Detroit Water and Sewerage Department

RESPONSE TO COMMENTS DOCUMENT

November 1, 2013

PERMIT No. 61-13

Rick Snyder, Governor

Air Quality Division
Michigan Department of Environmental Quality

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Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Participation Process</td>
<td>2</td>
</tr>
<tr>
<td>Summary of Significant Comments</td>
<td>3</td>
</tr>
<tr>
<td>Public Health and Environment Concerns</td>
<td>3</td>
</tr>
<tr>
<td>Emergencies and Safety Concerns</td>
<td>4</td>
</tr>
<tr>
<td>Odor Concerns</td>
<td>5</td>
</tr>
<tr>
<td>Permit Requirements</td>
<td>6</td>
</tr>
<tr>
<td>General</td>
<td>6</td>
</tr>
<tr>
<td>Emissions</td>
<td>7</td>
</tr>
<tr>
<td>Emission Controls</td>
<td>7</td>
</tr>
<tr>
<td>Public Participation Process</td>
<td>8</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10</td>
</tr>
<tr>
<td>Summary of Comments Citing Benefits</td>
<td>14</td>
</tr>
</tbody>
</table>
I. PUBLIC PARTICIPATION PROCESS

Permit to Install application No. 61-13, for Detroit Water and Sewerage Department (DWSD), is for a project that includes two sub-projects. One sub-project involves upgrading the sewage sludge incinerators in Complex 2, and the other involves constructing a new biosolids drying facility. These changes are all proposed to occur at the DWSD wastewater treatment plant located at 9300 West Jefferson Avenue, Detroit, Michigan.

The public participation process involved providing information for public review including a fact sheet, proposed permit terms and conditions, a public comment period, an informational meeting, a public hearing, and the receipt of written and oral public comments on the Air Quality Division (AQD) staff's analysis of the application and the proposed permit. On September 11, 2013, copies of the Notice of Air Pollution Comment Period and Public Hearing, the Fact Sheet, and the draft terms and conditions were placed on the Michigan Department of Environmental Quality (MDEQ), AQD Home Page (http://www.michigan.gov/air). Also on that date, the AQD mailed 34 letters to persons who had previously expressed interest via letter and had provided a complete address. In addition, a notice announcing the Public Comment Period, the Public Informational Meeting, and the Public Hearing was placed in the Michigan Chronicle. The notice provided pertinent information regarding the proposed action; the locations of available information; a telephone number to request additional information; the date, time, and location of the Public Informational Meeting and Public Hearing; the closing date of the Public Comment Period; and the address where written comments were being received.

The Informational Meeting was held on October 16, 2013, at the Delray Neighborhood House, 420 South Leigh Street, Detroit, Michigan. This location was selected due to its proximity to the facility and the size of the room. 13 people attended the Informational Meeting. A panel of representatives from the AQD was available to answer questions regarding the proposed project. The meeting began at 5:40 p.m. and concluded at 7:15 p.m.

The Public Hearing was also held on October 16, 2013, after the informational meeting, at the Delray Neighborhood House. The hearing began at 7:20 p.m., with Ms. Barbara Rosenbaum as the Hearings Officer and Ms. Lynn Fiedler, sitting in for Mr. G. Vinson Hellwig, as the decision maker. Only comments on the proposed permit action were received. In addition, the AQD staff was available outside the room to answer any questions. 13 people were in attendance at the Public Hearing with four persons providing oral comments. The Public Hearing concluded at 8:00 p.m. At the close of the hearing, the AQD announced that the comment period would be extended through Friday, October 18, 2013.

A total of four persons submitted written comments during the Public Comment Period and the hearing.

The remainder of this document is a listing of the significant comments received during the public comment period and hearing regarding the proposed permit, with the AQD’s responses to all significant comments. The AQD made no changes to the draft permit.
II. SUMMARY OF SIGNIFICANT COMMENTS

A. Public Health and Environment Concerns

Comment

The public’s exposure to pollutants over the significant threshold must be minimized.

