



August 8, 2012

Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency
Air and Radiation Docket
Mail Code 6102T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Proposed Rule – Docket No. EPA-HQ-OAR-2008-0708

Dear Administrator Jackson:

The Ozone Transport Commission (OTC) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA's) proposed amendments (77 FR 33812, June 7, 2012) to the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHAP) and the New Source Performance Standards for Stationary Internal Combustion Engines (NSPS).

The states in the Ozone Transport Region have significant challenges in trying to meet the current National Ambient Air Quality Standard (NAAQS) for ozone due largely to the problem of ozone transport from upwind states. The states' work will become even more challenging when EPA lowers the ozone NAAQS in coming years. EPA's proposed rule frustrates these states' efforts to meet the ozone health standard, and we request that EPA reconsider the proposal as set forth more specifically below.

OTC recognizes the importance of grid reliability to public health, but the proposed rule has failed to adequately evaluate the adverse impacts of the increased emissions of oxides of nitrogen (NO_x) that would result from this rule proposal unnecessarily, especially on high electricity demand days (HEDD). This only increases the exposure of the public to additional adverse health effects. OTC recommends that emergency RICE should only be allowed to operate during true emergencies, unless the engines are properly controlled.

EPA's Lack of Consideration of Previous OTC Comments Concerning the Definition of "Emergency"

Emergency generators serve the purpose of preventing power outages at key locations that are vital to the public good during rare events in which the power grid is disrupted. EPA rightfully recognized the importance of quick start emergency power when it first adopted the New Source Performance Standards for stationary engines. Controlling emergency engines in true emergency situations is not feasible since add-on controls typically utilize a catalyst that requires time for the engine exhaust to reach optimal temperatures for pollution abatement to occur. As emergency engines are intended to be used unexpectedly and rarely, they should not be forced to install add-on pollution control devices in order to minimize their emissions, but the same considerations do not apply during times that are not true emergencies.

Connecticut

Delaware

District of Columbia

Maine

Maryland

Massachusetts

New Hampshire

New Jersey

New York

Pennsylvania

Rhode Island

Vermont

Virginia

J. Wick Havens
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OTC previously submitted comments concerning how emergencies are defined. We reiterate that the definition of emergency should be limited, as is the case in OTC's 2010 Model Rule for Stationary Generators, so that emergency RICE can only be used during true emergency events.

EPA's Impacts Analysis is Incomplete

EPA has failed to provide an assessment of the costs and benefits of this "significant regulatory action" as required under Exec. Order No. 12866.

EPA fails to analyze the impact from allowing emergency RICE to run under peak shaving distributed generation programs. EPA assumes no increase in emissions will occur from the sector despite the proposal allowing emergency RICE at area sources to participate for 50 hours in peak shaving programs. They make this assumption despite the fact that the proposed rule will now allow significant payments to be made to engine owners. EPA proposes this peak shaving allowance despite evidence from regional transmission operators (RTOs) and independent system operators (ISOs), such as PJM, showing substantial increases of participation in energy markets from demand response programs, with much of that increase coming from distributed generation.

Furthermore, EPA does not have an inventory of emergency generators that would be subject to this rule proposal. Such an inventory is necessary to evaluate the level and location of the emissions increases associated with the proposed peak shaving allowance.

EPA must comply with Exec. Order No. 12866 and conduct a complete analysis of the impacts of allowing emergency RICE to operate in energy markets.

EPA's Health Impacts Analysis is Deficient

As a result of not fully evaluating the air quality impact of Compression Ignition (CI) RICE in the Regulatory Impact Analysis (RIA), EPA does not identify negative health impacts from the proposed rule. CI RICE emit NO_x, PM_{2.5}, and hazardous air pollutants, and NO_x emissions in particular lead directly to ozone pollution. EPA's proposal will result in problematic increases in ozone levels in the OTR, especially since emergency RICE participating in peak shaving programs likely will run on the worst air quality days during ozone season. Given the challenges facing the states of the OTC in meeting the new ozone NAAQS and 1-hour NO₂ standard, as well as the negative impact of increasing PM_{2.5}, and hazardous air pollutant emissions, EPA must not allow uncontrolled emergency engines to participate in peak shaving programs until further review is conducted.

