

Illinois Environmental Protection Agency  
Bureau of Air  
Permit Section

November 6, 2015

Responsiveness Summary  
Application for Revised Construction Permit  
Metropolitan Biosolids Management  
Stickney, Illinois

Source Identification No.: 031051APL  
Application No.: 04110024

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## **DECISION**

On November 6, 2015, the Illinois Environmental Protection Agency (Illinois EPA) issued a revised construction permit to Metropolitan Biosolids Management (MBM) located at 6001 West Pershing Road in Stickney. The revision allows digester gas from the Stickney Works of the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) to be burned in one of the three thermal oil heaters at the MBM facility while the other heaters burn natural gas or ultra-low-sulfur fuel oil. Additionally, the ability to burn reclaimed oil in the heaters has been removed from the permit and the permitted annual SO<sub>2</sub> emissions of the facility have been reduced.

## **BACKGROUND**

On July 17, 2015, the Illinois EPA, Bureau of Air received an application from MBM to revise the construction permit for its sludge drying facility located at the MWRDGC's Stickney Works. The revision would allow one of the three thermal oil heaters at the facility to burn digester gas while the other heaters burn natural gas or ultra-low-sulfur fuel oil. The thermal oil heaters supply the heat for indirectly heated sludge dryers.

The Illinois EPA Bureau of Air evaluates applications and issues permits for sources of emissions and air pollution control equipment. An air permit application must appropriately address compliance with applicable air pollution control laws and regulations before a permit can be issued. Following initial review of the application, the Illinois EPA Bureau of Air made a preliminary determination that the application met the standards for issuance of a construction permit and prepared a draft permit for public review and comment.

## **ENVIRONMENTAL JUSTICE REVIEW AND PUBLIC COMMENT PERIOD**

MBM is located in an Environmental Justice area as defined by the Illinois EPA's Environmental Justice Public Participation Policy<sup>1</sup>. As such, an Environmental Justice notification was mailed on August 4, 2015, to persons on the Illinois EPA's interested parties list. The Illinois EPA also determined that a public comment period on a draft permit for the application would be held. On August 19, the public comment period began with the publication of a notice in the Suburban Life newspaper. Additionally, the notice was published in the Lawndale News newspaper on August 20, 2015.

During the comment period, the Illinois EPA received comments including a request to hold a public meeting. The Illinois EPA determined that such a meeting was appropriate. The Illinois EPA worked with the requesting group to determine an appropriate date and venue for its members and scheduled a meeting for October 6, 2015, at the Gethsemane Lutheran Church in Cicero. Notice of the meeting ran in the Chicago Sun-Times and the Lawndale News. The

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<sup>1</sup> A "potential" EJ community is a community with a low-income and/or minority population greater than twice the statewide average.

meeting was held to answer questions, and the written comment period was extended until October 16, 2015, to allow for public comments after the meeting.

Additionally, Spanish language translations of both the notice of comment period and the meeting notice were published concurrently with the respective English language notices, Spanish language translations of the public notice and project summary were provided, and a Spanish language translator was available at the meeting.

The Illinois EPA has reviewed the comments, prepared this responsiveness summary and made changes to the permit based on the comments made during the public comment period.

## AVAILABILITY OF DOCUMENTS

The permit issued to MBM and this responsiveness summary are available at the Illinois EPA's internet site at <http://www.epa.illinois.gov/public-notice/general-notice/index>.<sup>2</sup> Copies of these documents may also be obtained from the contact listed at the end of this Responsiveness Summary.

## QUESTIONS AND COMMENTS WITH RESPONSES BY THE ILLINOIS EPA

1. How does the MBM facility operate?

**The MBM facility receives wet sludge from MWRDGC's Stickney Works and dries it in four indirectly heated dryers. The dried material is then pelletized and sold as fertilizer. Fuel is not burned in the four dryers. These dryers are heated indirectly by circulating hot thermal oil through the tubes in each dryer. This thermal oil is heated in three thermal oil heaters. The emissions of the sludge dryers are controlled by a multi-stage control system. The emissions from handling sludge are also controlled by another multi-stage control system.**

**The revision to the construction permit requested by MBM involves the thermal oil heaters. Currently, MBM burns natural gas in these heaters. However, due to the availability of digester gas from the Stickney Works, MBM seeks authorization to burn digester gas in one heater at a time. The other two heaters would be required to burn either natural gas or ultra-low-sulfur fuel oil.**

2. How do scrubbers work and how effective are they at reducing emissions?

**Scrubbers control emissions by "washing" a target pollutant or pollutants from the flue gas from an emission unit using a liquid. Scrubbers for SO<sub>2</sub> usually use a mixture of water and limestone or other alkaline material that will react with the SO<sub>2</sub> and facilitate the transfer of the SO<sub>2</sub> from the gas stream into the liquid. As the**

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<sup>2</sup> This information may also be available on the Illinois Permit Database operated by USEPA, at <http://www.epa.gov/reg5oair/permits/ilonline.html>.