AQD Response

The Fact Sheet referred to both a “significant threshold” and a “significant impact level.” Neither is a direct measure of public health impact. These levels are used to identify whether emissions of certain pollutants require additional analysis. The additional analysis may include dispersion modeling to assess the impact of the emissions on air quality. The “significant impact level” is used to evaluate the results of dispersion modeling. It is used as a “first-cut” assessment of emissions impact to determine whether additional, more complex dispersion modeling is required.

If a facility’s emissions meet the air quality requirements that apply to them, such as dispersion modeling, specified emission limits, or emission control technologies, the AQD can issue a permit.

Comment

The PM emissions are a concern for public health; cumulative emissions in this area are already high and the air quality is already correlated with increased health risks for lung and heart diseases in this vulnerable community. There should be a monitor proximate to area residents where the concentration of facility emissions can be measured, for PM10, PM2.5, NOX, VOCs, hydrogen sulfide, and other criteria air pollutants, and a spectrum of DWSD air contaminants. The biosolids drying facility would emit additional air contaminants, along with the incinerator emissions, and there should be monitoring of a spectrum of toxins of greatest concern. Funding should be provided for this monitoring.

AQD Response

The AQD and the United States Environmental Protection Agency (USEPA) use a combination of ambient air monitors and air emission inventories with modeling to evaluate air quality by comparison to health protective standards and benchmarks. With regard to monitoring, the AQD currently operates four air monitoring stations within 1.5 to 2 miles of DWSD. These are located in Dearborn, River Rouge, North Delray, and South Delray. According to the USEPA, this air monitoring network is among the most comprehensive of any city in the United States with particulate, sulfur dioxide, volatile organic compounds and toxic metals being measured. Still, with no monitor in the immediate vicinity of DWSD measuring nitrogen dioxide (NO2), this permit requires DWSD to conduct such monitoring at two new locations. As previously noted the AQD and the USEPA also rely upon emissions data and modeling to characterize air quality in areas that do not have a monitor. These assessments have determined that the DWSD vicinity is currently and will remain in attainment with all of the primary (health-related) National Ambient Air Quality Standards except for sulfur dioxide.
Additionally, the air toxics are evaluated by the USEPA in their National-scale Air Toxics Assessment (NATA) studies (http://www.epa.gov/nata2005/).

**Comment**

Without ambient air quality monitoring and a study like the DATI study, it is not possible to attest to the air quality and its impact on public health.

**AQD Response**

The Detroit Air Toxics Initiative (DATI) studies of 2005 and 2010 were very useful studies for characterizing the levels of air toxics in the Detroit area http://www.michigan.gov/deq/0,4561,7-135-3310_30151_31129_50583---,00.html. As noted previously, the USEPA's NATA studies, and air monitoring, are also valuable resources for evaluating the air quality of Detroit. Based on these studies, and the findings of the current permit evaluation, the AQD determined that it was justifiable to require new monitors for NO₂ only.

**B. Emergencies and Safety Concerns**

**Comment**

What will happen if there is a malfunction at the biosolids drying facility? What will be the fallout?

**AQD Response**

The permit conditions require DWSD to prepare, submit, and implement a malfunction abatement plan for the biosolids drying facility. DWSD must submit the plan to the AQD for approval, and may not feed sludge to any of the dryers before submitting the plan. The plan must be designed to prevent, detect, and correct malfunctions or equipment failures that result in emissions that exceed any of the facility’s emission limits. For example, the plan must include a preventive maintenance plan.

The biosolids facility is also required to comply with all permit conditions, including emission limits, at all times. General Condition No. 7 requires the facility to notify the AQD District Supervisor of abnormal conditions or malfunctions resulting in certain types of emissions in excess of a standard or limitation lasting more than one hour. This condition places an additional burden on the facility to investigate and report malfunctions that cause excess emissions. The facility is required to give the AQD a written summary of the actions taken to correct and prevent recurring malfunctions. These actions become a part of the facility's malfunction abatement plan.
C. Odor Concerns

Comment

Some comments stated or suggested that the DWSD sewage sludge incinerators are sources of objectionable odors from the wastewater treatment plant.

