



**CITY HALL**

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November 21, 2013

Planning Commissioners  
Winona, Minnesota 55987

Dear Commissioner:

The next meeting of the Planning Commission will be held on **Monday, November 25, 2013, at 4:30 p.m. in the Council Chambers** of the Winona City Hall.

1. **Call to Order**
2. **Minutes – November 12, 2013**
3. **Air Quality Monitoring Recommendations**
4. **Other Business**
5. **Adjournment**

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Moeller".

Mark Moeller  
City Planner

## **PLANNING COMMISSION MINUTES**

**DATE:** November 12, 2013

**TIME:** 4:30 p.m.

**PRESENT:** Chairperson Porter, Commissioners Boettcher, Davis, English, Buelow and Ballard

**ABSENT:** Commissioners Hahn and L. Olson

**STAFF PRESENT:** City Planner, Mark Moeller; and Assistant City Planner, Carlos Espinosa

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The meeting was called to order at 4:30 p.m. by Chairman Porter.

### **Approval of Minutes – October 28, 2013**

The minutes from the Commission's meeting of October 28, 2013 were reviewed. Chairman Porter noted that during that meeting, he had referenced various studies and data relative to the Clean Air Task Force and findings related to particulate levels. He stated that although his comments were not reflected in minutes, he would like them to be. Given this correction it was moved by Commissioner Boettcher and seconded by Commissioner Buelow to approve the October 28, 2013 minutes as modified. When the question was called, the vote of the Commission was unanimous to approve the motion.

### **Air Quality Monitoring Recommendations**

Chairman Porter called on Carlos Espinosa, Assistant City Planner to provide a summary of this agenda item.

Mr. Espinosa noted that at the conclusion of the Commission's last meeting, it was suggested that Commissioner's review the Citizen's Environmental Quality Committee (CEQC) full set of recommendations. In summary, CEQC recommendations included 9 points generally revolving around air quality monitoring along truck routes and monitoring at sand processing facilities.

Given these, Mr. Espinosa explained that the current proposal from the MPCA for air quality monitoring addresses the recommendations pertaining to monitoring along truck routes and 2.5 particulate (diesel) monitoring. The proposal from the MPCA does not, however, address the recommendations for monitoring at silica sand facilities in Winona. In consideration of this set of recommendations, Commissioners may reference the letter from the MPCA, which he had attached to the agenda item. After discussion, Commissioners may make a recommendation to City Council regarding air monitoring along truck routes as well as silica sand facilities. In concluding, Mr. Espinosa noted that all formal recommendations of the Commission would be forwarded to Council for final certification.

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Commissioner Boettcher explained that although CEQC recommendation number five suggests that costs associated with monitoring be paid by the sand industry, the MPCA letter, at page three, implies that this is a cost that could be absorbed by the MPCA.

In response, Mr. Espinosa noted that although the MPCA may absorb costs for generic testing, this would not include specific site testing at sand facilities. Again, the MPCA has agreed to do generic testing at the Highway 43/Fourth Street Intersection. Given this, the agency has committed to absorbing the majority of costs for this testing.

Chairman Porter stated that in giving full consideration to this issue, he was disappointed with CEQC recommendations. When those recommendations came forward, the Commission had been working on the frac sand issue for a number of months. Additionally, it was his understanding that the CEQC had only met once in developing its recommendations that, to him, had little substance.

In addressing the MPCA proposal, Chairman Porter noted that although the MPCA's offer of assistance in promoting a monitoring program was greatly appreciated, he felt that there were areas throughout the state with more significant air quality issues. Although a testing site at the Highway 43/Fourth Street Intersection might certify this, he felt that the expense of the tax dollars for this monitoring site was not needed and a waste of money. For the most part, sand passing through this intersection is wet in nature and would not be airborne. Given this, he did not see a purpose in monitoring the area for airborne emissions of any kind.

Commissioner English stated that he too was not totally comfortable with establishing expensive monitoring systems without having a better handle as to whether a problem actually exists. Although problems had been implied, he felt that these were, given his understanding of the nature of the sand industry, circumstantial.

Chairman Porter noted that although testing will certainly generate numbers, he did not feel these would point to a specific problem.