**spent liquid from scrubbers constitutes wastewater or waste, the spent liquid must then be appropriately treated or managed. Scrubbers can be designed or purchased for different levels of control efficiency as needed to meet the emission standards or control requirements that apply to various emission units.**

3. In the Project Summary that accompanied the draft of the revised permit, the Illinois EPA posits that “[b]ecause the heaters must be taken out of service periodically for maintenance, MBM is seeking flexibility in this operating scenario to burn digester gas in any one of the heaters.” This scenario is misleading, is not reflected in the draft of the revised permit and is not enforceable. It suggests that MBM is seeking flexibility during occasional maintenance periods. By contrast, the draft permit does not constrain the number of operating hours during which the scrubber can be turned off. As long as natural gas is being used in two heaters, the third heater can use digester gas and the existing permit obligation to scrub emissions is eliminated.

**The project summary explains that the new operating scenario for the thermal oil heaters that would be addressed by the revised permit would involve burning of digester gas in at most one of the heaters at any time. The statement in the project summary that is the subject of this comment merely explains why MBM has requested the flexibility to burn digester gas in any one of the heaters rather than proposing to burn this gas in only a single, dedicated heater.<sup>3</sup> This statement does not suggest that the revised permit would only allow digester gas to be burned in one of the heaters when another heater is out of service for maintenance.**

4. One aspect of the Illinois EPA’s application of legal requirements was the mandate of the CAAPP permit for the thermal oil heaters that “the scrubber system shall be in operation any time when digester gas or reclaimed oil is being burned,” and that an SO<sub>2</sub> emission limit of 0.010 lbs/mmBtu is required for any gaseous fuel is being burned. The Illinois EPA is now proposing to backtrack on both of these requirements. Local residents are asking the Illinois EPA not to backtrack from key pollution controls and emission limits that the existing construction and CAAPP permits require and which Illinois EPA itself has consistently imposed over a period of over ten years of permitting this facility.

**The record does not provide a basis to deny the request for revision to the construction permit now requested by MBM, i.e., to address burning digester gas in at most a single thermal oil heater at any time. However, to address concerns about the SO<sub>2</sub> emissions of the MBM facility, the revised permit no longer authorizes reclaimed oil to be burned in the thermal oil heaters at the facility. The only type of oil that may now be burned is ultra-low-sulfur fuel oil. In light of this change, the permitted annual SO<sub>2</sub> emissions of the facility have also been reduced. These changes to the permit reflect the current status of the scrubber system for the heaters. This system has been disconnected in such a way that it cannot be readily**

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<sup>3</sup> For example, if the digester gas from the Stickney Works were being burned in Heater 1 and this heater must be taken out of service for a period of time for maintenance, either Heater 2 or Heater 3 could be switched over to digester gas.

**returned to service and a further permit action would be required to resume use of this scrubber.**

5. Is there a technical justification for why the Illinois EPA is not requiring the use of the scrubber system installed for the thermal oil heaters? Can the Illinois EPA require MBM to use the scrubber?

**The scrubber system for the thermal oil heaters was not designed to control emissions from a single thermal oil heater. Rather, this system was designed to control the emissions of sulfur dioxide (SO<sub>2</sub>), particulate matter and other pollutants from the combined exhaust from all three heaters with reclaimed oil being burned in all of the heaters. When MBM decided to burn natural gas in place of reclaimed oil, separate stacks were installed on the heaters. Also, the ductwork linking the heaters to the scrubber system was removed since this system was not needed for burning natural gas. The potential SO<sub>2</sub> emissions from the thermal oil heaters burning digester gas in one heater only a fraction of those that would potentially have been controlled by the scrubber system if the heaters were burning reclaimed oil.<sup>4</sup> In recognition of the fact that the scrubber system for the heaters has been disconnected in such a way that it cannot be readily returned to service, the revised permit no longer provides for burning reclaimed oil in the heaters.**

**There is no regulatory requirement to control emissions from the thermal oil heaters if digester gas would only be burned in only one thermal oil heater, as is now allowed by the revised permit.**

6. Since digester gas, like the reclaimed oil originally contemplated for use by MBM, contains sulfur and generates SO<sub>2</sub> when burned, why shouldn't these SO<sub>2</sub> emissions be controlled with the control systems at the MBM facility that are being used?

