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Air and Radiation Docket and Information Center

Environmental Protection Agency

Mail Code: 6102T

1200 Pennsylvania Avenue, NW

Washington, DC 20460

RE: Proposed Rule (Federal Register / Vol. 77, No. 110, June 7, 2012 pp. 33812-33857):

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines

(Docket: EPA-HQ-OAR-2008-0708)

Dear Sir or Madam:

On behalf of the organization and its membership, American Municipal Power, Inc. (collectively AMP) respectfully submits these comments to be included in the record for the Environmental Protection Agency's (EPA) proposed amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for stationary reciprocating internal combustion engines (RICE) under Section 112 of the Clean Air Act (*Docket: EPA-HQ-OAR-2008-0708*). AMP has participated in this docket previously, including the public meeting held in January 2011 at EPA's Research Triangle Park facilities and filing written comments in February 2011.

Those comments are incorporated by reference in this document. AMP also endorses the comments on the proposed amendments offered by the American Public Power Association (APPA). Finally, AMP appreciates EPA's responsiveness, as embodied in the proposed amendments, to the somewhat unique operational characteristics of small municipal electric utility RICE units raised by AMP and others through the reconsideration process.

Background on American Municipal Power, Inc. (AMP)

AMP is a not-for-profit corporation founded in 1971 and headquartered in Columbus, Ohio. AMP's principal mission and purpose is to provide cost-effective, reliable power supply to 129 members in seven states, including 128 member communities in six states (Kentucky, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia), plus the Delaware Municipal Electric Corporation, Inc., which is a joint action agency representing nine municipal electric systems in the state of Delaware. AMP's member municipal electric systems are owned by their customers, and the vast majority of AMP's members are communities with fewer than 5000 customers.

AMP and its member communities maintain a diversified portfolio of power generation assets and are regional leaders in the deployment of renewable generation. For example, AMP built and currently operates the 42 megawatt (MW) Belleville Hydroelectric Plant on the Ohio River as well as Ohio's first utility-scale wind farm. At this time, AMP is in the process of constructing over 3 MW of ground-mounted solar and four run-of-the-river hydroelectric projects along the Ohio River totaling approximately 300 MW (two additional projects representing an additional 100 MW are in the licensing stage of development). AMP is also using power purchase agreements (PPAs) to include wind and landfill gas in our renewable power supply portfolio.

In addition to being a regional leader in renewable power development, AMP also has a history of operating fossil-fueled base load electric generating units (EGUs)

in Ohio, and several AMP members operate municipally owned coal-fired power plants. These members (including the Ohio cities of Dover, Hamilton, Orrville, Painesville, and Shelby; Wyandotte, Michigan; and AMP's other Michigan members in the Michigan South Central Power Agency, which operates the Endicott Station) operate small utility boilers serving municipally-owned EGUs. AMP and many of its members also own or operate distributed generation units and other facilities that utilize reciprocating internal combustion engines (RICE units), which are now subject to the NESHAP rules and are therefore most pertinent to this docket. Most of AMP's municipal members qualify as small governments and/or small utilities for the purposes of the Small Business Administration protections under the Regulatory Flexibility Act (RFA).

AMP understands the challenges of both providing cost-effective power and developing an appropriate portfolio of electric generation resources. AMP's diversified portfolio of generation assets has not come on-line overnight; rather, it has taken years of planning, permitting, and construction before each electric generation asset was able to commercially operate. The addition of distributed generation units at strategic locations across AMP's geographic footprint has helped provide needed back-up power to our renewable generation units, particularly during weather or other emergency situations, including times when the local distribution system has experienced constraints.

Relation to Electric Transmission and Distribution System

The Federal Energy Regulatory Commission (FERC) has jurisdiction over the wholesale power and transmission sales by public utilities engaging in inter-state transactions. In the mid-1990s, FERC created the Open Access Transmission Tariff (OATT). The OATT contains rules for transmission service requests, purchasing transmission service, and scheduling electric power. Public utilities were required to file OATTs for FERC review and acceptance.