AQD Response

The AQD has received many odor complaints in the past alleging the DWSD wastewater treatment plant as the source of odors. During follow-up investigations of these odor complaints, the AQD staff has not been able to identify the incinerators as the source of odors from the facility. Rather, the odors that AQD staff has detected from the facility come from the wastewater treatment process or from the biosolids handling operations. Because these odors are the result of the wastewater treatment process, they fall under the jurisdiction of the MDEQ Water Resources Division (WRD) and are therefore outside the purview of the AQD.

When the AQD receives odor complaints that are determined to be the result of the wastewater treatment process, the complaints are referred to the WRD and to DWSD for follow up. The AQD will continue to respond to odor complaints and take appropriate action.

Comment

The permit should require DWSD to use best available technologies and practices to control and reduce odors from the wastewater treatment plant.

AQD Response

As noted previously, the AQD has not been able to identify the incinerators as the source of odors from the facility, and does not have reason to believe that the incinerator upgrades will change this. The proposed biosolids drying facility includes excellent emission controls to address possible odors. The emission controls include regenerative thermal oxidizers (RTOs) on the exhaust from the drying equipment as well as odor scrubbers on the general ventilation exhaust from the process area of the proposed facility. Further, the permit requires that these emission controls be installed, maintained, and operated in a manner consistent with their design, and prohibits operation of the drying equipment without the RTOs. The permit also requires a malfunction abatement plan to prevent and reduce the effect of malfunctions.

Comment

Whom should I contact to report odors?

AQD Response

During business hours, for odors or other air emission complaints, please contact the AQD staff in the Detroit District Office at 313-456-4700. For pollution emergences during non-business hours, please contact the PEAS at 1-800-292-4706.
D. Permit Requirements

General

Comment

Some comments asked that the AQD, or the permit, address requirements outside the authority of the AQD. Examples of these requests include the following:

- The use of specific approaches to certain aspects of the wastewater treatment process in order to reduce odors from that process.
- The permit should include all of the Administrative Consent Order Parts, the Facility Improvement Program, and the Asset Management Program, with a requirement to make public the related progress reports.
- Consistent effluent limits throughout the year.
- Development of a citywide “green infrastructure program.”
- Improvement to the construction process for projects related to the wastewater treatment plant, such as the Oakwood Pumping Station.
- To reduce contaminants in the sludge and in the associated air emissions, there should be a review of the pre-treatment standards and procedures at industrial customers, and best practice pre-treatment standards should be in place for industrial customers.
- Permitting should include progress toward a continuous improvement standard toward best industrial practices overall, including the elimination of incineration and chlorination altogether in the wastewater treatment process.

AQD Response

All of these requests concern matters that do not fall under state or federal air quality laws or regulations. The AQD does not have the authority to address these requests in its permit review or to require in a permit that they be implemented.
Emissions

Comment

The Fact Sheet states that the PM2.5 emissions impact is 99.4% of the 24-hour National Ambient Air Quality Standard (NAAQS). Because the impact is so close to the NAAQS, the permit should require additional control of PM2.5 emissions.

AQD Response

The permit application estimated the emissions from the project and analyzed the impact of those emissions in a manner consistent with federal guidance and the AQD requirements. The AQD review of the emissions estimates, and of the impact analysis, determined that the estimates and analysis meet the requirements of air quality laws and regulations. For PM2.5, in particular, the analysis demonstrates that the PM2.5 emissions from the project do not cause or contribute to a violation of the NAAQS.

Emission Controls

Comment

The permit should require DWSD to use best available technologies and practices to control air contaminant emissions.