**The two control systems that are in use at this facility control the sludge handling and drying processes. Those systems were designed for effective control from the emissions of those processes. They were not designed to also control emissions of the thermal oil heaters, which were served by their own scrubber system. Even if it were feasible to duct a thermal oil heater to one of those systems, this would reduce the effectiveness of that system in controlling emissions from the processes that it was designed to control. And, there is no regulatory requirement to control emissions from the thermal oil heaters if digester gas would only be burned in only one thermal oil heater, as is now allowed by the revised permit.**

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<sup>4</sup> The original construction permit, Condition 2.4.5(c), limited the sulfur content of any reclaimed oil burned in the thermal oil heaters to 0.5 percent by weight, which is equivalent to SO<sub>2</sub> emissions of about 0.52 lbs/mmBtu heat input. Condition 2.4.6(a) limited the SO<sub>2</sub> emissions from burning reclaimed oil to 0.052 lbs/mmBtu, reflecting achievement of a least 90 percent control by the scrubber system for the heaters. [0.52 lbs/mmBtu x (100 - 90)/100 = 0.052 lbs/mmBtu]

By contrast, the maximum SO<sub>2</sub> emissions from burning digester gas are now limited to 0.071 lbs/mmBtu. Overall, the level of SO<sub>2</sub> emissions allowed by the revised permit for digester gas, considering that digester gas may only be burned in one thermal oil heater at a time, is about half that which was allowed for reclaimed oil. (0.071 lbs/mmBtu/3 ≈ 0.024 lbs/mmBtu)

7. Even if there is a technical justification for not using the scrubber for the thermal oil heaters when digester gas is only being burned in one of the three heaters, what measures are appropriate to ensure that this scenario is strictly limited and enforceable?

**The revised permit clearly provides that digester gas may only be burned in one thermal oil heater at a time. Compliance with this requirement will be readily verified. First, MBM must keep logs or other operational records for the thermal oil heaters to confirm that digester gas is burned in only one heater at a time, including information for when each heater is operated and the type of fuel being burned. Second, MBM must meter the amount of digester gas supplied to the facility from the Stickney Works. The data from this meter will show whether the amount of digester gas used by the facility has been sufficient for only one heater or for more than one heater.**

8. Are there ways to control SO<sub>2</sub> emissions from burning digester gas, rather than simply allowing all the sulfur in the gas to be converted to and emitted as SO<sub>2</sub>?

**SO<sub>2</sub> emissions from burning digester gas can be controlled by scrubbing of the emissions or by pretreatment to reduce the sulfur content of the gas. However, for the operational scenario for the thermal oil heaters that is now being addressed by this revised permit, such control measures are not needed to comply with applicable SO<sub>2</sub> emission standards.<sup>5</sup> These measures also are not needed based on the impacts of this operational scenario on ambient air quality for SO<sub>2</sub>. The use of digester gas by MBM in one of the thermal oil heaters also will not contribute to nuisance odors. The combustion of the digester gas, as will occur when it is used as a fuel by MBM, will be a control measure for the odorous compounds in the gas. In this regard, combustion is one common approach to control of emissions of odorous compounds from process equipment.**

9. Do other similar facilities utilize scrubbers when burning digester gas?

**As a general matter, sources that burn digester gas or similar byproduct gases only control SO<sub>2</sub> emissions when it is required pursuant to applicable rules. That is, if it is necessary to comply with applicable emission standards, to comply with the National Ambient Air Quality Standards (NAAQS) for SO<sub>2</sub>, to comply with requirements under the New Source Review programs<sup>6</sup> or to avoid causing an odor**

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<sup>5</sup> As digester gas is a byproduct of wastewater treatment operations at the Stickney Works, 35 IAC 214.161 limits SO<sub>2</sub> emissions from burning digester gas to 1.0 lbs/mmBtu. The NSPS, 40 CFR 60.42c(d), limits the sulfur content of fuels burned in the thermal oil heaters to 0.5 weight percent. The digester gas generated by the Stickney Works can readily comply with both these standards without need for further add-on control of SO<sub>2</sub> emissions.

<sup>6</sup> In Illinois, the New Source Review program consists of the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, and Illinois nonattainment new source review program, 35 IAC Part 203. These rules establish additional requirements for major projects. Due to these rules, sources may elect to control SO<sub>2</sub> emissions so that a proposed project is not a major project. If a project is a major project for SO<sub>2</sub> emissions, requirements for control of SO<sub>2</sub> emissions may be set on a case-by-case basis during permitting reflecting the control technology that available or achievable for the project.

**nuisance. As discussed, none of these situations are present for use of digester gas by the MBM plant.**

**In addition, when sources must control SO<sub>2</sub> emissions from use of byproduct gas, the emissions are commonly controlled by pre-treatment of the gas prior to combustion to remove sulfur compounds. Emissions are not controlled by scrubbing the exhaust from the combustion units.<sup>7</sup>**

10. The Town of Cicero is against any revision that eliminates the requirement for a scrubber that might result in an increase in SO<sub>2</sub> emissions from the MWRDGC's Stickney Works.

**The project at issue does not result in a significant increase in SO<sub>2</sub> emissions. Further, the potential emissions from burning digester gas in one thermal oil heater are approximately half the potential emissions if reclaimed oil were burned in the heaters. More importantly, the application for the revised construction permit shows that the heaters would continue to comply with applicable emission standards, as well as the prohibition against odor nuisance. Add on control is currently not utilized for the thermal oil heaters, and for the reasons mentioned, add-on control is not required for this new operational scenario for the heaters.**

11. As now permitted, the operation of the scrubber system is designed to control a suite of pollutants, limiting short-term and annual emissions. By contrast, the Illinois EPA's justification in the proposed revised construction permit, Condition 1.1, is based solely on permitted annual emissions of SO<sub>2</sub>, which Illinois EPA believes will be little changed. Illinois EPA does not provide any meaningful, rational analysis of the impacts of the effects of shutting off scrubber on the full array of pollutants or on the effectiveness of the integrated pollution control system. Moreover, the Illinois EPA has not meaningfully addressed the short-term impacts of increased, total emissions during periods on air quality, especially in nearby residential areas.