EPA Should not Rely on Highly-Polluting Emergency RICE to Address Grid Reliability

Argument has been raised that EPA's recent air quality rulemakings (e.g., CSAPR, MATS) are forcing shutdowns of generation facilities, and that operation of highly polluting emergency RICE is necessary to ensure grid reliability in the wake of these shutdowns. This argument is without merit and the assertions supporting it should not be considered by EPA in the evaluation of RICE NESHAPs.

Many of the rules that are impacting the energy sector were finalized years ago (e.g., emissions trading rules finalized in 2005). It is now seven years later and yet some systems remain unprepared for issues related to grid reliability. Their solution is highly polluting stop gap measures. Rather than implementing the proposed rule, EPA needs to work collaboratively with FERC, the RTOs, and the ISOs to ensure that

grid reliability does not depend on highly polluting RICE, and to develop long term strategies of energy efficiency, renewable generation, and cleaner energy production.

EPA Failed to Consider Increased NO_x Emissions in its Proposed Exemption of 4 Stroke Rich Burn Engines

OTC is additionally concerned with the significant NO_x emission increase resulting from the exemption of 4 Stroke Rich Burn (4SRB) engines greater than 500 hp in sparsely populated areas. According to the RIA, EPA's proposed rule would result in nearly 108,000 tons per year more of NO_x and VOC (formaldehyde mainly) emissions compared to the original 2010 rule. By focusing only on nearby receptors for toxics effects only, EPA has lost sight of significant loss of co-benefits in terms of NO_x emissions. This is a significant emission increase that could adversely impact ozone attainment within downwind areas such as OTR. To put this into perspective, the NO_x emissions associated with this proposed measure are two and a half times more than the State of Delaware's total NO_x inventory. We urge EPA to reconsider this relaxation until further study has been completed that show the impact on downwind areas.

Conclusion

OTC urges EPA to consider the adoption of a definition of emergency similar to those in the OTC Model Rule for Stationary Generators and only allow emergency RICE to run under such situations¹. Doing so would prevent the occurrence of grid failures while protecting the public health. This would also continue to provide RICE owners the option of installing pollution control equipment so that they would not be limited to operating only during emergencies. Additionally, we urge EPA to reconsider the exemption of 4SRB engines in remote areas.

If EPA insists on moving forward with a rule, it should obtain the necessary data and use realistic future scenarios to conduct a complete analysis to assess the air quality and public health effects of emergency RICE participating in peak shaving programs. Failure to do so could have a direct and detrimental impact on ozone levels, the public health, and future grid reliability in the Northeast and Mid-Atlantic states.

You can find more detailed information concerning OTC's views on "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines" in the attached document. Please contact me at 202-508-3842 with any concerns.

Sincerely,



Wick Havens
Interim Executive Director

¹ OTC Model Rule for Stationary Generators, Adopted November 10, 2010.
<http://otcair.org/upload/Documents/Model%20Rules/Stationary%20Generators%20Model%20Rule%20-%20Final.pdf>

Comments from the Ozone Transport Commission
On
“National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines”
Docket ID EPA-HQ-OAR-2008-0708-0855

The Ozone Transport Commission (OTC) appreciates the opportunity to comment on EPA’s proposed amendments (77 FR 33812, June 7, 2012) to the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHAP) and the New Source Performance Standards for Stationary Internal Combustion Engines (NSPS). As additional health effects research and information dictates the need for EPA to lower the National Ambient Air Quality Standard (NAAQS) for ground-level ozone to be more protective of the public health, it becomes more challenging for states to find additional emission reductions within the Ozone Transport Region. While grid reliability is of concern from a public health perspective, it is of vital importance not to unnecessarily increase emissions of oxides of nitrogen (NO_x) especially on high electricity demand days (HEDD). This only increases the exposure of the public to additional adverse health effects. To avoid unnecessary, harmful air quality impacts, the proposal should allow emergency RICE to operate only during true emergencies, unless the engines are properly controlled.

