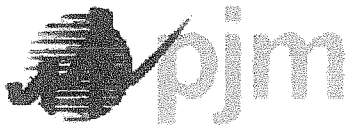
Attachment 1

PJM Letter Dated February 14, 2011

(EPA-HQ-OAR-2008-0708-813)



February 14, 2011

Ms. Melanie King
Energy Strategies Group
Sector Policies and Programs Division
USEPA (D243-01)
RTP, NC 27711

Re: Docket ID No. EPA-HQ-OAR-2008-0708

Dear Ms. King,

PJM Interconnection, L.L.C. (PJM) provides these written comments as a supplement to the testimony it provided at the EPA's public hearing held in Raleigh, North Carolina on January 13, 2011. PJM is the Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Operator (RTO) that administers the electricity grid in the Mid-Atlantic region. PJM is an independent entity with no economic or other ties to any market participants, including owners of generation, in the PJM region. The PJM region includes all or part of 13 states plus the District of Columbia. PJM's members meet the electricity needs of the 51 million people who live and work in the PJM region. PJM's obligation as an RTO includes coordination of the region's 90,520 kilometers of transmission lines, 164,905 MW of generating capacity and 9,052 MW of committed load reduction capability ("Load Management").

PJM's role includes: reliable operation of the region's bulk power system, transparent administration of the competitive markets that comprise wholesale electricity service, and transmission planning. PJM's markets are designed to recognize the important role that Demand Response resources can provide both as a capacity resource and as a means to reduce energy demand in response to peak conditions or prices.

PJM appreciates the opportunity to comment and wishes to serve as an information resource to the EPA. Moreover, PJM appreciates the EPA's recognition that some type of emergency operations exemption to the compliance rules for stationary reciprocating internal combustion engines ("RICE units") is appropriate to recognize the role that these units play in responding to system emergencies. The purpose of these comments is provide information about PJM's emergency procedures as they apply to Load Management resources and to address the impact of 40 CFR Part 63.6640(f)(4). This provision of the EPA's regulations limits to 15 hours per year the operation of RICE units for emergency purposes. In short, to the extent that the 15 hour limitation was intended to recognize that an exception should be available for these units to run in emergency conditions, the limitation is too narrow to enable

effective use of these units in times of emergency at the bulk power level. PJM's position is explained below.[1]

At the outset PJM wishes to emphasize that its role is limited to administering the bulk power system (generally 138KV and above) and in dispatching generation directly tied to that system. By contrast, many of the "RICE" units are tied to the grid at a lower voltage level and therefore considered "behind the meter" generation not directly available as resources dispatchable by PJM. Nevertheless, these units do play a role in a portfolio of resources aggregated by a Curtailment Service Provider ("CSP") to provide emergency demand response to PJM. A load serving entity such as a municipal utility can serve as a CSP and provide emergency demand response services in PJM. Moreover, load serving entities have specific obligations to curtail load in the event of emergencies as detailed below.

PJM emergency procedures are documented in PJM Manual 13, "Emergency Operations." Manual 13 specifies the phases of an emergency (Alert, Warning and Action) and the obligations of each market participant including PJM during each phase of an Emergency event.[2] Triggers for these obligations are linked to Energy Emergency Alert Levels established by the North American Electric Reliability Council (NERC). This means, for example, that PJM Operations issues a NERC Energy Emergency Alert Level 2 (EEA2) when any of the following has been implemented: "[P]ublic appeals to reduce demand, voltage reduction, interruption of non-firm load in accordance with applicable contracts, demand side management/active load management (Load Management), or utility load conservation measures" [3]

PJM's FERC approved Tariff imposes a mandatory obligation on Load Management resources to be able and willing to reduce load for at least 60 hours per summer period (10 calls X 6 hours per call).[4] CSPs can meet their Load Management obligations through **either** operation of on-site generators such as RICE units, or reductions in load by industrial and commercial customers or a combination of both. PJM planners model contingency conditions when developing the mandatory Load Management requirements in order to ensure compliance with the loss of load probability planning standard of 1 day in 10 years. As a result, the number of such emergency calls has been limited. Load Management resources (formerly known as Active Load Management or ALM) have only been called by PJM 35 times since the

---

1 PJM is not responsible for ensuring reliability of the distribution system. RICE units can provide a role in addressing distribution system emergencies, however that use of these units is beyond the scope of these comments.

2 PJM Manual 13, "Emergency Operations," Revision 41, effective 10/01/10.

3 *Id.* at P 20.

4 *Id.*

inception of ALM in 1991.[5] It is important to note that many of these Load Management calls involved only a part of the PJM region and/or lasted for fewer than 6 hours.[6] As a result, should the EPA tie the definition of emergency to the system operator protocols, based on a large number of years of historical data it should not be concerned that the occurrences will be frequent or long-lasting.

The proposed EPA 15-hour limit on RICE units runs contrary to the minimum PJM requirement that demand response resources must be available to reduce load a minimum of 60 hours per year. The 60 hour minimum, which is incorporated into the PJM tariff, recognizes that for a resource to be useful to PJM in emergency conditions over a year, a minimum of 60 hours of availability is essential. This does not mean that a CSP could not put together a combination of RICE units to meet the 60 hour requirement. That alternative, however, creates management and administrative challenges for the CSP and complicates compliance for the CSP and measurement and verification for both PJM and the EPA. This outcome in turn frustrates the intent of the EPA's regulation, which is to recognize that running such units in emergencies is justified as an exception to the emissions control requirements otherwise directed by the RICE rules.

PJM understands the need for a clearly written rule and compliance parameters that can be readily verified by the EPA. Although different RTOs and system operators may have different thresholds than PJM's 60 hour minimum requirement, PJM would suggest that a rule which defines emergencies as "bulk power system operator declared emergencies in accordance with NERC emergency requirements" would appropriately bound the declaration of an emergency and allow for easy verification as such emergencies are posted on the websites of system operators. Moreover, the appropriateness of a system operator's actions in declaring an emergency is already subject to regulatory review by NERC and the FERC. Although this suggested language would not address the definition of emergencies at the distribution level, PJM believes that a reference to "bulk power system operator declared emergencies in accordance with NERC emergency requirements " would, at least at the bulk power level, be far preferable to the EPA attempting to define "emergency" in this rule. As PJM testified, there are many different operating conditions that give rise to an emergency. Therefore, incorporating the industry-established and FERC-regulated *processes for declaring and responding to emergencies* is preferable to attempting to list each and every condition that may give rise to a distribution or bulk power grid emergency.

Through these comments, PJM takes no position on the appropriate level of environmental controls imposed on RICE units, the costs of retrofits or other technical and environmental unit-specific emergencies. Rather, PJM provides these comments

---

[5] http://www.pjm.com/planning/resource-adequacy-planning/~/media/planning/rew-adeq/load-forecast/alm-history.ashx

[6] *Id.*

and offers to serve as a resource to the EPA as it seeks to craft an emergency operation exception for RICE units that is workable, verifiable, and recognizes the value that such units could provide as part of the CSP"s Load Management portfolio.

For further information or if you have questions, please contact Craig Glazer of PJM at 202-423-4743 or by e-mail at GLAZEC@PJM.COM or Susan Covino at 610-666-8829 or by e-mail at COVINS@PJM.COM.

Respectfully submitted,

Craig Glazer
Vice President-Federal Government Policy
PJM Interconnection, L.L.C.

Suite 600
1200 G Street, N.W.
Washington, D.C. 20005

Attachment 2

Summary of the January 24, 2011 EPA Public Meeting (EPA-HQ-OAR-2008-0708-0699)

MEMORANDUM

DATE: January 24, 2011

TO: Melanie King, EPA OAQPS/SPPD/ESG

FROM: Tanya Parise and Jill Mozier, EC/R, Inc.

SUBJECT: Summary of the January 24, 2011 Public Meeting on RICE NESHAP Reconsideration Regarding 15 Hours for Emergency Demand Response Operation

---

INTRODUCTION

On December 7, 2010, EPA published a Federal Register notice announcing reconsideration of the national emission standards for hazardous air pollutants (NESHAP) for stationary reciprocating internal combustion engines (RICE) (75 FR 80761). The most recent amendments to the NESHAP for stationary RICE were published in the Federal Register on August 20, 2010 (75 FR 51570). In the December 7, 2010 announcement, EPA specifically solicited comments on a particular issue related to the limitations on operation of stationary emergency engines. EPA requested public comment on the 15 hours per year provision provided in the rule for stationary emergency engines to participate in emergency demand response programs.

In the notice, EPA requested comments on a number of issues related to emergency demand response operation, including requesting comment on whether emergency engines in emergency demand response programs should be limited to use during periods in which the regional transmission organization or equivalent balancing authority and transmission operator directs the implementation of operating procedures for voltage reductions of 5 percent of normal operating voltage requiring more than 10 minutes to implement, voluntary load curtailments by customers, or automatic or manual load-shedding, in response to, or to prevent the occurrence of, unusually low frequency, equipment overload, capacity or energy deficiency, unacceptable voltage levels, or other such emergency conditions. In the notice, EPA also requested comments on whether the limitation on use should be for periods in which the regional transmission authority or equivalent balancing authority has declared an Energy Emergency Alert Level 2 (EEA Level 2) as defined in the North American Electric Reliability Corporation Reliability Standard EOP–002–3, Capacity and Energy Emergency.

A public meeting was held on January 13, 2011 in Research Triangle Park, North Carolina to provide an opportunity for the public to comment on this issue. Melanie King of EPA's Energy Strategies Group led the meeting along with Michael Horowitz of EPA's Office of General Counsel. Ms. King provided opening remarks, summarizing the background of the rule and the purpose for the public meeting. Ms. King's opening remarks are provided in Attachment 1.

PUBLIC SPEAKERS

The following table lists the people and the organization they represent who spoke at the public meeting. A complete list of attendees at the public meeting in addition to those registered to speak is provided in Attachment 2.

No.	Name	Affiliation
1	Theresa Pugh and Alex Hoffman	American Public Power Association
2	Floyd Gilzow	Missouri Public Utility Alliance
3	Colin Hansen	Kansas Municipal Utilities
4	Bob Poehling	Kansas Municipal Energy Agency
5	Colin Whitley	Kansas Power Pool
6	Craig Glazer and Susan Covino	PJM Interconnection
7	Robert Pick	Nebraska Municipal Power Pool
8	Phillip Mueller	Illinois Municipal Electric Agency
9	Don DiCristofaro	Blue Sky Environmental; representing EnerNOC, Inc.
10	Bill Wemhoff	National Rural Electric Cooperative Association
11	Jeff Brediger	American Municipal Power
12	Pat Stief	Traer Municipal Utilities, Resale Power Group of Iowa and the Iowa Association of Municipal Utilities
13	Mike Kennedy	Progress Energy

SUMMARY OF PUBLIC MEETING

Theresa Pugh and Alex Hofmann, American Public Power Association

Theresa Pugh thanked EPA and provided a white paper by the American Public Power Association (APPA) containing more detailed comments than her comments today, which she said would hit the highlights of the white paper. The white paper is provided in Attachment 3. Ms. Pugh said many of the meeting topics have not yet been included in the docket, and that she would like to discuss what public power companies and municipal utilities are, and why emergency generation and voltage support is such a concern.

APPA is a trade association located in Washington D.C. and has been around since 1940 representing non-profit utilities ranging in size from utilities serving over 1 million customers (e.g., Los Angeles Department of Water and Power) to utilities serving less than 300 customers whose electric power distribution system is maintained by a couple of employees, even in some cases one part-time employee. Ms. Pugh noted that the RICE NESHAP rule mostly affects small

utilities such as those located in municipalities in Kansas, Nebraska, Minnesota, and Iowa. According to Ms. Pugh, 95 percent of these utilities qualify under the Small Business Regulatory Enforcement Fairness Act (SBREFA) and 100 percent of these utilities qualify under the Unfunded Mandates Reform Act (UMRA). Ms. Pugh asked that EPA take this into account while considering APPA's comments.

Ms. Pugh noted that emergency generation, emergency use, voltage support, and the expense of the rule for small systems are where APPA has some issues. Ms. Pugh and Alex Hofmann noted that the RICE units in these communities, in addition to being used for demand response, are used for voltage support, line maintenance, and most importantly, local reliability. APPA members who own/operate these units have strong concerns that the new rule will adversely impact power supply and system operations. APPA is concerned with EPA's definition of emergency engines because while the final rule allows engines to be run for emergency purposes without retrofit or replacement, the rule does not sufficiently allow these engines to operate under conditions where the units are necessary to maintain grid and system reliability. For example, under the new rule voltage support does not constitute an "emergency" use, yet many utilities in rural communities must use these units to keep system voltage at acceptable levels, APPA said. Furthermore, mandatory and voluntary industry standards compel utilities to maintain grid reliability, so utilities adhering to these standards have operational justification to employ RICE units to preserve system stability. Public power systems also use RICE units for support during critical transmission and sub-transmission system outages. APPA members have been asked by Regional Transmission Organizations (RTOs) and equivalent balancing authorities to operate RICE units to help reduce the loading of transmission grid facilities. APPA members are concerned that the 15 hour annual limit for emergency use is insufficient, especially given that many RTOs require demand resources to be capable of operating for more than 15 hours (e.g., 20 hours under the Midwest Independent Transmission Operator (MISO) and 60 hours under PJM).

According to Ms. Pugh and Mr. Hofmann, the power generated by many APPA members' RICE units is not sent to the grid, but rather utilized by the community's own citizens. Such generation is considered by the RTO to be outside of its authority because it is deemed to be "behind-the-meter" generation and/or is of a voltage below the RTO's designation of what is actually transmission. Local municipal systems, not the RTO, make the determination to bring on their unit(s) for generation in response to voltage drops. This decision is made locally, not by the RTO or the host transmission owner, with no guidance from the RTO.

APPA members also have concerns with the cost of retrofitting or replacing these units to comply with the new emission standards mandated by EPA. Ms. Pugh noted that EPA's estimated cost to retrofit these units $60,000 to $100,000 is generally an accurate estimate, although many of these public utilities are geographically isolated and so the bids from contractors may be much higher. Furthermore, the rule presents a lost opportunity cost to the employees (who are also responding to line maintenance issues, customers, etc.), and the cost of these employees to the municipalities is very important, especially now given the economic downturn. Thus the rule presents an unexpected cost concern to these municipalities. Ms. Pugh discussed a system from Nebraska, by way of example. Ms. Pugh noted that there are 154 public power utilities in Nebraska and that more than 72 of these have 10 or fewer employees and 29 of

these have 3 employees or less. One particular utility in Nebraska has a 1.3 megawatt (MW) generator. This utility's total revenue is $637,000; and the compliance cost for retrofitting the RICE unit would represent 15 percent of total revenue. Ms. Pugh noted that the situation is similar in some Kansas municipalities (where there are 132 public power utilities – 22 have only 3 employees or less; 41 have less than 10 employees – including linemen who are repairing lines, etc). Thus the cost for voltage support in these municipalities, under the rule, would be quite high. Ms. Pugh noted that while the relative cost for retrofitting these units may be feasible for big utilities, small utilities cannot handle a payback (on a retrofit) that may take 5 years for a RICE unit which may only run a few hours per year. Ms. Pugh noted that some RICE units go 4 years before being called on (and the number of hours allowed in the rulemaking may therefore be sufficient in these cases). But some other systems will need to call on units based on voltage drop, or a call from the RTO (so the hours may be insufficient). In those cases (where retrofitting would be necessary under the rule) the municipality may not get payback (for retrofitting) for 5 years and the decision may be between the emergency medical driver or fireman versus $122,000 for a Caterpillar retrofit on a unit (that might run 85 hours this year, not run again for 4 years and then run 3 hours in a subsequent year).

Ms. Pugh introduced Mr. Hofmann to explain why voltage support is a key concept to understand. Mr. Hofmann thanked EPA and noted that, as an industry, APPA feels there has been some miscommunication between the industry and EPA. Mr. Hofmann noted that there are many circumstances under which an engine may be run, that each utility system is different from another and sits in a different regulatory position, and so regulation is difficult. Mr. Hofmann said he hoped to clarify the difference in the terminology of demand response versus emergency demand response. Mr. Hofmann indicated that APPA does not think that load shedding and peak shaving is the same as emergency demand response, even though the necessary actions are the same. Mr. Hofmann presented slides hoping to communicate the difference between a demand response event (this happens during peak conditions when load shedding and peak shaving become necessary) and an emergency demand response event (when the system is thermally stressed endangering designed limits and other options for reducing demand have been exhausted). The slides are provided in Attachment 4. Mr. Hofmann's slides illustrate the steps generally taken during normal operation and energy emergency alert (EEA) Level 1 and the steps taken under emergency operation and EEA Levels 2 and 3, including running emergency RICE units.

Mr. Hofmann underscored that each utility system is different and needs to be able to respond to emergency situations given their local system constraints. Mr. Hofmann remarked that RICE units are not employed until EEA Level 2 generally and are part of a series of actions; that is, system operators do not just throw on RICE units without taking other measures. Regarding the scope of the system, Mr. Hofmann noted that it is not always the RTO which sees the unacceptable voltage level, rather the individual system operator may see it first. Although these controllers may have just a little bit of information, operators know when voltage has gone outside of acceptable range (which is defined by standards). Mr. Hofmann's slides included standards used to regulate power quality and voltage to prevent blackouts and equipment failure and Mr. Hofmann noted that these standards represent a long-term consensus. Mr. Hofmann noted that North American Energy Reliability Corporation (NERC) regulations require that a system operator take action if the system is energy deficient. Mr. Hofmann remarked that

utilities do a lot to take action before turning on an engine and added that RICE units are not an economic arbitrage opportunity. Rather RICE units are part of a plan to deal with a variation in the system that is unexpected (e.g., part of transmission line goes out, power generation drops, etc.). Mr. Hofmann showed a graph illustrating the connection between voltage and power and how a change in system conditions can rapidly result in a light load becoming a heavy load for the system (e.g., transmission constraint, generation station out, bad weather, everyone puts on air conditioning at once, and so on). As soon as a system gets beyond the margin of stability, rapid voltage collapse is experienced, which is bad for the system. Voltage reductions can be employed up to a point, but after that other actions must be taken. Running emergency units can happen at different points for different systems, according to Mr. Hofmann, but it is a controlled action as part of a series of actions based on conditions of the system. Mr. Hofmann underscored that when a blackout occurs, there is not a switch that you can just turn back on. Rather, many system elements must be checked and it is still an emergency state after coming out of blackout. Mr. Hofmann noted that electric systems are dynamic and complex and utility operators need to be able to act (before a blackout rather than after) without having their hands tied by EPA limits, which may not reflect their individual system's constraints and needs.

Mr. Hofmann stated that APPA agrees with the EnerNOC proposal of 60 although APPA thinks that 100 hours is necessary at a minimum to allow these small communities to respond to emergencies.

In answer to EPA's question (from Mr. Horowitz and Ms. King) regarding whether or not NERC EEA Level 2 was a good definition for emergency and would work for small utilities, Mr. Hofmann said that some utilities are so small they fall outside the scope of NERC, so that emergency measures are defined rather as a good-faith effort. EEA NERC Level 2 is a good starting point, according to Mr. Hofmann, but may not be directly applicable to a small utility dealing with local system issues, when a meta-system operator is not the entity making the decision. Mr. Horowitz explained that EPA needs a fairly definable and enforceable definition, which is not just based on what an operator believes is needed at any given time. Mr. Hofmann responded that APPA would be happy to continue that discussion regarding what would be an appropriate definition of emergency with EPA.

During discussion after another speaker's presentation, Mr. Hofmann remarked that EPA should consider that defining RICE units too strictly would make some municipalities stop using them, which would result in power interruptions causing the public consumers to find other means to provide themselves with consistent power, that is, by likely purchasing several small new diesel engine generators. The emissions from many small generators would likely be significantly greater than the emissions from the few RICE units, in Mr. Hofmann's opinion.

Floyd Gilzow, Missouri Public Utility Alliance

Mr. Gilzow thanked EPA and explained that the Missouri Public Utility Alliance (MPUA) is a joint action agency of over 50 communities providing electric utility services at retail to over a million residents and businesses in Missouri, representing 88 municipalities. The average municipality served contains 5,800 customers, while one-third of the municipalities under MPUA serve less than 2,000 customers and do not even employ a full-time power plant

operator. Thus, Mr. Gilzow noted that the RICE issue falls disproportionately on smaller communities, on cities that have no full time power plant operator and only one or two on staff to start and sync these engines. Furthermore, Mr. Gilzow noted that these employees fulfill other responsibilities unrelated to the power plant during 95 percent of the time. The use of RICE units varies greatly, from voltage support to energy generation during natural disasters. One complicating factor is that there are five separate RTOs operating in Missouri. Mr. Gilzow noted that most of his comments in this meeting would focus on issues facing the Missouri Public Energy Pool #1 (MoPEP). MoPEP is comprised of 34 cities that receive all power from the commission. These are small cities with an average of 2,600 customers. Twenty seven of these 34 MoPEP cities have RICE units and most have multiple units, totaling 189 RICE units for a combined 341 MW of capacity. These RICE units supply anywhere from 2 MW per municipality to 31 MW per municipality.

Mr. Gilzow noted that one issue with compliance cost is that most of these small municipalities have multiple RICE units. In Odessa, Missouri for instance, the community has 3,600 residents (and less metered customers) and four RICE units. These four RICE units would cost $300,000 to retrofit, according to a manufacturer's estimate. Mr. Gilzow further stated that EPA should be aware that the compliance cost for this rule will fall disproportionately on the elderly and impoverished, since many of the municipalities most affected by the rule have a higher than average number of elderly and poor residents. Mr. Gilzow explained that only one of MoPEP's RICE-owning cities exceeds the state's median household income (MHI), and this city exceeds the statistic by less than 1 percent. Of the remaining 26 cities, 60 percent are more than 25 percent under the MHI; 23 of the 27 RICE-owning cities have poverty rates higher than state's rate. One-third of these cities have a poverty rate that is more than 40 percent higher than state's rate, and in 2 counties more than double the state's rate. Furthermore, all 27 of these cities contain an inordinate number of residents older than 65, averaging almost 50 percent above the state's elderly rate, including 5 cities with [elderly] rates at least 85 percent higher than the state's rate.

Mr. Gilzow explained that historically some of the RICE units used by these municipalities came from diesel destroyers, submarines, and trains, which were initially the town's only source of power for their electric grid. This is no longer the case, as these municipalities today are supplied power from well outside their community, according to Mr. Gilzow. Further, Mr. Gilzow explained that it makes no financial sense for municipalities to use diesel engines for power generation because it costs anywhere from $150 to $250 per MW-hour, whereas baseload coal, nuclear and natural gas power costs between $40 and $60 per MW-hour. So there exists a clear market disincentive to use RICE units, except in extreme cases, according to Mr. Gilzow. Furthermore, RICE units are not operated without authority from the dispatch center, and all cities sign full requirement contracts which legally prohibit using RICE units for peak shaving. Mr. Gilzow noted that, based on a 3-year average, the RICE units only provided 15 hundreths of 1 percent of MoPEP's total load. In fact, these RICE units are used so rarely that a small 5 MW windfarm produced more power than the RICE units for 9 out of 12 months. (In answer to EPA's question related to Delaware's contention that RICE units are operated during high ozone times, Mr. Gilzow elaborated that the other 3 months, when RICE were used more, were in fact June, July, and August – primarily because there is less wind in the summer. Mr. Gilzow further clarified that RICE use varies greatly from year-to-year and is not necessarily

during peak ozone times, as Delaware stated. Mr. Gilzow indicated that he thinks that the use of RICE in Delaware may not be typical compared to the rest of the country, but rather may be an outlier from the norm, that is, RICE may be used more frequently and for longer periods of time in Delaware than they are used in Midwest.)

Even though RICE units are rarely used, Mr. Gilzow underscored that RICE units are needed for emergency situations because they provide power at crucial times when their absence would result in system failure. Mr. Gilzow stated that the rule ignores the difference between preventing emergencies and responding afterwards. Mr. Gilzow explained that one of the key purposes for the RICE units is for capacity requirements. The MoPEP system is required to have 15 percent excess capacity so that if there is a catastrophic failure in one supplier, these communities that have backup units that can be tapped into. Credits are provided to cover costs for operation and maintenance, to mechanically maintain these engines, generators, and switching gear and to offset some of the personnel costs to retain employees who are qualified to operate these units. (Mr. Gilzow explained that it is an involved process to bring these old diesel units up to operating speed with compressors and then to finally fire the fuel mixture.) However, based on MoPEP's understanding of the rule, the RTO is precluded from paying communities to keep RICE units – that is, the rule prohibits paying communities capacity credits for the existence of these engines, according to MoPEP's reading of the rule. As a result, many MoPEP cities are actively planning to eliminate their engines. For example, Odessa's city council voted against retrofit and has notified EPA they will shutter their power plant. Odessa is at the end of a long radial line, and during storms the city will go dark until the lines are repaired. This means that businesses, institutions and residents will be forced - in order to provide electric reliability - to purchase small generators that are exempt from the rule. Thus, according to Mr. Gilzow, the ultimate result of the rule's implementation will be additional emissions.

Mr. Gilzow suggested that EPA eliminate the prohibition to pay communities for capacity credits, eliminate the internal categories of the definition, and rather allow these communities to maintain their RICE units and operate them with a cap of 100 hours, because 15 hours per year is inadequate for capacity planning. Mr. Gilzow noted that the system operator could document the use of their RICE units, which would occur with approval from a third party, to stabilize their own distribution grid as part of a bona fide emergency action. After Mr. Horowitz noted that there is no prohibition on compensating communities for emergency use (within those 15 hours), Mr. Gilzow stated that there is no practical benefit to maintaining RICE units without capacity credits so that the owner can afford such maintenance (e.g., lubricating, changing oil, etc.). Mr. Gilzow further explained that capacity is not the same as emergency, but capacity does come into play regarding at emergencies.

Mr. Gilzow further explained that capacity is beyond peak load and regards when normal generation sources are not available and consequently there is a need to generate power locally. (At this point Mr. Hofmann further elaborated that capacity is not necessarily about peak load, but rather may be thought of as "capability to respond to unplanned events" and that more than 15 hours from RICE units are needed as part of this capability.) When EPA responded that EPA has not prohibited writing contracts with third parties, Mr. Gilzow explained that the rule as written allows no practical benefit from such a contract, so that indirectly EPA is preventing towns from having emergency units. Mr. Gilzow elaborated that these units sit for months and

years at a time and must be maintained (periodically turned over, lubricated, switch gear monitored and checked, oil changed, etc.) and this maintenance costs money. These are small communities that have little money, so they may have to decide between a policeman and the emergency power plant that they hope they never use. Currently, MoPEP is able to pay these communities to keep the emergency engine because MoPEP gets the benefit of being able to list that RICE unit as capacity for the system, and that capacity is a requirement of the system.

Members from the audience further elaborated that once a RICE unit is declared only an emergency unit, the unit is no longer considered part of capacity, precluding the capacity contracts and credits on that unit; therefore the rule needs to allow for a broader definition of emergency (not necessarily peak shaving, but a broader inclusion of demand response). Mr. Gilzow noted that his organization does not see peak shaving in any circumstances to be emergency use, but voltage support can truly be considered an emergency. Mr. Gilzow concluded that EPA classifying voltage support as an emergency condition would be a very positive outcome of today's meeting from his perspective (although 15 hours would not be sufficient and even RTOs will not accept that limit). In response to EPA's question regarding whether emergency engines should be limited to use during periods in which the RTO directs the implementation of operating procedures for voltage reductions of 5 percent of normal voltage requiring more than 10 minutes to implement, Mr. Gilzow said that he would make his answer to EPA part of his official comments to the docket.

Colin Hansen, Kansas Municipal Utilities

Mr. Hansen provided a copy of his statements to EPA, which followed his remarks closely. Mr. Hansen's public meeting statements are provided in Attachment 5.