**This comment erroneously suggests that the draft of the revised permit also should have included a discussion of the justification for the proposed revisions to the permit. Condition 1.2 of the draft revised permit described the changes that would have been provided for by that draft permit so as to distinguish that permit from the previous permit. In particular, in the draft of the revised permit, Condition 1.2 explained that the draft permit would provide for an increase in short-term, hourly SO<sub>2</sub> emissions from a thermal oil heater that would be burning digester gas. However, it would not provide for an increase in the overall annual SO<sub>2</sub> emissions for which the heaters were permitted.**

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However, the MBM plant is not a major project and will not become a major project with this revised permit. In fact, as discussed this revision will reduce the annual permitted SO<sub>2</sub> emissions of the MBM plant as the permit no longer provides for burning of reclaimed oil.

<sup>7</sup>As already discussed, the scrubber system for the thermal oil heaters was installed to control emissions from burning reclaimed oil in the heaters, not for burning digester gas.

**As already discussed, the scrubber system for the thermal oil heaters was designed to control emissions of SO<sub>2</sub> and particulate matter from burning reclaimed oil. Reclaimed oil may have both high sulfur content and high ash content that such control was necessary to comply with applicable regulatory requirements. By contrast, digester gas is a gaseous fuel and does not contain ash. The maximum sulfur content of digester gas is much lower than that of digester gas. Thus the circumstances that supported use of the scrubber system for burning reclaimed oil are not present for the operational scenario for the thermal oil heaters, that is addressed by the revised permit.**

**MBM has performed modelling which indicates that residential areas around the facility will not be significantly impacted by the changes in the permit.**

**It is also noteworthy, that draft Condition 1.1 no longer accurately describes the difference between the revised permit that has been issued and the previous permit. This is because the Illinois EPA has made changes in the revised permit to remove reclaimed oil as a permitted fuel and to reduce the permitted annual SO<sub>2</sub> emissions of the facility.**

12. In the draft of the revised permit, the Illinois EPA proposes an SO<sub>2</sub> limit for the thermal oil heater that would be burning digester gas that reflects a maximum value for the sulfur content of digester gas produced at the Stickney Works, i.e., 0.071 lbs/mmBtu. By contrast, the limit in the current permit for a heater burning any gaseous fuel is much more stringent, i.e., 0.010 lbs/mmBtu. The relaxation of the limit for burning gaseous fuel in the heaters is disturbing because there is no indication that the Illinois EPA evaluated ways to reduce or limit the sulfur content of digester gas. The Illinois EPA instead simply defaulted to the maximum sulfur content of digester gas as the basis for its revised permit limit.

**The Illinois EPA is acting on a request from MBM for a revised construction permit that would allow the firing of digester in any of the three thermal oil heaters, but only one at a time. The source would also be allowed to burn natural gas in the three heaters as well as ultra-low sulfur fuel oil. The draft revised construction permit limit reflects this requested operational scenario. This limit is different from the earlier limit as the operational scenario that is sought is different. In the earlier scenario, MBM sought authorization to burn natural gas, digester gas, and reclaimed oil in the three heaters at the same time. The use of a scrubber system and the earlier limit directly related to and are regulatorily driven by the earlier operating scenario – notably the worst case scenario of firing reclaimed oil in all three thermal oil heaters at once. The requested revision in operational scenario changes the potential emissions impact of the thermal oil heaters as well as the applicable requirements. Indeed, as a practical matter, the potential emissions impact of the thermal oil heaters and the associated regulatory requirements had changed prior to the request for permit revision. Specifically, the source had ceased use of reclaimed oil and had largely been firing natural gas in the three thermal oil heaters. This fuel choice had provided the regulatory means to forgo the use of the**



scrubber system. On this basis the source had ceased use of the scrubber system and modified the system such that it was no longer used or usable. The current scenario does not necessitate the use of add-on control. Further, the limits in the draft permit are appropriate for the scenario at issue. This said, the Illinois EPA took the further measure of eliminating the prior authorization to burn reclaimed oil and reduced the potential annual SO<sub>2</sub> emissions from the thermal oil heaters. The potential annual SO<sub>2</sub> emissions now reflect the current operational scenario.

13. How would the revised construction permit assure that the SO<sub>2</sub> emissions from a thermal oil heater burning digester gas do not exceed 0.071 lbs/mmBtu?