In the late 1990, FERC expanded the OATT concept to include the creation of centralized electric system operators called regional transmission organizations (RTOs), primarily in the Northeastern and Midwestern U.S. Public utilities that own transmission facilities were encouraged to transfer control of their facilities to the RTOs. Overtime the RTOs expanded the markets they operate to include energy, capacity, and ancillary service such as voltage support and reserves.

As noted above, AMP's members are located in Delaware, Kentucky, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia. AMP's members typically operate highly localized systems that are used to distribute electricity to end use consumers within their municipal borders. AMP's members do not own and operate transmission facilities that are used for regional transfers of bulk electric power. As such, AMP's members are "transmission dependent utilities;" in other words, AMP's members depend on the transmission facilities owned and operated by other utilities in order to transmit power from generation resources to their distribution systems.

Because of the municipals' dependence on other utilities for transmission, AMP's members must participate in the RTO markets (e.g., the vast majority of AMP's members are in the PJM Interconnection (PJM) RTO, while a few are in the Midwest Independent Transmission System Operator (MISO) RTO). AMP's comments on the RICE rules should be taken in the context of the requirement that AMP and its members must work within and comply with the rules of the RTO markets.

Overview of Comments

AMP is generally supportive of the amendments to the RICE NESHAP and NSPS as they pertain to the allowable hours of use for emergency demand response (EDR) as part of the allowable 100 hours per year for maintenance and testing purposes. While AMP would prefer that EPA not sunset on April 16, 2017, its new proposal to allow up to 50 hours annually for non-emergency uses for area sources only,

including peak shaving, AMP is generally supportive of the balance of this proposal. AMP is also proposing that EPA align and extend the compliance dates for SI and CI portions of the rule until October 2014. AMP appreciates EPA's accommodation on these points and is seeking clarification from the agency on some key aspects of the proposed amendments. Those issues are identified below.

Specific Comments

<u>Proposed Amendments on Emergency Demand Response (EDR) Properly</u> <u>Accommodate Existing RTO Programmatic Requirements</u>

As was clarified through the reconsideration process, regional transmission organizations (RTOs) and other equivalent balancing authorities currently utilize EDR programs to be able to call upon specific generating units to respond to conditions that threaten the reliability of the transmission grid. Under the existing NESHAP, emergency RICE units are only permitted to participate in such EDR programs for 15 hours annually; however, most RTO tariffs require that units be committed to a minimum number of hours in excess of 15 (e.g., PJM requires 60 hours annually). AMP fully supports EPA's acknowledgement of the importance of ensuring grid reliability and the need to align the RICE NESHAP provisions with the EDR requirements of RTOs by proposing to eliminate the 15-hour annual limit for EDR and to instead allow emergency RICE units to participate in EDR programs as part of the 100 hours currently allowable for unit maintenance and testing.

Importantly, EPA acknowledges and AMP concurs that emissions are not expected to increase under this proposal, as the amount of total allowable hours remains at 100. Further, by being able to rely on smaller, more localized units in these EDR situations, RTOs and other balancing authorities should be able to reduce their reliance on more remote units, where line losses could result in greater emissions.

<u>Proposed Language Clarifying the Triggering of Allowable EDR Provides an</u> <u>Important Improvement</u>

Through the reconsideration process, AMP and other commenters outlined the importance of local authorities being able to use their knowledge of their own systems and needs when faced with emergency decisions. The use of many RICE units by smaller electric systems, including those owned and operated by many AMP members, generally occurs "behind the meter" at distribution voltages. These units, including units that are not participating in a RTO's EDR program, are often outside the direct control of an RTO (or equivalent balancing authority) and the North American Electric Reliability Corp. (NERC). That is not to say that the operation of these RICE units is purely incidental to regional transmission systems; on the contrary, they are often critical to the safe and reliable operation of *local* electric systems, which in turn support larger regional systems. For example, the utilization of RICE units in a community to correct a *local* electric system voltage or frequency drop could prevent that local situation from spreading to other interconnected communities.