About OTC

The Ozone Transport Commission (OTC) is a multi-state organization created under the Clean Air Act. OTC consists of the twelve northeastern states and the District of Columbia. We are responsible for advising EPA on transport issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions.

Previous OTC Comments

During the 2010 RICE NESHAP proposal process OTC submitted comments concerning the definition of “emergency” that was used². OTC reiterates that EPA should use a definition of “emergency” that is precise and limits usage to only true emergencies. The OTC would like to provide the definition of “emergency” from its 2010 Model Rule for Stationary Generators³, which was developed with input from our regional RTOs and ISOs:

- *An electric power outage due to: a failure of the electrical grid; on-site disaster; local equipment failure; or public service emergencies such as flood, fire, natural disaster, or severe weather conditions (e.g. hurricane, tornado, blizzard, etc.); or*
- *When there is a deviation of voltage or frequency from the electric public utility to the premises of three percent or greater above, or five percent or greater below, standard voltage or frequency.*

As emergency is defined in the OTC model rule, an emergency generator may operate in conjunction with a voluntary demand-reduction program or any other interruptible power supply arrangement with

² Havens, Wick (2011). “Recommended definition of ‘emergency’ stationary engines.”

http://otcair.org/upload/Documents/Correspondence/RICE_NESHAP%20comments048.pdf

³ OTC Model Rule for Stationary Generators, Adopted November 10, 2010.

<http://otcair.org/upload/Documents/Model%20Rules/Stationary%20Generators%20Model%20Rule%20-%20Final.pdf>

a utility, other market participant, or system, provided it only operates in accordance with the definition of emergency. The OTC would agree with the operation of an emergency RICE when an alert has been declared only if such a declaration/action meets the OTC model rule's definition of emergency. Since the declaration of such an action is meant to prevent a power outage, it would be necessary for the action to coincide with a deviation of voltage or frequency in order for it to be considered a true emergency condition per the OTC's Model Rule for Stationary Generators.

EPA's proposal would allow emergency generators to participate in emergency demand response programs when an Energy Emergency Alert Level 2 (EEA Level 2) has been declared by the RTO or ISO⁴. This Level 2 alert identifies different load management procedures that include demand-side management. The implementation of emergency generators should be behind all other procedures (voltage reduction, for example) outlined in EEA Level 2 and the last of the demand-side management curtailments to be implemented before the EEA Level 3 (firm load interruption imminent or in progress) is declared. To avoid contradictions with OTC's suggested definition emergency generators should be the last of the Alert 2 procedures to be called into action before the Alert 3 is declared. Uncontrolled RICE should be treated differently than other demand-side management techniques due to their negative impact on public health.

Controls

CI engines (i.e., diesel generators) are a proven source of durable, reliable power for true emergency situations such as power outages. The widespread availability and use of diesel generators will no doubt lead to greater use of diesel generators under demand response programs for financial reasons, deterring investment in clean energy generation. The aggregation of these diesel generators into "virtual power plants" is detrimental to air quality since these engines have significantly higher emissions rates than natural gas-fired peaking or combined-cycle power plants yet are uncontrolled. Under a scenario in which they were allowed to participate in peak shaving programs, it would be vital that emission controls be installed concurrent April 16, 2007, compliance date from the Coal and Oil-fired Electric Utility Steam Generating Units NESHAP.

In its March 2, 2007 Memorandum of Understanding (MOU) regarding NO_x emission reduction strategies on HEDD, OTC member states committed to short-term reductions of NO_x emissions associated with HEDD units. Moreover, in addition to Stationary Generators, OTC also adopted long-term performance standards in its 2010 model rule, Control of NO_x Emissions from Natural Gas and Distillate Oil Fired HEDD Combustion Turbines. While baseload and peaking electric generating units are getting cleaner, ozone levels on HEDD in the region remain elevated as indicated by the recent 1-hour exceedances in CT. While OTC continues to pursue additional NO_x reductions on HEDD, allowing uncontrolled emergency generators to operate on HEDD may override all the reductions achieved, or planned, by the OTC member states to date.