Compliance with this limit would be addressed by periodic sampling and analysis of the digester gas, as addressed by Condition 2.4.7-2(b) of the permit. The revised permit imposes more rigorous requirements for this sampling and analysis as is appropriate for an emission unit that would be relying on the sulfur content of a byproduct fuel to comply with permit limits for SO<sub>2</sub> emissions. Like the previous permit, MBM must conduct initial sampling and analysis before beginning to burn digester gas. However, the revised permit also requires that following initial sampling and analysis, subsequent sampling and analysis must be conducted at least monthly. Sampling and analysis on an annual basis is only allowed once six consecutive monthly samples show that the sulfur content of the digester gas is such that SO<sub>2</sub> emissions are no more than 85 percent of the applicable limit, i.e., no more than 0.060 lbs/mmBtu.<sup>8</sup> In addition, if annual sampling and analysis shows SO<sub>2</sub> emissions are more than 0.060 lbs/mmBtu, monthly sampling and analysis must be resumed. These provisions are designed to ensure that the digester gas is sampled and analyzed on a monthly basis unless there is a consistent and substantial margin of compliance.

It should be understood that the value of 0.060 lbs/mmBtu in these provisions is not an emission limit. Rather it is a value for the sulfur content of the digester gas that governs how frequently digester gas must be sampled and analyzed for its sulfur content. If the sulfur content of the digester gas does not exceed this value and there is a substantial margin of compliance with the applicable emission limit, less frequent sampling and analysis is required. Otherwise, digester gas must be sampled and analyzed on at least a monthly basis. For simplicity of implementation, this value for the sulfur content of digester gas is expressed in the same terms as the applicable limit, lbs/mmBtu.<sup>9</sup>

14. The proposed SO<sub>2</sub> limit for the thermal oil heaters is also significantly higher than the SO<sub>2</sub> limit in the current construction permit for burning oil, which is based on burning reclaimed oil. Even for burning reclaimed oil, the SO<sub>2</sub> emissions of the heaters are limited to 0.052 lbs/mmBtu. The Illinois EPA's approach to an appropriate SO<sub>2</sub> emission limit in the absence of operating the existing scrubber system is irrational and capricious,

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<sup>8</sup>  $0.071 \text{ lbs/mmBtu} \times 0.85 = 0.0604 \text{ lbs/mmBtu}, \approx 0.060 \text{ lbs/mmBtu}.$

<sup>9</sup> Because this value is expressed in lbs/mmBtu, it addresses variability in the actual heat content of the digester gas, as well as variability in the sulfur content of the gas.

especially by contrast to the existing emission limit of 0.010 lbs/mmBtu and the prudent approach of simply requiring the operation of a scrubber system the facility already uses.

**The scrubber system installed for the thermal oil heaters is not currently operating nor is it required to be operated. When MBM decided to burn natural gas in place of reclaimed oil, separate stacks were installed on the heaters. The ductwork linking the heaters to the scrubber system was removed since this system was not regulatory required when firing natural gas. The emission limit of 0.010 lbs/mmBtu was associated with the burning of natural gas in all three heaters without the use of the scrubber system. The limit on reclaimed oil is when all three units are burning reclaimed oil with use of the scrubber system. The new limit established in this revised construction permit is an appropriately conservative limit for use of digester gas in only one heater at any time that, since the scrubber system would not be used, reflects the maximum sulfur content of the digester gas.**

15. The new limits for SO<sub>2</sub> emissions in the draft of the revised permit would also be inconsistent with the limits in the Clean Air Act Permit Program (CAAPP) permit for the MBM facility.

**The CAAPP permit for the MBM facility, Permit 08090012, does not independently establish permit limits for the SO<sub>2</sub> emissions of the facility, including the thermal oil heaters at the facility. The CAAPP permit merely restates the permit limits set by the construction permit for the facility. As when any construction permit is issued for a source that has an existing operating permit, the CAAPP permit will need to be revised to address the new requirements in the revised construction permit that has been issued.**

16. Will the requested revision to the construction permit increase the amount of contaminants in the air? What is the justification for the increase in emissions of SO<sub>2</sub>?

**The increase in emissions from the thermal oil heaters that would be allowed by the revised construction permit for the MBM facility is relatively small and should not measurably add to the level of pollutants in the air. Additionally, the Illinois EPA required MBM to analyze the potential impacts of the requested permit revision on SO<sub>2</sub> air quality. The analysis shows that the MBM plant would not have a significant, adverse impact on hourly SO<sub>2</sub> air quality in residential areas. The heaters will also continue to comply with applicable emission standards.**

17. I am concerned about the increase in emissions, even if those emissions are still within regulations.

**The permit provides for an increase in the hourly rate of SO<sub>2</sub> emissions but does not provide for increase in annual permitted emissions of SO<sub>2</sub>. Indeed, the permit provides for a decrease in annual permitted SO<sub>2</sub> emissions. The higher hourly rate relates to the fact that digester gas has higher sulfur content than natural gas which is what MBM has been using to fuel the thermal oil heaters.**

18. MBM currently emits lead and they now want to emit more SO<sub>2</sub>. These additional emissions will only create more health disparities to my community.