AMP understands EPA's concern that RICE units as a whole should not be completely free to operate without modifications whenever a local authority decides its own "emergency" situation applies. However, the highly variable and relatively infrequent nature of the operation of most of these units at the local level does not lend itself to a blanket solution. While an RTO-level decision-making threshold (i.e., Energy Emergency Alert [EEA] Level 2) may be appropriate for units under RTO control, many small, behind-the-meter units that serve important emergency functions and are otherwise used to support the reliability of local systems will be outside the view or control of an RTO.

AMP applauds EPA for proposing the use of voltage variance as an appropriate alternative to the EEA Level 2 trigger for allowable EDR – a suggestion offered by AMP and others during the reconsideration process. The two trigger options that are included in the proposed amendments (EEA Level 2 designation *or* 5% or greater voltage variance) recognize that one size does not fit all when it comes to

system control. An EEA Level 2 designation must come from the RTO or similar body. Alternatively, the amendments propose to allow a voltage reduction of 5% or greater below standard voltage to trigger allowable EDR.

In its most recent comments on this docket, the American Public Power Association (APPA) notes the importance of reliability, including "providing a supply of electricity at a steady state, or normal expected voltage." Such "power quality" is increasingly important as computers and other advanced electronics continue to perform more critical and often automatic functions for businesses, industry, and residential customers alike. The American National Standards Institute (ANSI) standard ANSI C84.1 sets the *maximum allowable voltage sag at the point of acceptance by the utility at -5%*. APPA further indicates that the allowable level can be less in certain instances.²

AMP does have concern that, in some cases, allowing the use of EDR in response to a 5% or greater voltage variance would not be sufficient to avoid or isolate system problems, particularly for very small systems, which could cascade into neighboring systems. In such cases, a lower percentage of voltage variance (perhaps 2%, as determined by the local distribution system operator or similar operational authority) might be needed to contain system disruptions and stop them from spreading to neighboring systems. The smaller percentage of voltage sag is necessary in order to identify early any operational abnormalities and to prevent them from reaching the 5% critical level.

The proposed amendments appear to make no distinction between voltage and frequency. Frequency variations are extremely rare and situational, and therefore more flexibility is needed for any triggering criteria. If a utility is required to respond to underfrequency or overfrequency conditions, or to shed load during an underfrequency load-shedding event, the utility should be allowed to run its RICE

¹ Comments of the American Public Power Association, August 9, 2012, p. 12.

² Comments of the American Public Power Association, August 9, 2012, p. 13.

units to bring back service to its customers while the interconnection is being rebuilt, or as needed to maintain proper frequency.

AMP also notes that the proposed amendments are silent on the recordkeeping that might be appropriate in tracking when the voltage-variance trigger is used by local operators. AMP endorses APPA's suggestion that paper recordkeeping would be the most appropriate approach and is consistent with other statutory requirements where the regulated party maintains a paper log or notebook on the premises that can be easily reviewed during an inspection. Frequency conditions should also be documented by the utility using paper recordkeeping procedures.

The Definition of "Emergency" Needs to Accommodate the Nature of the Electric Grid

In the preamble of the *Federal Register* publication announcing the proposed amendments, EPA states its belief that the scope of the proposed new language (providing the voltage-variance trigger for EDR) when coupled with the existing definition of emergency engine in non-EDR situations, "will address all emergency events." While AMP acknowledges the agency's proposed voltage-variance trigger for EDR as an important improvement, as noted previously, we are concerned that EPA's confidence in being able to anticipate all types of electric system emergencies may be misplaced.

The RICE NESHAP rule for the first time subjects many thousands of largely unregulated engines, including those designated for emergency use, to federal regulation, including emission standards, control requirements, and/or management practices. AMP shares the concerns of others in the electric industry that EPA has not adequately understood the circumstances leading up to or following various electrical system emergencies that tend to involve RICE units. For example, an "emergency" should not be limited to a network outage, but

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³ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33817 (preamble).

should also include actions taken by regional transmission organizations (RTOs) or local operators to *prevent* outages, even if local operators get compensated for this service. AMP believes that an expansion of the conditions or circumstances of emergency would better enable compliance with the new rule by allowing the municipal utilities (and other electric utilities) to run their units to address critical local and regional electric system stability issues.

