEP that shows that existing engines can achieve 1.5 grams per brake horsepower-hour.

The central technical feature of IC engines NOx control is significant variability in the NOx emissions between various engine subcategories, between various makes and models of engines, and even between similar engine models. This variability extends to both uncontrolled emissions rates and the effectiveness of various NOx control retrofits. Because of this variability, there is little technical basis for adopting a single stringent NOx emission limit with the expectation that it can be achieved by all affected engines. This is the rationale for the flexible approach recommend by EPA.

We note that in the Chapter 129 amendments set a single control level for spark-ignited gas engines, without differentiating between rich-burn and lean-burn engines. These subcategories require distinctly different control technologies.

In summary, we urge Pennsylvania not to adopt the proposed NOx limits without further investigation as to their technical feasibility. We recommend that any additional engine control measures, if truly needed, adopt the flexible approach recommended by EPA, focus on reduction of NOx tons rather than apply a single emission rate to all engines, and take into account pre-existing NOx RACT controls on IC engines. If DEP does decide to propose IC engine NOx limits, these should be based on an assessment of the control technologies to be used aligned with the principal engine subcategories to be controlled.

We also believe that final action now on these proposals, in the absence of the EPA regulation, would represent a violation of Pennsylvania's requirement that control measures be no more stringent than those required by the

Clean Air Act.

I now to our last point. We feel that there are a number of the provisions in the proposed regulations which place an unnecessary compliance burden on the operators of stationary IC engines.

Our experience with natural gas transmission engines is that there is significant variability in the NOx emissions between various engine subcategories, between various makes and models of engines, and even between similar engine models. The variability extends to both uncontrolled emission rates and the effectiveness of various NOx control retrofit.

Because of this variability there is little technical basis for adopting a single stringent NOx emission limit with the expectation that it can be achieved by all affected engines. A single NOx limit for these rules is the principal source of unnecessary compliance burden in the proposed amendments.

The amendments proposed by Pennsylvania are inconsistent with EPA's guidance related to state measures to reduce NOx

from stationary IC engines. In August 2002, EPA issued implementation guidance related to Phase II of the NOx SIP Call. This guidance recognized the difficulty in setting a single compliance target for the existing heterogeneous population of spark-ignited engines, and recommended that states focus on obtaining NOx tonnage reduction rather than trying to make all affected engines achieve a single NOx limit.

EPA's memorandum stated that, individual engines may respond differently to control equipment. Because of the inherent variability of engine NOx emissions, EPA encourages the states to, allow operators of large IC engines the flexibility to achieve the NOx ton per season reductions by selecting from a variety of technologies or a combination of technologies applied to various types and sizes of IC engines.

The Air Quality Technical Advisory Committee also requested that DEP address the issue of flexibility. Our industry also urges Pennsylvania to incorporate this flexible approach in any additional measures for NOx control from IC engines. The DEP proposals as

they now stand, however, would set a single NOx compliance level for all affected spark-ignited engines, whether or not the compliance level is actually achievable for that engine.

Another area of unnecessary compliance burden is the proposed amendments is the requirement in Section 145.114 that compliance using averaging must be demonstrated with a Continuous Emissions Monitoring System, also known as the CEMS. This is in conflict with EPA's August guidance letter, which states that periodic monitoring or predictive emissions monitoring may be sufficient to demonstrate compliance. Also, CEMS are very expensive, and frequently unreliable. In rough numbers, the capital cost of a single CEMS is more than $150,000, with operating costs greater than $50,000 per year. We're not aware of any IC engines in Pennsylvania that are required to have CEMS, or any other source category of comparable size to the IC engine category that has such a burdensome requirement.

Further, at a recent presentation, DEP and the EPA categorically emphasized the fact that CEMS would not be mandatory for

sources subject to the Compliance Assurance and Monitoring rules. Rather, the DEP and EPA expect companies to ensure compliance through parametric methods. It should be understood that the IC engines are not part of the Cap and Trade program and hence the use of CEMS for compliance demonstration would be unwarranted. Compliance can be demonstrated through alternative methods already established as part of current RACT rules, Part 127, or established parametric methods employed by the IC engine operators.

There are three other key areas of unnecessary compliance burden that need to be in the proposed amendments. First, the uncertainty associated with the applicability criteria, second, permitting issues and third, the schedule for compliance.

The language in Section 145.111 that an engine is --- it states that an engine is included if it exceeded the NOx tonnage threshold during the ozone season in 1995, or during any year thereafter, is a problem because it introduces uncertainty into a technical decision. To have the applicability base

constantly changing would severely hamper a company's ability to strategically plan retrofit control activities. Also, the proposed rules do not specify the compliance deadlines for newly affected engines, and these deadlines may trigger this applicability criteria in some future year.

Retrofit NOx control installations are not only expensive, but they also represent an administrative burden. Permitting requirements add months to the time needed to install controls. We urge Pennsylvania to streamline state permitting requirements for facilities that are required to install retrofit NOx controls. As pollution control projects, these permit actions should also be exempt from EPA's major New Source Review. New Source Review is expensive and can increase the time required to comply with emission reductions by more than one year. In its August 2002 guidance letter, EPA said that installation of combustion modification technology on natural gas-fired engines can be presumed to be environmentally beneficial, and therefore such a modification may exempt the engine from undergoing New Source

Review.

My final area of comment concerns the proposed compliance schedule. A compliance deadline of May 2005 would present about a two-year period from the date that these amendments would become effective. There are a number of reasons why this schedule is not realistic.

First, the retrofits are not off the shelf technology. In each case, the installation of retrofit controls require site-specific engineering design followed by solicitation of bids.

Second, there is the inevitable time required to apply for and receive construction permits. Our experience with the regional offices is that the department is not meeting its money back guarantee deadlines for six months for minor construction permits and two years for major modifications.

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during some periods of the year, demand for gas simply does not allow us to schedule units to be off-line. In addition, the Federal Energy Regulatory Commission and Public Utility Commission require pipelines to provide reliable service of clean burning natural gas for the gas-fired electric generating plants. Second, there are a limited number of experienced vendors capable of installing NOx control systems on older two-stroke and four-stroke integral engines. Our previous experience with RACT showed that a three to four-year schedule is required by installing retrofit NOx controls.

I appreciate the opportunity to speak to the Environmental Quality Board about the proposed amendments to Pennsylvania Code Chapters 129 and 145 regarding NOx emissions from gas-fired stationary internal combustion engines. And we look forward to amplifying these remarks in a later submission of written comments. And I'd be glad to address any questions you have at this time.

CHAIR:

Is Steve Wright present?

MR. WRIGHT:

Yes, but I'm just here as an interested party.

CHAIR:

Okay. Is there anyone else who would care to give testimony present today? Everyone pre-registered or present having had the opportunity to testify and there being no additional testimony to be offered, I hereby adjourn this meeting at 1:32 p.m.

* * * * * * * *

HEARING CONCLUDED AT 1:32 P.M.

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C E R T I F I C A T E

I HEREBY CERTIFY THAT THE FOREGOING PROCEEDINGS WERE REPORTED STENOGRAPHICALLY BY ME AND THEREAFTER REDUCED TO TYPEWRITING AND THAT THIS TRANSCRIPT IS A TRUE AND ACCURATE RECORD THEREOF.

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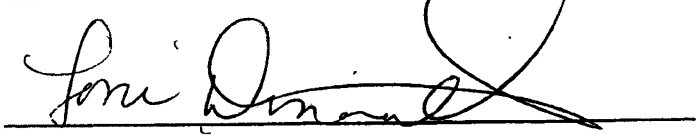

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