OTC considered the three generators described in a memorandum written by Synapse⁵. This Synapse memo states that the annual revenue for a 1MW diesel generator could range from "*under \$10,000/year to over \$80,000/year depending upon the specific year and the location in which the unit is installed.*" For a 1MW generator, the approximate cost to retrofit with selective catalytic reduction (SCR) technology is approximately \$150,000, which annualized over 10 years at 7% is about \$21,000 per

⁴ 77 FR 33831 (2012)

⁵ Angel, Stacey. "Sample Revenue for a 1 MW Backup Generation Unit." Memorandum. EPA-HQ-OAR-2008-0708-0840

year. By adding \$10,000 per year in operating costs, primarily due to the cost of urea, this represents an approximate capital and operating cost of \$31,000 per year. Using all three of the example generators from the memorandum all would have made more than the cost of control in all historic years, and there are anticipated increases in usage of such facilities in future years. Depending on exactly how much revenue is cleared after annual capital and operating costs, and how frequently it is called to operate in the future, a 1MW generator could easily pay off its cost to install controls within a few years, after which all revenue is 100% income.

According to a paper by Gilmore, et al., the total levelized cost of generating a kilowatt-hour of electricity from an existing diesel engine is about 18¢ at a fuel cost of \$2.40 per gallon of diesel fuel and a new natural gas fired engine (including the added capital cost of the construction) has a total levelized cost of 19¢ per kilowatt-hour at a fuel cost of \$15.00/MCF⁶. Given that diesel is now above \$3.40 per gallon and natural gas is at \$3.00/MCF, all other things being equal, the cost of each kilowatt-hour of electricity produced from a natural gas fired engine is lower than the cost of a kilowatt-hour of generation from a diesel fired engine. This means that it is more costly to generate electricity from an existing uncontrolled diesel engine at 21.8 lbs. of NO_x per MW-hour than it is to build and generate electricity from a new natural gas fired engine whose emission rate is 2.2 lbs./MW-hr. In other words, it is more costly to generate electricity under EPA's RICE proposal with a diesel engine that has 10 times the NO_x emission rate of a natural gas engine. The proposed rule allows the use of existing dirty diesel engine by providing an opportunity for huge revenues at the cost of investments in clean generation.

Despite the cost effectiveness of natural gas energy production over CI RICE in terms of fuel prices nearly 15 GW of demand response cleared the PJM capacity market for 2015/2016, up from only about 1 GW in 2010/2011⁷. Although all of that capacity is not behind-the-meter diesel generation, there are estimates that up to 50% of it is. Unfortunately, this proposal would encourage the use of polluting RICE rather than investment in cleaner and less expensive alternatives.

Requiring pollution controls on emergency RICE as a condition for participating in economically beneficial demand response programs is not without precedent. For example, Celerity Energy Partners San Diego, LLC, a subsidiary of EnerNOC, Inc., has a contractual arrangement with San Diego Gas & Electric under which it has installed and maintained pollution control equipment on existing backup diesel generators that allows the units to be used as demand response resources and for other ancillary purposes⁸. If EPA wants to allow emergency generators to participate as part of the proposed 50 hour peak shaving program or in a non-emergency capacity in a demand response program, these units must be controlled before they can be allowed to participate in such programs.

Testing

The proposal continues to allow RICE to be run for testing and maintenance purposes. OTC has no problems with this in principle since an unmaintained engine will produce even more emissions and could present other safety hazards when operated. However, OTC urges EPA to restrict hours for testing

⁶ Gilmore, Elisabeth A., et al (2009). "The Cost, AIR Quality, and Human Health Effects of Meeting Peak Electricity Demand with Installed Backup Generators."

⁷ Helm, Gary (2012). Presentation at MADRI Meeting: Impact Of Environmental Regulations Om Demand Response.