AQD Response

The AQD’s authority is limited by the air quality rules and regulations that apply to emission sources. “Best” technology to reduce emissions is required for some emissions from the upgraded incinerators and from the biosolids drying facility. The AQD permit review considered all of the emission control technology rules and regulations that apply to the project. The review concluded that the project complies with all of these requirements. The project provides excellent (“best” or “maximum”) emission controls and practices in several areas:

- The upgrades for the existing incinerators are intended to enable them to meet new federal emission limits that represent “maximum achievable control technology” for existing sewage sludge incinerators. These limits are required by Section 129 of the federal Clean Air Act, and they apply to the following pollutants emitted from the incinerators:
  - Particulate matter
  - Carbon monoxide
  - Mercury
  - Sulfur dioxide
  - Lead
  - Hydrogen chloride
  - Dioxins and furans
  - Oxides of nitrogen
  - Cadmium

The permit requires each upgraded incinerator to comply with these emission limits immediately after it is upgraded.
• The “best available control technology” (BACT) requirement of Michigan’s Rule 702 applies to volatile organic compound (VOC) emissions from both the upgraded incinerators and the biosolids drying facility. The Fact Sheet noted that the AQD permit review determined that the project complies with this requirement through improved combustion in the upgraded incinerators and by providing regenerative thermal oxidizers (RTOs) on the exhaust from the biosolids drying trains.
• The “BACT for toxics” requirement of Michigan’s Rule 224 applies to a variety of toxic air contaminant emissions from the incinerators and from the biosolids drying facility. As described in the Fact Sheet, the AQD permit review determined that the project complies with this requirement through the use of the following practices and equipment:
  o Good combustion
  o RTOs
  o High quality particulate matter emission control
  o Scrubbers

E. Public Participation Process

Comment

The community must be assured that the upgrades will mitigate air quality issues, noise, and emissions from the facility, in a transparent process.

AQD Response

The public participation process, which includes this Response to Comments document, is intended to communicate to all interested parties that the project complies with all of the state and federal air quality requirements that apply to the project. As noted in the Fact Sheet and stated elsewhere in this document, this includes the following conclusions:

• The project’s emissions do not cause or contribute to a violation of the federal NAAQS. The NAAQS are protective of human health.
• The project’s emissions comply with the State of Michigan rules for toxic air contaminants. These rules include a requirement that emission impacts comply with screening levels that are protective of human health.

As also noted elsewhere in this document, the AQD’s authority and jurisdiction are bound by state and federal air quality requirements, which do not address noise. This is a matter that can be addressed by local ordinance.
Comment

The AQD should hold the information meeting one or two weeks ahead of the hearing to allow people time to process information received and be able to comment.

AQD Response

The draft permit was subject to the public participation process specified in section 5511(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended and Title 40 of the Code of Federal Regulations Part 51.161 of the Federal Register. In accordance with the law, the MDEQ is required to provide at least 30 days for public comment. The actions taken by the MDEQ to notify the public regarding this proposed permit met or exceeded the minimum public participation requirements of state and federal law. This included providing information for public review (a fact sheet and proposed permit terms and conditions), a public comment period, an informational meeting with citizens, a public hearing, and the receipt of written and oral public comments on the AQD staff's analysis of the application and the proposed permit. In this case, the comment period was extended through Friday, October 18, 2013, to allow additional time for interested persons to gather information.

The informational meeting is only one way that the AQD provides information to the public during a public comment period. Throughout the public comment period, the Fact Sheet was available to summarize the permit analysis, along with the proposed permit conditions. The AQD also stated clearly in the public participation documents that further information could be obtained on the Internet or by calling the AQD.

Comment

The public comment process needs to show that it includes the residents.

AQD Response

The public comment process includes a number of actions to include citizens. Pursuant to 40 CFR 124.10, the USEPA requires that there must be a notice of at least 30 days for the public comment period and public hearing. On September 11, 2013, copies of the Notice of Air Pollution Comment Period and Public Hearing, the Fact Sheet, and the draft terms and conditions were placed on the AQD Internet Home Page at http://www.michigan.gov/air and made available at the Detroit District Office, the Wayne County Clerk, and the City of Detroit. In addition, the “Notice of Air Pollution Comment Period and Public Hearing” was placed in the Michigan Chronicle, and contained the phone numbers to call for additional information on the project. Also on that date, the AQD mailed 34 letters to persons who had previously expressed interest via letter and had provided a complete address. The notice provided pertinent information regarding the proposed action; the locations of available information; a telephone number to request additional information; the date, time, and location of the Public Hearing; the closing date of the Public Comment Period; and the address where written comments were being received.
Comment

There should be an effective mechanism to inform the public of violations at the facility. One outcome of the water discharge permit process for DWSD was a MDEQ Web site for the facility. Can relevant air quality documents be added to the water site to provide one location for all information: violation notices, monitoring data, permit changes, and the permit itself?