Robert Poehling, Kansas Municipal Energy Agency

Mr. Poehling thanked EPA and stated that, in the interest of time and avoiding repetition and because he thinks his comments are outside this meeting's scope, he would allow his colleagues (Colin Hansen and Colin Whitley) to comment. Mr. Poehling limited his remarks to commenting that the Kansas Municipal Energy Agency (KMEA) offers wholesale electricity services to over 75 municipalities across Kansas and 26 of those communities have RICE units (254 MW total). These municipalities would be impacted by the RICE rule in the form of significant economic impacts to these small communities. Kansas has a fragile and inadequate transmission system and these RICE units are used almost exclusively for voltage regulation. Mr. Poehling indicated he had wanted to talk about the timeline for full compliance, but understands that is not in the scope of the public meeting. Mr. Poehling asked EPA to give further consideration to the rule and to include voltage regulation in the definition of "emergency." This revision to the definition would essentially solve the problem for the municipalities KMEA serves, according to Mr. Poehling.

Colin Whitley, Kansas Power Pool

Mr. Whitley provided a copy of his statements to EPA, which followed his remarks closely. Mr. Whitley's public meeting statements are provided in Attachment 6. In addition to

the written statements, Mr. Whitley explained at the meeting that the transmission supplying the Kansas communities he serves are long lines at low voltages, which are below the voltage that the RTO considers transmission. Mr. Whitley noted that it is economically unfeasible to build larger lines so many small communities rely on RICE units to maintain voltage. Mr. Whitley recommended revising the definition in the rulemaking so that "emergency" accommodates the need for units to prevent blackouts and maintain voltage in these sparsely populated areas. Mr. Whitley recognized that EPA's main concern is the environment; however negative environmental consequences result from electric disturbances such as blackouts and from low voltages resulting in customers losing power, as noted by EnerNOC.

Mr. Horowitz asked Mr. Whitley if the issue of concern was only the 15 hour time limit and if Mr. Whitley's operation meets the definition of emergency in the rule. Mr. Whitley said he would be happy to propose some language for the definition of emergency in written comments.

Mr. Whitley also underscored Mr. Gilzow's point regarding capacity versus emergency, since the Kanas Power Pool (KPP) counts these units as capacity. A big concern for KPP is whether they would still be allowed to count these units as capacity, if they were called emergency units. Mr. Horowitz responded that that is a question for KPP's regional power pool, because EPA is not concerned with what KPP calls the unit, rather EPA is concerned with how the unit is operated. Mr. Whitley further responded that there is language in the rulemaking regarding the RTO calling on the system operators to generate, but EPA should understand that KPP never gets that call, because all generation is located "behind the meter" and on voltages below what RTO and existing transmission owners monitor. Mr. Horowitz stated to all public hearing attendees that it would be helpful if in written comments, commenters are specific as to what would be an appropriate definition on these issues that matter, in terms of hours and definition of emergency (e.g., whether EEA level 2 and the voltage drop proposed in the rule is an appropriate definition).

Mr. Whitley noted that some utilities have control rooms and ability to record voltage, but others just know that the tap changer on the interconnect transformer (that raises voltage as needed) has maxed out and loads are going up; so they know they need to bring on generation. These utilities do not have a voltage recorder. Mr. Whitley asked if that recorder needs to be installed to prove that the voltage went below what is considered acceptable, or would mere records showing regulators and tap changers maxed out be sufficient. Mr. Whitley pointed out that these are all expenses that municipal systems would have to incur. EPA responded that there will be some costs incurred under the rule and EPA needs precise and fairly specific limits as to what constitute emergency hours and what the hours should be. At this point Mr. Hofmann wondered if it would be helpful to EPA to have a discussion as to what kind of good faith effort regarding reporting would be acceptable, that is, what documentation would be necessary. EPA requested that these kinds of suggestions be submitted to the docket so that EPA could consider them more concretely. Ms. Pugh remarked that they were not looking for a loophole. Mr. Whitley agreed and commented that KPP has been trying since 2005 to get rid of all transmission limitations, that Kansas needs some new transmission lines. Mr. Whitley clarified that lots of transmission lines are being built in Kansas at the higher voltage levels, 100 kilo volt (KV) or above, but when a city serves 34.5 KV these higher voltage lines are not accessible to a system

with such relatively small voltages. Mr. Whitley compared the situation to a super highway going past a community with no off-ramp (i.e., no distribution lines) to that community.

Craig Glazer and Susan Covino, PJM Interconnection

Mr. Glazer introduced himself and his colleague Ms. Covino and thanked the EPA and audience for the opportunity to speak. Mr. Glazer said that PJM was here as a resource to EPA and expressed that he wanted to increase communication between EPA and the RTOs. Mr. Glazer provided a presentation, which followed his main points. This presentation is included in this meeting summary as Attachment 7. Additional points made by Mr. Glazer beyond what is provided in the presentation are summarized here.

The role of PJM (an RTO) is to provide reliable operation of the bulk power system. PJM operates a competitive spot market for electricity and maintains approximately 145,000 MW of peak load power generation. PJM is also responsible for planning the transmission grid. PJM is an independent entity and is regulated by the U.S. Federal Energy Regulatory Commission (FERC); Mr. Glazer stressed that he made this point because he believes PJM is a neutral source of information and verifiably so. PJM's procedures, including emergency procedures are all transparent and embodied in tariffs. PJM serves 51 million people in 13 states plus the District of Columbia. PJM's role is limited to the bulk power system, generally 138 KV and above.

Mr. Glazer noted that he would like to make the following three main points (discussed in more detail below):

- Regarding how EPA should define an emergency, Mr. Glazer recommended that EPA should not attempt such a definition, since some emergency situation would inevitably be left out of the definition; rather EPA should merely incorporate and reference NERC criteria and FERC-approved tariffs in the rule;
- The 15-hour limit is insufficient and precludes engines from being considered emergency generators under PJM, which requires a unit to be able to operate for at least 60 hours; and
- Regarding what role these RICE units play in emergency demand response from PJM's perspective, Mr. Glazer explained that these units are "behind the meter" and that the RTO simply expects that the system can deliver a certain voltage; as such, the RICE units should remain in the systems' demand response portfolio.

Mr. Horowitz asked Mr. Glazer to explain what distribution level emergencies are. If anything happens on distribution system, e.g., you could have voltage problems on the distribution, PJM may not see it because of the voltage cutoff, i.e., if it is below 138 KV, PJM might not be aware of it, Mr. Glazer said.

Mr. Glazer indicated that PJM is not here today to comment on the appropriate level of environmental control. Mr. Glazer indicated that he was trying to get to the important question of how to define emergency. In PJM's opinion, EPA should not try to do so. PJM is concerned that any definition might leave something out. The system in the country is so diverse that it

would be difficult to capture all the differences, in Mr. Glazer's opinion. PJM indicated that there are clearly defined NERC criteria available. Also, each RTO has FERC-approved tariffs on file that describe what an emergency is. Mr. Glazer's suggestion was to incorporate or reference the NERC standards and FERC tariffs. That way, EPA would not be in the position to have to list every single attribute, and would rather be referencing objective standards. Mr. Horowitz asked, regarding the suggestion of incorporating FERC tariffs, if there would be a definition of emergency in all FERC tariffs and if each company would include these tariffs that include a definition of emergency. Mr. Glazer clarified that his comments refer to the bulk power level and that is what is regulated by FERC. This is where it gets complicated, because at the distribution level sources are not regulated by FERC, according to Mr. Glazer.
Mr. Horowitz noted that EPA cannot reference standards such as the FERC tariffs in the Federal Register because EPA has no control over such tariffs, which means the rule could be ever-changing, and such a rule is not permissible in the Federal Register.

According to Mr. Glazer, the 15 hours limit in the rule knocks out engines to be able to be used because 60 hours per year is the minimum number of hours required to be considered an emergency resource for purposes of PJM. According to Mr. Glazer, if any engine is restricted to operate for a maximum of 15 hours, PJM would not even recognize the engine as having any value, because planning and dispatch is complicated and time-consuming, and it is not worth counting an engine as an emergency resource unless that engine can operate for a certain number of hours. The engine could not be utilized and furthermore the 15 hours does not match with the Independent Transmission Operator-New England (ISO-NE) requirements or PJM requirements. Thus the engine would not qualify for an emergency and Mr. Glazer underscored that the allowed number of hours is too short. Mr. Glazer pointed out, however, that the number of times emergencies are declared is very few.

The "behind the meter" engines are a tool in the emergency response demand toolbox that a load serving entity brings to PJM, Mr. Glazer stated. However, PJM does not tell them to run the unit or provide any other direction, PJM just expects as a system that the engine will deliver this much emergency demand.

In terms of what constitutes an emergency, Mr. Glazer pointed to slides 12 and 13 of his presentation and indicated that PJM has very specific procedures. The procedures are laid out in PJM's manual and every other RTO has similar procedures. Specifically, on slide 13, Mr. Glazer illustrated the protocol for emergency situations and stressed that there are a clear set of protocols in response to NERC standards (that could be incorporated into the rule, in Mr. Glazer's opinion).

Mr. Glazer pointed to slide 14 and again indicated that very few emergencies have been called. Next, Mr. Glazer pointed to slides 16 and 17, and emphasized again that 15 hours is not consistent with what constitutes an emergency resource. Mr. Glazer suggested that perhaps 60 hours would be appropriate, however, Mr. Glazer pointed out that the 60 hours might change. Regarding the definition of an emergency situation, Mr. Glazer again recommended that EPA point to or incorporate tariffs.

The last point Mr. Glazer wanted to discuss was the issue of compensation for RICE units and respectfully indicated that limits on compensation for participation as an emergency engines might not be the best measure. PJM compensates these units that operate during emergency conditions and this compensation is a necessary component of a successful demand response system, according to Mr. Glazer (see slide 17 in Attachment 7). Mr. Glazer closed by reiterating that PJM wants to be a resource to EPA and it will be submitting comments on the rule.

Robert Pick, Municipal Energy Agency of Nebraska

Mr. Pick expressed that he was appreciative of EPA's time to listen to concerns from the industry and noted that the discussion has been very interesting. The Municipal Energy Agency of Nebraska is a wholesale provider of 60 communities made up of four states; Colorado, Nebraska, Iowa and Wyoming. Twenty seven (27) of these communities have stationary engines ranging in size from 0.5 MW to 5 MW. The two states most heavily affected by the rule are Iowa and Nebraska, which are farming communities that require transmission lines. With many miles of transmission lines there are voltage issues, weather issues, etc. For instance, in Nebraska four years ago, half of the transmission grid went down during an ice storm and many communities were in the black. The communities that did not go black had stationary engines. Mr. Pick indicated that they have the same issues as Missouri and Kansas, i.e., the capacity payments are necessary to maintain those units, reliable transmission, and the biggest issue is the cost of maintaining the engines. Currently, based on the retrofit costs, half of the communities will not retrofit their engines because the cost is so prohibitive, according to Mr. Pick.

Mr. Pick indicated that in the interest of time, he did not want to reiterate statements already made by other groups, but noted that restricting use could also lead to safety concerns in some instances. Mr. Pick explained that employees take their jobs personally – that is, they believe it to be their personal responsibility to keep the lights on in their communities, and will figure out loopholes around the rule. As such, one employee has already indicated to Mr. Pick that he will choose to work on the lines hot rather than waste those limited 15 hours the RICE unit will be allowed to operate. Thus, Mr. Pick would like EPA to be aware of the potential safety concerns that may result for these small communities under the rule.

Phillip Mueller, Illinois Municipal Electric Agency

Mr. Mueller provided a copy of his statements to EPA, which followed his remarks closely. Mr. Mueller's public meeting statements are provided in Attachment 8. In addition to the statements made, Mr. Mueller noted that RICE units are not a primary power source, but are rather "behind the meter" power generation – as such, RICE units do not push power out onto the grid but rather are for "internal power." Mr. Mueller further explained for Mr. Horowitz where the "grid" starts. Mr. Mueller said that he was not sure if there exists a formal definition in the law of the "grid," but in general indicated that he believed that the grid would be considered approximately 138 KV and above facilities. According to Mr. Mueller, if you are interconnected below 138 KV, you are essentially on a sub-transmission level. Mr. Horowitz further asked who Mr. Mueller's customers provide electricity to and Mr. Mueller responded that they provide power to their citizens, their businesses, homes, shops, and factories that are located within the municipal boundaries. Ms. Pugh added for clarification that what has been discussed is the

situation where their customers provide power to their own communities and they are not, for instance selling power to New York City. Mr. Mueller added that their customers cannot always get enough power and are running their units for system reliability. Mr. Mueller said that his members will not get called by PJM or MISO because these RTOs do not see down to that level.

Mr. Mueller expressed that his members only run their units if they have to if there is a 5 to 10 percent voltage drop and argued that 100 hours per year should be allowed for such operation. Appropriate records would be kept on file, Mr. Mueller expressed. Mr. Mueller indicated that the rule already allows for emergency engines to operate for 100 hours per year. Mr. Horowitz interjected and wanted to clarify that this is not true. Non-emergency use is allowed for 50 hours per year and the 100 hours per year is for maintenance and testing, Mr. Horowitz stated. Mr. Mueller expressed that EPA should make those 100 hours per year useful or allow a comparable number of hours with appropriate recordkeeping and possibly requiring notifications. Mr. Horowitz noted that EPA looks forward to written comments, but again indicated that every engine gets tested and maintained periodically. There is a big difference between running the engine 2 hours per month for maintenance and testing, as opposed to running the engine in July on one of the hottest days of the year to deal with high load issues, Mr. Horowitz noted. EPA provided a 100 hours per year allowance because there are (nuclear power plant emergency) engines that need that amount for maintenance and testing, and Mr. Horowitz expressed that he did not want that to be used against EPA. Mr. Horowitz requested that comments be submitted to the docket on how exactly Mr. Mueller's proposed recordkeeping might work. Mr. Mueller closed by indicating that his group would be following up with written comments.

Don DiCristofaro, Blue Sky Environmental; representing EnerNOC, Inc.

Mr. DiCristofaro provided a copy of his statements to EPA, which followed his remarks closely. Mr. DiCristofaro public meeting statements are provided in Attachment 9.

Bill Wemhoff, National Rural Electric Cooperative Association

Mr. Wemhoff expressed that he did not have conflict with anything that has been stated during this meeting, but that he might be able to offer a slightly different perspective.

Mr. Wemhoff did not provide a copy of his statements to EPA, but provided to EPA after the public meeting a summary of his main points. This summary is provided in Attachment 10. The National Rural Electric Cooperative Association (NRECA) represents private independent utilities consisting of more than 900 cooperatives. These cooperatives differ from other municipal systems in that they are owned by the consumers, with no stock holders, and all costs are passed directly onto the consumers. The cooperatives are also involved in community development and revitalization, including job creation, health care and educational services. A few of those cooperatives, about 50, actually generate electric power and the others are distribution cooperatives. The cooperatives serve about 42 million people in 47 lower states plus Hawaii and Alaska. Twelve percent of the nation is served by rural electric cooperatives and importantly, cover 42 percent of the distribution lines in the United States and truly serve rural areas, Mr. Wemhoff stated. To put that into perspective, cooperatives serve on average about 7

consumers per mile of line, where the public power municipalities serve on average 46 to 47 customers per mile of line. In those rural areas, having reliable service becomes a real problem as well as keeping the cost down. Also, consumers in rural areas use approximately 35 percent more power than non-rural customers, for instance on farms in particular.

Mr. Wemhoff indicated that NRECA filed a petition for reconsideration on the August 2010 spark ignition rule where NRECA expressed similar concerns to those discussed today, that is, regarding the restriction on emergency demand response operation. Mr. Wemhoff expressed that he is concerned with the 15 hours per year and asked what the emergency conditions would be that would be covered under that provision. Mr. Wemhoff expressed concern over ruling-out peak shaving, which although a separate issue, is connected to emergency demand response. Furthermore, Mr. Wemhoff stated that there should be consistencies between the rules.

Mr. Wemhoff expressed that he believes emergency generators improve reliability of the grid system and prevent collapse or blackouts. In the event that such things occur, having these emergency generators to serve consumers is a very important part of providing reliable service. Again, the cooperatives cover 42 percent of the nation's distribution lines and because they are that widespread, ice storms and tornados are very serious problems. According to Mr. Wemhoff, you can lose a whole lot of customers in a hurry and they are difficult to get back on line again.

Part of the cost of having emergency generators out there is offset by peak shaving programs, Mr. Wemhoff said. Most of these programs involve emergency generators that are not even owned by the distribution system, but are owned by their consumers (industries, poultry farms, etc.) The distribution system simply calls upon those engines to run at peak periods that have the effect of reducing bulk power that the cooperative is buying. At peak demand, credits can be earned, which then are shared with folks that own the generators. Thus the compensation for peak shaving is needed to incentivize the installation of RICE units (at hospitals, for example). The cooperatives view that as a win-win situation as long as they can offset some of the costs of the generators with money received from the peak shaving program. Some of the generators are owned by the cooperatives, according to Mr. Wemhoff.

Mr. Wemhoff described an example where a cooperative purchased engines to provide 100 percent backup at a hospital in Florida. This relates back to Mr. Wemhoff's earlier point that many of the cooperatives are into community development and supporting medical services. Participating in peak shaving programs helps justify the costs of having those engines at the hospital. The cooperative also places engines at hurricane shelters. If the cooperative is forced to discontinue participating in the peak shaving program or forced to put on aftertreatment, the emergency engines would have to be shut down and removed. This is particularly important because this area in Florida is economically depressed and the impact would be that the local government would have to pick up the costs. This example indicates that there are so many variations and Mr. Wemhoff indicated that it is difficult to write a rule that would cover everything.

Mr. Wemhoff suggested that EPA simply remove all the restrictions on the 100 hours of operation and argued that this would solve most problems. Alternatively, Mr. Wemhoff proposed that EPA set that as a cap leaving it up to the source how to best use that 100 hours per

year, for testing, maintenance, voltage support, peak shaving, emergency demand response, and so on. In closing, Mr. Wemhoff stressed that this removal of restrictions and the 100-hour cap would make it consistent with the spark ignition rule, and that there should be consistency between the rules.

Ms. King indicated that EPA also would like to have a consistent definition in all the rules (in the NESHAP, as well as in the two new source performance standards affecting stationary engines). Ms. King also stated that in terms of the 100 hours per year, a facility does not have an incentive for running an engine for more than the minimum amount required for maintenance and testing and therefore these engines presumably would not run more. However, based on what Mr. Wemhoff is suggesting, Ms. King noted that it seems that engines would have an incentive to operate beyond the required maintenance and testing (e.g., for peak shaving and voltage support) if there was no limit. Ms. King also pointed out that this would be particularly an issue at hospitals where sensitive populations are located and potentially adversely affected. Mr. Wemhoff asked EPA to consider the lower income communities and that the hospital will put an engine there anyway, but at significant cost to the community without the peak shaving compensation allowance.

Jeff Brediger, American Municipal Power, Inc.

Mr. Brediger noted that he appreciated the opportunity to speak at today's public hearing. Following the public meeting, Mr. Brediger provided a copy of his statements to EPA, which followed his remarks closely, but the written statements provided additional background and details on the issues discussed. The statements made by Mr. Brediger are provided in Attachment 11. In addition, Mr. Brediger noted that he supports the majority of the comments made today by other organizations and added that American Municipal Power would be submitting written comments as well as some supporting data.

One of Mr. Brediger's additional remarks was related to stationary engines that start up other units. In response to this comment, Mr. Horowitz noted that there is a special category for those in the rule and that these units are treated like emergency engines. Mr. Brediger stated that these engines are located at wastewater treatment plants and therefore he was not sure what category these engines would fall into. Ms. King asked if these units are also used to start up turbines. Mr. Brediger responded that yes, these units start up turbines and start up existing baseload plants. According to Mr. Brediger, these units are multi-purpose units that serve many different functions, as well as being enrolled in demand response program. Mr. Brediger clarified that starting up turbines is not the sole purpose of these units, but that the engines are used for various purposes in order to maximize the value of these assets (i.e., these units are not strictly used for emergency demand response). Mr. Brediger would like to see EPA create a new classification for some of these key-function RICE units that exempt them from the rule.

Pat Stief – Representing Traer Municipal Utilities, Resale Power Group of Iowa and the Iowa Association of Municipal Utilities

Mr. Stief provided a copy of his statements to EPA, which followed his remarks closely. Mr. Stief's public meeting statements are provided in Attachment 12. Mr. Stief indicated that

many of his planned remarks had already been made and did not wish to repeat all information provided in his written statements.

Following Mr. Stief's statements, Mr. Horowitz wanted to clarify exactly how these engines work, and asked if these engines have contracts with MISO. Mr. Stief replied that the units are registered as capacity resources within MISO. The engines are not "behind-the-meter" like other engines discussed today, Mr. Stief noted. According to Mr. Stief, MISO can see these resources and requests to dispatch these units when needed; some up to over 100 hours per year, but some units never get called upon. Mr. Horowitz further asked where the capacity payments come from and Mr. Stief responded that MISO pays $4 per kilowatt (KW) per month to have the capability to run based on the amount of capacity installed. For clarification, Mr. Horowitz asked who pays that money and Mr. Stief said that the Resale Power Group of Iowa pays that money. Mr. Horowitz asked if those existing contracts are limited to emergency use and Mr. Stief said that they are not because until now this has not been a concern. If the engines are declared as emergency units, MISO cannot call upon those units (because 15 hours is insufficient for MISO requirements for capacity) and Mr. Stief indicated that those engines could no longer participate. Mr. Horowitz asked if increasing the hours to 60 hours would resolve the issues. Mr. Stief said that he preferred 100 hours per year, but that if sufficient hours are allowed that would satisfy MISO requirements and the issues he raised today would be resolved.

Mike Kennedy, Progress Energy

Mr. Kennedy provided a copy of his statements to EPA, which followed his remarks closely. Mr. Kennedy's public meeting statements are available in Attachment 13. In addition, Mr. Kennedy indicated that Progress Energy echoed many of the comments today. Also, Mr. Kennedy noted that the 100 hours per year that has been suggested is an attractive figure. Further, Mr. Kennedy provided an example related to comments that emergency demand units are often operated during high ozone days. In Florida, it is the opposite scenario, where actually the winter is the peaking season (e.g., a 10,000 MW winter peak versus a 9,000 MW summer peak). The highest demand occurs in the winter time (e.g., in January 2010 there was an extended freeze in Florida that destroyed crops). Mr. Kennedy said that the standby generation program actually ran mostly during that January period. Mr. Horowitz asked why that time created a peak period. Mr. Kennedy responded that the houses in Florida are not necessarily constructed for cold weather. Mr. Horowitz asked if they had natural gas and Mr. Kennedy replied that they generally do not have natural gas, that most heating systems are resistance heat and heat pumps. In 2010, the standby generator program ran for about 40 hours, and Mr. Kennedy urged EPA for additional flexibility under the rule for such times. Following Mr. Kennedy's remarks, Mr. Horowitz asked if there are specific circumstances when the emergency generators are called upon. Mr. Kennedy replied that Progress Energy has a program that outlines this and these circumstances are tied to NERC levels when other power options are exhausted and more power is needed.

CONCLUSION

Ms. King concluded the public meeting by thanking everyone for attending. Ms. King noted that the speakers have provided many things for EPA to consider and she encouraged the

group to submit comments to the docket or call EPA with questions. Ms. King said that comments are due by February 14, 2011. EPA will be reaching out to groups if additional information is needed or for necessary clarification, Ms. King said.

ATTACHMENTS

The following material is provided as attachments:

Attachment 1 – Melanie King Opening Remarks
Attachment 2 – List of Public Meeting Attendees
Attachment 3 – APPA White Paper
Attachment 4 – Presentation by APPA
Attachment 5 – Statement by Colin Hansen, Kansas Municipal Utilities
Attachment 6 – Statement by Colin Whitley, Kansas Power Pool
Attachment 7 – Presentation by Craig Glazer, PJM Interconnection
Attachment 8 – Statement by Phillip Mueller, Illinois Municipal Electric Agency
Attachment 9 – Statement by Don DiCristofaro, Blue Sky Environmental
Attachment 10 – Summary of Main Points by Bill Wemhoff, NRECA
Attachment 11 – Statement by Jeff Brediger, American Municipal Power, Inc.
Attachment 12 – Statement by Pat Stief, Representing Traer Municipal Utilities, Resale Power Group of Iowa and the Iowa Association of Municipal Utilities
Attachment 13 – Statement by Mike Kennedy, Progress Energy

Attachment 3

MISO Comment Letter Dated February 2, 2012

(EPA-HQ-OGC-2011-1030-012)

Arthur W. Iler
Assistant General Counsel
Direct Dial: 317-249-5497
E-mail: ailer@misoenergy.org

February 2, 2012

Via Electronic Submission at www.regulations.gov

EPA Docket Center,
Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Ave. NW.
Washington, DC 20460-0001

Re: Docket ID number EPA-HQ-OGC-2011-1030

Dear Sir/Madam,

The Midwest Independent Transmission System Operator, Inc. ("MISO") is an essential link in the safe, cost-effective delivery of electric power across all or parts of 11 U.S. states and the Canadian province of Manitoba. As a Regional Transmission Organization ("RTO"), MISO assures consumers of unbiased regional grid management and open access to the transmission facilities under MISO's functional supervision, and MISO has a larger regional scope than an Independent System Operator ("ISO").

MISO appreciates the opportunity to submit comments regarding the terms of a proposed settlement agreement regarding the Environmental Protection Agency's rulemakings to revise the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines ("RICE NESHAP") and to revise the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines and Stationary Spark Ignition Internal Combustion Engines (collectively "ICE NSPS"). Under this proposal, owners and operators of emergency stationary internal combustion engines would be allowed to operate emergency stationary internal combustion engines in emergency conditions, as defined in those regulations, as part of an emergency demand response program for 60 hours per year or the minimum hours required by an RTO/ISO tariff, whichever is less. The terms of the settlement also state that the notice of proposed rulemaking may allow for more hours of operation than those stated above. In addition, under the terms of the proposed settlement agreement, by December 14, 2012, the Administrator of EPA will sign a final action on this proposal, which may include signature of a final rule by the EPA Administrator.

MISO has developed market mechanisms to allow demand response to participate in all aspects of its markets through reducing loads whose values to end-use customers are less than

the costs of serving those loads (Economic Demand Response), providing Regulation or Contingency Reserves (Operating Reserve Demand Response), reducing demand during system emergencies (Emergency Demand Response or EDR), and substituting for generating capacity (Planning Resources Demand Response). Demand response has the duplicate benefit of reducing demand at critical times as well as benefiting customers by enhancing the competitive markets through downward price pressure on the affected locational energy prices.

Currently, MISO has approximately 8,000 MW of Load Modifying Resources to meet resource adequacy requirements. Of that 8,000 MW, over 4,500 MW of such Resources are from behind-the-meter generation, including many internal combustion engines. MISO's Tariff, which has been approved by the Federal Energy Regulatory Commission, provides that entities may qualify resources (which often include internal combustion engines) as Demand Resources to provide generating capacity to the MISO Region during emergency conditions. Subsections 69.3.5(iv) and (v) of the MISO Tariff, provide, in part, that in order for a resource to qualify as a capacity resource, the resource must be capable of being operated (during Emergency conditions where the reliability of the electric grid needs to be maintained) a minimum of at least five times for at least four continuous hours per event during the Summer Season during any Planning Year (June 1st through May 31st of the following calendar year). Thus, internal combustion engines that seek to be qualified as Demand Resources within the Midwest ISO Region must be capable of being operated for a total of at least 20 hours per Planning Year. Other RTO/ISOs have similar operational requirements for emergency capacity resources.

MISO agrees with the findings in this proceeding. Allowing emergency electric generating resources, regulated by RICE NESHAP, to operate for only 15 hours annually as part of a demand response program would be insufficient to ensure that such emergency resources can be relied upon for dispatch under MISO's emergency operating procedures to maintain system reliability. As MISO's September 8, 2010 comments in a related EPA docket (Docket ID No. EPA-HQ-QAR-2010-0295) indicated, the EPA's regulations should be modified to be more consistent with the Demand Response qualification and operation provisions that have been developed by RTO/ISOs (and that have been approved by the Federal Energy Regulatory Commission) to ensure the continued reliability of the electric system. Although MISO appreciates the potential environmental concerns associated with the long-term operation of these resources, MISO respectfully requests that the EPA also recognize and consider the importance of balancing environmental concerns with the need to maintain electric grid system reliability during emergency conditions by using appropriate and consistent reliability standards for emergency stationary internal combustion engines.