**The revised permit, as issued, reduces the facility's permitted SO<sub>2</sub> emissions. None of the fuels that the facility is now permitted to burn in the thermal oil heaters are sources of lead emissions. Accordingly, the revised permit no longer provides for lead emissions from the heaters.**

19. Odor issues from MBM.

**The potential sources of odor from the MBM facility are the sludge handling and drying processes. These processes are controlled. The revision to the permit does not affect the control measures for these processes.**

20. How do the scrubbers eliminate odor? How effective are they at eliminating odor?

**Odors at MBM are controlled by separate scrubber systems for the dryers and the sludge handling operations. These systems reduce odors by removing odorous pollutants from the exhaust from equipment before the air is discharged to the atmosphere.**

21. What effect will allowing one thermal oil heater to burn digester gas without use of a scrubber have on odor control from the MBM facility?

**This operational scenario should not affect control of odors at the MBM plant. It will only involve the thermal oil heaters that would now be allowed to burn digester gas one unit at a time. This scenario does not affect the control measures that are required for the sludge handling and drying processes, which are the potential sources of odor from the plant. Those processes must continue to be controlled at all times by the multi-stage odor control system and the dryer control system.**

22. The Metropolitan Water Reclamation District of Greater Chicago (MRDGC) has not been responsive to public complaints of odor emitted from its facility.

**This permit transaction only addresses the operation and emissions from the MBM facility.**

23. What information does the Illinois EPA have about complaints from the public about the operations of the Stickney Works, of which the MBM plant is an integral part? Will the proposed scrubber-exemption cause or contribute to the air quality impacts that led to these complaints?

**The records of the Illinois EPA, Bureau of Air show only one recent complaint related to the Stickney Works, from 2014. The complaint was directed at the Stickney Works, not MBM.<sup>10</sup> As discussed, the use of digester gas in the thermal oil**

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<sup>10</sup> In response to this complaint, the Bureau of Air conducted an inspection of the Stickney Works.

**heaters will not act to increase emissions of odorous compounds from the MBM plant because the gas would be burned as fuel.**

24. Will the proposed scrubber-exemption cause or contribute to the air quality impacts that led to these complaints?

**The primary potential source of odors at MBM is the sludge drying operations. These operations occur inside a building and are controlled by a scrubber system. This permit revision does not exempt MBM from using the scrubber for the drying operations. Indeed, the revision to the construction permit does not affect the drying operations in any fashion. Any odorous constituents in the digester gas should be oxidized adequately when fired into the combustion boiler/heater.**

25. What will ensure that MBM acts in compliance with environmental laws?

**The revised construction permit as originally proposed is protective of public health and the environment. The project at issue does not result in significant increases in emissions. Further, the potential emissions from the proposal to burn digester gas in one thermal oil heater are approximately half the potential emissions if reclaimed oil were burned in the heaters. More importantly, the application for the revised construction permit shows that the thermal oil heaters would continue to comply with applicable emission standards, as well as the prohibition against odor nuisance. For these reasons, add-on control is not required for this new operational scenario for the thermal oil heaters.**

26. There are many companies in Cicero and surrounding communities that are in constant violation and continually polluting the air, water and land.

**This permit transaction only addresses emissions from the MBM facility. To the extent that individuals have interest or concerns and would like further information from the Illinois EPA about other sources in the area, a contact is listed at the end of this document. The contact could assist you in obtaining relevant information.**

27. Both of the existing permits impose the requirement of continuous operation of the scrubber as a legally-mandated requirement. The current construction permit mandates the continuous operation of pollution controls to meet a basic SIP and NSPS requirement, specifically, that the plant is operated “in accordance with good air pollution control practices in order to minimize emissions and odors,”<sup>11</sup> The CAAPP permit identifies another legal mandate that dictates that “the scrubber system shall be in operation any time when digester gas or reclaimed oil is being burned.” According to the Illinois EPA, continuous operation of the scrubber system is required pursuant to Section 39.5(7)(b) of

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<sup>11</sup> In its entirety, Condition 1.2(b) of the current construction permit states:

**The plant shall be operated in accordance with good air pollution control practices in order to minimize emissions and odors, including process emissions exhausting through the scrubber system or thermal oxidizer system.**

the Illinois Environmental Protection Act. See: CAAPP Permit 08090012, Condition 4.3.2.k.i.C. As recently as September 2013, it was the legal judgment of the Illinois EPA that continuous operation of the scrubber system when burning digester gas was necessary to assure compliance with the Clean Air Act, the regulations promulgated thereunder, the Illinois Environmental Protection Act and applicable Illinois Pollution Control Board regulations. Allowing MBM to turn off its scrubber system is contrary to plain language legal requirements that originate in the Clean Air Act as these requirements have been interpreted and applied by Illinois EPA to this facility and this specific aspect of its operations.