AQD Response

The AQD currently provides all of the requested documents on its Internet pages. Some of these documents have been available via the Internet for a number of years. For others, new documents generated since October 1, 2013, are now being made available as they are generated.

- The “Air Quality Source Information” site is located at this link, http://www.michigan.gov/deq/0,4561,7-135-3310-313032--,00.html. It provides the information listed below:
  - All new inspection reports
  - All new violation notices
  - All new facility responses to violation notices
  - Executive summaries of stack test reports
  - Consent orders and consent judgments
  - All active Permits to Install
  - All active Renewable Operating Permits

- The MDEQ’s Freedom of Information Act (FOIA) site provides links to a variety of information that is already available on the Internet: http://www.michigan.gov/deq/0,4561,7-135-3304__3304__3304-58024--,00.html.

The Freedom of Information Act (FOIA) allows any citizen to request copies of public documents from the AQD. The MDEQ’s FOIA site explains how a person can submit a FOIA request for documents that are not available via the Internet.

F. Miscellaneous

Comment

Some comments asked for more information about the overall emission increases and decreases from the project and about projected and actual emissions.

AQD Response

In the Fact Sheet, the proposed emissions from the project or from a sub-project were often referred to as the “project emissions,” and the term “actual” emissions was used as part of the term “baseline actual emissions.” The “project emissions” referred to the proposed “emissions from the project”: either the overall project or the sub-project being addressed. These proposed emissions, or future emissions after completion of the project or sub-project, represent the maximum emissions that the permit would allow from the equipment.
The “baseline actual emissions” (BAE) is the reference point for determining the emissions increases for the project and for determining the emission reductions from shutting down incinerators 1-6. BAE represents the average annual emissions from the equipment during the identified “baseline period.” The applicable rules define the baseline period as a consecutive 24-month period that the applicant may choose, with certain restrictions. For this project, the applicant chose calendar years 2004-2005 for the baseline period. This time period met the requirements of the rules.

The future emissions (the emissions after completion of the project) from both the upgraded incinerators and the biosolids drying facility were determined as “potential emissions.” “Potential emissions” represent the maximum ability of the equipment to emit pollutants, as restricted by permit conditions and equipment design. The permit restricts the potential emissions from the highest-emitting portions of the overall project, the upgraded incinerators and the dryer trains, with emission limits and related limits on throughput and hours of operation as listed below:

- The sludge throughput for the upgraded incinerators is limited to 129,564 dry tons per year.
- The four dryer trains may only operate for a total of 31,536 hours per year. This is equivalent to each dryer train operating for 90% of the possible hours each year.

Tables 1 through 4 in the Fact Sheet presented much of the requested information, but in a format designed to present the details of the three-phase netting analysis.

Specifically, Table 4 in the Fact Sheet presents this information:

- The “Total emissions increase” can be found in the column titled “Project Emission Increase over BAE for Overall Project (tpy)”.
- The “Creditable emissions reductions” can be found in the column titled “Creditable Reduction from Shutdowns of Units 1-6 (tpy)”.
- The “Net emissions increase” can be found in the column titled “Net Emissions Increase (tpy)”.

\[
(Total\ emissions\ increase) - (Creditable\ emissions\ reductions) = (Net\ emissions\ increase)
\]

For example, using the nitrogen oxides emissions from Table 4 of the Fact Sheet:

\[
155.8 - 256.3 = -100.5
\]

The same approach applies to the other pollutants shown in Table 4.
Comment

The Fact Sheet indicates that the carbon monoxide emissions from Phases 1 and 3 of the project exceed the significant threshold, and should therefore have been subject to Prevention of Significant Deterioration (PSD) requirements. Other pollutants also showed increases greater than the significant threshold. Why did the permit review proceed otherwise for these pollutants?