"Non-Emergency" Units Often Perform Critical Functions that Need to Be Recognized by the Rule

Because of the relatively narrow definition of "emergency" under the rule, many RICE units that perform critical functions to local municipalities appear to be captured by the rule, perhaps inadvertently. For example, RICE units are often used at local water plants and waste water treatment plants, and as aids to start up larger EGUs following maintenance outages or to start intermediate or peak load combustion turbines. These units are essential to the continued safe operation of the facilities they support, which in turn are essential to the health, safety, and public welfare of local citizens.

AMP offers the following options for EPA's consideration: (1) include such critical health and safety functions under the "emergency" definition of the rule, (2) create a new classification for these critical units to allow them to operate without modification, or (3) increase the hours of operation for units that are currently classified as "non-emergency" under the rule (also see below).

EPA Should Increase the Amount of Non-Emergency Hours in Consideration of System Maintenance and Improved Reliability

AMP members also may use RICE units for support during critical transmission, sub-transmission, and distribution system outages. There is concern that the rule does not adequately allow for the use of RICE units for system maintenance under

the "emergency" designation. Public power systems served radially by a single transmission or distribution line can presumably use RICE units for backup power when weather-related and other types of damage occur to radial facilities that result in a total power outage. However, under the new rules, they would not be able use "emergency" RICE units when radial lines and transformers periodically have to be taken out of service for routine maintenance, because those functions (i.e., maintenance actions taken to prevent a complete outage) do not meet the rule's "emergency" definition. When such maintenance occurs, the local generation is the only means of providing power to customers. Since a utility with a RICE unit can keep power flowing even when disconnected from the larger electric system, it can also allow essential public services to continue to serve the community during planned outages and maintenance conditions. This is another example of the need for EPA to increase the number of hours allowed for non-emergency use of RICE units beyond the 50 hours currently allowable.

<u>Proposed Allowance for Area Sources for Non-Emergency Use – Including Peak</u> <u>Shaving – Should Not Be Sunsetted as of April 16, 2017</u>

AMP generally supports EPA's new proposal to provide an allowance of up to 50 hours annually for peak-shaving and other non-emergency use for existing stationary emergency RICE units at area sources. This proposal recognizes that RICE units could prove to be invaluable reliability resources in the nation's electric system as other larger generating units are working to meet compliance obligations under tight timeframes for other EPA rules, including the Mercury and Air Toxics Standards (MATS) rule. However, AMP would prefer that the proposal not be sunsetted as of April 16, 2017. The reliability benefits of peak shaving should not be limited based on a specific date, as AMP is concerned that reliability issues may be disproportionally experienced in our region of the nation, where the vast majority of generation capacity is coal-fired and thus subject to the MATS rule.

<u>Clarification Is Needed Regarding Certain Details of the Proposed Peak Shaving and</u> <u>Other Non-Emergency Use Provisions</u>

EPA's proposed peak-shaving allowance for area sources contains two important caveats:

- 1. Peak shaving may be done only if the RICE unit "is operated as part of a peak shaving (load management program) with the local distribution system operator" [sic] 4, and
- 2. The "power is provided only to the generator itself or to support the local distribution system."⁵

AMP notes that the proposed limitation on the use of peak shaving to that done as part of a program with the *local system operator* (emphasis added) does not seem to include any peak shaving that might be coordinated through an energy control center that operates over more than one local distribution system. As noted by EPA in the preamble, the benefits of peak shaving can be extensive, providing not only financial support for units but also improved system reliability, lower emissions, and lower costs to customers. These benefits should not be forsaken based solely on the type of entity that ends up operating the peak-shaving program.

In cases where peak shaving may be appropriate, for certain units AMP may be able to coordinate those functions through its own Energy Control Center (which meets NERC criteria) to ensure that the entire interconnected system operates as efficiently as possible. AMP believes that RICE units participating in such "regional" control systems should be permitted to engage in peak shaving as part

⁴ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33838, Sec. 63.6640(f)(4)(i).