**MBM has pursued the appropriate administrative process for the requirements in its current construction permit to be revised. There is no legal basis in the record for the Illinois EPA to reject the revision to the construction permit requested by MBM. As discussed, the original permit addressed an operational scenario for use of digester gas in which it was expected that all three thermal oil heaters would be firing digester gas or the use of the scrubber system for the heaters would be required because reclaimed oil was also being burned. This is not the operational scenario that MBM has requested be addressed by the revised permit. The fact that certain requirements were imposed for the original operational scenario that was anticipated for the thermal oil heaters does not demonstrate that those requirements must continue to be applicable for a new operational scenario.**

**The record does not support that the scrubber system for the thermal oil heaters is necessary to meet either basic SIP or NSPS requirements if digester gas is only burned in a single heater at any time. State and federal laws and rules for air pollution control do not require the use of a scrubber to control emissions from the thermal oil heaters at the MBM facility, given the emission profile of when fuel with a sulfur content as the digester gas is used as fuel. Nevertheless, in the original construction permit, a scenario was envisioned where reclaimed oil would be burned in the three heaters. As such, the permit required use of a scrubber for control when reclaimed oil was burned. This condition was extended to the use of digester gas since the digester gas has higher sulfur content than natural gas and it was assumed all three heaters would use the same fuel at once. A scenario where only one heater would burn reclaimed oil or digester gas was not considered during the development of the originally construction permit. Construction permit conditions carry over to the CAAPP permit and are therefore reflected therein.**

28. What analysis has been undertaken to determine the potential effects emissions on impacted receptors? Will the revision of the permit result in a significant, adverse, disproportionate impact on the residents who live nearest to the facility? How will this affect the children in the schools and parks nearby? What will the cumulative impact be of this facility and the other facilities in this area?

**MBM was required to have analyses conducted for the potential impacts of the requested revisions to the permit on SO<sub>2</sub> air quality.<sup>12</sup> These analyses showed that the MBM plant would not have a significant, adverse impact on hourly SO<sub>2</sub> air quality in residential areas.**

29. The MBM facility is in a region that does not attain ambient air quality standards for fine particulates (PM<sub>2.5</sub>).

**The Greater Chicago Area is not designated non-attainment for the National Ambient Air Quality Standards (NAAQS) for fine particulate.<sup>13</sup> Additionally, the issued permit reduces potential annual emissions of SO<sub>2</sub> and does not otherwise change fine particulate matter emission limits in the permit.**

30. How can the public easily access information about the air quality in their area?

**General information and data about air quality in the Greater Chicago Area may be found at: <http://www.cleantheair.org/>**

**You may also receive air quality notifications by signing up at the Enviroflash website: <http://www.illinois.enviroflash.info/>**

31. How can I stay informed on the MBM facility and developments for other sources of emissions in the area?

**The Illinois EPA maintains a mailing list of interested individuals. The individuals on the list receive mail or email notification of events including public comment periods and hearings. Members of the public who signed in at the public meeting on October 6<sup>th</sup> have been added to Illinois EPA's mailing list for public notices of projects in Stickney, Cicero and the surrounding area.**

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<sup>12</sup> The air quality modeling that MBM's consultant conducted for the application for a revised permit addressed a receptor grid extending out six miles from the MBM plant. In the first stage of the analysis, hourly SO<sub>2</sub> impacts of the MBM plant were compared with the 1-hour significant impact level for SO<sub>2</sub> (7.8 micrograms/cubic meter or µg/m<sup>3</sup>). This modeling showed that the maximum hourly SO<sub>2</sub> impacts of the MBM plant could be significant. Accordingly, further analysis was needed to address the aggregate impact of the MBM plant and other sources of SO<sub>2</sub> emissions compared with the National Ambient Air Quality Standard (NAAQS) for SO<sub>2</sub>, 1-hour average (196.32 µg/m<sup>3</sup>). This modeling used a regional emissions inventory reflecting existing or proposed allowable SO<sub>2</sub> emission rates for existing sources. This modeling also included values for background air quality developed from ambient monitoring conducted for SO<sub>2</sub>. This analysis showed that with the requested revisions of the permit, the MBM plant would not contribute significantly to exceedances of the 1-hour SO<sub>2</sub> NAAQS in residential areas. Impacts greater than 7.8 µg/m<sup>3</sup> contributing to exceedances of this NAAQS were only predicted to occur in a small portion of an industrial area located east of the plant and the contributions of the MBM to those exceedances would all be less than 10.0 µg/m<sup>3</sup>.

<sup>13</sup> The Greater Chicago Metropolitan Area is currently designated unclassifiable for PM<sub>2.5</sub>. The Illinois EPA operates an ambient monitoring station for PM<sub>2.5</sub> at Liberty School at 13<sup>th</sup> Street and 50<sup>th</sup> Avenue in Cicero. Recent data collected by this monitoring station suggests that this portion of the region is in attainment of the NAAQS for PM<sub>2.5</sub>.

Anyone otherwise who wishes to be added to the mail or email contact list can contact: Jillian Hawkins, Illinois EPA Office of Community Relations, 217/524-0922, [jillian.hawkins@illinois.gov](mailto:jillian.hawkins@illinois.gov).

