



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

FEB 23 2012

REPLY TO THE ATTENTION OF:

Michael E. Hopkins  
Assistant Chief, Permitting  
Ohio Environmental Protection Agency  
Division of Air Pollution Control  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, Ohio 43216-1049

Dear Mr. Hopkins,

The U.S. Environmental Protection Agency has reviewed the Ohio Environmental Protection Agency's (OEPA) proposed synthetic minor permit-to-install for Cleveland Public Power – Ridge Road (permit number P0107767, facility ID 1318008750), located in Cuyahoga County, Ohio. The proposed facility would process municipal solid waste (MSW) to remove recyclable materials and batteries, etc, in a material recovery facility (MRF) then gasify the MSW, and combust the gas to generate electricity. The facility proposes to restrict emissions to below the Prevention Significant Deterioration (PSD) major source threshold by restricting the annual maximum heat input to 2,054 mmBtu per year, and to restrict the four furnaces operation to 72.24% of their combined maximum capacity. The draft permit's (permit) allowable emissions are the following: 194 tons per year (tpy) of nitrogen oxides (NO<sub>x</sub>), 0.25 tpy of lead, 7 tpy of total hazardous air pollutants (HAP), 78 tpy of particulate matter (PM), 78 tpy of sulfur dioxide, 26 tpy of volatile organic compounds (VOC), 88 tpy of carbon monoxide (CO), and 7 tpy of sulfuric acid. The source proposes to restrict its greenhouse gas (GHG) emissions to be below the GHG major source threshold. Cuyahoga County is currently in non-attainment for PM smaller than 2.5 microns (PM<sub>2.5</sub>), and partial non-attainment for lead.

Based on our review, EPA disagrees with OEPA's conclusion that the project be permitted as a synthetic minor. EPA finds this source meets the criteria of "municipal incinerators capable of charging more than fifty tons of refuse per day" provided for in Section 169(1) of the Clean Air Act (CAA). Therefore the source is subject to PSD because its NO<sub>x</sub> emissions are in excess of 100 tpy. Section 169(1) of the CAA defines a major emitting facility as any of the listed 28 source categories that emits or has the potential to emit 100 tpy of any air pollutant. Cleveland Public Power falls within the listed source category "*municipal incinerators capable of charging more than fifty tons of refuse per day*" because it proposes to charge 70 tons of refuse per day, thus it's PSD applicability threshold is 100 tpy, and the 194 tpy allowable NO<sub>x</sub> emissions in the proposed permit exceed the 100 tpy PSD applicability threshold.

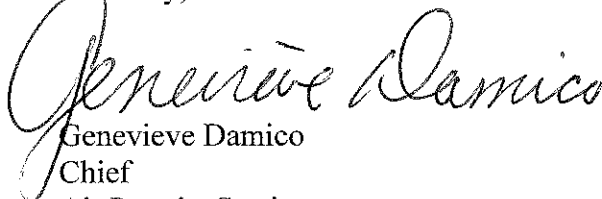
Unless OEPA can demonstrate this conclusion is in error, we would consider issuance of a synthetic minor permit to be inappropriate and in violation of federal PSD requirements. We would expect the need for OEPA to go back and issue a PSD permit for this proposed facility

and that PSD applicability would need to be re-evaluated for the other pollutants to determine if they are at major source levels considering their significance level thresholds. The permit must be re-evaluated to determine whether it was major for non-attainment New Source Review for the PM<sub>2.5</sub> emissions.

As noted, the fundamental question of PSD applicability is critical, and could likely result in an entirely new permit process, requirements and record, which will undergo its own EPA review. We do, however, have other comments on this draft sythetic minor permit, which we've provided in Appendix A. As you are aware, many people have raised environmental justice concerns and our review considered those issues as well. We have provided several recommendations to further strengthen the permit given the concerns of the community.

If you have any questions regarding these comments, please fill free to contact me or Richard Angelbeck, of my staff, at (312) 886-9698.

Sincerely,

  
Genevieve Damico  
Chief  
Air Permits Section

Enclosure

## Appendix A

1. The permit record must clearly articulate how the HAP emissions were estimated to understand the potential to emit HAPs of this facility.
2. The permit record must articulate how the HAP emission limits were determined.
3. EPA has the following comments regarding the source's air modeling:
  - a. Please explain whether background concentrations were included for the National Ambient Air Quality Standards (NAAQS) analysis, and if so, how they were included.
  - b. Please explain whether any nearby sources were included in the NAAQS analysis, and if so, how they were included.
  - c. It is unclear how the modeling was completed for PM<sub>2.5</sub>. Please explain the methodology for this modeling.
  - d. It is unclear how the modeling was completed for 1-hour NO<sub>2</sub>. Please explain the methodology for this modeling.
  - e. It is unclear whether short-term maximum emissions were used to model for the short-term standards. Please explain if they were, and the methodology used.
  - f. OEPA should provide a thorough discussion addressing all of the above concerns and describing the overall modeling methodology for this facility.
4. The permit must clearly define how compliance is to be determined for the emission limits in the permit. Page 36 of the permit says that compliance shall be determined through use of a continuous emission monitoring system (CEMS) and stack testing but page 16 of the permit says that CEMS, stack testing, AP-42 emission factors, material balance calculations or other agency-approved emission factors may be used. It is preferable to use direct measurement of emissions. There is uncertainty when using emission factors because they only provide an estimate of emissions rather a direct measurement. Please clarify that compliance will be demonstrated using the CEMS data/stack test data.
5. To assure compliance with the PM emission limits, bag leak detectors should be used instead of the proposed pressure drop monitors that are currently in the permit. Bag leak detectors more accurately detect when the bags develop holes, leaks, tears, etc. than the pressure drop monitors.
6. The permit does not require a baghouse to control emissions from the MSW preprocessing MRF. This would be an additional opportunity to address PM emissions. Given that this source will more than likely need a PSD permit requiring a technology review please assure that the review includes a baghouse for the MRF and that bag leak detectors would be used to