Commissioner Buelow emphasized that, until some form of testing is actually completed, the City will not know if a problem exists. Given this, he suggested that the Commission approve of the MPCA proposal and that testing be undertaken over a 12 month period.

Commissioner Davis stated that although she too appreciated the MPCA proposal in this matter, she was curious as to what will happen with the information once it's collected. To this point, she has seen no plan as to what the next steps might be. Chairman Porter replied that he was not aware of any plan and that once information is collected, the City, in cooperation with the MPCA, would decide the next step in the process.

Mr. Espinosa stated that according to the MPCA letter, if testing concludes that elevated air emissions exist, additional, more specialized testing could be under taken.

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Commissioner Boettcher explained that a great deal of work on this issue has been conducted to date. Given this, his recommendation will be to continue the process by approving of the MPCA study. Once completed, the issue could be put to rest. His concern is that if the study is not undertaken, there could always be a question mark related to the air quality standards discussion. In short, he suggested that the Commission move forward in approving of the MPCA proposal.

Commissioner Ballard noted that he too was concerned of recommending the approval of an expensive study when he wasn't sure that a problem actually exists.

Following brief discussion, it was moved by Commission Boettcher and seconded by Commissioner Buelow to recommend that the City Council approve of the MPCA's proposal to establish an air monitoring site at the YMCA property for a one year period. This recommendation would include an understanding that the MPCA would pay for equipment and most monitoring costs through the twelve month period.

In response for comments, Commissioner Davis asked if this process would require some form of City staff time. Mr. Espinosa responded that the plan right now is to utilize existing staff in the local administration of monitoring equipment. No new staff would be hired for this purpose.

Commissioner Boettcher emphasized that his motion would require testing for a one year period only.

When the question was called, the vote of the Commission was as follows: ayes Commissioners Boettcher, Davis and Buelow; nays Commissioners English, Porter and Ballard; abstaining: none. Given this split vote, Chairman Porter stated that the motion was not adopted.

At this point, Commissioner Boettcher moved to reconsider this issue during its next meeting to be held in two weeks. Following a second, the vote of those present was unanimous to approve the motion.

**Adjournment**

There being no other business to come before the Commission, the meeting was adjourned.

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Mark Moeller  
City Planner

# PLANNING COMMISSION

**AGENDA ITEM: 3. Air Quality Monitoring Recommendations**

**PREPARED BY: Carlos Espinosa**

**DATE: November 25, 2013**

## Summary

At the last meeting, this item was tabled for further discussion. At that meeting, it was suggested that the Commissioner review the CEQC's full set of recommendations considering the information and air monitoring proposal provided by the MPCA. Below is the full set of recommendations from the CEQC:

1. We recommend monitoring, but defer to the MPCA for protocols, expertise, and resources. A final decision on air quality standards should be determined by the MPCA.
2. The City of Winona should conduct interim monitoring for crystalline silica if action to commence monitoring is not immediately available from the MPCA.
3. Interim monitoring at facilities should commence as soon as possible and use an annual average of  $3\mu\text{g}/\text{m}^3$  PM<sub>4</sub> as a limit for ambient crystalline silica exposure.
4. Any firm hired to complete interim monitoring should be selected and hired by the City of Winona in consultation with the MPCA.
5. Any costs associated with monitoring should be paid by the industry.
6. Interim monitoring should also include baseline 2.5 particulate monitoring along truck routes.
7. Baseline data for air quality monitoring along truck routes should start now. The monitoring should be done at 4-5 sites in the city.
8. The City of Winona should make a formal request to the MPCA for an Air Emissions Risk Analysis and a Community Air Improvement Project.
9. In addition to information from truck routes, air quality data from silica sand facilities should be obtained using the annual silica threshold of  $3\mu\text{g}/\text{m}^3$ .

The proposal from the MPCA for air quality monitoring addresses the recommendations pertaining to monitoring along truck routes and 2.5 particulate (diesel) monitoring. The proposal from the MPCA does not however address the recommendations for monitoring at silica sand facilities in Winona. In consideration of this set of recommendations, commissioners may reference the letter from the MPCA (attached) and remarks of representatives at the meeting on October 28 (minutes attached), as well as information provided by staff at previous meetings. After discussion,

Commissioners may make a recommendation to the City Council regarding air monitoring along truck routes and at silica sand facilities. Staff's intent is to forward this item to the City Council for the meeting on December 2<sup>nd</sup>.

