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U.S. Environmental Protection Agency  
Mail Code: 2822T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460  
**Attn: DOCKET ID No. EPA-HQ-OAR-2013-0495**

**RE: Standards of Performance for Greenhouse Gas Emissions from New Stationary  
Sources: Electric Utility Generating Units  
(Docket: EPA-HQ-OAR-2013-0495)**

Dear Sir or Madam:

In response to the above-referenced docket, American Municipal Power, Inc. (AMP) and the Ohio Municipal Electric Association (OMEA) hereby offer the following comments for the record. These comments build on previous comments filed by AMP / OMEA in 2011 (GHG NSPS-Utility Source Category; Docket ID: EPA-HQ-OAR-2011-0090 /Listening Sessions) and more recently in December 2013 in response to EPA's "listening sessions" on the "Design of a Program to Reduce Carbon Pollution from Existing Power Plants Under Sec. 111(d) of the Clean Air Act." While we understand that the agency is not proposing standards for existing units in this docket, AMP / OMEA wish to reinforce our position that many of the elements underlying the new unit rules could have far-reaching implications for existing units, and therefore should not be considered in isolation. AMP's / OMEA's comments are directed not at the legal underpinnings of the new unit rules, but rather on issues relative to feasibility, practicality, and applicability to AMP and our members.

AMP's / OMEA's comments in this docket, therefore, offer some practical implications regarding the unique ramifications of proposed and potential options on municipal utilities and our ability to provide affordable and reliable energy to a broad range of consumers for the agency's review, in addition to providing direct comments on the proposed new unit rules.

### **Background on AMP / OMEA**

Ohio-based AMP is the non-profit wholesale power supplier and services provider for 129 locally regulated municipal electric entities located in Delaware, Kentucky, Michigan, Ohio, Pennsylvania, Virginia, and West Virginia. AMP's members collectively serve more than 625,000 residential, commercial, and industrial customers and have a system peak of more than 3,400 megawatts. AMP's core mission is to develop, manage and supply diverse, competitively priced, reliable wholesale energy to public power members through strategic partnerships, member-focused relationships and a diversified power resource mix. AMP's diverse energy portfolio makes the organization a leader in the deployment of renewable and advanced power assets that include a variety of base load, intermediate and distributed peaking generation using hydro, wind, landfill gas, solar and fossil fuels, as well as a robust energy efficiency program. The majority of AMP's members are located in the PJM regional transmission organization footprint, with a handful of AMP members located in MISO. The OMEA represents the state and federal legislative interests of AMP and 81 Ohio municipal electric communities.

Because of AMP's structure as a non-profit power provider, AMP / OMEA closely follow federal and state regulation that could impact its members' costs and reliability. To that end, AMP's / OMEA's comments on the design elements of limits on greenhouse gas (GHG) emissions from new and existing power plants reflect expected impacts of the upcoming standards on AMP and member units, as well as potential impacts to other units in the region, from which AMP / OMEA members expect to acquire varying proportions of their power supply through wholesale market purchases. The multi-state nature of AMP's / OMEA's membership and power supply portfolio, plus the various types of electricity markets within which we operate, all point to the need for careful consideration of all options, particularly those that acknowledge that "one size does not fit all" when it comes to carbon standards.

AMP is a progressive leader in developing alternative and renewable energy among both its public and private peers. AMP has actively worked over the past decade to diversify our power supply portfolio, to the point that we are on track for our owned assets to be approximately 20% renewable by 2016. In addition, AMP was an early participant in carbon markets through membership in the Chicago Climate Exchange (CCX) and has an active forestry carbon offsets development program, with over 200 acres reforested in

Ohio. AMP anticipates adding to our portfolio of carbon offsets through the results of an RFP issued in March 2014. In addition, AMP's three-year-old Efficiency Smart retail energy efficiency program is delivering positive results and energy (and emissions) savings to participating AMP members.