Thank you for the opportunity to provide these comments. Please feel free to contact me if you have any further questions regarding the comments outlined in this letter.

Sincerely,

Arthur W. Iler
Assistant General Counsel
Midwest Independent Transmission System Operator, Inc.
720 City Center Drive
Carmel, Indiana 46032
Telephone: (317) 249-5400
Fax: (317) 249-5912
ailer@misoenergy.org

Attachment 4

Addendum to Analysis of Emergency DR and Ozone Concentrations (February, 2012)

and

Analysis of Emergency DR and Ozone Concentrations (February, 2011)

Addendum to
Analysis of Emergency DR
and Ozone Concentrations

Prepared For:

EnerNOC
101 Federal Street; Suite 1100
Boston, MA 02110

Prepared By:

Blue Sky Environmental LLC
1040 Great Plain Avenue
Needham, MA 02492

February, 2012

2.0 PJM Interconnection, Inc.

From 2003 through 2009, the PJM Emergency Load Response Program ("ELRP") has been called five times for a cumulative total of 20-21 hours. In 2010, the ELRP was called six times, three times in Pepco only. Although the ELRP was also called prior to 2003, very few emergency engines were involved in the program at that time[1]. The ELRP has only been called in the eastern portion of PJM; it has never been called in the western portion. Table 2 below summarizes the dates of each event since 2003 along with the geographic extent, duration, and if the event occurred on a high O_3 day.

2010

As shown in Table 2, the PJM ELRP was called on six days in 2010 in select areas of PJM. Using the O_3 exceedance data for 2010 from Maryland and Delaware (see Figures 2-3 and 2-10), two were not O_3 exceedance days in Maryland and three were not exceedance days in Delaware.

Table 2

Summary of Emergency DR Events in Eastern PJM

Date	Geographic Extent[2]	Duration (Hours)	High O_3 Day?
September 24, 2010	Mid Atlantic (subset)	6	Yes
September 23, 2010	Mid Atlantic (subset)	5.5-6 hours depending on zone	Yes in MD, No in DE
August 11, 2010	DC Portion of Pepco Only	6	Yes
July 7, 2010	Mid Atlantic (subset)	4-5.5 depending on zone	Yes
June 11, 2010	DC Portion of Pepco Only	4.2	No
May 26, 2010	DC Portion of Pepco Only	2.7	No
August 8, 2007	Mid Atlantic	4-5 depending on zone	No
August 2, 2006	Mid Atlantic	4	No in MD, Yes in DE
August 3, 2006	Mid Atlantic	5	No in MD, Yes in DE

[1] In 2002 there were 64 sites registered in the ELRP versus 4,427 sites in 2006 (Source: PJM 2006 State of the Market Report; Volume II: Detailed Analysis – Market Monitoring Unit – March 8, 2007; page 90) http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2006/2006-som-volume-ii.pdf

[2] In Figure 2-2, Mid Atlantic refers to Atlantic City Electric Company, Delmarva Power and Light Company, Potomac Electric Power Company, Pennsylvania Electric Company, Baltimore Gas and Electric Company, Jersey Central Power and Light Company, and Public Service Electric and Gas Company. Dominion is now known as the Virginia Electric and Power Company.

July 27, 2005	Mid Atlantic and Dominion	4	Yes
August 4, 2005	Mid Atlantic	3	Yes

In Maryland, May 26 was not an O_3 exceedance day (the highest observed concentration was 71 ppb); however, the day after the emergency DR event was an exceedance day (the highest observed concentration 89 ppb). Similarly on June 11, there were no exceedances (the highest observed concentration was 72 ppb), but the day after the emergency DR event there were exceedances with the highest observed concentration of 79 ppb being recorded. July 7 was an exceedance day with a maximum of 94 ppb measured; however, the four days prior to and the one day after the emergency DR event, there also were exceedances reported. A maximum of 97 ppb was measured on July 5 and 99 ppb was measured on July 6; both values higher than the 94 ppb measured on the emergency DR event day. August 11 was an exceedance day with a maximum of 97 ppb measured; however, the two days prior were also exceedance days with a maximum of 115 ppb measured the day before. Since the maximum concentrations were 16% lower on August 11 (an emergency DR day) than the prior day (a non-emergency DR day), it cannot be stated that emergency DR caused the exceedances on August 11. Finally, both September 23 and 24 were O_3 exceedance days with maximum concentrations of 76 and 77 ppb, just 1 and 2 ppb higher than the 75 ppb standard. On September 23, only one monitor measured an exceedance greater than 75 ppb and on September 24 only three monitors measured exceedances greater than 75 ppb. Thus, engines operating during any of the emergency DR events in 2010 did not cause O_3 exceedances in Maryland.

In Delaware, there were no O_3 exceedances measured on May 26, June 11, or September 23. High O_3 concentrations were recorded on the July 7 emergency DR event (concentrations ranged from 76 to 98 ppb). However, high O_3 concentrations were also observed on the previous three days (July 4 through 6) which were not emergency DR events (concentrations ranged from 76 to 87 ppb). Although the highest concentrations were observed on July 7, since the previous three days also recorded high concentrations, it cannot be concluded that the use of emergency engines during the July 7 emergency DR event contributed to the high concentrations recorded on July 7. On August 11 there were maximum measurements of 89 and 86 ppb recorded; however, the prior day, which was not an emergency DR event there were measurements of 87 and 86 ppb at two monitors. Finally, on September 22, there was one measured exceedance of 79 ppb on a non-emergency DR day; no exceedances on September 23 on an emergency DR day; and one exceedance of 77 ppb on September 24 also on an emergency DR day. Thus, it cannot be concluded that engines operating during any of the emergency DR events in 2010 did not cause O_3 exceedances in Delaware.

5.0 Conclusions

There is no correlation between emergency DR and high O_3 concentrations. Although some emergency DR events are called during high O_3 days, many DR events occur on non-exceedance O_3 days and many more days have high O_3 alerts but no DR events. The data does not show that

the use of emergency engines during the DR events causes high O_3, particularly since in many instances the O_3 concentrations are high or higher on the days preceding an event.

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

ly max 8hr)

	Statewide Max	Davidsonville	Padonia	Essex	Calvert Co (Stafford Rd)	South Carroll	Fairhill	Hughesville	Frederick Airport	Piney Run	Edgewood	Aldino	Millington	Rockville	HU-Beltsville	PG Equestrian Center	Hagerstown
		24-003-0014	24-005-1007	24-005-3001	24-009-0011	24-013-0001	24-015-0003	24-017-0010	24-021-0037	24-023-0002	24-025-1001	24-025-9001	24-029-0002	24-031-3001	24-033-0030	24-033-8003	24-043-0009
DATE		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
5/1/10	0.078	0.063	0.072	0.069	0.060	0.072	0.078	0.056	0.064	0.065		0.072	0.065	0.074	0.064	0.061	0.065
5/2/10	0.049	0.032	0.038	0.041	0.029	0.034	0.049	0.028	0.030	0.036		0.045	0.036	0.033	0.037	0.030	0.030
5/3/10	0.058	0.028	0.038	0.036	0.031	0.039	0.042	0.029	0.034	0.058		0.042	0.032	0.030	0.026	0.027	0.052
5/4/10	0.064	0.064	0.056	0.060	0.063	0.055	0.058	0.060	0.058	0.061	0.062	0.059	0.063	0.062	0.059	0.050	0.059
5/5/10	0.077	0.069	0.065	0.066	0.070	0.071	0.064	0.066	0.069	0.062	0.077	0.063	0.065	0.075	0.071	0.068	0.065
5/6/10	0.075	0.069	0.058	0.064	0.075	0.056	0.059	0.071	0.060	0.059	0.068	0.061	0.065	0.067	0.063	0.066	0.060
5/7/10	0.065	0.054	0.048	0.051	0.055	0.054	0.046	0.052	0.058	0.065	0.060	0.049	0.049	0.058	0.048	0.052	0.059
5/8/10	0.055	0.053	0.044	0.050	0.055	0.047	0.048	0.052	0.045	0.054	0.053	0.047	0.052	0.055	0.049	0.053	0.053
5/9/10	0.050	0.049	0.043	0.046	0.050	0.044	0.040	0.048	0.048	0.050	0.048	0.041	0.042	0.050	0.048	0.049	0.048
5/10/10	0.056	0.053	0.049	0.052	0.054	0.049	0.046	0.054	0.052	0.055	0.056	0.048	0.049	0.055	0.051	0.050	0.053
5/11/10	0.052	0.050	0.036	0.044	0.052	0.038	0.043	0.048	0.035	0.042	0.048	0.040	0.043	0.033	0.038	0.048	0.040
5/12/10	0.046	0.042	0.032	0.038	0.046	0.028	0.039	0.044	0.024	0.037	0.043	0.035	0.039	0.032	0.035	0.044	0.025
5/13/10	0.054	0.042	0.038	0.045	0.042	0.026	0.049	0.040	0.029	0.031	0.054	0.047	0.049	0.029	0.035	0.039	0.028
5/14/10	0.057	0.046	0.046	0.046	0.047	0.044	0.034	0.045	0.042	0.050	0.057	0.050	0.047	0.046	0.050	0.045	0.047
5/15/10	0.061	0.057	0.050	0.052	0.061	0.050		0.058	0.056	0.060	0.055	0.049	0.052	0.057	0.054	0.057	0.056
5/16/10	0.054	0.051	0.050	0.049	0.051	0.046		0.047	0.047	0.047	0.054	0.045	0.046	0.048	0.049	0.051	0.047
5/17/10	0.051	0.046	0.043	0.045	0.044	0.041	0.042	0.038	0.038	0.045	0.051	0.042	0.046	0.039	0.042	0.044	0.038
5/18/10	0.049	0.044	0.039	0.043	0.043	0.040	0.042	0.038	0.036	0.038	0.049	0.040	0.046	0.037	0.040	0.039	0.036
5/19/10	0.037	0.030	0.034	0.034	0.035	0.031	0.033	0.035	0.028	0.030	0.037	0.032	0.036	0.029	0.030	0.029	0.030
5/20/10	0.070	0.070	0.063	0.067	0.065	0.058	0.060	0.066	0.056	0.057	0.070	0.065	0.060	0.061	0.059	0.065	0.057
5/21/10	0.076	0.067	0.065	0.067	0.070	0.070	0.063	0.066	0.064	0.058	0.076	0.067	0.068	0.073	0.070	0.067	0.060
5/22/10	0.056	0.051	0.046	0.051	0.050	0.046		0.042	0.050	0.056	0.051	0.044	0.046	0.047	0.045	0.044	0.048
5/23/10	0.040	0.032	0.031	0.033	0.034	0.031		0.031	0.032	0.040	0.035	0.029	0.031	0.029	0.031	0.031	0.035
5/24/10	0.039	0.033	0.030	0.030	0.035	0.035	0.022	0.031	0.039	0.033	0.033	0.025	0.026	0.030	0.031	0.031	0.039
5/25/10	0.048	0.038	0.039	0.040	0.041	0.035	0.048	0.035	0.034	0.038	0.048	0.045	0.039	0.033	0.033	0.035	0.034
5/26/10	0.071	0.066	0.058	0.061	0.067	0.050	0.028	0.070	0.053	0.055	0.071	0.059	0.056	0.053	0.054	0.064	0.048
5/27/10	0.089	0.078	0.075	0.079	0.071	0.067	0.072	0.064	0.065	0.072	0.089	0.075	0.063	0.065	0.067	0.074	0.064
5/28/10	0.055	0.043	0.040	0.043	0.040	0.041	0.039	0.038	0.038	0.055	0.046	0.039	0.037	0.037	0.038	0.039	0.040
5/29/10	0.060	0.043	0.055	0.055	0.048	0.053	0.054	0.046	0.055	0.059	0.060	0.055	0.047	0.053	0.054	0.044	0.051
5/30/10	0.069	0.065	0.057	0.063	0.066	0.053	0.056	0.067	0.057	0.063	0.069	0.059	0.053	0.059	0.057	0.063	0.058
5/31/10	0.062	0.040	0.062	0.056	0.044	0.050	0.054	0.041	0.055	0.046	0.058	0.053	0.050	0.048	0.057	0.041	0.056
6/1/10	0.059	0.049	0.050	0.047	0.043	0.049	0.051	0.042	0.052	0.057	0.059	0.048	0.055	0.055	0.051	0.049	0.055
6/2/10	0.087	0.066	0.069	0.071	0.062	0.063	0.079	0.063	0.062	0.058	0.087	0.076	0.074	0.073	0.080	0.068	0.065
6/3/10	0.074	0.073	0.059	0.062	0.057	0.055	0.057	0.055	0.056	0.055	0.069	0.060	0.074	0.058	0.061	0.070	0.056
6/4/10	0.076	0.064	0.068	0.065	0.062	0.061	0.057	0.056	0.065	0.060	0.074	0.070	0.068	0.074	0.076	0.066	0.063
6/5/10	0.059	0.055	0.045	0.048	0.049	0.042	0.048	0.045	0.046	0.045	0.049	0.046	0.059	0.045	0.048	0.053	0.042
6/6/10	0.045	0.039	0.039	0.040	0.041	0.038	0.042	0.039	0.043	0.045	0.044	0.039	0.043	0.040	0.039	0.038	0.042
6/7/10	0.050	0.046	0.043	0.044	0.046	0.041	0.042	0.044	0.044	0.044	0.050	0.044	0.047	0.044	0.043	0.044	0.045
6/8/10	0.056	0.047	0.045	0.047	0.054	0.042	0.034	0.050	0.047	0.056	0.052	0.045	0.048	0.049	0.048	0.049	0.048
6/9/10	0.050	0.038	0.029	0.035	0.050	0.034	0.022	0.045	0.033	0.045	0.049	0.038	0.035	0.034	0.031	0.039	0.034
6/10/10	0.064	0.064	0.057	0.056	0.062	0.056	0.056	0.061	0.059	0.057	0.064	0.058	0.062	0.062	0.060	0.063	0.059
6/11/10	0.072	0.069	0.066	0.068	0.060	0.065	0.054	0.061	0.067	0.055	0.065	0.055	0.059	0.072	0.067	0.058	0.054
6/12/10	0.079	0.063	0.074	0.061	0.068	0.073	0.061	0.065	0.052	0.038	0.071	0.065	0.062	0.079	0.073	0.066	0.049
6/13/10	0.055	0.050	0.043	0.045	0.045	0.040	0.042	0.045	0.047	0.041	0.055	0.041	0.047	0.047	0.048	0.049	0.045
6/14/10	0.060	0.060	0.047	0.050	0.059	0.047	0.048	0.049	0.050	0.044	0.052	0.048	0.053	0.052	0.054	0.058	0.049
6/15/10	0.056	0.051	0.049	0.047	0.050	0.037	0.051	0.043	0.036	0.031	0.056	0.052	0.044	0.041	0.048	0.047	0.041
6/16/10	0.049	0.037	0.032	0.036	0.044	0.041	0.039	0.043	0.039	0.049	0.046	0.037	0.036	0.035	0.031	0.038	0.038
6/17/10	0.062	0.055	0.047	0.049	0.062	0.043	0.048	0.059	0.047	0.048	0.054	0.049	0.051	0.054	0.051	0.056	0.048
6/18/10	0.072	0.069	0.062	0.085	0.062	0.061	0.072	0.060	0.057	0.055	0.072	0.067	0.064	0.065	0.068	0.067	0.058
6/19/10	0.074	0.062	0.071		0.065	0.064	0.068	0.063	0.065	0.059	0.071	0.067	0.060	0.066	0.074	0.061	0.059
6/20/10	0.065	0.063	0.060		0.064	0.058	0.059	0.061	0.061	0.056	0.062	0.055	0.059	0.063	0.059	0.065	0.060

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

	Statewide Max	Davidsonville	Padonia	Essex	Calvert Co (Stafford Rd)	South Carroll	Fairhill	Hughesville	Frederick Airport	Piney Run	Edgewood	Aldino	Millington	Rockville	HU-Beltsville	PG Equestrian Center	Hagerstown
		24-003-0014	24-005-1007	24-005-3001	24-009-0011	24-013-0001	24-015-0003	24-017-0010	24-021-0037	24-023-0002	24-025-1001	24-025-9001	24-029-0002	24-031-3001	24-033-0030	24-033-8003	24-043-0009
DATE		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
6/21/10	0.082	0.070	0.055	0.010	0.082	0.058	0.061	0.076	0.084	0.054	0.070	0.065	0.064	0.065	0.064	0.077	0.058
6/22/10	0.091	0.068	0.085	0.079	0.087	0.073	0.077	0.087	0.085	0.059	0.087	0.081	0.071	0.077	0.091	0.071	0.062
6/23/10	0.082	0.072	0.064	0.069	0.076	0.064	0.067	0.073	0.064	0.062	0.082	0.066	0.072	0.069	0.068	0.073	0.064
6/24/10	0.083	0.061	0.051	0.053	0.054	0.055	0.052	0.053	0.056	0.053	0.054	0.053	0.063	0.054	0.053	0.081	0.054
6/25/10	0.087	0.075	0.062	0.081	0.067	0.060	0.064	0.073	0.065	0.064	0.087	0.061	0.064	0.067	0.069	0.080	0.065
6/26/10	0.087	0.085	0.075	0.078	0.085	0.073	0.085	0.087	0.073	0.060	0.087	0.086	0.072	0.073	0.076	0.089	0.067
6/27/10	0.079	0.065	0.058	0.062	0.061	0.058	0.070	0.057	0.059	0.057	0.079	0.060	0.072	0.061	0.061	0.065	0.057
6/28/10	0.066	0.051	0.046	0.051	0.050	0.048	0.053	0.049	0.054	0.048	0.066	0.048	0.060	0.050	0.052	0.050	0.052
6/29/10	0.069	0.069	0.056	0.061	0.069	0.060	0.054	0.064	0.060	0.048	0.064	0.052	0.061	0.068	0.063	0.065	0.056
6/30/10	0.061	0.053	0.048	0.056	0.058	0.051	0.047	0.058	0.054	0.055	0.061	0.045	0.049	0.050	0.049	0.051	0.056
7/1/10	0.053	0.047	0.040	0.043	0.051	0.041	0.037	0.053	0.043	0.046	0.047	0.038	0.042	0.045	0.044	0.046	0.042
7/2/10	0.054	0.052	0.040	0.044	0.050	0.045	0.041	0.054	0.044	0.046	0.048	0.040	0.045	0.047	0.052	0.053	0.045
7/3/10	0.082	0.064	0.059	0.070	0.061	0.061	0.072	0.061	0.058	0.060	0.080	0.067	0.062	0.068	0.082	0.063	0.061
7/4/10	0.090	0.073	0.087	0.080	0.087	0.070	0.075	0.083	0.071	0.074	0.090	0.074	0.065	0.072	0.078	0.071	0.068
7/5/10	0.097	0.077	0.073	0.084	0.082	0.073	0.077	0.080	0.068	0.084	0.097	0.078	0.074	0.069	0.089	0.080	0.067
7/6/10	0.099	0.099	0.072	0.090	0.087	0.078	0.075	0.087	0.084	0.082	0.092	0.070	0.073	0.072	0.076	0.090	0.082
7/7/10	0.094	0.082	0.073	0.084	0.090	0.085	0.078	0.082	0.077	0.072	0.088	0.072	0.093	0.074	0.094	0.085	0.077
7/8/10	0.093	0.053	0.081	0.053	0.045	0.083	0.045	0.044	0.093	0.085	0.057	0.050	0.047	0.073	0.081	0.051	0.090
7/9/10	0.071	0.045	0.048	0.042	0.042	0.062	0.035	0.044	0.081	0.071	0.047	0.037	0.031	0.057	0.052	0.046	0.065
7/10/10	0.049	0.038	0.033	0.036	0.036	0.044	0.032	0.038	0.045	0.049	0.040	0.031	0.026	0.040	0.039	0.038	0.044
7/11/10	0.065	0.064	0.060	0.058	0.064	0.056	0.051	0.062	0.061	0.048	0.061	0.054	0.055	0.061	0.059	0.065	0.057
7/12/10	0.059	0.048	0.043	0.049	0.048	0.056	0.051	0.049	0.059	0.049	0.028	0.048	0.049	0.049	0.052	0.049	0.056
7/13/10	0.063	0.048	0.056	0.056	0.045	0.054	0.061	0.045	0.058	0.038	0.063	0.058	0.049	0.051	0.055	0.047	0.053
7/14/10	0.057	0.046	0.034	0.042	0.050	0.046	0.035	0.053	0.053	0.057	0.044	0.035	0.040	0.042	0.045	0.048	0.054
7/15/10	0.076	0.076	0.067	0.071	0.069	0.061	0.054	0.073	0.068	0.061	0.067	0.051	0.056	0.065	0.069	0.075	0.066
7/16/10	0.088	0.066	0.063	0.073	0.067	0.063	0.088	0.067	0.065	0.061	0.086	0.060	0.064	0.065	0.070	0.067	0.062
7/17/10	0.086	0.070	0.069	0.074	0.064	0.059	0.074	0.061	0.068	0.057	0.086	0.066	0.073	0.064	0.065	0.071	0.066
7/18/10	0.061	0.056	0.056	0.058	0.054	0.058	0.057	0.052	0.057	0.055	0.061	0.051	0.061	0.053	0.055	0.059	0.058
7/19/10	0.073	0.050	0.055	0.066	0.042	0.046	0.073	0.042	0.050	0.052	0.069	0.061	0.053	0.049	0.054	0.051	0.054
7/20/10	0.060	0.056	0.052	0.057	0.054	0.057	0.048	0.049	0.060	0.051	0.060	0.041	0.053	0.056	0.060	0.058	0.055
7/21/10	0.057	0.050	0.050	0.051	0.046	0.053	0.048	0.043	0.054	0.049	0.057	0.043	0.054	0.048	0.049	0.054	0.052
7/22/10	0.069	0.069	0.062	0.065	0.066	0.062	0.057	0.064	0.064	0.065	0.065	0.050	0.057	0.064	0.068	0.068	0.065
7/23/10	0.101	0.082	0.071	0.082	0.058	0.063	0.090	0.061	0.059	0.047	0.101	0.086	0.070	0.072	0.074	0.075	0.050
7/24/10	0.067	0.059	0.053	0.055	0.051	0.053	0.056	0.049	0.055	0.049	0.067	0.053	0.063	0.050	0.053	0.062	0.051
7/25/10	0.059	0.057	0.048	0.050	0.045	0.049	0.050	0.042	0.049	0.042	0.054	0.043	0.059	0.049	0.050	0.054	0.045
7/26/10	0.065	0.044	0.048	0.049	0.062	0.048	0.039	0.065	0.049	0.043	0.054	0.044	0.043	0.051	0.050	0.058	0.047
7/27/10	0.080	0.062	0.078	0.067	0.056	0.080	0.055	0.058	0.070	0.055	0.068	0.060	0.055	0.072	0.062	0.057	0.065
7/28/10	0.077	0.066	0.071	0.066	0.057	0.026	0.077	0.056	0.071	0.061	0.074	0.068	0.059	0.067	0.077	0.062	0.065
7/29/10	0.057	0.052	0.047	0.050	0.052	0.050	0.050	0.051	0.055	0.053	0.053	0.041	0.057	0.044	0.042	0.048	0.051
7/30/10	0.061	0.061	0.052	0.054	0.055	0.051	0.045	0.060	0.050	0.049	0.056	0.042	0.048	0.047	0.054	0.039	0.050
7/31/10	0.078	0.067	0.076	0.075	0.062	0.066	0.055	0.065	0.064	0.056	0.078	0.060	0.063	0.062	0.073	0.066	0.059
8/1/10	0.060	0.049	0.058	0.056	0.044	0.053	0.052	0.040	0.055	0.048	0.060	0.048	0.049	0.047	0.049	0.045	0.057
8/2/10	0.056	0.042	0.046	0.050	0.041	0.048	0.045	0.040	0.056	0.042	0.053	0.042	0.045	0.035	0.044	0.040	0.053
8/3/10	0.052	0.039	0.048	0.042	0.037	0.052	0.041	0.040	0.049	0.039	0.047	0.040	0.040	0.047	0.050	0.038	0.043
8/4/10	0.075	0.065	0.064	0.063	0.047	0.068	0.070	0.054	0.064	0.057	0.075	0.067	0.059	0.060	0.068	0.061	0.066
8/5/10	0.068	0.062	0.052	0.051	0.053	0.056	0.053	0.052	0.056	0.053	0.056	0.049	0.068	0.044	0.050	0.065	0.060
8/6/10	0.066	0.064	0.053	0.058	0.066	0.057	0.051	0.064	0.059	0.053	0.061	0.047	0.058	0.058	0.058	0.063	0.058
8/7/10	0.071	0.055	0.065	0.059	0.050	0.062	0.053	0.054	0.068	0.057	0.060	0.049	0.059	0.063	0.071	0.056	0.063
8/8/10	0.069	0.060	0.068	0.062	0.058	0.069	0.059	0.058	0.068	0.063	0.067	0.053	0.056	0.067	0.065	0.057	0.063
8/9/10	0.079	0.065	0.076	0.065	0.069	0.072	0.060	0.051	0.071	0.051	0.076	0.067	0.060	0.070	0.079	0.058	0.067
8/10/10	0.115	0.099	0.086	0.115	0.079	0.083	0.082	0.077	0.085	0.073	0.110	0.075	0.083	0.072	0.082	0.080	0.079
8/11/10	0.097	0.098	0.071	0.071	0.097	0.071	0.064	0.093	0.071	0.067	0.072	0.080	0.068	0.069	0.080	0.068	0.083
8/12/10	0.068	0.065	0.061	0.060	0.063	0.066	0.043	0.057	0.067	0.053	0.068	0.051	0.053	0.058	0.066	0.061	0.061