⁵ Ibid.

of the allowance included in the proposed rule, and AMP requests clarification from EPA on this point.

AMP also notes with some concern several specific references to "remote" facilities the preamble's discussion of the temporary peak-shaving provision, where EPA cites in particular the use of RICE by rural cooperative utilities.⁶ The term "remote" does not appear in the proposed amendments themselves relative to this section. While AMP generally endorses EPA's rationale that the peak-shaving allowance: 1.) would enable the return of income to economically depressed areas, 2.) would help prevent customer cost increases, 3.) could actually minimize emissions from large central station power plants, and 4.) would provide income for the maintenance of RICE units, we are concerned that the use of the term "remote" in the preamble may be misconstrued to imply that there is a geographical restriction on the ability of existing stationary emergency RICE units at area sources to engage in the proposed amendments' allowance of up to 50 hours annually for peakshaving and other non-emergency use. This concern stems from the fact that the term "remote" as used elsewhere in the preamble has a very restrictive meaning.8 AMP does not believe that it is EPA's intent to geographically limit the peakshaving provisions and strongly encourages the agency to remove the term "remote" from the preamble in this context.

AMP notes that the language in the proposed amendments also appears to <u>require</u> that peak-shaving or non-emergency demand response programs must be used to "generate income for a facility, or to otherwise supply power as part of a financial

⁶ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33819 (preamble).

⁷ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33818-33819 (preamble).

⁸ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33820-33821 (preamble), discussion in part C: "Non-emergency stationary RICE Greater Than 500 HP Located at Area Sources;" and p. 33823-33824 (preamble), discussion in part E: "Remote Areas of Alaska."

arrangement with another entity." AMP does not believe that EPA intends this to be a requirement, but instead to <u>permit</u> the generation of income or participation in other financial arrangements. EPA should clarify this language.

AMP also requests clarification of the agency's use of the term "local" as it applies in this section of the proposed amendments. Again, the preamble and the language of the proposed amendments differ in a small but important respect. In both emergency situations and for system repairs and outages, electric power may need to be exported from a local distribution system (e.g., beyond the borders of a municipal electric utility) in order to support the adjoining and interconnected system of a larger investor-owned utility. The interconnected nature of the electricity grid relies on this type of arrangement to keep the system in balance and fully functional. Thus, one can "support the local distribution system" (emphasis added; language of the amendments) without limiting the use of power to that used by the facility itself or "towards the local system" (language in the preamble). EPA needs to clarify this section so as not to limit essential system balancing functions.

 $^{^9}$ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33838, Sec. 63.6640(f)(4)(i).

 $^{^{10}}$ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33838, Sec. 63.6640(f)(4)(ii).

¹¹ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33838, Sec. 63.6640(f)(4)(i).

¹² Ibid.

¹³ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33819 (preamble).

<u>The Compliance Demonstration Option for 4SRB Spark-Ignited Engines for Formaldehyde Is an Important Improvement</u>

AMP notes with appreciation EPA's proposed compliance demonstration option for those engines that are currently subject to 76% or greater formaldehyde reductions. Dresser – Waukesha submitted compelling evidence that a strong relationship exists between reductions of formaldehyde and total hydrocarbon (THC) concentrations for rich-burn engines that utilize non-selective catalytic reduction (NSCR) technology, resulting in comparable emission reductions at significantly lower cost. As an alternative to the current rule's requirements, EPA is proposing that 4SRB SI engines be allowed to demonstrate compliance through THC reduction of at least 30%. This is an excellent example of a lower-cost option that will achieve the same or greater emission reductions – just the type of regulatory improvement that EPA should pursue on a regular basis.