**AMP / OMEA Existing Unit Rule Comments** – AMP / OMEA wish to incorporate by reference our comments filed with the agency on December 20, 2013, in response to EPA's listening sessions on its expected Sec. 111(d) existing unit rule. In those comments, AMP noted that EPA should exempt existing units 25 MW and below from the scope of the rulemaking, which would ease the burden on a number of municipal electric systems. Other existing AMP- and member-owned facilities that are expected to be subject to EPA's upcoming carbon standards include a nominal 700 MW natural gas combined cycle (NGCC) generating plant and a number of small natural gas combustion turbines (CTs). In addition, AMP owns 23.26% of the Prairie State Energy Campus, a 1,600 MW mine-mouth supercritical coal plant in Illinois that began commercial operation in 2012. While AMP- and member-owned units supply varying amounts of power supply to our member municipal electric systems, AMP members also rely on wholesale electricity markets for both energy and capacity. Thus, AMP's / OMEA's comments on the existing unit rule reflect expected impacts on owned facilities plus impacts on regional electricity markets; the latter are also a key subject for our comments on the new unit rules.

## **SPECIFIC COMMENTS ON THE NEW UNIT RULES**

### **APPLICABILITY**

**Units 25 MW and Below Should Be Directly Exempted from the Rules** – The proposed new unit rule would redefine "electric generating unit" (EGU; currently defined in 40 CFR 60.41Da(a)(1) as "*constructed for the purpose of supplying...more than 25 MW net-electric output*" to the grid – emphasis added) to add criteria that the unit *actually* "supplies more than one-third of its potential electric output" to the grid (FR 79, p. 1445), plus adding a rolling three-year averaging period. EPA further proposes to modify the 25-MW threshold to a level that EPA indicates is "functionally equivalent" – translating to a unit supplying "more than 219,000 MWh" net-electrical output to the grid (FR 79, p. 1446), thus making a distinction between *designed* output and *actual* sales. EPA states that its intent in making these combined changes is to allow a unit to exceed the one-third actual output limitation for a one-year period without automatically becoming an affected unit under the proposed rule.

AMP / OMEA suggest that this proposed multi-tiered threshold is clumsy and unwarranted; alternatively, EGUs of 25 MW and below should be directly exempted from

the new unit rules. Under other federal air regulatory programs, units 25 MW and below have been exempted or subject to separate rulemaking procedures due to lower overall emissions / impacts, higher relative compliance costs when compared to benefits, equipment incompatibility, etc. In addition, EPA notes that NGCC and simple cycle CTs of this size are “generally designed for operation during peak demand” and “will usually supply less than one-third of their potential electric output to the grid (FR 79, p. 1445). EPA further notes that there “can be rare instances” when these units will exceed the one-third threshold. For example, CT power could be used to firm various renewables, which are for the most part intermittent by nature. Thus, if adverse weather conditions would result in reduced renewable generation, running the CT units could cause these limits to be exceeded. AMP / OMEA also contend that these instances may not be so rare, adding burdensome recordkeeping requirements for our members with no appreciable emission reduction benefits. A cleaner solution would be to exempt completely EGUs of 25 MW and below from the requirements of these rules, regardless of sales to the grid.

**New Units Supplying Less than One-third of Potential Electric Output to the Grid Should also Be Exempted** – Using EPA’s own rationale for smaller units (25 MW and below) as noted above, AMP / OMEA contend that larger CTs / NGCCs should also be directly exempted from the new unit rules if they provide less than one-third of their potential electric output to the grid. This would provide greater flexibility for entities needing to install new units for peaking purposes as well as those units generally needed in response to emergency conditions.

**Electricity Generated in Response to “Emergency” Conditions Should Be Excluded from the Rules** – EPA has requested comment (FR 79, p. 1497) on whether electricity that is generated in response to a grid emergency declared by a regional transmission organization (RTO), independent system operator (ISO), or control area administrator should be exempted from the amount that is used to determine net sales for EGU applicability. AMP / OMEA note that this proposal is consistent with approaches that EPA has recently applied to its rulemakings for the Mercury and Air Toxics Standards (MATS) rule and the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines (RICE units). In both these previous rules, EPA recognized that grid emergencies, while hopefully infrequent, need to be addressed by electric utilities as expeditiously as possible, which may result in increased utilization of units. Such an approach should also be applied to the new unit rules.