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

DATE	Statewide Max	Davidsonville 24-003-0014	Padonia 24-005-1007	Essex 24-005-3001	Calvert Co (Stafford Rd) 24-009-0011	South Carroll 24-013-0001	Fairhill 24-015-0003	Hughesville 24-017-0010	Frederick Airport 24-021-0037	Piney Run 24-023-0002	Edgewood 24-025-1001	Aldino 24-025-9001	Millington 24-029-0002	Rockville 24-031-3001	HU-Beltsville 24-033-0030	PG Equestrian Center 24-033-8003	Hagerstown 24-043-0009
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
8/13/10	0.036		0.033	0.031	0.034	0.035	0.029	0.033	0.035	0.030	0.036	0.028	0.024	0.028	0.032	0.029	0.035
8/14/10	0.041		0.034	0.033	0.034	0.040	0.033	0.035	0.040	0.027	0.035	0.028	0.030	0.034	0.035	0.032	0.041
8/15/10	0.056		0.024	0.027	0.029	0.026	0.027	0.026	0.025	0.056	0.033	0.022	0.025	0.023	0.024	0.027	0.027
8/16/10	0.069		0.069	0.057	0.051	0.056	0.056	0.052	0.053	0.062	0.062	0.057	0.049	0.057	0.066	0.047	0.051
8/17/10	0.081	0.081	0.058	0.075	0.064	0.065	0.064	0.064	0.072	0.072	0.068	0.053	0.063	0.062	0.070	0.071	0.071
8/18/10	0.052	0.051	0.044	0.047	0.044	0.045	0.045	0.040	0.045	0.051	0.052	0.040	0.044	0.042	0.051	0.044	0.044
8/19/10	0.093	0.074	0.065	0.087	0.068	0.063	0.069	0.063	0.061	0.070	0.093	0.072	0.068	0.067	0.071	0.071	0.081
8/20/10	0.084	0.084	0.065	0.076	0.066	0.072	0.060	0.071	0.072	0.066	0.072	0.058	0.063	0.071	0.067	0.077	0.073
8/21/10	0.075	0.063	0.071	0.066	0.060	0.075	0.059	0.059	0.072	0.060	0.072	0.057	0.057	0.071	0.069	0.059	0.065
8/22/10	0.052	0.051	0.047	0.050	0.046	0.048	0.043	0.043	0.050	0.050	0.052	0.039	0.038	0.051	0.048	0.043	0.048
8/23/10	0.061	0.055	0.047	0.051	0.061	0.047	0.045	0.059	0.048	0.047	0.055	0.035	0.048	0.049	0.050	0.052	0.047
8/24/10	0.032	0.027	0.026	0.029	0.026	0.029	0.026	0.028	0.028	0.032	0.030	0.026	0.029	0.028	0.028	0.025	0.031
8/25/10	0.045	0.041	0.032	0.030	0.045	0.035	0.029	0.042	0.042	0.043	0.034	0.026	0.030	0.038	0.038	0.037	0.045
8/26/10	0.062	0.056	0.046		0.052	0.049	0.047	0.059	0.052	0.057	0.052	0.041	0.050	0.052	0.052	0.057	0.054
8/27/10	0.060	0.056	0.050		0.045	0.055	0.047	0.049	0.053	0.056	0.060	0.043	0.046	0.050	0.052	0.052	0.057
8/28/10	0.075	0.067	0.067		0.057	0.062	0.052	0.057	0.073	0.066	0.075	0.051	0.060	0.062	0.073	0.061	0.074
8/29/10	0.096	0.078	0.063		0.060	0.063	0.075	0.057	0.065	0.061	0.096	0.066	0.072	0.062	0.068	0.072	0.083
8/30/10	0.098	0.087	0.074	0.078	0.096	0.069	0.073	0.087	0.069	0.075	0.076	0.063	0.076	0.072	0.076	0.084	0.070
8/31/10	0.090	0.072	0.069	0.080	0.064	0.069	0.070	0.073	0.075	0.065	0.090	0.065	0.063	0.077	0.069	0.087	0.073
9/1/10	0.090	0.070	0.075	0.078	0.072	0.075	0.071	0.066	0.074	0.068	0.090	0.078	0.063	0.080	0.085	0.063	0.074
9/2/10	0.092	0.064	0.092	0.071	0.059	0.084	0.073	0.060	0.083	0.069	0.082	0.067	0.061	0.081	0.076	0.065	0.078
9/3/10	0.083	0.055	0.064	0.064	0.059	0.071	0.068	0.054	0.083	0.087	0.059	0.057	0.045	0.058	0.049	0.051	0.072
9/4/10	0.042	0.042	0.036	0.038	0.042	0.037	0.036	0.042	0.036	0.032	0.042	0.032	0.040	0.039	0.038	0.042	0.036
9/5/10	0.054	0.054	0.049	0.051	0.047	0.052	0.045	0.048	0.052	0.048	0.054	0.042	0.052		0.050	0.052	0.050
9/6/10	0.061	0.051	0.055	0.051	0.050	0.060	0.051	0.050	0.061	0.056	0.058	0.046	0.051		0.054	0.048	0.057
9/7/10	0.072	0.060	0.072	0.060	0.058	0.068	0.068	0.056	0.066	0.062	0.072	0.060	0.058	0.069	0.069	0.055	0.063
9/8/10	0.064	0.063	0.056	0.034	0.057	0.057	0.056	0.056	0.058	0.059	0.064	0.051	0.063	0.060	0.060	0.059	0.059
9/9/10	0.047	0.043	0.031	0.035	0.047	0.034	0.032	0.046	0.036	0.035	0.037	0.028	0.034	0.040	0.038	0.041	0.035
9/10/10	0.033	0.032	0.027	0.028	0.030	0.030	0.025	0.031	0.033	0.032	0.028	0.022	0.026	0.032	0.026	0.029	0.032
9/11/10	0.047	0.043	0.043	0.045	0.039	0.046	0.039	0.041	0.047	0.046	0.045	0.034	0.038		0.045	0.041	0.047
9/12/10	0.045	0.030	0.030	0.032	0.030	0.028	0.027	0.027	0.029	0.045	0.036	0.027	0.032		0.028	0.025	0.037
9/13/10	0.054	0.051	0.050	0.044	0.046	0.050	0.052	0.048	0.052	0.054	0.053	0.043	0.049		0.047	0.047	0.053
9/14/10	0.054	0.050	0.042	0.045	0.054	0.046	0.043	0.053	0.047	0.048	0.047	0.040	0.046	0.046	0.044	0.047	0.046
9/15/10	0.062	0.056	0.054	0.054	0.058	0.054	0.049	0.062	0.055	0.055	0.058	0.048	0.051	0.053	0.055	0.053	0.053
9/16/10	0.060	0.058	0.039	0.048	0.060	0.033	0.051	0.059	0.030	0.049	0.057	0.044	0.057	0.035	0.053	0.055	0.029
9/17/10	0.052	0.051	0.041	0.044	0.052	0.045	0.042	0.049	0.045	0.037	0.046	0.039	0.047	0.048	0.046	0.049	0.044
9/18/10	0.051	0.048	0.042	0.046	0.045	0.037	0.041	0.049	0.040	0.049	0.051	0.037	0.039	0.042	0.041	0.046	0.045
9/19/10	0.070	0.061	0.061	0.062	0.055	0.059	0.063	0.058	0.058	0.060	0.067	0.061	0.054	0.063	0.070	0.058	0.062
9/20/10	0.047	0.044	0.038	0.040	0.042	0.042	0.036	0.042	0.044	0.047	0.044	0.036	0.040	0.041	0.039	0.039	0.043
9/21/10	0.061	0.048	0.037	0.043	0.048	0.046	0.041	0.045	0.054	0.061	0.049	0.038	0.040	0.051	0.046	0.043	0.055
9/22/10	0.071	0.065	0.071	0.063	0.060	0.071	0.070	0.060	0.063	0.069	0.069	0.059	0.060	0.067	0.067	0.060	0.068
9/23/10	0.076	0.061	0.064	0.061	0.062	0.075	0.060	0.066	0.076	0.060	0.062	0.060	0.061	0.055	0.062	0.066	0.068
9/24/10	0.077	0.074	0.073	0.075	0.071	0.072	0.077	0.069	0.064	0.065	0.077	0.077	0.072	0.071	0.073	0.067	0.068
9/25/10	0.071	0.071	0.052	0.056	0.059	0.054	0.054	0.056	0.054	0.053	0.066	0.055	0.061	0.055	0.057	0.067	0.056
9/26/10	0.039	0.033	0.032	0.031	0.035	0.035	0.026	0.035	0.032	0.039	0.029	0.030	0.027	0.031	0.029	0.032	0.037
9/27/10	0.028	0.023	0.020	0.022	0.022	0.022	0.019	0.019	0.020	0.028	0.022	0.019	0.020	0.019	0.021	0.020	0.021
9/28/10	0.043	0.041	0.041	0.035	0.039	0.041	0.037	0.041	0.039	0.033	0.042	0.041	0.035	0.043	0.043	0.039	0.035
9/29/10	0.033	0.018	0.023	0.024	0.021	0.027	0.027	0.019	0.028	0.033	0.026	0.025	0.023	0.019	0.016	0.015	0.025
9/30/10	0.035	0.024	0.025	0.024	0.023	0.033	0.027	0.025	0.035	0.032	0.026	0.027	0.024	0.031	0.011	0.024	0.032

Color Legend:

- Good (0 to 64 ppb)
- Moderate (65 to 84 ppb)
- Unhealthy for Sensitive Groups (85 to 104 ppb)
- Unhealthy (105 to 124 ppb)
- Very Unhealthy (> 124 ppb)

Figure 2-7

Delaware 2010 Ozone Exceedance Summary Table

Exceedances of 8-hour Ozone NAAQS (0.075 ppm)

Note: Data have not been validated.

Date	Brandywine	Bellefonte	Summit Bridge (Lums)	Felton (Killens)	Seaford	Lewes
May 6					0.079	
June 22	0.078	***	***			
June 23			***	0.077	0.084	0.082
June 26	0.084	0.087	0.080			
July 4	0.077					
July 5	0.078	0.077	0.079	0.077	0.087	0.083
July 6	0.080	0.076			0.078	0.078
July 7	0.079	0.076	0.085	0.092	0.091	0.098
July 16	0.079					
July 17			0.076			
July 23	0.086	0 080	0.080			
August 10	***	0.080	0.086	0.087	0.080	***
August 11	***			0.089	0.086	***
August 19	***	0.087				
August 30		0.079			0.078	0.090
September 1		0.077				
September 22	0.079		***			
September 24			***		0.077	

*** No data available

Total number of days exceeding the 8-hour NAAQS:

New Castle County	= 14
Kent County	= 5
Sussex County	= 9
Total Days in Delaware	= 18

Analysis of Emergency DR and Ozone Concentrations

Prepared For:

EnerNOC
101 Federal Street; Suite 1100
Boston, MA 02110

Prepared By:

Blue Sky Environmental LLC
1040 Great Plain Avenue
Needham, MA 02492

February, 2011

On August 25, 2010, CPower, Inc., EnergyConnect, Inc, EnerNOC, Inc., and Innoventive Power, LLC (collectively the "Companies") met with the EPA. At that meeting, EPA requested that the Companies provide the dates of emergency demand response ("DR") events to determine if there is a correlation between emergency DR and ozone ("O_3") exceedances. Furthermore, in EPA's Federal Register Notice published on December 7, 2010 seeking public comment on EPA's Notice of Reconsideration for the Petition filed by the Companies, EPA requested "information on the environmental impact of the operation of these engines. EPA is interested in information on the typical frequency and duration of the operation of these engines in emergency DR programs and whether their operation tends to occur on high ozone days."

In summary, there is no correlation between emergency DR and high O_3 concentrations. Although some emergency DR events are called during high O_3 days, many DR events occur on non-exceedance O_3 days and many more days have high O_3 alerts but no DR events. The data does not show that the use of emergency engines during the DR events causes high O_3, particularly since in many instances the O_3 concentrations are high or higher on the days preceding an event. In the analysis that follows we look at emergency DR dispatch days by each independent system operator and compares them with the incidence of O_3 exceedance days.

1.0 ISO-New England

Emergency DR with the use of generators has only been called three times in New England. Table 1 below summarizes the dates of each event along with the geographic extent, duration, and if the event occurred on a high O_3 day[1]. The Massachusetts Department of Environmental Protection ("MassDEP"), Connecticut Department of Environmental Protection ("CTDEP"), and New Hampshire Department of Environmental Services ("NHDES") ambient air monitoring networks for O_3 are presented in Attachment 1 in Figures 1-1 through 1-3. Attachment 1 also provides the monthly observed daily maximum 8-hour O_3 concentrations in New England associated with each event (see Figures 1-4 through 1-8).

Table 1

Summary of Emergency DR Events in New England

Date	Geographic Extent	Duration (Hours)	High O_3 Day?
August 2, 2006	All of New England	3.75	Yes in CT and MA; No in NH
July 27, 2005	Connecticut Only	5.95	Yes
August 15, 2003	Southwest Connecticut Only	16.5	No

[1] In this analysis, a high O_3 day is defined as a day when there was an exceedance, in the vicinity of the DR event, of the National Ambient Air Quality Standard ("NAAQS") for O_3 that was in effect at the time of the event. Effective March 27, 2008, the NAAQS for O_3 was changed by EPA to 75 ppb. Prior to 2008, the NAAQS was 80 ppb, effectively 84 ppb using rounding conventions.

August 2, 2006

The only system wide dispatch by ISO New England ("ISO-NE") that involved emergency generators occurred on August 2, 2006 when record electric power demands were set. On that day, the ISO-NE emergency DR program was called for a total of 3.75 hours. Record peak demands were also set a few weeks prior to August 2, 2006 but the emergency DR program was not called because the electric transmission system was working properly.

Figures 1-4 through 1-6 provide the 8-hour O_3 daily maximums over all monitors in Connecticut, Massachusetts, and New Hampshire for August, 2006. The color coding of good to unhealthy O_3 concentrations used by the Connecticut Department of Environmental Protection ("DEP") is used in this entire analysis (see the legend on the bottom of Figure 1-5). From August 1 through 3, New England was experiencing a severe heat wave with temperatures in the mid to upper 90s and with some locations reaching 100°F or more. As shown in Figure 1-4, the maximum O_3 concentrations in Massachusetts exceeded 100 ppb on all three days with the highest values being observed on August 1, the day prior to the emergency DR event. Accordingly, one cannot claim that emergency DR causes or contributes to higher values since August 2 experienced a drop in the highest O_3 concentrations from the previous day (from August 1 to August 2, Fairhaven dropped from 104 to 89 ppb, Martha's Vineyard dropped from 112 to 111 ppb, and Truro dropped from 105 to 96 ppb). Some sites in Connecticut (see Figure 1-5) showed an increase of O_3 on August 2 (Groton, Madison, Stratford, and Westport); whereas, other sites showed a decrease (Cornwall, Danbury, Greenwich, Middletown, and New Haven). Thus, again, one cannot say that emergency DR caused higher O_3 levels in Connecticut on August 2. As shown in Figure 1-6, there were no measurements of O_3 exceedances in New Hampshire on August 2, although Rye reported a value of 78.5 ppb on August 1, the day prior to the emergency DR event. Thus, in New Hampshire, emergency DR did not contribute to any exceedances on August 2.

July 27, 2005

On July 27, 2005, a day when record electric power demands to date in all of New England were set, the ISO-NE emergency DR program was called in southwest Connecticut only, for a total of 5.95 hours. As shown in Figure 1-7, on July 27, six of the monitors measured O_3 concentrations greater than or equal to 85 ppb, with an additional two monitors greater than 70 ppb. However, the day before, which was not an emergency DR event, there were seven monitors that measured O_3 concentrations greater than or equal to 85 ppb, with an additional five monitors greater than 70 ppb. Although the magnitude of O_3 concentrations was highest on July 27 versus July 26, that value was only 2% higher (104 ppb measured at Danbury on July 26 versus 106 ppb on July 27), which is insignificant. Furthermore, O_3 concentrations greater than or equal to 70 ppb were more widespread the day before the emergency DR event than the day of the emergency DR event (ten sites versus eight sites).

August 15, 2003

On August 15, 2003, the day after the major eastern United States blackout, the ISO-NE emergency DR program was called in Connecticut only, for 16.5 continuous hours[2]. As shown in Figure 1-8, there were no exceedances of the existing ozone 8-hour O_3 standard at the time. The highest observed O_3 concentration was 76 ppb measured at the Madison station. The next day (not an emergency DR event) the concentration at this site was measured to be 84 ppb. In fact, for nine of the eleven monitors, the O_3 concentrations were higher on August 16 (not an emergency DR day) versus August 15 (an emergency DR day). Thus, one cannot conclude that the O_3 concentrations in Connecticut were higher on August 15, 2003 due to emergency DR being activated by ISO-NE.

2.0 PJM Interconnection, Inc.

From 2003 through 2009, the PJM Emergency Load Response Program ("ELRP") has been called five times for a cumulative total of 20 hours. In 2010, the ELRP was called four times, three times in Pepco only and once in a subset of the Mid Atlantic zones. Although the ELRP was also called prior to 2003, very few emergency engines were involved in the program at that time[3]. The ELRP has only been called in the eastern portion of PJM; it has never been called in the western portion. Table 2 below summarizes the dates of each event since 2003 along with the geographic extent, duration, and if the event occurred on a high O_3 day. Attachment 2 provides the monthly observed daily maximum 8-hour O_3 concentrations in selected PJM states associated with each event. The PJM zone map is provided in Figure 2-1. The current O_3 ambient air monitoring network for MDE is shown in Figure 2-2. Detailed daily O_3 data by monitor provided by the Maryland Department of the Environment ("MDE") were used for the analysis and are presented in Attachment 2 (see Figures 2-3 through 2-6). In addition, 8-hour O_3 exceedance data available from the Delaware Department of Natural Resources and Environmental Control ("DNREC") website were also used (see Figures 2-7 through 2-10).

2010

As shown in Table 2, the PJM ELRP was called on four days in 2010 in select areas of PJM. Using the O_3 exceedance data for 2010 from Maryland and Delaware (see Figures 2-3 and 2-10), three of the four days were not O_3 exceedance days.

[2] Under the current NESHAP, emergency engines would not have been able to participate in this event for more than 15 hours if those engines were to maintain their emergency-only status.

[3] In 2002 there were 64 sites registered in the ELRP versus 4,427 sites in 2006 (Source: PJM 2006 State of the Market Report; Volume II: Detailed Analysis – Market Monitoring Unit – March 8, 2007; page 90) http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2006/2006-som-volume-ii.pdf

Table 2

Summary of Emergency DR Events in Eastern PJM

Date	Geographic Extent[4]	Duration (Hours)	High O_3 Day?
August 12, 2010	Pepco Only	6	No
July 7, 2010	Mid Atlantic (subset)	4-5 hours depending on zone	Yes
June 1, 2010	Pepco Only	4	No
May 26, 2010	Pepco Only	4	No
August 8, 2007	Mid Atlantic	4	No
August 2, 2006	Mid Atlantic	4	No in MD, Yes in DE
August 3, 2006	Mid Atlantic	5	No in MD, Yes in DE
July 27, 2005	Mid Atlantic and Dominion	4	Yes
August 4, 2005	Mid Atlantic	3	Yes

In Maryland, May 26 was not an O_3 exceedance day (the highest observed concentration was 71 ppb); however, the day after the emergency DR event was an exceedance day (the highest observed concentration 89 ppb). Similarly on June 1, there were no exceedances (the highest observed concentration was 59 ppb), but the day after the emergency DR event there were exceedances with the highest observed concentration of 87 ppb being recorded. July 7 was an exceedance day with a maximum of 94 ppb measured; however, the four days prior to and the one day after the emergency DR event, there also were exceedances reported. A maximum of 97 ppb was measured on July 5 and 99 ppb was measured on July 6; both values higher than the 94 ppb measured on the emergency DR event day. Thus, engines operating during any of the emergency DR events in 2010 did not cause O_3 exceedances in Maryland.

In Delaware, high O_3 concentrations were recorded on the July 7 emergency DR event (concentrations ranged from 76 to 98 ppb). However, high O_3 concentrations were also observed on the previous three days (July 4 through 6) which were not emergency DR events (concentrations ranged from 76 to 87 ppb). Although the highest concentrations were observed on July 7, since the previous three days also recorded high concentrations, it cannot be concluded that the use of emergency engines during the July 7 emergency DR event contributed to the high concentrations recorded on July 7.

[4] In Figure 2-2, Mid Atlantic refers to Atlantic City Electric Company, Delmarva Power and Light Company, Potomac Electric Power Company, Pennsylvania Electric Company, Baltimore Gas and Electric Company, Jersey Central Power and Light Company, and Public Service Electric and Gas Company. Dominion is now known as the Virginia Electric and Power Company.

2007

As shown in Table 2, the ELRP was called once in 2007 on August 8 in the Mid Atlantic PJM zones. As shown in Figure 2-4, the highest observed 8-hour O_3 concentrations in Maryland on August 8 were all less than the 85 ppb standard at that time. Note that there were exceedances on August 6 (one monitor recorded 85 ppb) and 7 (one monitor recorded 89 ppb), the days prior to the emergency DR event. Thus, emergency DR did not contribute to O_3 exceedances on August 8 in Maryland. As shown in Figure 2-8 there were no O_3 exceedances on August 8 in Delaware also.

2006

As shown in Figure 2-5, the 2006 highest observed 8-hour O_3 concentrations in Maryland on August 2 and 3 were all less than the 85 ppb standard at that time. Note that there were exceedances on August 1 (two monitors at 94 and 85 ppb), the day prior to the emergency DR event. Thus, emergency DR did not contribute to O_3 exceedances on August 2 and 3 in Maryland. As shown in Figure 2-9, there was one exceedance in Delaware on August 2 (85 ppb) and three on August 3 (88 ppb at two monitors and 89 ppb at one). The highest observed concentration in 2006 was 95 ppb and occurred on May 30 which was not an emergency DR event.

2005

In 2005 the ELRP was called on July 27 and August 4. As shown in Figure 2-6, both days were ozone exceedance days in Maryland.

On July 27, there was on only one monitor in Maryland that exceeded the standard; the highest observed O_3 concentration was 91 ppb. Note that on the two days prior to the emergency DR event the highest recorded O_3 concentrations were 97 ppb (7% higher than July 27) on July 25 and 109 ppb (20% higher than July 27) on July 26. Also it should be noted that July 26 was the 2005 peak demand day with 133,763 MW of electricity required[5]. The electric system was operating properly on July 26, so even though it was the annual peak demand day, emergency DR was not required. Since the two previous days show higher O_3 concentrations in Maryland, emergency DR did not contribute to the O_3 exceedances on July 27. As shown in Figure 2-10, there was also only one monitor in Delaware that exceeded the standard; the highest observed O_3 concentration was 91 ppb. The previous day, which was not an emergency DR event, also showed a monitor with an exceedance.

On August 4 six monitors in Maryland exceeded the existing O_3 standard at the time with the highest recorded concentration being 108 ppb. The previous two days also show O_3 exceedances of 97 ppb on August 3 and 89 ppb on August 2. The day after the emergency DR event also shows an exceedance of 94 ppb on August 5. Although the highest O_3 concentration occurred on August 4, one cannot say that the exceedance was

[5] 2005 PJM State of the Market Report - Market Monitoring Unit – March 8, 2006.
http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2005/20060407-som.pdf

caused by emergency DR. In Delaware there were two exceedances recorded (88 and 108 ppb) on August 4 but there were also exceedances recorded on August 3 (95 ppb) and August 5 (98 ppb) and both of these days were not emergency DR events.

3.0 New York Independent System Operator

Attachment 12 of the Companies Petition for Reconsideration submitted to the EPA on May 27, 2010 lists the New York Independent System Operator ("NYISO") called events and tests from 2001 through early 2010. Please note that an emergency DR event is labeled as "SCR/EDRP[6]" or "TDRP" in the Program column and "Event" in the Event/Test column. During this time period, there were 19 emergency DR events ranging from 4 to 15 hours per event. The emergency DR events in New York are summarized in Table 3. O_3 data provided by the New York State Department of Environmental Conservation ("NYSDEC") were used for the analysis and is presented in Attachment 3. The New York control area load zones are shown in Figure 3-1. The current O_3 ambient air monitoring network for NYSDEC is shown in Figure 3-2.

Table 3
Summary of Emergency DR Events in New York[7]

Date	Load Zones Called[8]	Duration (Hours)	High O_3 Day?
August 3, 2007	J8	4.5	Yes
July 19, 2007	J3	15	No
August 3, 2006	J, K	6	Yes
August 2, 2006	A, B, C	5	No
August 2, 2006	J, K	6	Yes
August 1, 2006	J, K	5	Yes
July 19, 2006	J	9	No
July 18, 2006	H, I, J, K	9	Yes
July 27, 2005	G, H, I, J, K	4	Yes
August 16, 2003	All	8	No
August 15, 2003	All	14	No[9]
August 14, 2002	All	5	Yes
July 30, 2002	All	5	No
April 18, 2002	G, H, I, J, K	6	No
April 17, 2002	G, H, I, J, K	6	No
August 10, 2001	F, G, H, I, J, K	4.5	No[10]

[6] Special Case Resources ("SCR"); Emergency Demand Response Program ("EDRP"); Targeted Demand Response Program ("TDRP")

[7] The NYISO emergency DR program was called three times in New York June 28 for 7 hours in New York City subzones; and July 6 and 7 for 6 hours each in New York City. These days are not included in the analysis because the ozone data is still be analyzed by the NYSDEC.

[8] See Figure 3-1 for a map with the New York Control Area Load Zones. Note that Regions J3 and J8 are subregions of Zone J.

[9] Except for one monitor at Perch River where 86 ppb was measured.

[10] Except for one monitor at Riverhead where 95 ppb was measured.

August 9, 2001	All	8	Yes
August 8, 2001	All	4	No[11]
August 7, 2001	All	4	Yes

2007

As shown in Table 3, there were two emergency DR events in subregions of New York City (Region J8 on August 3 for 4.5 hours and Region J3 for 15 hours on July 19). Figure 3-3 presents the July and August, 2007 daily 8-hour maximum O_3 concentrations in parts per million ("ppm"). The data from the emergency DR date and the preceding two days are color coded as per the legend on the bottom of Figure 3-3.

For July 19, there were no exceedances of the 8-hour O_3 standard at any monitor. Note that two days prior to the emergency DR event, O_3 concentrations were much higher. On July 17, the maximum O_3 concentration was 100 ppb recorded at White Plains and concentrations at Babylon and Riverhead were 73 and 79 ppb, respectively. Thus, the operation of emergency engines during the July 19 emergency DR event in New York did not contribute to high O_3 concentrations. In fact, the emergency DR event itself did not occur on a high ozone day.

For August 3, the highest 8-hour O_3 concentration was 86 ppb measured at White Plains. High concentrations of 85 ppb were also measured at Amherst and Dunkirk. However, on August 2, which was not an emergency DR event, the maximum O_3 concentration was 10 percent higher with a measurement of 95 ppb at Babylon. This same monitor recorded only 56 ppb on August 3 during the emergency DR event. For the monitors that recorded high concentrations on August 3, the O_3 concentrations were even higher the day before (White Plains recorded 94 ppb on August 2 versus 86 ppb on August 3; Amherst 86 versus 85 ppb; and Dunkirk 93 versus 85 ppb). Thus, although the emergency DR event occurred on a high ozone day, the ozone concentrations were lower than the previous day which also was a high ozone day. Thus, the operation of emergency engines during the August 3 event in New York did not cause higher O_3 concentrations than the previous day.

2006

As shown in Table 3, there were six emergency DR events in New York in 2006 over five days. Figure 3-4 presents the July and August, 2006 daily 8-hour maximum O_3 concentrations. The data for the day prior to each event are also highlighted.

Emergency DR was called for two consecutive days on July 18 and 19. July 18 was a high O_3 day with the maximum concentration of 130 ppb occurring at the Riverhead monitor; however, July 19 was not a high O_3 day – the maximum observed concentration was only 68 ppb. It is uncertain to what extent, if any, the use of backup emergency generators contributed to the high O_3 concentrations on July 18. Note that the

[11] Except for one monitor at Dunkirk where 86 ppb was measured.

concentrations on the prior day (July 17), which was not an emergency DR event, are also very high in the New York City area. The use of generators on July 19 did not contribute to any ozone exceedances.

For three consecutive days from August 1 through 3, four separate emergency DR events were called. One event on August 2 was called for five hours in northwest New York in Zones A, B, and C. The monitors in these zones (Amherst, Middleport, Rochester, Williamson, Fulton, Camden, and East Syracuse) did not record any exceedances of the ozone standard; thus, for this area emergency DR was not called on a high O_3 day. At all of these monitors the O_3 concentrations were higher on the previous non-emergency DR day (July 31). The remaining emergency DR events on August 1 through 3 were called in Zones J (New York City) and K (Long Island). In these areas, these days were high ozone days with a maximum record O_3 concentration of 103 ppb recorded on August 2 at the Riverhead monitor. However, one cannot state that the use of backup emergency generators contributed to the high O_3 concentrations.

2005

In 2005 there was only one 4-hour emergency DR event occurring on July 27 in southeastern New York in Zones G through K. Although July 27 was a high O_3 day with a maximum concentration of 90 ppb recorded at the Susan Wagner monitoring site (see Figure 3-5 where the data for the prior day are also highlighted), July 26, a non-emergency DR day, was also a high O_3 day with a maximum concentration of 98 ppb (or 9% higher) at the same monitor. Thus, operation of emergency engines on July 27 did not contribute to the high O_3 concentrations.

2003

In 2003 there were two consecutive emergency DR events on August 15 and 16, as shown in Figure 3-6 (August 14 is also highlighted for comparison). On August 15 the highest recorded O_3 concentration was 86 ppb at the Perch River monitoring station in northern New York. All other stations recorded concentrations less than 85 ppb. The O_3 concentrations in New York City were all less than 70 ppb. On August 16, the highest measured concentration was 76 ppb measured at the Babylon monitoring station on Long Island. All remaining concentrations were below 70 ppb. All but one monitor in New York recorded concentrations below 85 ppb on August 15 and 16; thus, these should not be considered high ozone days. Furthermore, since in 2003 there were very few emergency engines operating in emergency DR events, particularly in upstate New York, the operation of engines most likely did not contribute to the recorded higher concentration at Perch River.