AQD Response

The DWSD project was reviewed as two sub-projects and also as one overall project. To be consistent with terminology used by the USEPA and in other AQD permits, each sub-project and the overall project was also called a “phase,” so there were three phases. Each of the phases had to be considered separately, including the third phase that represents completion of the overall project. Tables 1-4 in the Fact Sheet provide the information needed to determine that PSD review does not apply to any phase of the overall project.

As stated in the Fact Sheet, PSD review requirements only apply to a physical change or change in the method of operation at a facility for a regulated new source review pollutant if both of the following tests are true for the pollutant:

1. The pollutant’s emissions increase due to the proposed project is greater than the significant level for that pollutant.
2. The pollutant’s net emissions increase due to the proposed project is greater than the significant level for that pollutant.

These two tests are considered in the order they are listed above. First, the review must compare the emissions increase from the phase to the appropriate significant threshold. Then, for each pollutant with a significant increase, the second step is to compare the net emissions increase from the phase to the appropriate significant threshold. Only if both tests are true will the pollutant be subject to PSD review for that phase.

Table 1 in the Fact Sheet provides the information needed to determine if the first test is true for any phase of the project. Tables 2, 3, and 4 in the Fact Sheet identify whether the second test is true for any pollutant for any phase.

As Tables 1-4 in the Fact Sheet demonstrate for each phase, there is no pollutant for which both test 1 and test 2 is true, and therefore none of the pollutants are subject to PSD review for any of the phases.

Comment

The biosolids drying facility will be constructed, operated, and maintained by a private company. Will the permit requirements for the biosolids drying facility be part of the DWSD renewable operating permit?

AQD Response

Yes, the Permit to Install (PTI) requirements for the biosolids drying facility will be part of the DWSD Renewable Operating Permit (ROP).
Comment

One comment expressed concern about how the proposed new bridge would affect travel in the area.

AQT Response

The AQT does not have jurisdiction over decisions about bridge locations and traffic patterns.

Comment

One commenter has “had to call the USEPA” because of “breakdowns and resulting fall outs.”

AQT Response

During business hours, for odors or other air emission complaints, you are encouraged to contact the AQT staff in the Detroit District Office at 313-456-4700. For pollution emergencies during non-business hours, please contact the Pollution Emergency Alerting System (PEAS) at 1-800-292-4706.

Comment

Some comments requested that the permit or the proposed project reduce noise from the DWSD facility, including the use of the best available technology for that purpose.

AQT Response

Neither federal nor state air pollution control laws address noise. Noise is a local ordinance issue handled by the local government. The AQT may not deny a source a PTI on the grounds that the proposed activity causes unwanted noise, nor may the AQT require specific control measures to reduce noise.

Comment

The Fact Sheet states that nitrogen oxides are “believed to be a cause” of the yellow plume. The cause should be identified and the problem fixed. This is a significant concern for the residents.

AQT Response

The AQT recognizes that the “yellow plume” is a concern in the community. The proposed upgrades are consistent with the “yellow plume reduction” plan proposed by the DWSD wastewater treatment plant and included in its ROP. The AQT believes that the upgrades will improve the yellow plume situation.
Comment

The public must be protected from pollutants during the construction phases of the project.

AQD Response

The AQD does not have regulatory jurisdiction over many aspects of construction projects, such as noise and the hours of the day during which construction activity takes place. However, the AQD does regulate dust and track-out related to construction activity. Construction projects are subject to applicable air quality rules and regulations that address fugitive dust management. Entities involved with a construction project, ranging from the property owner to the various contractors, are expected to use best management practices in relation to managing fugitive dust. The AQD will work to ensure that fugitive dust related to the DWSD construction project is managed in accordance with the air quality laws and regulations.

III. SUMMARY OF COMMENTS CITING BENEFITS

The following is a list of the benefits cited in the oral testimony and letters received:

- Two commenters expressed support for reduced emissions.
- One commenter expressed support for reduced use of incineration.

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