**CCS is not BSER for CTs** – AMP / OMEA concur with EPA’s finding (FR 79, p. 1436) that carbon capture and sequestration (CCS) does not meet the “best system of emissions reduction” (BSER) test for CTs. EPA determined that cycling / load change operations of

CTs would negatively impact the CCS process, that the CO<sub>2</sub> concentration in the exhaust of CTs is too low to be effective, and that increased CT unit cooling requirements as a result of CCS would lower unit efficiency and raise emissions. AMP / OMEA also note that EPA's contention that opportunities for "sequestration" exist within 50 miles of most existing large CO<sub>2</sub> point sources is highly speculative and does not accurately reflect the costly, case-by-case analysis and probable test wells that would be needed before any geologic sequestration project in our region could even be considered. It also apparently glances over how the CO<sub>2</sub> would be transported to all those "opportunities;" EPA needs to address or explain how CO<sub>2</sub> would be transported from point sources to locations where the agency believes opportunities for sequestration exist.

AMP / OMEA strongly disagree with EPA's consideration of "partial CCS" as BSER for new coal plants and new integrated coal gasification / combined cycle (IGCC) plants, as the same technological immaturity, accessibility, and transportation arguments can certainly be made for these units. In addition, the cost-effectiveness of partial CCS – particularly if involving permanent geologic sequestration and not temporary enhanced oil recovery (EOR) – is entirely unproven and not commercially available, regardless of unit type.

**EPA Should Continue to Exempt Various Sources** – AMP / OMEA concur with EPA's decision to exempt various sources categories altogether from the scope of the new unit rule, including RICE units, non-natural gas stationary CTs, existing sources undertaking modifications or reconstructions, and certain projects under development (FR 79, p. 1446). As noted previously, small NGCC and simple-cycle CTs are also generally considered exempt from the new unit rules if they supply less than one-third of their output to the grid (FR 79, p. 1445). This preserves some flexibility for operation of these units primarily during times of peak demand. EPA has also requested comment on whether the capacity factor threshold should be raised to 40% (from one-third) (FR 79, p. 1459). AMP / OMEA endorse this approach, as it would be more consistent with the annual run-hour limitations currently contained in many simple-cycle operating permits.

**EPA Should Use SBREFA to More Accurately Gauge Impacts on Small Entities** – Public power systems generally, and the majority of AMP's members specifically, qualify as "small businesses" for the purposes of the Small Business Regulatory Enforcement and Fairness Act (SBREFA). In the past, EPA has effectively used its authority under SBREFA to empanel groups of individuals representing various small entities to identify and address impacts of other rules. AMP / OMEA note with concern that EPA seems to have failed to take such impacts on small entities of this proposed rule into consideration, since it did not conduct a SBREFA review of the proposed rules prior to issuance. AMP / OMEA strongly encourage EPA to establish a SBREFA panel to review these rules prior to finalization.

## POWER SUPPLY / OPERATIONAL IMPLICATIONS

**EPA's Emission Limits Would Preclude Simple-cycle CT Step-up Conversions** – AMP / OMEA note that the rules propose emission standards that vary by unit type, heat rate, and capacity factor, resulting in CO<sub>2</sub> emissions expressed as a function of energy efficiency (FR 79, p. 1446 – 1447). We have translated EPA's proposed CO<sub>2</sub> emission limits into high heating value (HHV) heat rates commonly highlighted in commercial product technical specification sheets in an effort to determine what commercially available simple-cycle CT units on the market today could meet the proposed limits. While it appears that most aero-derivative and hybrid simple-cycle CTs should be able to meet the standards, most frame-design simple-cycle CTs will not. This would appear to favor one design over the other, which unfortunately would seem to preclude at least the frame-design option from consideration for future capacity additions.

AMP / OMEA also fear that this “disfavoring” of frame-design units is short-sighted on EPA's part, as the optimum design for most NGCC units is based on use of both a frame-design CT and a heat recovery steam generating (HRSG) unit. As EPA is apparently favoring NGCCs for new generation, this presents a dilemma for smaller entities that need additional generation: a near-term solution to meeting such power supply needs – absent the aforementioned “disfavoring” – would be to install a frame-design CT, with the goal of “stepping up” that unit to an NGCC unit at a later date by adding a HRSG unit. In this fashion, the initial costs of installing new capacity would be lower, and power supply capacity could grow as the community's needs grew. Given this very real scenario, AMP / OMEA urge that a higher standard be established that would not preclude frame-design units.