EPA's Proposed Language on Exceedances of the 100 Hour Limit Should Provide Some Flexibility

AMP endorses APPA's comments in support of an alternative approach for calculating exceedances by adding flexibility to the proposed rule language, which currently states that any emergency generator that exceeds 100 hours of allowed operation would automatically lose its emergency designation for the remaining life of the engine. This seems an overly harsh penalty for accidentally exceeding the allowed hours of operation. AMP repeats APPA's recommendation that, instead of a "hard and fast" annual limit, EPA consider a rolling three-year average of 100 hours per year. Such a rolling average would enable smaller utilities with RICE units to preserve the emergency designation of those units should they accidentally exceed the annual limitation.

¹⁴ Federal Register, Vol. 77, No. 110, June 7, 2012, p. 33831, Sec. 60.4211(f).

The Current Rule's Operational Limitations Based on "Revenue" Are Unnecessarily Narrow

While the proposed amendments would permit revenue generation in context of the allowance for peak shaving and other non-emergency use, AMP believes that the current rule's underlying limitation on the operation of emergency RICE units to 50 hours for non-emergency purposes that do not generate revenue is problematic. The rule fails to make a distinction between activities that are undertaken for reliability purposes, but which also generate revenue, and activities that are undertaken for purely economic purposes. A utility receiving compensation or cost recovery is not the same as a utility entering into a market for economic dispatch purposes.

Additionally the current rule's concept of "receiving revenue" is vague. In the PJM capacity market, PJM purchases capacity on behalf of all load. If a municipal utility "sells" its behind-the-meter generation as capacity to the RTO under the EDR program, it receives credit for the capacity, but that credit simply offsets the capacity payment that the municipal utility is charged for its load. The municipal utility is not making a profit on the sale of capacity. The revenue is simply an offset against capacity charges assessed to the municipal from the RTO market. AMP urges EPA to permit such capacity payments to units that are participating in such RTO programs.

<u>Compliance Timeframe Should Be Extended in Recognition of Expected Equipment,</u> Vendor, and Installation Constraints

AMP remains concerned about the extremely short window of time that is anticipated between when the proposed amendments are expected to be effective (60 days following publication of a final rule in the *Federal Register*, or no sooner than March 2013) and the first compliance deadline for compression ignition (CI) engines of May 3, 2013. Based on comments by EPA staff during a webinar on the proposed amendments, the agency is expecting that entities needing to install

controls will encounter equipment and vendor delays. It appears that an apparently large volume of units have not yet made required modifications, no doubt because they lack clear direction as to the final requirements. Even the improvements outlined in the proposed amendments cannot be embraced with confidence by the regulated community because they are not final, nor is the regulated community likely to know what is final until December 14, 2012, the date by which EPA has promised to issue its final RICE NESHAP. Impacted units cannot commit hundreds of thousands of dollars toward compliance that might not be required.

In prior comments, AMP suggested that the compliance dates be extended past the normal fall outage period in 2014 – for a period of approximately 17 months total – in light of these concerns. In addition, to simplify compliance decision-making, AMP proposes that both the CI and SI compliance dates be aligned so that the date for SI compliance would be the same for CI compliance (October 19, 2014). AMP would also propose that EPA retain the additional one-year for compliance that could be requested by units on a case-by-case basis. Indeed, AMP believes that this 17-month extension of the time should reduce the need for EPA to evaluate case-by-case extension requests.

Comments in Response to EPSA's Environmental Concerns

In its opposition to the inclusion of emergency demand response (EDR) within the 100-hour exemption for RICE units, the Electric Power Supply Association (EPSA) makes a number of statements that both mischaracterize the role of EDR and that are fundamentally inconsistent with its position in other aspects of the capacity markets. We believe EPSA's opposition to the EDR exemption is one facet of a strategy being employed by its merchant generator members to constrain the supply of generation and demand response in the capacity markets as a means to raise prices and earnings. These actions, however, are often not environmentally beneficial – a direct contrast to the alleged basis of their position on the RICE unit exemption. AMP endorses APPA's more comprehensive comments on this topic.

Conclusion

AMP and our members appreciate the opportunity to provide these comments and request clarification from EPA on several important points. Should you have any questions or need additional information, please feel free to contact Julia Blankenship, manager of energy policy and sustainability, at jblankenship@amppartners.org or 614/540-0840.