⁸ EnerNOC, Inc., *Annual Report 2011*, Boston, MA (2012). Available at http://files.shareholder.com/downloads/ENOC/1943413583x0x562905/B01582C9-3E7F-4623-BB6C-D43E92ACF0F9/Enernoc_2011_Annual.pdf (accessed June 27, 2012).

when air quality is predicted to be unhealthy. OTC suggests that the EPA follow the example which is included within its Model Rule for Stationary Generators:

(c)The owner or operator of an emergency generator shall not test the emergency generator on days when air quality is predicted by the State or designated Agency to be at least “unhealthy for sensitive groups” as defined in the U.S. EPA’s Air Quality Index.

Regulatory Impact Analysis (Exec. Order No. 12866)

Within the final report “Regulatory Impact Analysis (RIA) for Proposed Reconsideration Existing Stationary Spark Ignition RICE NESHAP” dated May 2012 (Docket ID EPA-HQ-OAR-2008-0708-0855), EPA admits to not having fully assessed the impact of the proposed amendments to the RICE NESHAP and NSPS. In assessing the potential emission reductions of the proposed amendments, EPA only estimates emission reductions from the spark-ignited (SI) RICE NESHAP amendments compared to the final RICE NESHAP of 2010. Allowing uncontrolled engines to participate in emergency demand response for up to 100 hours per year, and peak shaving agreements for 50 of those hours, will increase NO_x and other pollutant emissions from both compression ignition (CI) and SI engines. By definition, emergency RICE have not previously been allowed to participate in non-emergency programs. Therefore, there is no historical experience from peak shaving or other non-emergency programs to inform air quality planners on the potential future impacts of expanded emergency RICE utilization. These emissions increases should not be ignored or negated because EPA finds them difficult to estimate. EPA has a responsibility to assess their impact on public health and cannot ignore these emission increases.

Similarly, EPA does assess control costs within the RIA, but again, EPA only determines the capital and annual costs relate to control technologies associated with SI engines. EPA admits to not assessing the costs and revenue associated with participation in emergency demand response or peak shaving:

“The EPA expects there will be savings and/or income generated through participation in emergency demand response programs and peak shaving operation, but the EPA has not accounted for any potential revenue in estimating the costs and benefits of the proposed amendments. It is uncertain how frequently stationary emergency engines would operate if they are called upon. Other factors, such as the annual revenue from demand response programs (which varies), are also uncertain making it problematic to estimate the economic benefit of such programs. As such, the EPA has not estimated any costs associated with the emergency engine amendments.”

While it is true that no one can predict the future and when engines will be called to participate in emergency demand response or peak shaving programs, EPA is well aware of the days when engines have been called to operate in the past, as well as estimated revenue due to participation in such programs. Comments have been submitted by Energy Connect, Inc, EnerNOC, Inc, and Innovative Power, LLC, which includes detailed data on when various independent system operators (ISOs) called upon their respective emergency demand response programs to operate⁹. Additionally, the aforementioned memo submitted by Synapse Energy Economics discusses the sample revenue for a 1 MW generator in the ISO-NE and PJM transmission territories.

⁹ Counihan, Rick. “In response to the Request for Comments per Federal Register Notice dated December 7, 2010 (Pages 75937 to 75941), regarding Emergency Demand Response in the NESHAP for Reciprocating Internal Combustion Engines, attached please find the comment letter of EnerNOC, EnergyConnect and Innovative Power, along with a separate document containing attachments to that letter.” Memorandum. EPA-HQ-OAR-2008-0708-0748

As expected, EPA does include an analysis within the RIA of the human health benefits associated with the emissions reductions expected from a rule. Just as EPA only addressed the environmental and economic factors of the proposed amendments as they related to SI engines, EPA also only addressed the human health benefits associated with the emission reductions from SI engines. EPA's health benefits analysis is based upon the implementation of emissions controls expected to reduce emissions of hazardous air pollutants (HAP) and have ancillary co-benefits that would lower ambient concentrations of NO₂, PM_{2.5} and ozone. EPA claims that analytical limitations prevent it from providing a comprehensive estimate of PM_{2.5}-related benefits, and therefore uses a "benefit-per-ton" approach based upon the amount of NO_x reduced, as a surrogate for PM_{2.5}. However, this approach fails to take into consideration the health benefits (or detriments) related to the proposed allowance of uncontrolled engines in emergency demand response and peak shaving programs since EPA failed to estimate emissions reductions (or increases) for their usage. This is a major oversight by EPA given its admitted lack of understanding about the participation in such programs and the emissions associated with participating engines.