Attachments:

- October 28 Minutes (updated with additions from last meeting)
- MPCA Letter

## PLANNING COMMISSION MINUTES

**DATE:** October 28, 2013

**TIME:** 4:30 p.m.

**PRESENT:** Chairperson Porter, Commissioners Boettcher, Gromek, English, Ballard, Hahn, Buelow, and Olson

**ABSENT:** Commissioner Davis

**STAFF PRESENT:** City Planner, Mark Moeller; and Assistant City Planner, Carlos Espinosa

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The meeting was called to order at 4:30 p.m. by Chairperson Porter.

### Approval of Minutes – October 14, 2013

The minutes for October 14, 2013 were approved without changes upon motion by Commissioner Boettcher and second by Commissioner Buelow.

### Public Hearing – Zone Change/Andring Et Al

Steve Pederson, representing the petitioner, provided an introduction to the rezoning request. Mr. Pederson stated that one of the petitioners (Chris Roffler) currently resides just to the east of the subject properties and R-2 zoning is being requested to re-establish a triplex residential use. Following rezoning, it is the intent of Michael Andring (owner) to sell the subject properties to Chris Roffler and Jennifer Nogosek. Mr. Pederson stated that the subject properties formerly housed a grocery store and that was most likely the reasoning behind the original B-3 zoning. Mr. Pederson stated that the adjacent properties are all zoned R-1 and that the requested R-2 zoning will better preserve the character of the neighborhood than the existing B-3 zoning. Mr. Pederson stated that one reason why Mr. Roffler is part of the rezoning request is that since he lives next door, he does not want to see non-residential development of the subject properties.

Mr. Moeller summarized staff's analysis as follows:

1. No error or oversight in original zoning was made.
2. Neighborhood zoning/development patterns have remained stable since enactment of original zoning.
3. Given use and performance standard controls of the R-2 District, approval of the petitioners request is not expected to result in "undue hardships" on the adjacent neighborhood. On the flip side, retention of current B-3 Zoning "could" result in such impacts.

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4. Rezoning would promote "higher and better" use scenarios than exist under present zoning thereby resulting in long term stability to the neighborhood. Such stability cannot be achieved under potential use scenarios of present B-3 Zoning.
5. Spot zoning is not evident. Requested R-2 zoning would be consistent with current long term plans for the neighborhood surrounding the rezoning site.

Given the previous concerns, staff fully supports this rezoning request.

Chairperson Porter then opened the public hearing. There being no one desiring to speak for or against the petition, Mr. Porter closed the hearing.

Commissioner Boettcher motioned to approve the rezoning request. The motion was seconded by Commissioner Hahn. There being no comments or questions from commissioners, Chairperson Porter called for a vote. Upon vote, the motion passed unanimously.

**Update: Air Quality Monitoring**

Mr. Espinosa briefly introduced the agenda item and stated that representatives from the MPCA were in attendance to help answer questions about air monitoring. Mr. Espinosa stated that he had begun discussions with the representatives about a potential location for the proposed air monitoring equipment. The equipment would be placed along a truck route with a high amount of silica sand traffic. Mr. Espinosa stated the one potential location could be the rooftop of the YMCA building on Fourth Street.

Chairperson Porter asked if the MPCA representatives would like to address the questions from the public before taking questions from the commissioners.

Frank Kohlasch, Manager of the MPCA Air Assessment Section, stated that he has been in communication with staff, and that Mr. Espinosa had forwarded two questions from the public and two from city staff to be addressed at the meeting. Mr. Kohlasch stated that the first question had to do with difference in size between Winona's silica sand operations and those in other parts of the state. Mr. Kohlasch stated that it's his understanding that the three Minnesota silica sand operations that will be doing monitoring are larger than those in Winona. However, Winona's sand operations, while smaller, are closer to residential areas.

Mr. Kohlasch stated that the second question had to do with describing the different types of air quality permits issued by the MPCA. Mr. Kohlasch stated that there are three types of air permits issued by the MPCA:

1. A General Permit – directed specifically to sand and gravel mining operations.
2. A Registration Permit – a permit where an operator agrees that a facility will not emit more than a certain amount of any type of pollutant.