In addition, public notices, draft permits, and project summaries are available on the Illinois Permits Database on the USEPA website:  
<http://www.epa.gov/reg5oair/permits/ilonline.html>.

These and other public documents are also available through the Illinois EPA's Freedom of Information Act (FOIA) process. FOIA requests can be made online at: <http://www.epa.illinois.gov/foia/index>

32. Many of our children already experience respiratory health issues and additional SO<sub>2</sub> will only trigger additional health issues with our children and families. We would like a health study to be conducted before issuing the permit.

**Applicable regulations do not require this kind of analysis prior to permit issuance. The USEPA establishes National Ambient Air Quality Standards to provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Cicero and the surrounding area is non-attainment for ozone; no other criteria pollutants are listed as non-attainment, including SO<sub>2</sub>. The revision to MBM's construction permit will not change the limits for any pollutants that are precursors to ozone formation, nitrogen oxides and volatile organic material. The revisions to MBM's construction permit will not adversely affect air quality. Indeed, as already discussed, the Illinois EPA required that MBM have modelling conducted. This analysis confirms that ambient SO<sub>2</sub> levels will not significantly increase in surrounding residential areas. The analysis supports that the revision at issue would not have a significant adverse impact on hourly SO<sub>2</sub> air quality in the residential area.**

33. In the statement of basis that accompanied the draft CAAPP permit for the MBM facility, the Illinois EPA acknowledge that MBM operates in an environmental justice area. Illinois EPA asserted it could not impose "substantive emission control requirements beyond those arising under currently applicable regulations." Nonetheless, Illinois EPA underscored that in light of the EJ issues, it would strictly apply established emission limits and controls.

**The Illinois EPA takes environmental justice very seriously and as such has taken additional steps due to the facility being located in a designated Environmental Justice area. These steps include enhanced Environmental Justice outreach to the neighborhood, including: an Environmental Justice notification to the community, holding a public comment period, providing translated documents, holding a public meeting, providing a translator at the meeting, extending the public comment period, and preparing this responsiveness summary to address questions and comments raised during the public comment period; having modeling performed to look at the impact of sulfur emissions on the surrounding neighborhoods; and**

**making modifications to the issued permit removing the use of reclaimed oil and lowering the potential annual SO<sub>2</sub> emissions from the facility.**

34. The demographics of my community make us targets for institutional racism. Cicero is an Environmental Overburdened Community where there is no ambient air for families. Our schools are surrounded by industries that work with human carcinogens and other toxins. Our children in Cicero are breathing numerous toxins that can affect their quality of life.

**The Illinois EPA agrees that MBM is located in an Environmental Justice area as defined by the Environmental Justice Policy. As such, the Illinois EPA has performed enhanced outreach for this application, as described above, and has taken further action to address the comments received, including analysis of modeling performed by MBM and making modifications to the issued permit.**

35. I am extremely concerned with how Illinois EPA staff conducted the public meeting to address the public's concerns with the permit for MBM. There was not an agenda or a process on how the meeting would be conducted. My group began with personal testimony from a resident who has several health concerns. As she was reading her testimony an employee of the Illinois EPA stopped her and indicated that this was not the time for such testimony because the Illinois EPA was not transcribing the meeting.

**The primary purpose of this public meeting was to answer questions from the public to facilitate written comments. As such, the public comment period was extended to allow such comments to be submitted. A public meeting is not typically, and in this instance was not, used to accept public comments. To this extent, the meeting was facilitated to answer questions, not to solicit public comment. At the same time, general comments were allowed and in the specific instance listed above, the commentor was allowed to complete her comments. Other members of the public also were not prevented from voicing comments during the meeting.**

36. At the public meeting, the Illinois EPA was clearly advocating for MBM. It was not facilitating the meeting. I do not understand why the Illinois EPA chose to advocate for MBM during the entire meeting? Why would a state agency that should be ensuring the health of a community be partial during a public meeting?

**The purpose of the meeting, as addressed both when the meeting was being set up and at the meeting, was to explain the project and answer questions so that the public had information with which to submit written comments or additional questions. With that objective, Illinois EPA staff attempted to provide clear answers as to the processes at the MBM facility, the proposed revisions to the permit, and the Illinois EPA's regulatory role. Additionally, while not required to participate, representatives of MBM responded to numerous public questions. Ultimately however, the meeting concerned a proposed action by the Illinois EPA and it is the Illinois EPA's responsibility to provide information and answer**



**questions at the meeting about the draft of the revised permit that had been prepared.**

**FOR ADDITIONAL INFORMATION**

Questions about the public comment period and the permit decisions should be directed to:

Bradley Frost, Community Relations Coordinator  
Illinois Environmental Protection Agency  
Office of Community Relations  
1021 North Grand Avenue, East  
P.O. Box 19506  
Springfield, Illinois 62794-9506

217-782-7027 Desk line  
217-782-9143 TDD  
217-524-5023 Facsimile

[brad.frost@illinois.gov](mailto:brad.frost@illinois.gov)