**EPA's Start-up, Shut-down, and Malfunction Considerations Are Unrealistic and Overly Burdensome** – AMP / OMEA note with concern that EPA is not proposing alternative standards for periods when units are in start-up, shut-down, or malfunctioning conditions. This is entirely unrealistic. Because the proposed rule considers periods of start-up and shut-down only as periods of partial load operation (FR 79, p. 1448), EPA is failing to take into account the actual impacts to units that can come from start-up and shut-down operations, which do not reflect steady-state operations and thus result in a loss of unit efficiency. Further, EPA's contention that periods of start-up and shut-down are “predictable and routine aspects of a source's operations” (FR 79, p. 1449) also fails to recognize the fact that unit operation is not always within the control of unit owners / operators due to the nature of today's competitive electricity markets, including operations in response to RTO-declared emergency situations. Changes in the overall composition of today's generation fleet and how various generating units are run have implications that EPA appears to have failed to consider. A considerable number of small

and medium-sized coal plants have already shut down, for example, so off-cost reserve commitments to manage reliability are now mainly provided by CTs.

EPA's rationale for its treatment of units if malfunctions occur is even less defensible, relying on "good faith efforts of the source to minimize emissions during the malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions" (FR 79, p. 1449). EPA is further proposing to add an affirmative defense to civil penalties for violations of emission standards that are the result of malfunctions – meaning that the unit owner / operator has the burden of proof (FR 79, p. 1449 – 1450). Such an unreasonable threshold will only add to the hesitancy that utilities already have regarding their willingness to add new units (thus potentially threatening system reliability) at this time; further, it is inconsistent with the plain language of the burdens of proof established in the Clean Air Act.

**New Units Meeting NSPS for CO2 Should Be Exempt from EPA's Tailoring Rule** – In the proposed new unit rules, EPA reaffirms its prior position that the Tailoring Rule thresholds (100,000 TPY CO<sub>2</sub>e and 100 TPY mass) continue to apply upon the promulgation of emission reduction requirements under Sec. 111 (FR 79, p. 1487; previously stated as an agency interpretation in the preamble of the Tailoring Rule). AMP / OMEA suggest that new units that satisfy the NSPS for CO<sub>2</sub> should not be subject to the limitations of the Tailoring Rule if the only reason to pursue a future change to the emissions unit is to increase output capacity or improve heat rate. These units would continue to be subject to PSD review if any of the criteria pollutant thresholds are exceeded or if the scope of a project exceeds output capacity or heat rate improvement. This should promote continued efficiency improvements and shift utilization away from less efficient generation resources.

## EMISSIONS CALCULATIONS

**EPA's Proposed Long-term Standard Presents Challenges for Entities Needing to Install New Units** – In these rules, EPA is proposing a long-term CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) standard tied to gross output (measured in lbs / MWh on a 12-month rolling average) for new units (FR 79, p. 1447). This is a continuous standard that must be met every month, not just once a year or once during a permit term. EPA is also considering whether to establish an additional short-term standard as a method to facilitate enforcement and assure adequate emission reductions (FR 79, p. 1448). AMP / OMEA note with concern that manufacturers will be unwilling to provide performance guarantees for new EGUs based on a long-term standard, such as EPA is proposing. In addition, most manufacturers will only guarantee the performance of their units at the time of delivery or during initial commissioning activities. Performance efficiency over time can vary greatly,

based on type of unit, operational characteristics, load, weather, altitude, etc. AMP/ OMEA would therefore prefer that EPA not adopt a short-term standard for these reason. Alternatively, should EPA continue to pursue a short-term standard, such standards should be based on vendor guarantees of unit performance (not just expectations) during pre-commissioning testing.

#### **EPA Should Reject Its Proposed Alternative to Use Net-Output Based Standards –**

AMP/ OMEA note that EPA is requesting comment on the use of net-output based standards as a compliance alternative for gross-output based standards (FR 79, p. 1447). This compliance alternative should be rejected. As EPA notes that the only data available on CO2 emissions from EGUs currently is in the form of gross output from continuous emission monitoring systems (CEMS; FR 79, p. 1448), requiring reporting on a net-output basis would be inconsistent with the current requirements on 40 CFR part 75, would add unwarranted costs and burden to utility reporting, and also “would have little impact...in terms of environmental performance.” Thus, AMP / OMEA question why EPA is even requesting comment in this regard. Net-output based reporting should be rejected.