3. An Individual Permit – a permit written specifically for one operation. In terms of silica sand operations, facilities with a dryer would likely trigger the need for an individual permit.

Mr. Kohlasch stated that the third question had to do with uncovered railcars. Mr. Kohlasch stated that this is a challenge because federal regulations preempt the state's ability to put requirements on railcars. The MPCA's best recommendation is to work with facility operators to reduce the potential for dust from uncovered railcars. Mr. Kohlasch also stated that the finished product (silica sand) is much larger than the respirable size fraction (PM<sub>4</sub>) and that once placed inside a railcar it's not anticipated that there would be large emissions of respirable dust.

Mr. Kohlasch stated that the final question related to requiring facilities to do air monitoring. For the questions Mr. Kohlasch referred back to the MPCA's letter where it was stated that monitoring is being required for facilities that trigger an individual air permit. At these facilities, two monitors are required – one upwind and one downwind to measure for Total Suspended Particles, PM<sub>10</sub>, PM<sub>2.5</sub> and PM<sub>4</sub> crystalline silica. One of the silica sand mines currently doing monitoring is monitoring for PM<sub>10</sub> crystalline silica. Preliminary data is showing that over the past year there was only one detect of ambient crystalline silica at approximately 2.3ug/m<sup>3</sup> – lower than the health benchmark of 3ug/m<sup>3</sup>. Mr. Kohlasch stated that the requirement for monitoring is typically instituted as part of a regulatory action such as application for a permit or environmental review, or as part of an enforcement action.

Commissioner Boettcher asked about the potential location of the air monitoring equipment on the roof of the YMCA and if it is outside the range for human habitation. Mr. Kohlasch responded that the YMCA rooftop location is a good fit based on the guidelines for air monitoring established by the US Environmental Protection Agency. In particular, location on the rooftop is within the "breathing zone" as defined by the EPA. The rooftop also provides proper security for the instruments. Finally, the roof is high enough to allow for measurement of particulates based on the stack height of the trucks' exhaust pipes when they are moving and in stopping and starting motions.

Commissioner Gromek asked if other monitoring is occurring along truck routes. Mr. Kohlasch responded that the MPCA does have monitors along other truck routes in the state, but this would be the first monitor specifically located along a silica sand truck route.

Commissioner Gromek asked if the instrumentation would be the same as at other sites in Minnesota. Mr. Kohlasch replied affirmatively.

Commissioner Gromek asked about the regulation of diesel particulates and the ability to stop trucks from utilizing roads. Mr. Kohlasch stated that the best way to address diesel particulates is to ensure that trucks are utilizing clean diesel fuels and that the trucks are later models. However, because fuels and vehicle emission standards are

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regulated at the federal level, there is very little room for state and city regulations in these areas. As a result, other ways to limit emissions must be examined. One such approach is requiring trucks to use specific truck routes which don't have a lot of stop signs and generally don't run through residential areas.

Commissioner Gromek asked about an anti-idling ordinance for trucks. Mr. Kohlasch responded that the MPCA's anti-idling recommendation was made based on similar regulations in the Twin Cities. This type of ordinance generally targets delivery trucks so that they are not idling while deliveries are being made. Mr. Kohlasch stated this type of ordinance may be difficult to apply to silica sand facilities where truck generally do not stop for extended periods of time, but such an ordinance could help reduce particulates in other parts of Winona.

Commissioner Buelow asked if it was common to have two monitors in one location or if it would be better to spread them out. Mr. Kohlasch responded that the proposal for Winona has one monitor measuring PM2.5 and the other measuring PM4 crystalline silica. It is typical to place monitors together, and it would advantageous to do the same in Winona in order to obtain a more complete picture of the air quality in one location.

Chairperson Porter asked about the MPCA's 2014 air monitoring plan and why monitoring in Winona wasn't part of the plan. Mr. Kohlasch stated that the specific request for monitoring in Winona was made after the report was written. Also, the report is primarily meant to demonstrate compliance with federal guidelines and provide the public with a chance to comment on the agency's air monitoring network. Mr. Kohlasch stated that although the plan doesn't include monitoring in Winona – this doesn't prevent the agency from doing so.