2002

In 2002 emergency DR events were called for two consecutive days on April 17 and 18 and also on July 30 and August 14.

On both April 17 and 18, the highest O_3 concentration was measured at the Mt. Ninham station north of New York City in Putnam County (see Figure 3-7 where the day prior to each event are also highlighted). Although concentrations of 79 and 70 ppb were

measured on April 17 and 18, a higher concentration of 81 ppb was measured at the same monitor on April 16, a day that an emergency DR event was not called. Thus, engines operating in the emergency DR events on April 17 and 18 did not contribute to the higher concentrations measured. On April 17 all monitors recorded O_3 concentrations much less than 85 ppb. On April 18, other than the 70 ppb measurement at Mt. Ninham, all other monitors recorded O_3 concentrations less than 67 ppb. Thus, emergency DR was called on days that were not high ozone days.

On July 30, the highest measured O_3 concentration was 66 ppb measured in western New York; thus, this was not a high ozone day. On July 29 (a non-emergency DR day), the highest measured concentration was 87 ppb measured on Long Island. Thus, the use of emergency engines in the DR event on July 30 did not contribute to any high O_3 concentrations.

The emergency DR event that was called for 5 hours on August 14, 2002 occurred during a 6-day period from August 10 through 15 of high ozone days when the maximum measured O_3 concentrations ranged from 95 to 137 ppb. As shown in Figure 3-7 for this event, the data was analyzed from August 10 through 14. The highest measured O_3 concentration during this period was 137 ppb and occurred on August 14 at the Millbrook receptor which is north of New York City in Dutchess County. Very high concentrations were also measured at this site during the four days prior to August 14 during days when emergency DR events were not called. Since so many monitors measured high O_3 concentrations throughout the State during this period of which only one day with five hours of emergency DR occurred, one cannot conclude that emergency DR had an effect on the measured high concentration on August 14.

2001

In 2001 emergency DR events were called for four consecutive days from August 7 through 10 during a 6-day period of high O_3 days from August 5 through 10. As shown in Figure 3-8 where the six high O_3 days are highlighted, the highest measured O_3 concentration was 112 ppb measured on August 7 at the World Trade Center monitor in Manhattan. At this same monitor, O_3 concentrations were measured at much lower values of 62 ppb on August 8 and 71 ppb on August 10, both emergency DR days. Measurements were not available for August 9. It is difficult to conclude that the operation of emergency engines on August 7 through 10 had an effect on air quality since the measured O_3 concentrations vary considerably from station to station during this time period.

4.0 ERCOT

Three years after creating the Emergency Interruptible Load Service ("EILS") program, ERCOT dispatched EILS resources for the first time ever on February 2-3, 2011 for a total of 25 hours[12] after extreme weather conditions caused 50 power plants representing **7,000 MW, or 15% of**

[12] Although the ERCOT FERC tariff limits emergency DR to three 8-hour maximum events per year for a total of 24 hours, once an emergency DR event is activated, that event can last until the event is ended; thus, the total number of hours allowed under the tariff can exceed 24 hours.

generation, to go offline in Texas. In response to this sweeping outage, the grid operator asked the public to reduce electricity usage, activated all of their DR resources, and implemented 4,000 MW of firm load shed. A summary is provided in Table 4.

Table 4

Summary of Emergency DR Events in ERCOT

Date	Geographic Extent	Duration (Hours)	High O_3 Day?
February 2-3, 2011	Texas - ERCOT	25	No

5.0 Conclusions

There is no correlation between emergency DR and high O_3 concentrations. Although some emergency DR events are called during high O_3 days, many DR events occur on non-exceedance O_3 days and many more days have high O_3 alerts but no DR events. The data does not show that the use of emergency engines during the DR events causes high O_3, particularly since in many instances the O_3 concentrations are high or higher on the days preceding an event.

Attachment 1

(to Attachment 2 Analysis of Emergency DR and Ozone Concentrations)

New England

Monitoring Network Sites and MassDEP, CTDEP, and

NH DES Ozone Data

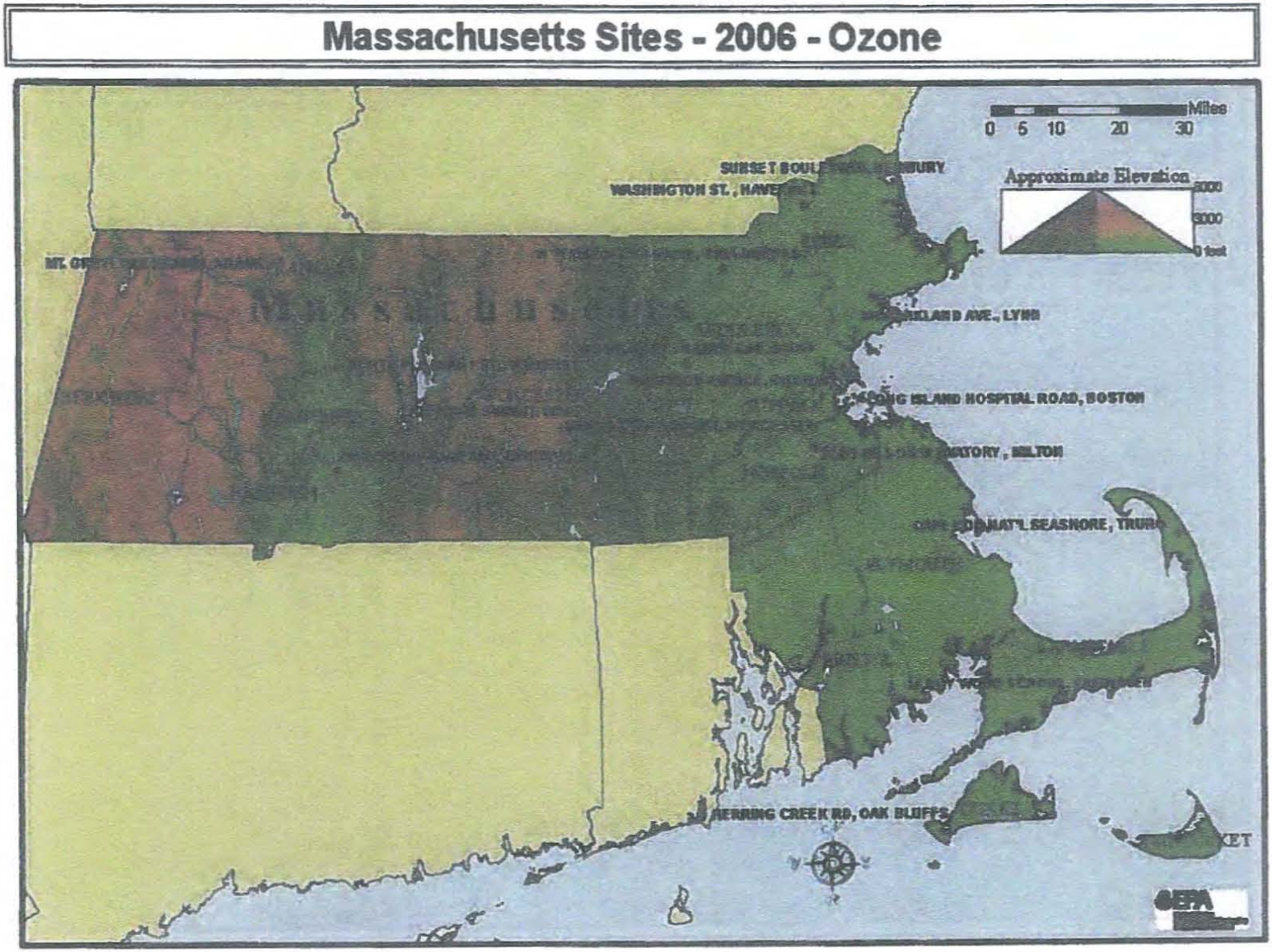


Figure 1-1. MassDEP ambient air monitoring network for ozone.

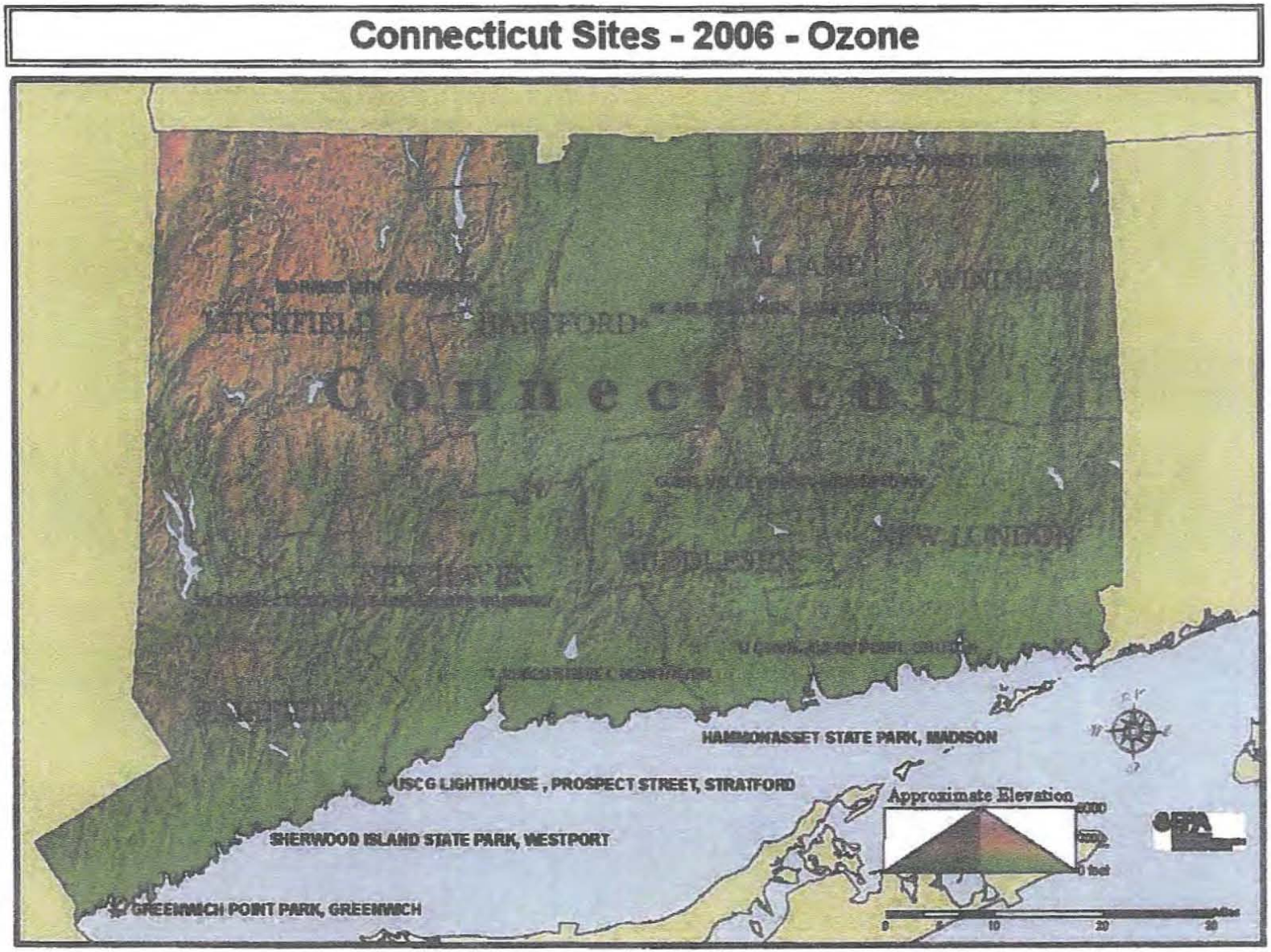


Figure 1-2. CT DEP ambient air monitoring network for ozone.

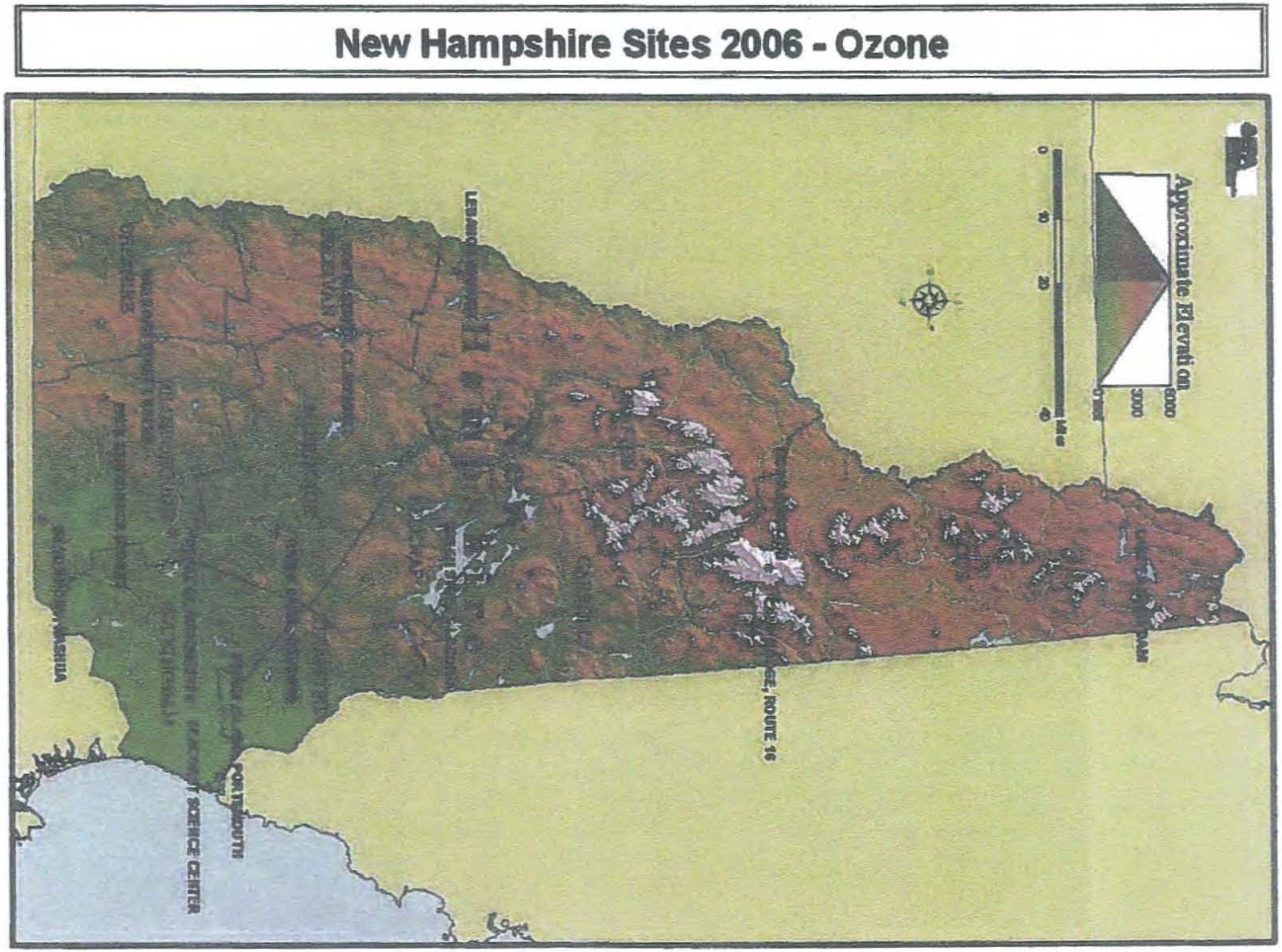


Figure 1-3. NHDES ambient air monitoring network for ozone.

Massachusetts Department of Environmental Protection August 2006 Ozone Data

	Adams	Amherst	Boston - Long Is.	Boston - Roxbury	Chicopee	Blue Hill	Fairhaven	Haverhill	Lynn	Martha's Vinyard	Newbury	Stow	Truro	Ware	Worcester
8/1			67			68	104		71						
8/2						72	89		66				96		
8/3							81			101			81		
8/4															
8/5															
8/6															
8/7	65		67		84			72	65		67	71		86	83
8/8															
8/9															
8/10					68	69	69						76	65	65
8/11															
8/12															
8/13															
8/14	77	74	66		82	68	68	69	69	67	68	70	73	84	77
8/15							65						72		
8/16															
8/17															
8/18					66									67	
8/19	68				66										
8/20															
8/21															
8/22							66						65		
8/23							65								
8/24															
8/25															
8/26															
8/27															
8/28															
8/29															
8/30															
8/31															

Figure 1-4. MassDEP – August, 2006 4th Maximum 8-Hour Average Daily Maximum O_3.

Connecticut Department of Environmental Protection
8-Hour Ozone Daily Maximums
August 2006

Site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Cornwall	60	58	55	42	42	46	71	45	50	70	36	37	40	82	47	44	52	65	63	53	48	59	46	45	30	31	39	44	23	32	30
Danbury	62	61	58	35	41	46	79	42	54	71	31	35	36	79	45	40	47	58	57	53	33	52	39	47	24	26	26	30	12	23	23
East Hartford	56	58	53	48	46	42	79	40	45	72	34	34	35	73	35	39	45	52	57	49	28	51	38	44	23	29	17	28	15	7	31
Greenwich	97	95	75	44	57	46	80	46	62	69	39	42	42	76	45	61	57	61	42	60	44	66	53	48	49	36	33	35	20	28	33
Groton (AP)	90	100	92	42	52	40	58	45	52	61	35	39	40	68	61	62	58	53	41	61	31	57	55	40	46	39	43	39	22	30	35
Madison	82	100	95	47	62	42	70	46	57	67	38	38	41	65	56	54	48	58	43	64	33	64	54	41	41	35	37	27	16	33	31
Middletown	72	68	65	43	49	38	83	42	54	75	36	36	35	65	48	42	41	52	54	50	32	58	42	43	27	32	28	22	14	33	30
New Haven	79	75	63	38	51	41	76	43	50	63	34	36	36	57	40	40	42	51	46	51	32	38	42	41	32	33	31	20	11	17	28
Stafford	57	57	54	32	28	40	89	39	51	70	30	36	37	82	51	42	36	61	61	46	27	53	43	46	26	34	30	34	18	25	27
Stratford	93	95	87	39	59	42	81	44	60	67	37	39	42	70	50	55	53	63	44	59	35	66	62	49	54	38	36	28	15	29	30
Westport	48	87	80	42	56	43	86	46	62	68	35	39	41	72	46	54	52	63	42	59	40	69	52	47	31	37	34	32	7	25	29
# days > Federal Standard	10	11	12				13																								

Good (0-64 ppb)
Moderate (65-84 ppb)
Unhealthy for Senstive Groups (85-104 ppb)
Unhealthy (105-124 ppb)
Very Unhealthy (125 > ppb)

Units - parts per billion (ppb)
Federal Standard = 85 ppb
M = missing data

Figure 1-5. CTDEP – August, 2006 4th Maximum 8-Hour Average Daily Maximum O_3.

New Hampshire - August 2006
4th Maximum 8-Hour Avg Daily Max

Station ID	Town	Parameter	YR	MO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Max	Average Daily Max
33-015-0014	PORTSMOUTH	O3 (PPB)	2006	8																																65.7	39.06
33-011-0020	MANCHESTER	O3 (PPB)	2006	8																																72.4	37.55
33-001-2056	LACONIA	O3 (PPB)	2006	8																																55.1	34.70
33-005-0007	KEENE	O3 (PPB)	2006	8																																60.0	35.85
33-019-0003	CLAREMONT	O3 (PPB)	2006	8																																58.9	33.43
33-013-1007	CONCORD	O3 (PPB)	2006	8														64.1																		68.1	37.01
33-015-0010	RYE	O3 (PPB)	2006	8	76.5						69.4							68.3																		78.5	39.96
33-009-0010	LEBANON	O3 (PPB)	2006	8							64.8																									64.8	32.65
33-011-1011	NASHUA	O3 (PPB)	2006	8							72.5							75.5																		75.5	39.80
33-011-0001	PETERBOROUGH	O3 (PPB)	2006	8							70.0							78.1																		78.1	37.78
33-007-4001	THOMPSON AND MESERVES PURCHASE	O3 (PPB)	2006	8																																61.1	43.84
33-007-4002	GREENS GRANT	O3 (PPB)	2006	8																																53.9	32.64
33-007-4003	PITTSBURG	O3 (PPB)	2006	8																																53.3	30.00

Figure 1-6. NHDES – August, 2006 4th Maximum 8-Hour Average Daily Maximum O_3.

Connecticut Department of Environmental Protection
8-Hour Ozone Daily Maximums
July 2005

Site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Cornwall	60	37	44	50	65	47	29	28	39	52	66	67	37	46	60	35	33	48	67	50	49	72	36	52	63	94	74	42	66	60	65
Danbury	60	32	43	55	61	45	26	23	42	44	57	56	38	56	71	38	36	56	71	53	72	86	36	55	52	104	106	41	66	62	75
East Hartford	47	31	43	45	64	39	26	24	39	40	59	60	36	56	68	35	28	48	60	53	56	71	36	46	58	95	103	43	61	60	63
Greenwich	48	40	46	43	54	46	30	23	49	46	73	51	38	51	54	35	34	49	81	68	85	86	38	60	73	89	93	43	63	61	58
Groton (AP)	40	40	42	40	35	40	26	32	46	45	72	36	38	35	32	35	37	38	72	63	81	59	37	50	57	71	63	36	52	50	67
Madison	36	35	40	38	43	36	29	25	49	40	67	40	33	28	M	M	M	33	88	62	92	89	39	58	66	80	76	41	59	59	64
Middletown	41	38	40	37	59	40	25	25	40	40	52	47	36	52	53	29	30	47	71	54	57	76	37	56	68	96	85	41	68	63	65
New Haven	40	36	41	42	48	38	26	22	41	42	52	47	36	36	49	34	28	44	55	56	61	77	37	58	49	82	81	40	49	66	70
Stafford	45	32	44	45	72	42	23	30	34	42	61	55	42	63	55	35	29	47	65	57	55	74	30	49	65	92	101	39	56	49	47
Stratford	43	33	45	46	54	44	32	24	47	44	62	49	41	51	58	32	32	46	86	63	92	88	36	63	74	78	87	54	61	65	68
Westport	43	33	43	45	59	40	28	18	45	41	61	45	35	50	53	32	32	41	84	61	91	88	36	61	71	92	21	49	59	62	62
# days > Federal Standard																			7		8	9				10	11				

Good (0-64 ppb)
Moderate (65-84 ppb)
Unhealthy for Senstive Groups (85-104 ppb)
Unhealthy (105-124 ppb)
Very Unhealthy (125 > ppb)

Units - parts per billion (ppb)
Federal Standard = 85 ppb
M = missing data

Figure 1-7. CTDEP – July, 2005 4th Maximum 8-Hour Average Daily Maximum O_3.

Connecticut Department of Environmental Protection

8-Hour Ozone Daily Maximums
August 2003

Site	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Cornwall						70															73	75			73				65		
Danbury		67				71															77	81			70						
E. Hartford						69																72									
Greenwich						71									72	68				M					73		66				
Groton																77				80	74						72				
Hamden						69										71					77										
Madison						71							75		76	84						84			75		76		65		
Middletown						74									66	65			66		78				73				67		
Stafford		65				69														65	68	77			66				69		
Stratford						74							71			82			73	81					66		72				
Westport						71							69		69	70			73	69					66						
# days > Federal Standard																				12	13	14									

Good (0-64 ppb)
Moderate (65-84 ppb)
Unhealthy for Sensitive Groups (85-104 ppb)
Unhealthy (105-124 ppb)
Very Unhealthy (125> ppb)

***** Data is unvalidated and is subject to change*****
Units - parts per billion (ppb)
Federal Standard = 85 ppb
M = missing data

Figure 1-8. CTDEP – August, 2003 4th Maximum 8-Hour Average Daily Maximum O_3.

Attachment 2

(to Attachment 2 Analysis of Emergency DR and Ozone Concentrations)

PJM

Load Zones, MDE Monitoring Network Sites, MDE Ozone Data, DNREC Ozone Data

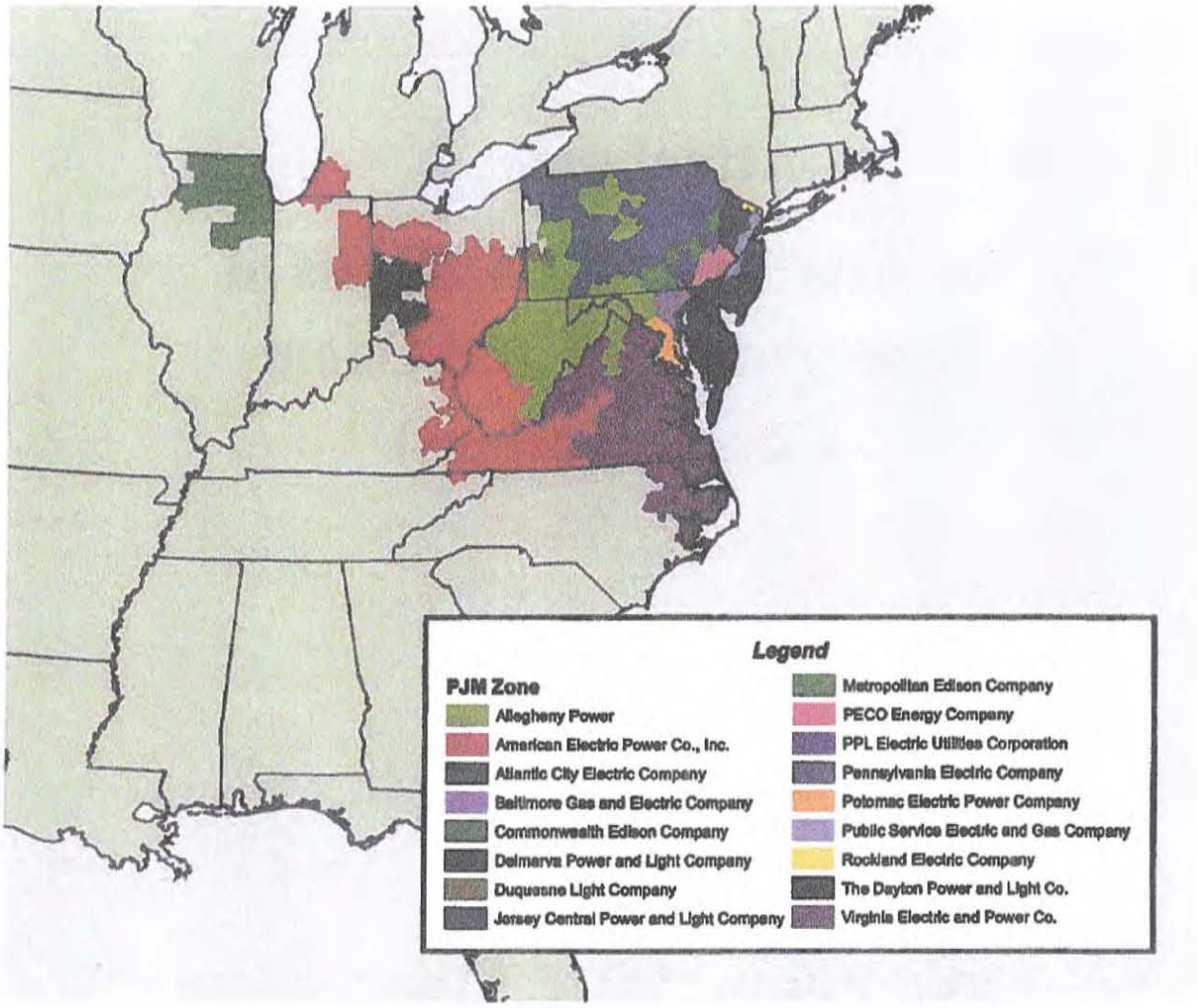


Figure 2-1. PJM control area load zones.