It is EPA's obligation under Exec. Order No. 12866 to provide an assessment of the costs and benefits of this "significant regulatory action", which EPA acknowledges within the RIA. However, EPA should not develop a RIA for proposed amendments based upon certain portions which they deem relevant. Likewise, EPA should not exclude an assessment of the impact of other portions of a proposal just because it "does not know." It is imperative that EPA provide an assessment of the costs and benefits related to the proposed allowance for uncontrolled engines to participate in emergency demand response and peak shaving programs. Until EPA develops and publishes such an assessment, which can provide a detailed analysis in support of such a proposal, it should withdraw these proposed amendments.

Energy Impact Analysis (Executive Order No. 13211)

Executive Order No. 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use, was signed in order to appropriately weigh and consider the effects of the Federal Government's regulations on the supply, distribution, and use of energy¹⁰. Within the RIA, EPA states that the proposal is "not likely to have a significant adverse impact on the supply, distribution, or use of energy" (emphasis added). EPA based this answer upon an assumption that changes in energy consumption and supply and price impacts will be minimal. OTC strongly feels that this level of analysis by EPA is insufficient and irresponsible, considering that the EPA believes the importance of such emergency demand response programs and the severe consequences which may occur without their utilization:

The EPA believes that the emergency demand response programs that exist across the country are important programs that protect the reliability and stability of the national electric service grid. Allowing stationary emergency engines to operate as part of emergency demand response programs can help prevent grid failure or blackouts, by allowing these engines to be used in circumstances of grid instability prior to the occurrence of blackouts. Preventing stationary emergency engines from being able to qualify and participate in emergency demand response programs without having to apply aftertreatment could force owners and operators to leave their engines out of these programs, which will impair the ability of ISOs and RTOs to use these relatively small, quick-starting and reliable sources of energy to protect the reliability of their systems. The EPA does not wish to potentially jeopardize electrical reliability or create a disincentive for stationary emergency engines to participate in these programs¹¹.

¹⁰ 66 FR 28355

¹¹ 77 FR 33817

If EPA has arrived at this conclusion concerning reliability, EPA must provide a sufficient energy impact analysis to verify and confirm that the nation's electrical grid is in jeopardy and that the use of these uncontrolled engines is absolutely necessary to protect the reliability and stability of the grid. EPA must develop such an analysis in consultation with the expertise of FERC, the RTOs, and the ISOs. Without any suitable energy, environmental, or health impact analysis of the use of uncontrolled engines, EPA cannot in good conscience make a determination that the energy needs outweigh the environmental and health impact from the operation of such uncontrolled engines.

State Work Burden

Assessing emission impacts from small diesel generators used in demand response programs is complicated because the generators are widely distributed and difficult to identify. Because the generators are relatively small and originally dedicated for backup emergency generation only, many have not been required to obtain operating permits. As a result, air quality managers do not have complete knowledge about the location and activity levels of the generators which may be used in demand response programs, making it difficult to assess the extent of their emissions and apply emission restrictions where necessary. Promulgation of the proposal will thus burden state air quality managers who will now need to perform extensive inventory improvements to properly account for the emission increases from diesel generators in their state implementation plans (SIPs). EPA needs to develop such an inventory using their own resources or provide additional funding for states needing to develop SIP quality emissions inventories.