assure compliance.

7. Permit terms 1(b)(1)(b) under Emission Unit Terms and Conditions on page 20 and 1(b)(2)(i) and (j) seem to say that the lead emission limit will no longer exist if/when OEPA's state implementation plan (SIP) revision is approved into Ohio's SIP. Given that this source is proposed for an area in partial non-attainment for lead and will more than likely need a PSD permit, please assure that the technology review includes potential controls and an emission limit with monitoring, recordkeeping, and reporting to assure compliance.
8. Please add to the permit record, the proposed control efficiencies of the emission control devices proposed for this facility. Given that this source will more than likely need a PSD permit requiring a technology review, the proposed control efficiencies would be a part of the review.
9. Cleveland Public Power is subject to the New Source Performance Standard (NSPS) for small municipal waste combustors, found at 40 CFR Part 60 Subpart AAAA. The NSPS contains requirements that must be met prior to commencement of construction. All of the NSPS requirements must be incorporated into the air permit as enforceable permit terms, including requiring Cleveland Power meet the preconstruction requirements according to the schedule set by the NSPS. The preconstruction NSPS AAAA requirements include development of a Materials Separation Plan (MSP) and a Siting Analysis (SA). The MSP should explain how the source will separate out the batteries, compact fluorescent light bulbs, thermometers, hazardous materials, etc., as well as separating out recyclable materials, and ensure that any such materials will not be sent to the gasifiers. The MSP should also contain a specific list of unacceptable materials (i.e. treated/painted wood). EPA recommends that the MSP requires post-MRF/pre-gasification chamber material be monitored to ensure that the hazardous materials/recyclable materials do not enter the gasification chambers.

The SA should include an analysis of how the proposed facility will affect ambient air quality, visibility, soils, and vegetation. The SA should also include an analysis of alternatives for controlling air pollution that minimizes potential risks to public health and the environment. This analysis should also consider other major industrial facilities nearby.

Although the NSPS AAAA allows the public meetings for the SA and a MSP to be completed prior to commencement of operation, we advise OEPA to combine these public meetings with the public meeting for the air permit when it gets re-proposed. The community would have access to all of the source/project information at one time and could make better informed comments.

10. The permit must be clear about the emission control equipment for mercury and dioxins/furans. Under the *Source Description* section of the Permit Strategy Write-Up, sorbent injection is mentioned as a control device that will be used for this facility, but it is not mentioned anywhere else in the permit. Reducing mercury emissions benefits air quality and reduces mercury deposition to the Great Lakes and other water bodies, and mercury concerns were raised by many community members. EPA recommends that OEPA consider activated carbon injection be required in the permit to control the mercury and dioxin/furans emissions.

11. The permit's allowable HAP emissions seem high, particularly the mercury, lead, and dioxin emissions. Actual emissions from similar facilities appear to be a small fraction of estimated emissions for this source. Please re-evaluate the HAP emission limits to see if they should be lower, using reasonable assumptions about the HAP content of the waste being charged.
12. The Cleveland area is currently nonattainment for PM<sub>2.5</sub>, so all sources of particulate emissions are of interest because high levels of PM<sub>2.5</sub> can cause health problems. Stakeholders expressed particular concern over the emissions created by the removal and handling of the the post-gasification material. EPA recommends that OEPA consider control technologies to control emissions and work practices to minimize emissions from these processes, including the feasibility of a baghouse and any necessary enclosures, fans and hooding to control particulate emissions.
13. EPA recommends that OEPA consider preconstruction monitoring for metals, dioxins/furans, and PM. This would give the community a sense of the background emissions for the area prior to installing this facility.
14. EPA recommends that OEPA consider adding a burner-tuning requirement to the permit for the gasifiers and the furnaces. This could minimize operational problems with the burners running efficiently and effectively.
15. Throughout our previous discussions on this permit, we have emphasized the importance of communication and helping the public understand the impacts of the project being proposed in their community. Given the concerns raised during public participation process about whether the post-combustion material will be a hazardous material, EPA recommends that OEPA consider requiring toxic characteristic leachate procedure testing be done for the post-gasification material to both ensure and inform the community that the material is not hazardous.
16. Catalytic oxidation and/or thermal oxidation to control could be considered in the best available technology review as an additional opportunity to address HAPs, CO and VOC emissions.