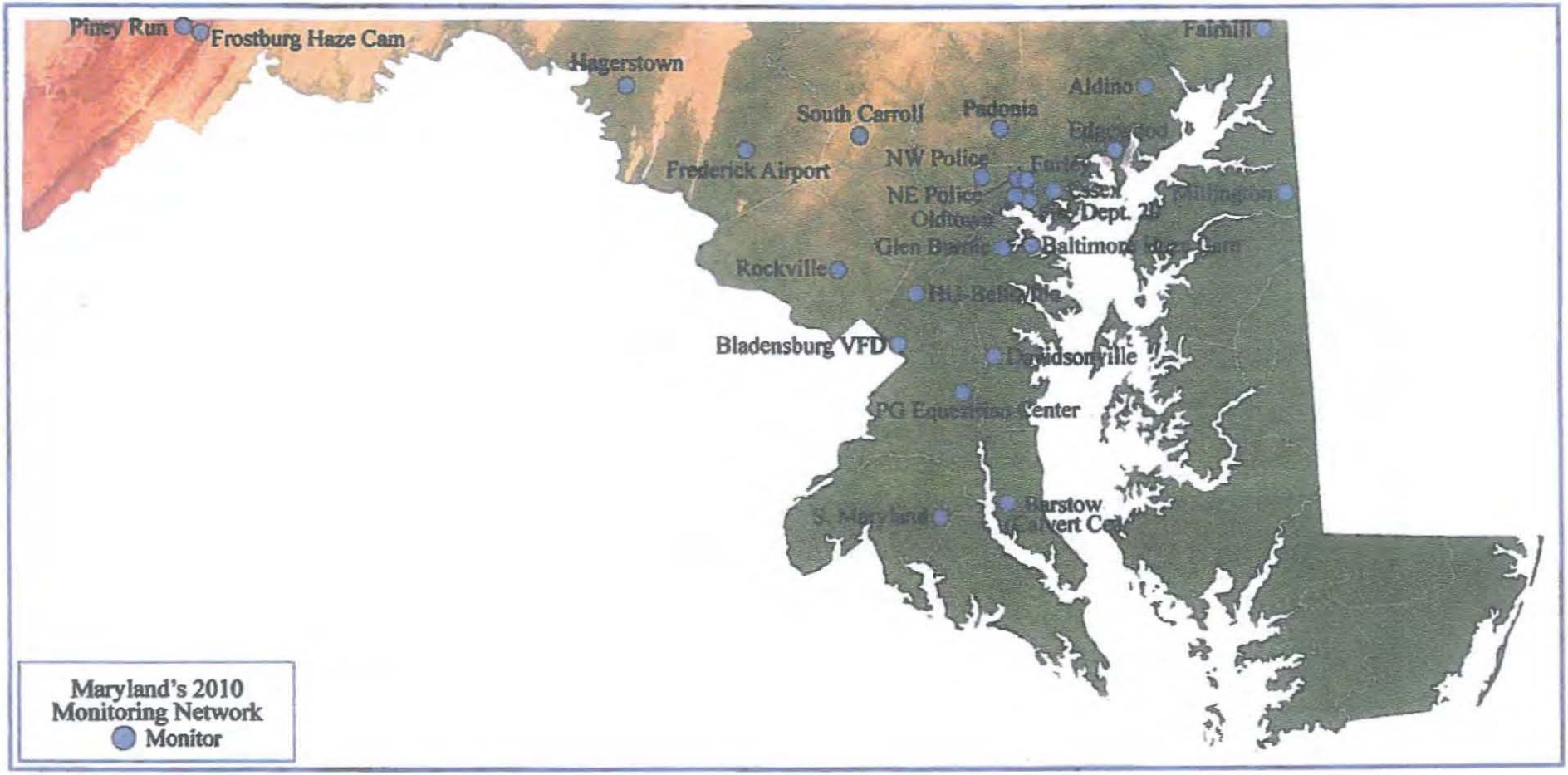


Figure 2-2. MDE ambient air monitoring network for ozone.

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

Date	Statewide Max	Davidsonville 24-003-0014	Pedevia 24-005-1007	Essex 24-005-3001	Calvert Co (Stafford Rd) 24-009-0011	South Carroll 24-013-0001	Fairhill 24-015-0003	Hagerstown 24-017-0010	Frederick Airport 24-021-0037	Piney Run 24-023-0002	Edgewood 24-025-1001	Aldino 24-025-9001	Millington 24-029-0002	Rockville 24-031-3001	HU-Beltsville 24-033-0030	PG Equestrian Center 24-033-6003	Hagerstown 24-043-0009
		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
5/1/10	0.076	0.063	0.072	0.068	0.060	0.072	0.078	0.056	0.064	0.065		0.072	0.065	0.074	0.064	0.061	0.065
5/2/10	0.049	0.032	0.038	0.041	0.029	0.034	0.049	0.028	0.030	0.036		0.045	0.038	0.033	0.037	0.030	0.030
5/3/10	0.038	0.028	0.038	0.036	0.031	0.039	0.042	0.029	0.034	0.058		0.042	0.032	0.030	0.028	0.027	0.052
5/4/10	0.064	0.064	0.059	0.060	0.053	0.055	0.058	0.030	0.058	0.081	0.062	0.059	0.063	0.062	0.058	0.060	0.059
5/5/10	0.077	0.069	0.065	0.066	0.070	0.071	0.064	0.068	0.069	0.062	0.077	0.063	0.066	0.075	0.071	0.069	0.065
5/6/10	0.075	0.069	0.059	0.064	0.075	0.058	0.069	0.071	0.060	0.069	0.068	0.061	0.065	0.067	0.063	0.068	0.060
5/7/10	0.065	0.054	0.048	0.051	0.055	0.054	0.048	0.052	0.058	0.065	0.060	0.049	0.049	0.058	0.048	0.062	0.059
5/8/10	0.065	0.063	0.044	0.050	0.055	0.047	0.049	0.052	0.048	0.054	0.053	0.047	0.052	0.055	0.049	0.063	0.063
5/9/10	0.060	0.049	0.043	0.046	0.050	0.044	0.049	0.048	0.048	0.050	0.048	0.041	0.042	0.050	0.048	0.049	0.048
5/10/10	0.056	0.053	0.049	0.052	0.054	0.049	0.048	0.054	0.052	0.055	0.056	0.048	0.049	0.055	0.051	0.050	0.053
5/11/10	0.052	0.050	0.038	0.044	0.052	0.035	0.043	0.048	0.035	0.042	0.048	0.040	0.043	0.033	0.038	0.048	0.040
5/12/10	0.046	0.042	0.032	0.038	0.049	0.026	0.039	0.044	0.024	0.037	0.043	0.035	0.039	0.032	0.035	0.044	0.025
5/13/10	0.054	0.042	0.038	0.045	0.042	0.026	0.049	0.040	0.029	0.031	0.054	0.047	0.049	0.029	0.035	0.039	0.028
5/14/10	0.057	0.046	0.048	0.046	0.047	0.044	0.034	0.045	0.042	0.050	0.057	0.050	0.047	0.048	0.050	0.046	0.047
5/15/10	0.061	0.057	0.050	0.052	0.061	0.050		0.058	0.056	0.060	0.055	0.049	0.052	0.057	0.054	0.057	0.056
5/16/10	0.054	0.051	0.050	0.049	0.051	0.048		0.047	0.047	0.047	0.054	0.045	0.048	0.048	0.049	0.051	0.047
5/17/10	0.051	0.046	0.043	0.045	0.044	0.041	0.042	0.038	0.038	0.045	0.051	0.042	0.048	0.039	0.042	0.044	0.036
5/18/10	0.049	0.044	0.039	0.043	0.043	0.040	0.042	0.038	0.036	0.038	0.049	0.040	0.048	0.037	0.040	0.039	0.035
5/19/10	0.037	0.030	0.034	0.034	0.035	0.031	0.033	0.035	0.028	0.030	0.037	0.032	0.038	0.029	0.030	0.029	0.030
5/20/10	0.070	0.070	0.063	0.067	0.065	0.058	0.060	0.066	0.058	0.057	0.070	0.065	0.060	0.061	0.059	0.065	0.057
5/21/10	0.076	0.067	0.065	0.067	0.070	0.070	0.063	0.066	0.064	0.058	0.076	0.067	0.068	0.073	0.070	0.067	0.060
5/22/10	0.056	0.051	0.048	0.051	0.050	0.048		0.042	0.050	0.056	0.051	0.044	0.048	0.047	0.045	0.044	0.048
5/23/10	0.040	0.032	0.031	0.033	0.034	0.031		0.031	0.032	0.040	0.035	0.029	0.031	0.029	0.031	0.031	0.035
5/24/10	0.039	0.033	0.030	0.030	0.035	0.035	0.022	0.031	0.036	0.033	0.033	0.025	0.028	0.030	0.031	0.031	0.038
5/25/10	0.048	0.039	0.039	0.040	0.041	0.035	0.048	0.035	0.034	0.033	0.048	0.045	0.039	0.039	0.033	0.035	0.034
5/26/10	0.071	0.068	0.059	0.061	0.067	0.058	0.058	0.070	0.060	0.065	0.071	0.059	0.055	0.061	0.054	0.054	0.048
5/27/10	0.080	0.078	0.076	0.079	0.071	0.067	0.072	0.064	0.065	0.072	0.080	0.075	0.068	0.066	0.057	0.074	0.064
5/28/10	0.055	0.043	0.040	0.043	0.040	0.041	0.039	0.036	0.039	0.053	0.048	0.039	0.037	0.037	0.036	0.039	0.040
5/29/10	0.060	0.043	0.055	0.055	0.048	0.053	0.054	0.046	0.055	0.059	0.060	0.055	0.047	0.053	0.054	0.044	0.051
5/30/10	0.069	0.065	0.057	0.059	0.068	0.053	0.056	0.057	0.057	0.053	0.059	0.059	0.053	0.059	0.057	0.059	0.058
5/31/10	0.082	0.040	0.052	0.059	0.044	0.050	0.054	0.041	0.055	0.046	0.058	0.053	0.050	0.048	0.057	0.041	0.058
6/1/10	0.084	0.042	0.06	0.061	0.054	0.058	0.051	0.042	0.052	0.057	0.058	0.074	0.065	0.065	0.051	0.048	0.059
6/2/10	0.087	0.069	0.069	0.071	0.053	0.058	0.079	0.055	0.062	0.064	0.087	0.076	0.074	0.073	0.06	0.058	0.055
6/3/10	0.074	0.073	0.059	0.062	0.057	0.055	0.057	0.055	0.058	0.055	0.059	0.06	0.074	0.058	0.061	0.07	0.058
6/4/10	0.078	0.064	0.068	0.065	0.062	0.061	0.057	0.056	0.065	0.06	0.074	0.07	0.068	0.074	0.076	0.068	0.063
6/5/10	0.059	0.055	0.045	0.048	0.049	0.042	0.048	0.045	0.048	0.045	0.048	0.048	0.059	0.045	0.048	0.053	0.042
6/6/10	0.045	0.039	0.039	0.04	0.041	0.038	0.042	0.039	0.043	0.045	0.044	0.039	0.049	0.04	0.039	0.038	0.042
6/7/10	0.050	0.046	0.043	0.044	0.048	0.041	0.042	0.044	0.044	0.044	0.05	0.044	0.047	0.044	0.043	0.044	0.045
6/8/10	0.056	0.047	0.045	0.047	0.054	0.042	0.034	0.05	0.047	0.056	0.052	0.045	0.048	0.049	0.046	0.049	0.048
6/9/10	0.050	0.038	0.029	0.035	0.05	0.034	0.022	0.045	0.033	0.045	0.049	0.038	0.035	0.034	0.031	0.039	0.034
6/10/10	0.064	0.064	0.057	0.058	0.062	0.056	0.056	0.061	0.059	0.057	0.064	0.058	0.062	0.062	0.06	0.063	0.059
6/11/10	0.072	0.069	0.068	0.058	0.05	0.063	0.054	0.061	0.057	0.058	0.065	0.065	0.059	0.072	0.057	0.058	0.064
6/12/10	0.079	0.063	0.074	0.061	0.062	0.073	0.061	0.065	0.052	0.039	0.071	0.065	0.062	0.079	0.073	0.066	0.049
6/13/10	0.055	0.05	0.043	0.045	0.045	0.04	0.042	0.045	0.047	0.041	0.055	0.041	0.047	0.047	0.048	0.049	0.045
6/14/10	0.060	0.06	0.047	0.05	0.059	0.047	0.049	0.049	0.05	0.044	0.052	0.048	0.053	0.052	0.054	0.058	0.049
6/15/10	0.056	0.051	0.048	0.047	0.05	0.037	0.051	0.043	0.036	0.031	0.056	0.052	0.044	0.041	0.046	0.047	0.041
6/16/10	0.049	0.037	0.032	0.036	0.044	0.041	0.039	0.043	0.039	0.049	0.048	0.037	0.038	0.035	0.031	0.038	0.038
6/17/10	0.062	0.055	0.047	0.049	0.062	0.043	0.048	0.058	0.047	0.048	0.054	0.049	0.051	0.054	0.051	0.056	0.049
6/18/10	0.072	0.069	0.062	0.065	0.062	0.061	0.072	0.06	0.057	0.065	0.072	0.067	0.064	0.065	0.059	0.067	0.059

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

DATE	Statewide Max	Davidsonville 24-003-0014 PPM	Padonia 24-005-1007 PPM	Essex 24-005-3001 PPM	Calvert Co (Stallord Rd) 24-009-0011 PPM	South Carroll 24-013-0001 PPM	Fallst 24-015-0003 PPM	Hughesville 24-017-0010 PPM	Frederick Airport 24-021-0037 PPM	Piney Run 24-023-0002 PPM	Edgewood 24-025-1001 PPM	Aldino 24-025-9001 PPM	Millington 24-029-0002 PPM	Rockville 24-031-3001 PPM	HU-Beltsville 24-033-0030 PPM	PG Equestrian Center 24-033-5003 PPM	Hagerstown 24-043-0009 PPM
6/19/10	0.074	0.062	0.071		0.065	0.064	0.068	0.063	0.065	0.059	0.071	0.067	0.06	0.068	0.074	0.061	0.069
6/20/10	0.065	0.063	0.06		0.064	0.058	0.059	0.061	0.061	0.056	0.062	0.055	0.059	0.063	0.059	0.065	0.06
6/21/10	0.082	0.07	0.055	0.01	0.062	0.058	0.061	0.078	0.064	0.054	0.07	0.065	0.064	0.065	0.064	0.077	0.068
6/22/10	0.091	0.068	0.065	0.079	0.067	0.073	0.077	0.087	0.065	0.059	0.067	0.081	0.071	0.077	0.091	0.071	0.082
6/23/10	0.082	0.072	0.064	0.069	0.076	0.064	0.067	0.073	0.064	0.062	0.062	0.066	0.072	0.069	0.068	0.073	0.064
6/24/10	0.063	0.061	0.051	0.053	0.054	0.055	0.052	0.053	0.056	0.053	0.054	0.053	0.053	0.054	0.053	0.061	0.054
6/25/10	0.087	0.075	0.062	0.061	0.067	0.06	0.064	0.073	0.065	0.064	0.067	0.061	0.064	0.067	0.069	0.08	0.065
6/26/10	0.087	0.065	0.075	0.076	0.065	0.073	0.065	0.067	0.073	0.06	0.067	0.068	0.072	0.073	0.076	0.089	0.067
6/27/10	0.079	0.065	0.058	0.062	0.061	0.058	0.07	0.057	0.059	0.057	0.079	0.06	0.072	0.061	0.061	0.065	0.057
6/28/10	0.068	0.051	0.048	0.051	0.05	0.046	0.053	0.049	0.054	0.048	0.068	0.048	0.06	0.05	0.052	0.05	0.052
6/29/10	0.069	0.069	0.058	0.061	0.069	0.06	0.064	0.064	0.06	0.048	0.064	0.052	0.061	0.068	0.063	0.065	0.058
6/30/10	0.061	0.053	0.048	0.058	0.058	0.051	0.047	0.058	0.054	0.055	0.061	0.045	0.049	0.05	0.049	0.051	0.058
7/1/10	0.053	0.047	0.04	0.043	0.051	0.041	0.037	0.053	0.043	0.046	0.047	0.038	0.042	0.045	0.044	0.048	0.042
7/2/10	0.054	0.052	0.04	0.044	0.05	0.045	0.041	0.054	0.044	0.046	0.048	0.04	0.045	0.047	0.052	0.053	0.045
7/3/10	0.082	0.064	0.059	0.07	0.061	0.061	0.072	0.061	0.058	0.06	0.08	0.067	0.062	0.068	0.062	0.063	0.061
7/4/10	0.090	0.073	0.057	0.08	0.067	0.07	0.075	0.085	0.071	0.074	0.09	0.074	0.066	0.072	0.076	0.071	0.069
7/5/10	0.087	0.077	0.073	0.084	0.082	0.079	0.077	0.08	0.069	0.085	0.087	0.078	0.074	0.069	0.069	0.08	0.067
7/6/10	0.099	0.096	0.072	0.09	0.087	0.078	0.075	0.087	0.084	0.082	0.092	0.07	0.073	0.072	0.076	0.09	0.082
7/7/10	0.094	0.082	0.073	0.084	0.09	0.085	0.078	0.082	0.077	0.072	0.088	0.072	0.068	0.074	0.094	0.085	0.077
7/8/10	0.088	0.053	0.061	0.053	0.045	0.083	0.045	0.044	0.053	0.035	0.057	0.05	0.047	0.073	0.061	0.051	0.08
7/9/10	0.071	0.045	0.048	0.042	0.042	0.062	0.035	0.044	0.061	0.071	0.047	0.037	0.031	0.057	0.052	0.046	0.065
7/10/10	0.049	0.036	0.033	0.038	0.038	0.044	0.032	0.038	0.045	0.049	0.04	0.031	0.026	0.04	0.039	0.038	0.044
7/11/10	0.065	0.064	0.06	0.058	0.064	0.056	0.051	0.062	0.061	0.048	0.061	0.054	0.055	0.061	0.059	0.065	0.057
7/12/10	0.059	0.048	0.043	0.049	0.048	0.056	0.051	0.049	0.059	0.049	0.029	0.048	0.049	0.049	0.052	0.049	0.058
7/13/10	0.063	0.048	0.058	0.056	0.045	0.054	0.061	0.045	0.058	0.036	0.063	0.058	0.049	0.051	0.055	0.047	0.053
7/14/10	0.057	0.046	0.034	0.042	0.05	0.046	0.035	0.053	0.053	0.057	0.044	0.035	0.04	0.042	0.045	0.046	0.054
7/15/10	0.076	0.076	0.067	0.071	0.069	0.061	0.054	0.073	0.068	0.061	0.067	0.051	0.058	0.065	0.069	0.075	0.068
7/16/10	0.088	0.066	0.063	0.073	0.067	0.063	0.058	0.067	0.065	0.061	0.068	0.06	0.064	0.065	0.07	0.067	0.062
7/17/10	0.088	0.07	0.069	0.074	0.064	0.059	0.074	0.061	0.068	0.057	0.089	0.066	0.073	0.064	0.065	0.071	0.068
7/18/10	0.061	0.056	0.059	0.058	0.054	0.059	0.057	0.052	0.057	0.055	0.061	0.051	0.061	0.053	0.055	0.059	0.058
7/19/10	0.073	0.05	0.055	0.066	0.042	0.048	0.073	0.042	0.05	0.052	0.069	0.061	0.053	0.049	0.054	0.051	0.054
7/20/10	0.060	0.056	0.052	0.057	0.054	0.057	0.046	0.049	0.06	0.051	0.06	0.041	0.053	0.058	0.06	0.059	0.055
7/21/10	0.057	0.05	0.05	0.051	0.048	0.053	0.048	0.043	0.054	0.049	0.057	0.043	0.054	0.048	0.049	0.054	0.052
7/22/10	0.069	0.069	0.052	0.065	0.068	0.062	0.057	0.064	0.064	0.065	0.065	0.05	0.057	0.054	0.068	0.068	0.065
7/23/10	0.101	0.082	0.071	0.082	0.058	0.083	0.09	0.061	0.069	0.047	0.101	0.086	0.07	0.072	0.074	0.075	0.05
7/24/10	0.067	0.059	0.053	0.055	0.051	0.053	0.056	0.049	0.055	0.049	0.067	0.053	0.053	0.05	0.053	0.062	0.051
7/25/10	0.059	0.057	0.048	0.05	0.045	0.049	0.05	0.042	0.049	0.042	0.054	0.043	0.059	0.049	0.05	0.054	0.045
7/26/10	0.065	0.044	0.048	0.049	0.062	0.048	0.039	0.065	0.049	0.043	0.054	0.044	0.043	0.051	0.05	0.059	0.047
7/27/10	0.080	0.062	0.078	0.067	0.056	0.09	0.055	0.059	0.07	0.055	0.059	0.06	0.065	0.072	0.062	0.057	0.065
7/28/10	0.077	0.066	0.071	0.066	0.057	0.028	0.077	0.056	0.071	0.061	0.074	0.068	0.059	0.057	0.077	0.062	0.065
7/29/10	0.057	0.052	0.047	0.05	0.052	0.05	0.05	0.051	0.055	0.053	0.053	0.041	0.057	0.044	0.042	0.048	0.051
7/30/10	0.061	0.061	0.052	0.054	0.055	0.051	0.045	0.06	0.05	0.049	0.058	0.042	0.048	0.047	0.054	0.039	0.05
7/31/10	0.078	0.067	0.076	0.075	0.082	0.066	0.055	0.065	0.064	0.056	0.078	0.06	0.068	0.062	0.073	0.068	0.059
8/1/10	0.080	0.049	0.058	0.058	0.044	0.053	0.052	0.04	0.065	0.048	0.06	0.048	0.049	0.047	0.048	0.045	0.057
8/2/10	0.056	0.042	0.048	0.05	0.041	0.048	0.045	0.04	0.056	0.042	0.053	0.042	0.045	0.035	0.044	0.04	0.053
8/3/10	0.052	0.039	0.048	0.042	0.037	0.052	0.041	0.04	0.049	0.039	0.047	0.04	0.04	0.047	0.05	0.038	0.043
8/4/10	0.075	0.066	0.064	0.063	0.047	0.066	0.07	0.054	0.064	0.057	0.075	0.067	0.059	0.06	0.068	0.061	0.066
8/5/10	0.068	0.062	0.052	0.051	0.053	0.056	0.053	0.052	0.056	0.053	0.056	0.049	0.058	0.044	0.05	0.065	0.06
8/6/10	0.068	0.064	0.053	0.058	0.068	0.057	0.051	0.064	0.059	0.053	0.061	0.047	0.058	0.058	0.058	0.063	0.058
8/7/10	0.071	0.055	0.065	0.059	0.05	0.062	0.053	0.054	0.068	0.057	0.06	0.049	0.059	0.068	0.071	0.059	0.063
8/8/10	0.069	0.06	0.068	0.062	0.059	0.059	0.059	0.058	0.068	0.063	0.067	0.053	0.056	0.067	0.065	0.057	0.063

Figure 2-3
Maryland - 2010
4th Maximum 8-Hour Avg Daily Max

Statewide Max	Davidsonville	Padonia	Essex	Calvert Co (Shelford Rd)	South Carroll	Fairhill	Hughesville	Frederick Airport	Piney Run	Edgewood	Aldino	Millington	Rockville	HU-Beltsville	PG Equestrian Center	Hagerstown
	24-003-0014	24-005-1007	24-005-3001	24-009-0011	24-013-0001	24-015-0003	24-017-0010	24-021-0037	24-023-0002	24-025-1001	24-025-3001	24-029-0002	24-031-3001	24-033-0030	24-033-8003	24-043-0009
DATE	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
8/9/10 0.079	0.065	0.078	0.068	0.07	0.072	0.08	0.071	0.071	0.081	0.076	0.067	0.068	0.07	0.079	0.078	0.067
8/10/10 0.115	0.089	0.088	0.115	0.079	0.089	0.082	0.077	0.085	0.073	0.11	0.076	0.083	0.072	0.082	0.09	0.079
8/11/10 0.097	0.096	0.071	0.071	0.097	0.071	0.094	0.093	0.071	0.067	0.072	0.08	0.068	0.089	0.08	0.088	0.083
8/12/10 0.088	0.085	0.081	0.08	0.093	0.088	0.048	0.097	0.087	0.097	0.088	0.081	0.089	0.088	0.093	0.091	0.091
8/13/10 0.038		0.033	0.031	0.034	0.035	0.029	0.033	0.035	0.03	0.033	0.028	0.024	0.028	0.032	0.029	0.035
8/14/10 0.041		0.034	0.033	0.034	0.04	0.033	0.035	0.04	0.027	0.035	0.028	0.03	0.034	0.035	0.032	0.041
8/15/10 0.056		0.024	0.027	0.029	0.026	0.027	0.029	0.025	0.058	0.053	0.022	0.025	0.023	0.024	0.027	0.027
8/16/10 0.069		0.058	0.057	0.051	0.056	0.058	0.052	0.053	0.062	0.062	0.057	0.049	0.057	0.058	0.047	0.051
8/17/10 0.081	0.081	0.069	0.076	0.064	0.065	0.064	0.064	0.072	0.072	0.069	0.053	0.063	0.062	0.07	0.071	0.071
8/18/10 0.052	0.051	0.044	0.047	0.044	0.045	0.045	0.04	0.045	0.051	0.052	0.04	0.044	0.042	0.051	0.044	0.044
8/19/10 0.093	0.074	0.065	0.087	0.069	0.063	0.069	0.063	0.061	0.07	0.093	0.072	0.068	0.067	0.071	0.071	0.061
8/20/10 0.094	0.084	0.065	0.076	0.068	0.072	0.06	0.071	0.072	0.088	0.072	0.058	0.063	0.071	0.057	0.077	0.073
8/21/10 0.075	0.063	0.071	0.068	0.06	0.075	0.059	0.069	0.072	0.06	0.072	0.057	0.057	0.071	0.069	0.069	0.065
8/22/10 0.052	0.051	0.047	0.05	0.048	0.048	0.043	0.043	0.06	0.05	0.052	0.039	0.035	0.051	0.048	0.043	0.048
8/23/10 0.061	0.055	0.047	0.051	0.061	0.047	0.045	0.059	0.048	0.047	0.055	0.035	0.046	0.049	0.05	0.052	0.047
8/24/10 0.032	0.027	0.026	0.029	0.026	0.029	0.026	0.026	0.026	0.032	0.03	0.026	0.029	0.029	0.028	0.025	0.031
8/25/10 0.045	0.041	0.032	0.03	0.045	0.035	0.029	0.042	0.042	0.043	0.034	0.026	0.03	0.038	0.039	0.037	0.045
8/26/10 0.062	0.058	0.046		0.062	0.049	0.047	0.059	0.052	0.057	0.052	0.041	0.05	0.052	0.052	0.057	0.054
8/27/10 0.060	0.056	0.05		0.045	0.055	0.047	0.049	0.053	0.056	0.06	0.043	0.046	0.05	0.052	0.052	0.057
8/28/10 0.075	0.057	0.057		0.057	0.062	0.052	0.057	0.073	0.068	0.075	0.051	0.06	0.052	0.073	0.061	0.074
8/29/10 0.096	0.078	0.063		0.06	0.063	0.075	0.057	0.055	0.061	0.096	0.068	0.072	0.062	0.068	0.072	0.063
8/30/10 0.088	0.067	0.074	0.078	0.088	0.069	0.073	0.067	0.069	0.075	0.076	0.063	0.076	0.072	0.076	0.084	0.07
8/31/10 0.090	0.072	0.069	0.08	0.084	0.069	0.07	0.073	0.075	0.065	0.09	0.065	0.063 P .077		0.069	0.067	0.078

Color Legend:

- Good (0 to 64 ppb)
- Moderate (65 to 84 ppb)
- Unhealthy for Sensitive Groups (85 to 104 ppb)
- Unhealthy (105 to 124 ppb)
- Very Unhealthy (> 124 ppb)

All data considered preliminary by MDE.