#### **GENERAL ADDITIONAL COMMENTS RELATIVE TO BOTH NEW AND EXISTING SOURCES**

**AMP Organizational Structure / Business Model:** As a joint action entity that cooperatively supplies energy and capacity and provides other services to our 129 member electric systems in seven states, AMP, like many public utilities, does not easily fit the mold that EPA envisions for electricity generators that it intends to regulate under both the new unit rules and the upcoming existing unit rule. In practice, each of the AMP’s project participants (municipal electric systems) effectively owns its project share through contractual arrangements.

When it comes to regulation, however, EPA appears to presume that it can impose emissions standards on distinct EGUs that are owned and operated by a single entity, such as a utility. Special attention may be needed to ensure that performance standards or compliance options do not fail to recognize or accommodate the business model of many joint action entities and public power providers, particularly their multi-state characteristics. As an example, AMP is headquartered in Ohio, has members in seven states, and owns units or parts of units in four states. AMP owns the largest portion of an EGU in Illinois, but none of AMP’s members are located in that state, even though many get varying portions of their power supply from that unit.

**Role of RTO Markets:** Concomitant with AMP's business model as an issue that warrants particular and distinct consideration by EPA is the increasing role that RTOs are playing in the operation of EGUs, including their focus on the implications that various regulations would have on system reliability. AMP / OMEA and others have repeatedly identified this issue in comments filed on other regulatory proceedings in the past several years; yet, EPA appears to favor regulatory approaches that assume that the owner / operator of a power plant is part of a traditional vertically integrated model, which is rarely the case today. The vast majority of AMP's members are located in the PJM market, with a few in MISO (Michigan members), and two members located in Kentucky, which are not included in any RTO.

AMP's generation assets are located in multiple jurisdictions, and the participating members in those projects are not necessarily located in the same jurisdiction or even the same RTO. This situation will remain as AMP's generation needs grow and new generation units are required. This split jurisdictional issue creates the threat that owners of AMP generation assets could be subject to multiple, potentially conflicting, regulatory requirements. AMP / OMEA do not believe that this complexity is insurmountable, but it calls for highly flexible, innovative, and perhaps state-driven multi-state regulatory programs. .

Further, the RTOs' recent interest in reviewing possible reliability and electricity generation resource implications of EPA's expected 111(d) rules for existing units are to be applauded; however, their efforts need to stay focused on the task at hand – to operate competitive and non-discriminatory markets that dispatch and deliver electricity cost-effectively, while maintaining reliability. AMP / OMEA do not support any efforts to force RTOs into "environmental dispatch" or to replace current economic dispatch – founded on clear and transparent economic principles – with some undefined and subjective environmental principles. At the very least, such an attempt would create a potentially destabilizing tension for RTOs operating in the markets.

**Costs of Compliance / Cost Effectiveness:** While it is impossible to estimate possible compliance costs for AMP / OMEA and our members in advance of EPA issuing proposed standards for existing units, decisions made by EPA and by the states on all of the prior issues will ultimately impact compliance costs and the overall cost-effectiveness of any standards for existing units. AMP / OMEA are concerned that EPA's assumption that there are no costs to its new unit NSPS proposal could be carried forward into the agency's upcoming existing source rule. In addition, the agency's assumptions in the new unit rule about the availability of CCS are unreasonable and unproven. If these positions are repeated or incorporated into the existing source rule, impacted units will likely not be able to comply with any existing source rule in a cost-effective way. CCS is at best an

unproven and expensive experimental technology that should not be used as the basis for emissions standards in the existing source rule. AMP / OMEA urge EPA to decline to adopt these assumptions in the existing unit rule in light of the agency's assertion that it is seeking cost-effective and flexible solutions.

AMP also notes that the unique nature of our business model – as very different from that of a traditional vertically integrated utility – effectively precludes our ability to spread compliance costs across a large number and variety of units – both impacted and not impacted, or to recover costs directly from customers. Again, state flexibility is needed if these circumstances are to be accommodated in state implementation plans for the existing source rule.

### **CONCLUSION**

While by no means exhaustive, the comments provided represent issues of most concern to AMP / OMEA relative to the new unit rules – and some tangentially to the upcoming existing unit rules to limit CO2 emissions. We thank EPA for this opportunity to provide input to the agency on these important matters; please let us know if you need additional information.

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