Health Impacts

In the RIA, EPA quantifies the health benefits as follows:

...the monetized co-benefits for this rule associated with reducing exposure to ambient fine particulate matter (PM_{2.5}) by reducing emissions of precursors. We estimate the total monetized co-benefits to be \$62 million to \$150 million at a 3% discount rate and \$55 million to \$140 million at a 7% discount rate in 2013. All estimates are in 2010\$. These estimates reflect the monetized human health benefits of reducing cases of morbidity and premature mortality among populations exposed to PM_{2.5} reduced by this rule.

Within the RIA, EPA determined that the total compliance costs were \$115 million. Thus, the net benefits are \$-53 million to \$35 million at a 3% discount rate and \$-60 million to \$ 25 million at a 7% discount rate. Although EPA does discuss the unquantified benefits, the net benefits are more than likely negative, implying that the human health benefits do not outweigh the cost of compliance. This calls into question the value of the entire proposal. Furthermore, given the excluded emission increases from CI engines discussed earlier, the disbenefits of the rule are likely greater than estimated.

These results are particularly unacceptable in light of the new evidence of the carcinogenicity of diesel exhaust. In a press release issued on June 12, 2012, the International Agency for Research on Cancer (IARC), which is part of the World Health Organization (WHO), classified diesel engine exhaust as carcinogenic to humans (Group 1), based on sufficient evidence that exposure is associated with an increased risk for lung cancer.¹² Diesel engine exhaust had previously been classified as only "probably carcinogenic to humans" (Group 2A) by the IARC since 1988, but was upgraded after the publication in

¹² The Lancet Oncology (2012) doi:10.1016/S1470-2045(12)70280-2

March 2012 of the results of a large US National Cancer Institute/National Institute for Occupational Safety and Health study of occupational exposure to emissions of diesel exhaust.^{13,14}

EPA concludes in the proposed rulemaking that it “is not feasible to determine whether there would be disproportionately high and adverse human health or environmental effects on minority, low income or indigenous populations from the reconsideration of this final rule, as the EPA does not have specific information about the location of the stationary RICE affected by this rule.¹⁵” Demand response programs are typically called on hot summer days when ozone concentrations can be high. Emergency generators typically have short stacks and emissions can be released close to ground level. As a result, engines located in densely populated areas, which tend to be classified as Environmental Justice Areas, can have a significant adverse impact on the local population. Also, based upon limited data the NYSDEC has been provided regarding demand response sources, the vast majority of emergency generators are diesel engines. Approximately 60 percent of these diesel engines were manufactured in 1994 or earlier. Such engines could have NO_x emission rates of 14 grams per brake horsepower-hour or greater.

Given that the air quality impacts are underestimated due to the assumptions about the amount of time emergency RICE would run, and that these emergency RICE are often co-located at hospitals and schools in densely populated areas, environmental justice issues need to be analyzed further consistent with Executive Order 12898. This is supported by an analysis conducted by Mid-Atlantic Regional Air Management Association (MARAMA) that showed air quality impacts on population centers in the OTR that would result from this proposal¹⁶.

Additionally, an OTC member state (Delaware) conducted an analysis of the impact of RICE on another health based NAAQS, the 1-hour NO₂ standard. Upon conducting an AERMOD analysis using a selection of rural monitors in the Mid-Atlantic, Delaware found that RICE operating during periods of peak demand would violate the 1-hour NO₂ standard¹⁷. EPA must look at the impact on meeting the 1-hour NO₂ standard knowing that this proposed regulation would result in increased emissions from the emergency RICE sector.

EPA’s proposal to allow uncontrolled engines to participate in emergency demand response and peak shaving will expose the public to high concentrations of a now confirmed carcinogen. This will occur on days similar to those which are occurring in the Mid-Atlantic and Northeast here in early July 2012. Air quality is already being hindered by high ground level ozone and particulate matter, and the added carcinogenic diesel exhaust from the uncontrolled participation in such programs will only exacerbate the air quality and the health impact to the public. In light of this new evidence, it is imperative that EPA withdraw its proposed amendments until it can develop a full assessment of the impact to human health and the environment.