Figure 2-6
Maryland - 2007
4th Maximum 8-Hour Avg Daily Max

DATE	Statewide Max	Davidsonville 24-003-0014	Padonia 24-005-1007	Essex 24-005-2001	Calvert Co (Stalford Rd) 24-009-0011	South Carroll 24-013-0001	Fairhill 24-015-0003	Hughesville 24-017-0010	Frederick Airport 24-021-0037	Piney Run 24-023-0002	Edgewood 24-025-1001	Aldino 24-025-9001	Millington 24-029-0002	Rockville 24-031-3001	HU-Beltsville 24-033-0030	PG Equestrian Center 24-033-9005	Hagerstown 24-043-0009
05/01/07	0.084	0.084	0.045	0.055	0.071	0.068	0.081	0.077	0.069	0.081	0.085	0.083	0.081	0.083	0.071	0.081	0.064
05/02/07	0.103	0.076	0.072	0.076	0.071	0.085	0.085	0.072	0.088	0.087	0.081	0.085		0.103	0.084	0.076	0.079
05/03/07	0.083	0.072	0.060	0.072	0.073	0.077	0.080	0.077	0.072	0.076	0.078	0.081		0.083	0.077	0.074	0.075
05/04/07	0.118	0.118	0.059	0.082	0.089	0.077	0.079	0.092	0.078	0.079	0.087	0.082		0.092	0.092	0.110	0.094
05/05/07	0.079	0.067	0.045	0.058	0.081	0.079	0.060	0.057	0.087	0.041	0.057	0.059		0.060	0.082	0.065	0.060
05/06/07	0.095	0.075	0.046	0.071	0.085	0.068	0.083	0.083	0.085	0.083	0.095	0.077		0.088	0.069	0.072	0.088
05/07/07	0.089	0.080	0.048	0.076	0.076	0.070	0.089	0.080	0.092	0.083	0.092	0.074	0.084	0.075	0.089	0.082	0.071
05/08/07	0.091	0.072	0.062	0.087	0.089	0.088	0.070	0.086	0.088	0.092	0.078	0.089	0.091	0.092	0.088	0.073	0.089
05/09/07	0.071	0.069	0.042	0.061	0.071	0.056	0.062	0.069	0.049	0.043	0.063	0.061	0.061	0.057	0.068		0.049
05/10/07	0.068	0.068	0.041	0.058	0.068	0.058	0.053	0.068	0.057	0.052	0.057	0.059	0.060	0.059	0.058		0.058
05/11/07	0.059	0.059	0.036	0.050	0.052	0.051	0.045	0.058	0.050	0.048	0.048	0.047	0.054	0.048	0.059		0.048
05/12/07	0.087	0.074	0.049	0.076	0.083	0.058	0.056	0.080	0.054	0.064	0.057	0.074	0.061	0.057	0.082		0.060
05/13/07	0.076	0.067	0.044	0.060	0.071	0.058	0.059	0.076	0.057	0.057	0.054	0.064	0.057	0.060	0.054	0.062	0.057
05/14/07	0.077	0.072	0.033	0.051	0.069	0.059	0.045	0.077	0.058	0.048	0.054	0.049	0.052	0.059	0.059	0.069	0.053
05/15/07	0.092	0.069	0.053	0.077	0.069	0.074	0.092	0.068	0.068	0.064	0.080	0.085	0.080	0.089	0.074	0.080	0.071
05/16/07	0.076	0.072	0.045	0.067	0.076	0.021	0.075	0.069	0.052	0.068	0.075	0.072	0.067	0.058	0.062	0.065	0.062
05/17/07	0.085	0.084	0.049	0.071	0.071	0.067	0.076	0.070	0.064	0.055	0.084	0.070	0.085	0.068	0.067	0.080	0.062
05/18/07	0.051	0.046	0.028	0.036	0.048	0.038	0.035	0.051	0.038	0.034	0.035	0.035	0.038	0.034	0.034	0.046	0.032
05/19/07	0.047	0.040	0.016	0.023	0.044	0.028	0.027	0.047	0.028	0.031	0.022	0.028	0.024	0.035	0.032	0.042	0.024
05/20/07	0.041	0.033	0.020	0.030	0.041	0.031	0.027	0.035	0.022	0.026	0.029	0.027	0.029	0.021	0.021	0.030	0.021
05/21/07	0.030	0.027	0.013	0.018	0.027	0.020	0.024	0.028	0.017	0.020	0.021	0.021	0.026	0.013	0.010	0.019	0.016
05/22/07	0.034	0.019	0.013	0.017	0.024	0.018	0.015	0.022	0.016	0.024	0.015	0.015	0.018	0.010	0.010	0.017	0.013
05/23/07	0.035	0.034	0.020	0.030	0.027	0.029	0.026	0.028	0.026	0.035	0.033	0.031	0.027	0.025	0.029	0.030	0.028
05/24/07	0.080	0.049	0.049	0.061	0.052	0.060	0.052	0.067	0.061	0.059	0.055	0.065	0.045	0.077	0.065	0.052	0.061
05/25/07	0.088	0.069	0.069	0.072	0.073	0.060	0.072	0.077	0.081	0.084	0.081	0.083	0.067	0.088	0.073		0.084
05/26/07	0.063	0.060	0.036	0.052	0.061	0.044	0.044	0.063	0.043	0.041	0.049	0.048	0.048	0.046	0.044		0.042
05/27/07	0.063	0.063	0.037	0.051	0.051	0.050	0.046	0.059	0.047	0.044	0.050	0.050	0.054	0.052	0.050	0.056	0.054
05/28/07	0.074	0.055	0.042	0.058	0.052	0.065	0.067	0.054	0.068	0.055	0.058	0.052	0.060	0.063	0.053	0.053	0.074
05/29/07	0.070	0.058	0.053	0.063	0.061	0.065	0.066	0.059	0.068	0.061	0.068	0.063	0.066	0.065	0.057	0.070	0.061
05/30/07	0.096	0.078	0.061	0.074	0.064	0.071	0.069	0.068	0.065	0.070	0.068	0.065		0.074	0.071		0.070
05/31/07																	

Color Legend:

- Good (0 to 64 ppb)
- Moderate (65 to 84 ppb)
- Unhealthy for Sensitive Groups (85 to 104 ppb)
- Unhealthy (105 to 124 ppb)
- Very Unhealthy (> 124 ppb)

Figure 2-5
Maryland - 2008
4th Maximum 8-Hour Avg Daily Max

DATE	Statewide Max	Davidsonville 24-003-0014	Padonia 24-005-1007	Essex 24-005-3001	Calvert Co (Stafford Rd) 24-009-0011	South Carroll 24-013-0001	Fairhill 24-015-0003	Hughesville 24-017-0010	Frederick Airport 24-021-0037	Piney Run 24-023-0002	Edgewood 24-025-1001	Aldino 24-025-9001	Millington 24-029-0002	Rockville 24-031-3001	HU-Beltsville 24-033-0030	PG Equestrian Center 24-033-8003	Hagerstown 24-043-0009
05/01/08	0.084	0.085	0.073	0.061	0.081	0.070	0.061	0.078	0.072	0.070	0.064	0.071	0.082	0.070	0.076	0.094	0.070
05/02/08	0.084	0.078	0.076	0.077	0.082	0.078	0.074	0.074	0.074	0.068	0.072	0.038	0.078	0.079	0.084	0.093	0.075
05/03/08	0.084	0.075	0.069	0.072	0.073	0.065	0.068	0.082	0.065	0.067	0.067	0.065	0.084	0.065	0.078	0.078	0.084
05/04/08	0.067	0.058	0.051	0.055	0.063	0.047	0.051	0.057	0.049	0.048	0.049	0.051	0.057	0.054	0.056	0.060	0.049
05/05/08	0.075	0.072	0.061	0.065	0.067	0.054	0.060	0.075	0.065	0.059	0.063	0.061	0.069	0.057	0.061	0.071	0.057
05/06/08	0.068	0.071	0.061	0.076	0.071	0.062	0.069	0.071	0.076	0.063	0.069	0.068	0.067	0.068	0.064	0.072	0.066
05/07/08	0.066	0.073	0.075	0.060	0.068	0.069	0.068	0.062	0.065	0.066	0.069	0.062	0.076	0.070	0.063	0.069	0.067
05/08/08	0.073	0.060	0.053	0.069	0.071	0.051	0.051	0.073	0.051	0.053	0.058	0.051	0.055	0.058	0.061		0.051
05/09/08	0.069	0.054	0.064	0.069	0.048	0.056	0.068	0.051	0.057	0.060	0.064	0.059	0.058	0.051	0.068		0.058
05/10/08	0.057	0.049	0.029	0.051	0.044	0.042	0.060	0.050	0.034	0.057	0.051	0.043	0.052	0.047	0.051		0.052
05/11/08	0.056	0.053	0.048	0.052	0.052	0.060	0.049	0.048	0.051	0.047	0.049	0.049	0.052	0.047	0.056		0.050
05/12/08	0.058	0.058	0.045	0.053	0.052	0.049	0.047	0.057	0.045	0.049	0.052	0.045	0.053	0.049	0.052		0.049
05/13/08	0.076	0.068	0.063	0.067	0.061	0.068	0.060	0.056	0.060	0.061	0.063	0.060	0.048	0.067	0.076		0.068
05/14/08	0.074	0.063	0.072	0.068	0.065	0.064	0.074	0.063	0.057	0.054	0.074	0.073	0.064	0.065	0.070		0.056
05/15/08	0.082	0.052	0.057	0.058	0.058	0.053	0.057	0.057	0.059	0.057	0.051	0.058	0.055	0.058	0.057		0.062
05/16/08	0.077	0.067	0.057	0.068	0.057	0.066	0.064	0.062	0.060	0.067	0.068	0.061	0.065	0.068	0.077		0.060
05/17/08	0.075	0.071	0.061	0.069	0.075	0.057	0.074	0.070	0.061	0.071	0.070	0.070	0.072	0.072	0.073		0.065
05/18/08	0.088	0.067	0.067	0.058	0.044	0.078	0.055	0.043	0.068	0.075	0.052	0.054	0.044	0.071	0.065		0.066
05/19/08	0.065	0.039	0.052	0.048	0.039	0.054	0.043	0.042	0.049	0.054	0.048	0.047	0.039	0.055	0.052		0.048
05/20/08	0.063	0.055	0.059	0.060	0.055	0.055	0.063	0.053	0.054	0.054	0.058	0.057	0.062	0.053	0.059		0.057
05/21/08	0.057	0.058	0.051	0.062	0.060	0.052	0.053	0.057	0.055	0.051	0.057	0.051	0.052	0.055	0.054		0.054
05/22/08	0.068	0.057	0.068	0.068	0.069	0.069	0.076	0.071	0.070	0.073	0.067	0.079	0.069	0.068	0.076		0.075
05/23/08	0.080	0.080	0.070	0.071	0.080	0.067	0.067	0.069	0.076	0.080	0.070	0.067	0.072	0.077	0.081		0.074
05/24/08	0.087	0.066	0.081	0.065	0.087	0.070	0.069	0.065	0.077	0.064	0.080	0.073	0.071	0.069	0.083		0.074
05/25/08	0.089	0.084	0.076	0.088	0.080	0.076	0.074	0.078	0.065	0.069	0.065	0.077	0.076	0.080	0.085	0.085	0.089
05/26/08	0.079	0.062	0.053	0.055	0.065	0.060	0.053	0.067	0.067	0.079	0.064	0.054	0.054	0.072	0.083	0.084	0.072
05/27/08	0.058	0.049	0.050	0.048	0.048	0.053	0.042	0.045	0.052	0.053	0.048	0.044	0.048	0.058	0.056	0.048	0.045
05/28/08	0.070	0.063	0.047	0.054	0.059	0.048	0.050	0.070	0.052	0.053	0.050	0.048	0.054	0.059	0.061	0.064	0.052
05/29/08	0.072	0.065	0.052	0.068	0.058	0.051	0.049	0.054	0.047	0.045	0.072	0.071	0.053	0.058	0.063	0.062	0.047
05/30/08	0.044	0.014	0.018	0.016	0.019	0.021	0.017	0.016	0.021	0.044	0.014	0.018	0.015	0.018	0.014	0.012	0.020
05/31/08																	

Color Legend:

- Good (0 to 64 ppb)
- Moderate (65 to 84 ppb)
- Unhealthy for Sensitive Groups (85 to 104 ppb)
- Unhealthy (105 to 124 ppb)
- Very Unhealthy (> 124 ppb)

Figure 3-5
Maryland - 2005
4th Maximum 8-Hour Avg Daily Max

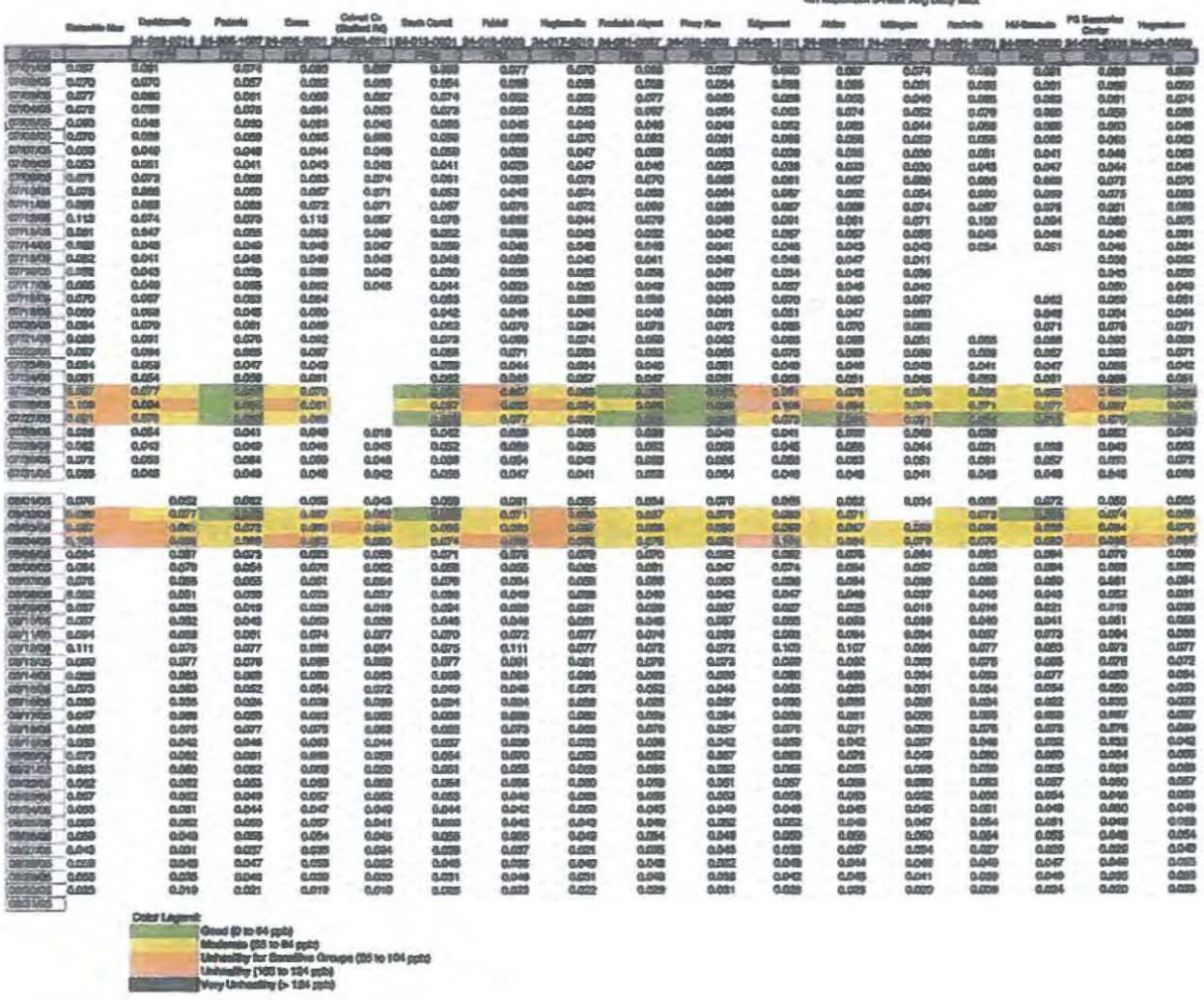


Figure 2-7

Delaware 2010 Ozone Exceedance Summary Table

Exceedances of 8-hour Ozone NAAQS (0.075 ppm)

Note: Data have not been validated.

Date	Brandywine	Bellefonte	Summit Bridge (Lums)	Felton (Killens)	Seaford	Lewes
May 6					0.079	
June 22	0.078	***	***			
June 23			***	0.077	0.084	0.082
June 26	0.084	0.087	0.080			
July 4	0.077					
July 5	0.078	0.077	0.079	0.077	0.087	0.083
July 6	0.080	0.076			0.078	0.078
July 7	0.079	0.076	0.085	0.092	0.091	0.098
July 16	0.079					
July 17			0.076			
July 23	0.086	0.080	0.080			
August 10	***	0.080	0.086	0.087	0.080	***
August 11	***			0.089	0.086	***
August 19	***	0.087				
August 30		0.079			0.078	0.090
September 1		0.077				
September 22	0.079		***			
September 24			***		0.077	

*** No data available

Total number of days exceeding the 8-hour NAAQS:

New Castle County	= 14
Kent County	= 5
Sussex County	= 9
Total Days in Delaware	= 18

Figure 2-8

Delaware 2007 Ozone Exceedance Summary Table

Exceedances of 8-hour Ozone NAAQS (0.08 ppm)

Note: Data have not been validated.

Date	Brandywine	Bellefonte	Summit Bridge (Lums)	Felton (Killens)	Seaford	Lewes
May 25	.086					
May 31	.087					
July 9	.117	.113	.107			
August 2	0.088					
August 17			0.086			

*** No data available

Total number of days exceeding the 8-hour NAAQS:

New Castle County	= 5
Kent County	= 0
Sussex County	= 0
Total Days in Delaware	= 5

Figure 2-9

Delaware 2006 Ozone Exceedance Summary Table

Exceedances of 8-hour Ozone NAAQS (0.08 ppm)

Note: Data have not been validated.

Date	Brandywine	Bellefonte	Summit Bridge (Lums)	Felton (Killens)	Seaford	Lewes
May 30	.093		.095	.086		.085
June 22	.090	.088	.089			
July 18				.089		
August 2				.085		
August 3				.088	.089	.088
August 23						.087

*** No data available

Total number of days exceeding the 8-hour NAAQS:

New Castle County	= 2
Kent County	= 4
Sussex County	= 3
Total Days in Delaware	= 6

Figure 2-10

Delaware 2005 Ozone Exceedance Summary Table

Exceedances of 8-hour Ozone NAAQS (0.08 ppm)

Last updated 5/31/06.

Date	Brandywine	Bellefonte	Summit Bridge (Lums)	Felton (Killens)	Seaford	Lewes
April 19				0.087		
April 20				0.086		0.086
June 14						0.085
June 21	0.086		0.086			
July 11	***				0.086	0.092
July 12	***					0.111
July 20						0.088
July 21		0.086				***
July 22		0.085			0.086	0.086
July 26					0.088	
July 27			0.091			
August 3						0.095
August 4		0.088	0.108			
August 5			0.098			
September 8	0.086	0.085	0.085			
September 13	0.089		0.086			

*** No data available

Total number of days exceeding the 8-hour NAAQS:

New Castle County = 8
Kent County = 2
Sussex County = 8

Total Days in Delaware = 16

Attachment 3

(to Attachment 2 Analysis of Emergency DR and Ozone Concentrations)

New York

Load Zones, Monitoring Network Sites, Ozone Data

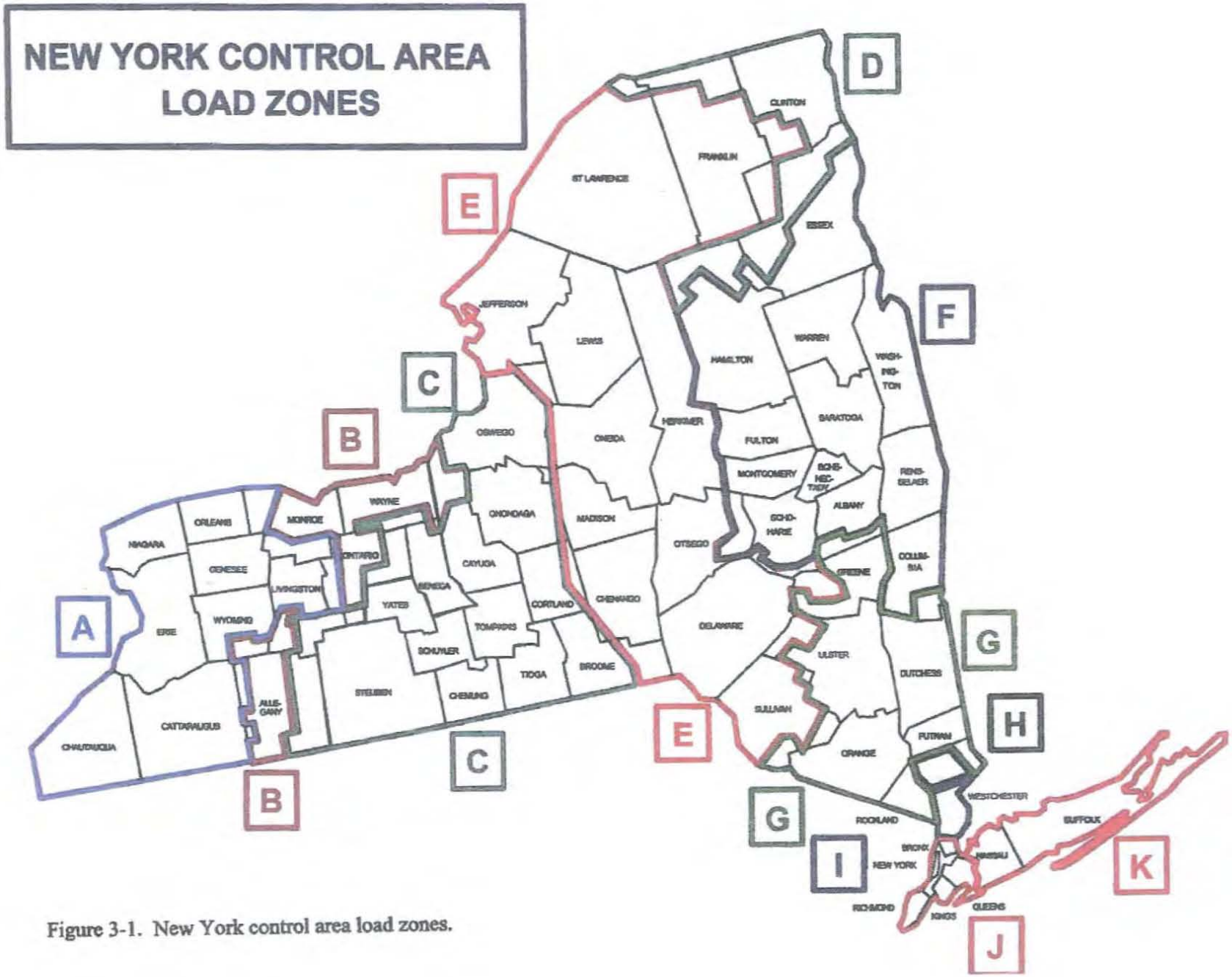


Figure 3-1. New York control area load zones.

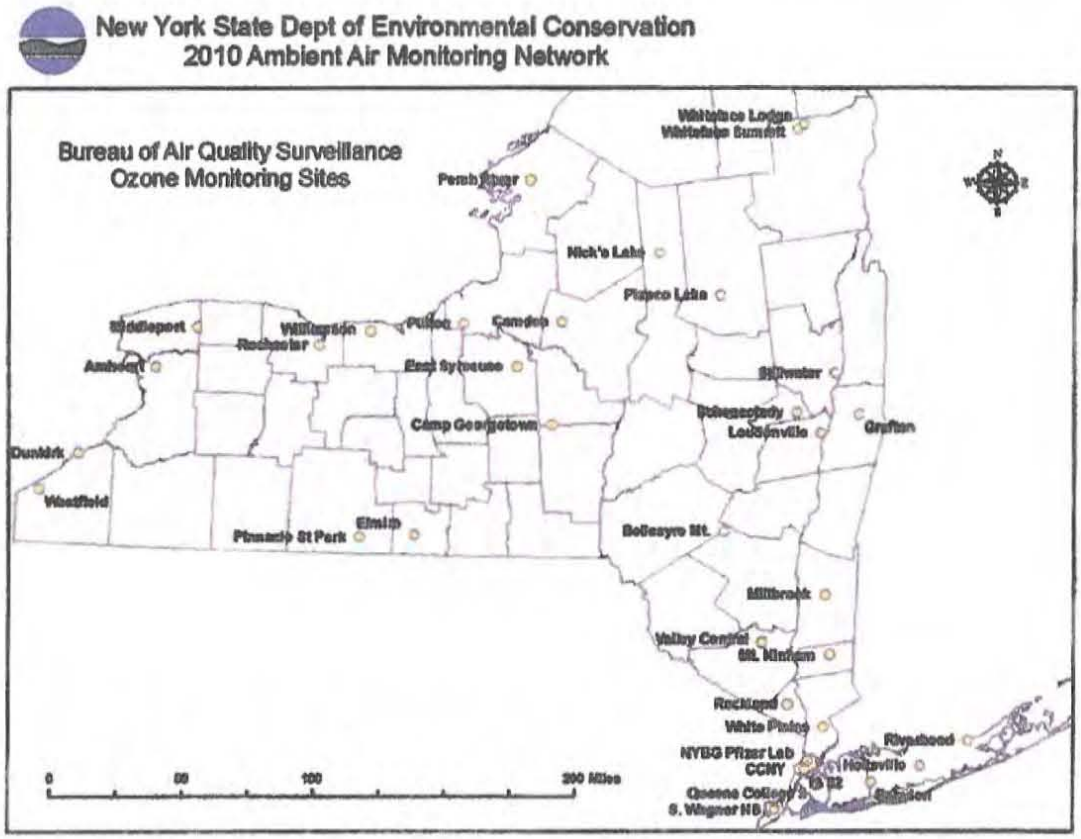


Figure 3-2. NYSDEC ambient air monitoring network for ozone.

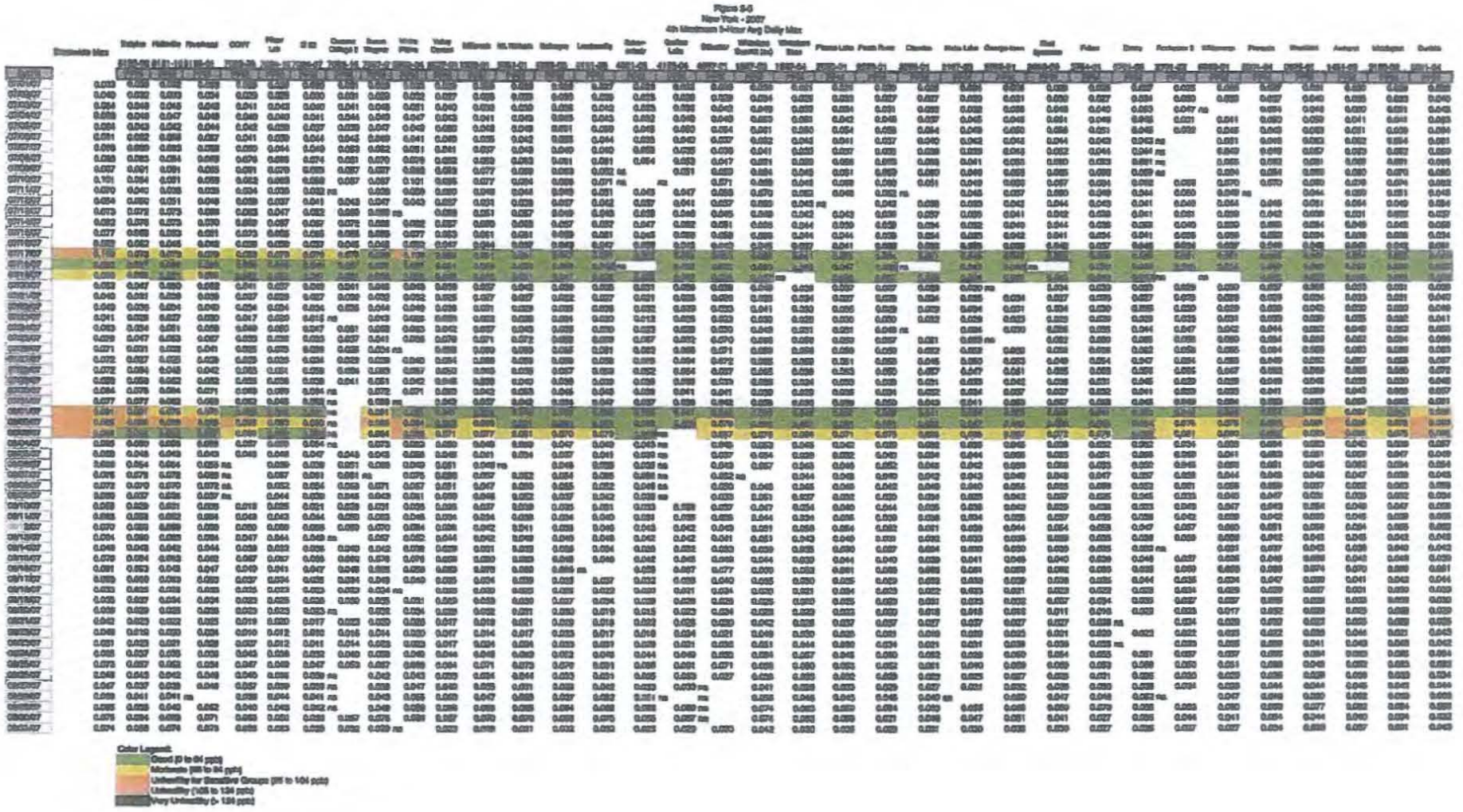
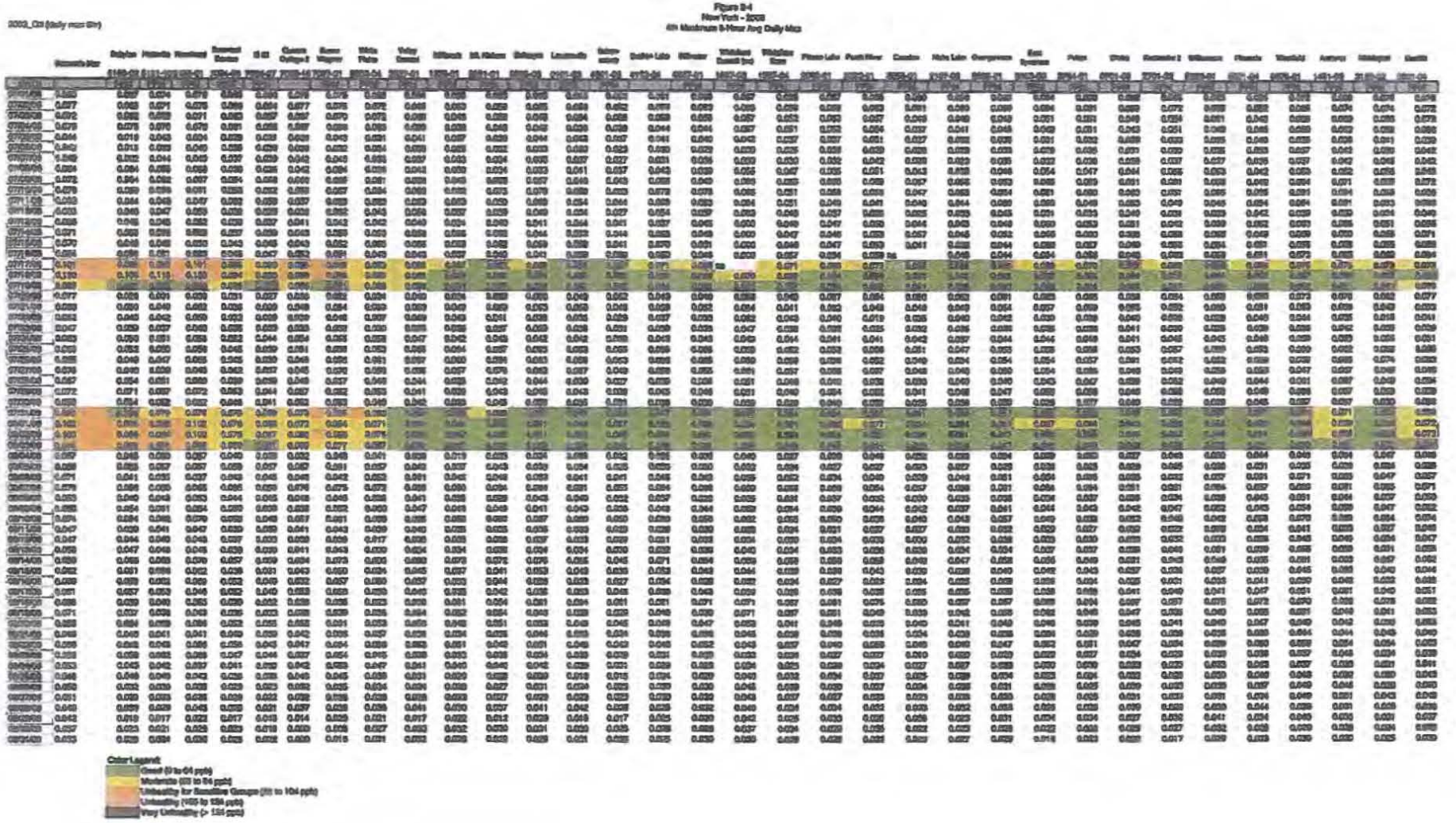
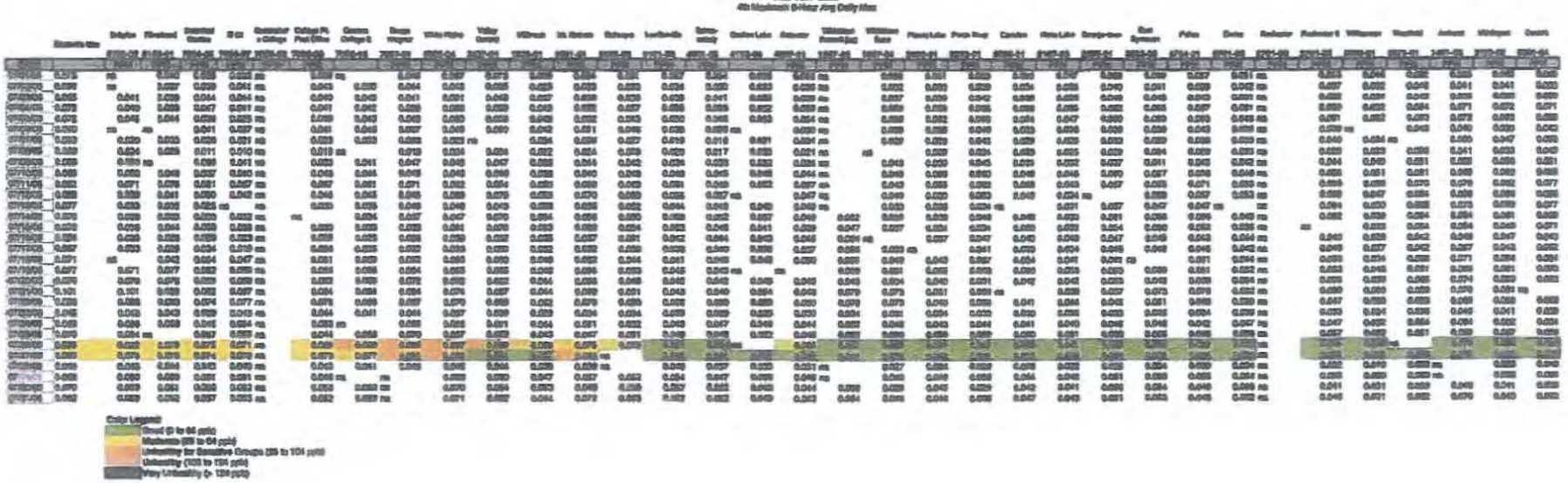


Figure 5-5
New York - 2007
4th Maximum 5-Hour Avg Daily Max
Statewide Max
Color Legend:
Good (0 to 64 ppb)
Moderate (65 to 84 ppb)
Unhealthy for Sensitive Groups (85 to 104 ppb)
Unhealthy (105 to 124 ppb)
Very Unhealthy (> 124 ppb)

Figure 3-4
New York - 2008
4th Maximum 8-Hour Avg Daily Max





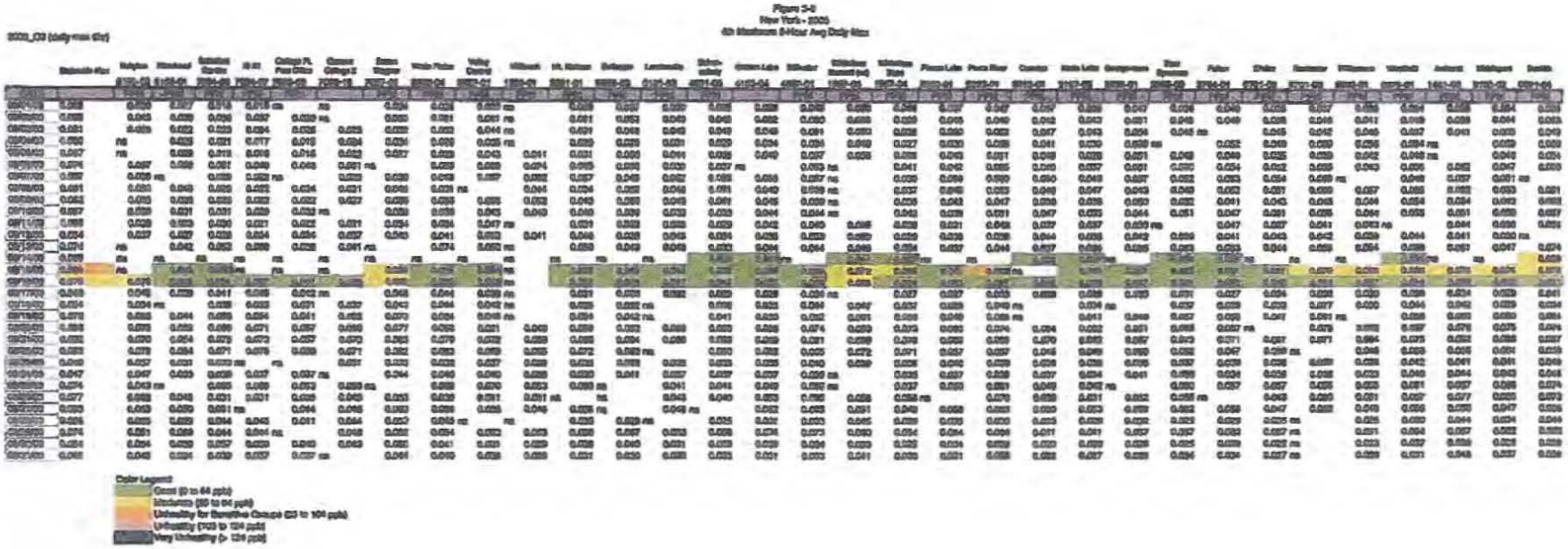
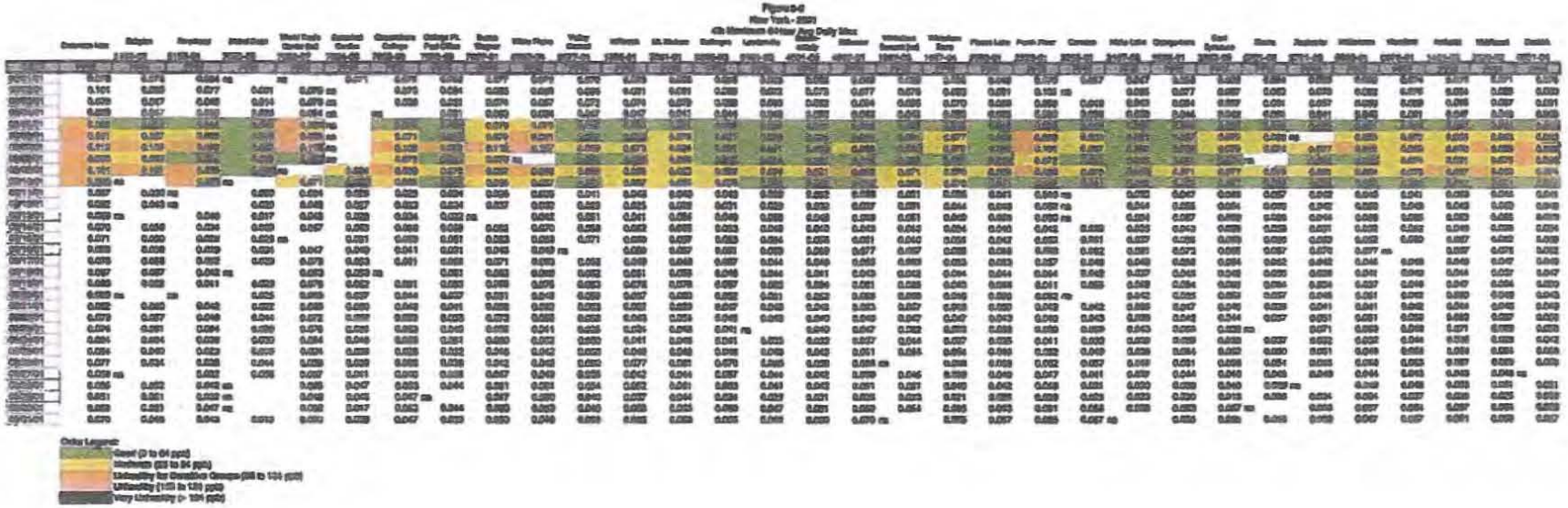


Figure [illegible]
[illegible]
[illegible]

[illegible]

Color Legend:
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]



Attachment 5

MDE Comment Letter Dated February 3, 2012

(EPA-HQ-OGC-2011-1030-020)

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
410-537-3000 • 1-800-633-6101 • www.mde.state.md.us

Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

February 3, 2012

EPA Docket Center
Mailcode: 2822T
1200 Pennsylvania Avenue
Washington, DC 20460

RE: EPA-HQ-OGC-2011-1030
Proposed Settlement Agreement; National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

Dear Sir or Madam:

The Maryland Department of the Environment (the "Department") wishes to comment on the Proposed Settlement Agreement with EnerNOC, Inc. EnergyConnect, Inc., CPower, Inc., and Innoventive Power, LLC (``Petitioners") in the United States Court of Appeals for the District of Columbia Circuit: EnerNOC, et al v. EPA, No. 10-1090 (DC Cir.) and EnerNOC, et al v. EPA, No. 10-1336 (DC Cir.) as outlined in the January 4, 2012 Federal Register (Volume 77, Number 2) on page 282, to revise the RICE NESHAP, as relating to the Final Rule on National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, outlined in the March 3, 2010 Federal Register (Volume 75, Number 41) on page 9648 and August 20, 2010 Federal Register (Volume 75, Number 161) page 51570. The Department supports the emergency demand response restriction increase to 60 hours per year contained in the Proposed Settlement Agreement. This is a welcome change to the15 hour restriction in the current Final Rule, which may prevent emergency engines from participating in emergency demand response (DR) programs.

In addition, while the Department recognizes the benefit to the electric grid stability from DR programs, the Department believes additional specification of the various DR programs should be considered for inclusion in the Proposed Settlement Agreement. Moreover, the definitions for emergency DR, economic DR, and peak shaving should be differentiated and the NESHAP and NSPS concerning reciprocating internal combustion engines should have consistent definitions and requirements.

Specifically, the Department believes that emergency DR programs protect public health and safety by calling into action emergency generators to help meet energy demands when the main electrical grid is disrupted or when brown outs are imminent. The Final Rule, as

codified in 40 CFR Part 63, §§63.6580 to 63.6675, appropriately explains emergency DR as necessary when "the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level." The current 15 hours per year maximum on emergency DR use in the Final Rule, however, may prevent emergency engines from participating in emergency DR programs since the engines may not be able to meet RTO tariff requirements that specify minimum hours of availability to participate.

Furthermore, PJM ("Pennsylvania Jersey Maryland") Interconnection, L.L.C. ("PJM") is the RTO responsible for the movement of wholesale electricity for the mid-Atlantic/mid-west states, including all or parts of 13 states and the District of Columbia. As required under federal tariff, and in accordance with PJM Manual 13: Emergency Operations, PJM operates the Emergency Load Response Program ("ELRP") when energy from generation resources is projected to be inadequate to maintain sufficient reserves or voltage to avoid blackouts. In order for an emergency engine to be able to participate in PJM's ELRP, it must be available to operate for up to 60 hours (10 interruptions times 6 hours duration per interruption) per year.

The PJM ELRP is an emergency DR program. Historically, emergency DR programs in the East Coast have rarely been called into action. The Department's emergency generator regulation does not restrict the number of hours that an engine may operate during times of emergency, which is consistent with 40 C.F.R. § 63.6640(f)(1)(i).

PJM also operates other DR programs that do not fall under the limits of an emergency only program. PJM states "Demand response is an integral part of PJM's markets for energy, day-ahead scheduling reserve, capacity, synchronized reserve and regulation. Demand response can compete equally with generation in these markets."

These PJM DR program can be classified as "Economic DR." Economic DR can be recognized as a program defined by the economic incentivization of an end-use customer or facility to reduce their electricity use from the grid when prices are high or grid needs are warranted, which primarily occurs during peak electricity demand periods. Economic DR is often referred to as peak shaving. Peak shaving is not an emergency dispatch, although it may be requested as part of emergency operations as well. Neither Economic DR or peak shaving is explicitly defined in the Final Rule.

While the Final Rule explains emergency DR it does not define emergency DR. As noted above, different contract agreements are established for economic verses emergency DR programs. The Department respectfully requests that emergency DR, economic DR, and peak shaving be defined.

The Department supports controls for engines participating in peak shaving. Payments for participation in economic DR programs can be substantial and could be directed towards emissions controls.

In 40 C.F.R. § 63.6675 the definition of Emergency Stationary RICE refers to section § 63.6640(f). 40 C.F.R. § 63.6640(f)(1)(iii) states "... The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power." The Department requests clarification on the following '*The supply of emergency power to another entity or entities pursuant to financial arrangement is...*'. If this arrangement is specified separate from DR, as to denote a tenant and landlord relationship, clarification should be added.

Thank you for this opportunity to provide you with comments related to this issue. If there are any questions or comments related to this letter please call me or a member of my staff at 410-537-3255.

Sincerely,

George S.(Tad) Aburn, Jr.
Director, Air and Radiation Management Administration
Maryland Department of the Environment
gaburn@mde.state.md.us

cc: Diane Franks, Program Manager, Air Quality Planning Program

L:\AQPlanning and Monitoring\Regulation Development Division\DG - Distributed Generation\NESHAP_DR_letter_1-31-2012.doc

Attachment 6

FDEP Comment Letter Dated February 9, 2011

(EPA-HQ-OAR-2008-0708-0719)

Florida Department of Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard, Jr.
Secretary

February 9, 2011

EPA Docket Center, Air Docket
Attention Docket ID No. EPA–HQ–OAR–2008–0708
U.S. Environmental Protection Agency
Mail Code: 6102T
1200 Pennsylvania Avenue, NW.
Washington, DC 20460

(Submitted via e-mail to: a-and-r-docket@epa.gov)

Re: 40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE); Docket ID No. EPA–HQ–OAR–2008–0708

Dear Docket Coordinator:

The Florida Department of Environmental Protection (FDEP) is pleased to provide the following comments regarding the 15 hour per year limit on the use of emergency stationary RICE operating under the demand response program as established in 40 CFR Part 63.6640(f)(1)(iii).

40 CFR Part 63.6640(f)(1)(iii) states "You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power."

The FDEP agrees that the use of emergency RICE for peak shaving operations does not constitute emergency operations and should not be allowed as part of this definition. However,

the FDEP feels that the use of emergency RICE under the oversight of a demand response program is a beneficial use that should be allowed without additional constraints. The current rule allows up to 100 hours per year of operation for an emergency RICE to conduct maintenance and readiness testing. As part of the allowed 100 hours, 50 hours are allowed for unspecified non-emergency operation. To further limit the allowable non-emergency hours to 15 hours of operation under a well-regulated demand response program appears unnecessary and over burdensome.

Under the demand response program, these emergency RICE are only allowed to be called upon when the regional transmission organization or equivalent balancing authority and transmission operator have determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. If the grid fails, every emergency generator in the area will likely operate for many hours or days until the electric grid is restored, while those without an emergency generator are left completely without power. Allowing some of these emergency RICE to be called upon in order to stabilize the grid and prevent a massive outage would result in much less environmental impact than if all emergency engines were operated in response to the loss of the grid.

Through research and discussion with different Florida industries, 15 hours of demand response is not sufficient for involvement in the program. Based on these discussions, the historical hours used for demand response appears to be somewhere between 20-40 hours per year. There are going to be some years when the program is not activated and others when the program may require 40 hours in order to stabilize the grid. If the 15 hour limitation in the current rule remains, it will prevent the demand response program from being used as intended. It will also result in a requirement for emergency RICE, which are capable of operating to prevent a grid failure, to have to be permitted as a non-emergency engine or risk operating in violation of the rule in order to prevent a massive grid failure.

Requiring the owners of emergency RICE that are capable of participating in a demand response program to be permitted as non-emergency engines would be an unnecessary burden on owners, as well as on the permitting authorities, and will potentially result in increased operation and air pollution emissions. Operation under the demand response program can only be initiated if a balancing authority determines it to be crucial (which is well documented) and the duration is specifically limited, as specified above. If forced to obtain a permit as a non-emergency RICE in order to be available for a demand response program, the owners will likely request allowable operation levels in excess of the current 50 hours per year limitation for non-emergency operation in order to also be available for operation under a peak shaving agreement.

In summary, the current rule allows up to 100 hours of emergency RICE operation per year for maintenance and readiness testing purposes. Of those 100 hours, up to 50 hours are allowed for non-emergency operation, including up to 15 hours for participation in a demand response program. The FDEP believes that utilizing emergency RICE as part of a demand response program can help to prevent grid failures and reduce the need for many emergency RICE to be activated if the grid were to fail. As such, participation in a demand response program is something that should be encouraged. However, a limitation of only 15 hours per year is too

restrictive to allow a unit to participate in the program. Retaining the 15 hour per year limit in the rule will result in additional permitting burdens being placed upon the owners and the permitting authorities that will conceivably result in the engines being permitted to operate for much more than the 50 non-emergency hours currently allowed. Therefore, the FDEP recommends that the 15 hour per year limit for demand response should be removed from the current rule, leaving the 50 hours of non-emergency hours unrestricted. If you have any questions, feel free to contact me at (850) 717-9079 (or e-mail jon.holtom@dep.state.fl.us).

Sincerely,

Jon Holtom *(Electronically Signed)*

Jon Holtom, P.E., Title V Program Administrator
Division of Air Resource Management
Florida Department of Environmental Protection

Attachment 7

TCEQ Comments

(EPA-HQ-OAR-2008-0708-0764)

COMMENTS BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY REGARDING THE NOTICE OF RECONSIDERATION OF THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR RECIPROCATING INTERNAL COMBUSTION ENGINES

EPA DOCKET ID NO. EPA-HQ-OAR-2008-0708

I. Summary of Notice

The United States Environmental Protection Agency (EPA) is requesting comment on the decision to amend the limitation on operation of emergency stationary engines that are part of an emergency demand response program. On March 3, 2010, the EPA published the final rule for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for existing stationary reciprocating internal combustion engines (40 Code of Federal Regulations (CFR) Part 63, Subpart ZZZZ). The final rule (40 CFR §63.6640(f)(1)(iii)) limits the operation of emergency engines as part of an emergency demand response program to a maximum of 15 hours per year. The rule also requires that this operation be counted as non-emergency operational hours for purposes of other restrictions of the rule. The EPA subsequently received two petitions for reconsideration specifically regarding the limitation on hours of operation for emergency engines used in an emergency demand response program. The EPA is not proposing specific changes to the final rule with this notice and is only taking comment on the issues raised by the petitioners.

II. Comments.

The Texas Commission on Environmental Quality (TCEQ) supports the petitioners' request for reconsideration to revise the NESHAP regulatory limitation on the hours allowed for emergency demand response operation of emergency engines.

The TCEQ agrees that the EPA should revise 40 CFR Part 63, Subpart ZZZZ, to provide additional flexibility for emergency engines in emergency demand response programs and to clarify parts of the rule as discussed elsewhere in these comments. The TCEQ also agrees with the petitioners' assertion that emergency demand response programs provide an environmental benefit. Selected and limited operation of emergency generators to avert a blackout is preferable to the possible operation of thousands of generators if a blackout occurs. The 15 hours allowed by the final rule may not provide adequate flexibility for emergency demand response programs.

Operation of emergency engines under an emergency demand response program should be limited by the definition of emergency response program operation rather than by a limit on the total hours an engine may operate under such programs. The rule should classify operation of an engine under emergency demand response programs as emergency operation provided the operation is in direct response to an energy emergency declared by the regional transmission or balancing authority and is required by the conditions of the emergency demand response program.

The final rule appears to define emergency demand response engine operation as non-emergency operation by requiring the hours of operation under such a program to count towards the 50 hours per year limit of non-emergency operation of emergency engines (40 CFR §63.6640(f)(1)(iii)). The TCEQ considers the operation of engines in response to an officially declared emergency by the regional transmission authority to be emergency operation. Establishing a time limit on emergency use operations may force the owner or operator of the engine to choose between compliance with the regulation or providing the necessary operation of the engine to help avert an electrical grid emergency as agreed upon in the emergency demand response program. While the 60 hours proposed by the petitioners may appear reasonable based on historical operation, future demand operation for emergency purposes may not be reliably predicted. Therefore, the TCEQ suggests that the EPA revise the rule to specify that operation of an engine under an emergency demand response program is considered emergency operation and not subject to hourly limitations as provided by 40 CFR §63.6640(f)(1)(i) provided that the operation is in direct response to an official energy emergency declared by the regional transmission or balancing authority. The TCEQ supports the general concept of limiting emergency demand response program operation to periods declared as an energy emergency by the regional transmission or balancing authority proposed by the EPA as a potential option (75 FR 75940). While the TCEQ cannot comment as to the appropriateness of using the North American Electric Reliability Corporation Reliability Standard EOP-002-3 Energy Emergency Alert Level 2 as the specified definition for this purpose, this general approach would provide greater flexibility under the rule for emergency demand response programs without expanding the provision beyond emergency situations.

The EPA should consider expanding the provisions regarding emergency demand response programs to existing emergency engines rated more than 500 brake horsepower (hp) at major sources of hazardous air pollutants that were installed prior to June 12, 2006, under 40 CFR §63.6640(f)(2).

The final rule only makes provisions for emergency demand response under 40 CFR §63.6640(f)(1), which applies to existing emergency stationary engines 500 hp and less at major sites, new or reconstructed emergency stationary engines greater than 500 hp at major sites that were installed on or after June 12, 2006, and existing emergency

stationary engines at an area source. As currently written, existing emergency stationary engines greater than 500 hp at major sites that were installed prior to June 12, 2006, are subject to 40 CFR §63.6640(f)(2) and §63.6640(f)(2)(iii) appears to prohibit emergency demand response program operation for existing emergency engines greater than 500 hp at major sources. The TCEQ notes that this particular change was made in subsequent rulemaking published by the EPA in the August 20, 2010, *Federal Register* (75 FR 51570). The preamble in the August 20, 2010, *Federal Register* provided no explanation for why the provisions for emergency demand response programs are not applied to emergency stationary engines that fall under 40 CFR §63.6640(f)(2). In addition, the EPA did not provide adequate notice in the August 20, 2010, *Federal Register* that the provisions of 40 CFR §63.6640(f) were being expanded to include this new category of stationary engines.