Exemption of 4 Stroke Rich Burn (SRB) Engines > 500 hp in Unpopulated Areas

¹³ JNCI J Natl Cancer Inst (2012) doi:10.1093/jnci/djs034

¹⁴ JNCI J Natl Cancer Inst (2012) doi: 10.1093/jnci/djs035

¹⁵ 77 FR 33831

¹⁶ MARAMA (2012). *Air Quality Impact Analysis of the USEPA proposed changes to the RICE rules.*

¹⁷ Delaware Division of Air Quality (2010). “Modeling of Diesel-Powered Emergency Generators for 1-Hr NO₂ NAAQS Compliance,” Memorandum. EPA-HQ-OAR-2010-0295

These large spark ignited engines in unpopulated areas represent a major portion of the natural gas engines used in the natural gas infrastructure to operate electric generators, hydraulic fracturing pumps, recovery pumps, field gathering pumps among others. The original SI NESHAP regulation required the use of non-selective catalytic reduction (NSCR) catalysts on these largest rich-burn engines, regardless of location. Closed loop, non-selective catalytic reduction (NSCR) technology is a very cost-effective way to reduce HAPs from stationary rich-burn engines because this is essentially the same three-way catalyst technology that has been employed on passenger cars since the late 70s and employed on stationary rich-burn engines for over 30 years. NSCR for stationary engines is a proven technology based on automotive three-way catalyst that has been installed on over 300,000,000 automobiles with outstanding results. Today's commercial NSCR technology can easily reduce HAPs and other hydrocarbons by over 95%. In fact with the use of state of the art air to fuel ratio controllers, conversion efficiencies of over 99% for all three criteria pollutants have been demonstrated. Manufacturers of engine controls have installed tens of thousands of these catalysts on rich-burn stationary natural gas fueled, reciprocating engines and have repeatedly demonstrated 99% reduction relative to the untreated exhaust. Most of these installations are in remote, unpopulated areas. However, the engines tend to be clustered in close proximity to facilitate inspection and maintenance of numerous engines with a single visit. The argument that these engines may be difficult to access, lack electricity and be unmanned most of the time is a weak one. NSCR technology is a passive, durable technology that has been in successful operation in many remote, unmanned facilities for decades. Although the air to fuel ratio controllers may need periodic calibration and catalysts may require an occasional cleaning, this is being done on thousands of existing NSCR installations in remote areas today.

When EPA adopted the original SI NESHAP rule, they concluded that the use of emission controls such as NSCR on these very large non-emergency rich-burn engines is a cost effective, feasible and readily available control strategy regardless of location and we believe that this conclusion remains valid today. EPA's own impact analysis showed that this amendment alone results in 108,000 tpy more NO_x + VOC emissions than under the original 2010 SI RICE NESHAP rule. This is an approximately 70% increase. Although these engines may be in remote areas, pollutants such as NO_x, VOCs and HAPs are transported from region to region ultimately resulting in higher ozone levels in states far from their origin. Although this rule did not address the control of ozone precursors when originally adopted, the unintended consequence of their creation as a result of rolling back originally justified controls should not be ignored. The lost opportunity to capture these NO_x and VOC emissions will require other back-stop measures to reduce equivalent emissions from other sources to make-up for reductions that were already justified in the current SI RICE NESHAP rule.

Summary

OTC urges EPA to consider adopting a definition of emergency similar to those in the OTC Model Rule for Stationary Generators and only allow emergency RICE to run under such situations. Doing so would prevent the occurrence of grid failures while protecting the public health and would continue to provide the option of RICE owners to install pollution control equipment so that they would not be prohibited from running during non-emergencies. Additionally, we urge EPA to reconsider the exemption of 4SRB engines in remote areas. If EPA insists on moving forward with a rule similar to this proposal, it must obtain the necessary data and use realistic future scenarios to conduct a complete analysis on the public health and air quality effects of emergency RICE participating in peak shaving programs and demand-side management. Failure to do so would have a direct and detrimental impact on ozone levels, public health, and future grid reliability in the Northeast and Mid-Atlantic states.