Chairperson Porter asked if there were any requests in the public comment period to place an air monitor in Winona. Mr. Kohlasch responded that there weren't.

Commissioner Boettcher asked about the timeline for monitoring in Winona. Mr. Kohlasch stated that it would depend on final approvals by the City, but that if a satisfactory site is identified, at the Y for example, prep work can be completed before it snows and the equipment could be installed on or before the first of the year. A January 1<sup>st</sup> start date would align with the monitoring schedule of other air monitors for comparison purposes.

Chairperson Porter asked if the air monitor at Great River Bluffs State Park could be compared with results from the Winona monitor. Rick Strassman, MPCA, stated that these results from this monitor, as well as others from throughout the state would be comparable with Winona results.

Commissioner Boettcher asked about air quality results from other areas of the state in light of the MPCA's fine particle monitoring program which started in 1999. Mr.

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Strassman stated the results show the Twin Cities area is meeting federal standards for fine particulates in both daily and annual measurements.

Chairperson Porter asked about the results from the Clean Air Taskforce study that listed Winona County as one of the higher counties in the state for diesel particulate pollution. Mr. Kohlasch stated that the MPCA was familiar with the report and the agency has a similar modeling tool. Mr. Kohlasch stated that agency has found similar results to that study and one important thing to note is the higher diesel particulate values are coming from non-road sources.

Mr. Porter stated that the report shows less than 30% of the diesel particulate pollution is coming from road sources while approximately 70% percent comes from non-road sources. Mr. Porter stated this would be important to keep in mind when conducting monitoring. Mr. Kohlasch stated that the MPCA's assessment is similar to what Mr. Porter stated, and that non-road emissions are coming from sources such as construction equipment, agricultural equipment, and even barge traffic. Nonetheless, it is useful to the MPCA to have a monitor along a truck route where there is start and stop activity.

Mr. Porter stated that the Clean Air Taskforce study shows the counties in the Mississippi River Valley and the Twin Cities as having the highest diesel pollution and stated that trains must contribute to that. Mr. Kohlasch affirmed Mr. Porter's statement.

Chairperson Porter asked for more clarification on the potential for silica emissions from freshly mined sand versus processed sand. Mr. Kohlasch stated that after the sand has been processed, the individual particle sizes are much larger than the sizes the MPCA is concerned about. If processed silica sand is sitting in a railcar, the MPCA does not anticipate the generation of PM<sub>4</sub> because those size particles will have already been removed from the finished product and the sand is sitting undisturbed.

Mr. Porter asked about the potential for processed sand brought into Winona to produce particulate emissions. Kohlasch stated that if the sand is coming into Winona as a finished product, the MPCA does not anticipate that there is a mechanical force or any other type of operation that would lead to generation of the PM<sub>4</sub> size fraction.

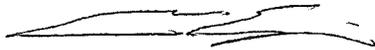
There being no other questions from Commissioners, Chairperson Porter thanked the MPCA representatives for their attendance. Mr. Porter then asked staff if any thought had been given about how to proceed. Mr. Espinosa responded that the discussion today should be considered in the context of the full set of recommendations from the CEQC. Mr. Espinosa stated that he could put together that information for the next Planning Commission meeting or the Commissioners could look at making a recommendation at this meeting. Mr. Porter asked the Commissioners what they'd like to do. The consensus was to have staff put together information for consideration at the next meeting.

**Other Business**

Chairperson Porter recognized that this was the last meeting for Commissioner Gromek as he is planning to retire from his day job and also not continue past his current term as a commissioner. Mr. Porter thanked Commissioner Gromek for his 12 years of service on the Planning Commission.

**Adjournment**

There being no further business to come before the Commission, the meeting was adjourned at 5:30 p.m.



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Carlos Espinosa  
Assistant City Planner



# Minnesota Pollution Control Agency

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800-657-3864 | 651-282-5332 TTY | [www.pca.state.mn.us](http://www.pca.state.mn.us) | Equal Opportunity Employer

October 7, 2013

Mr. Carlos Espinosa  
Assistant City Planner  
City of Winona  
207 Lafayette Street, P. O. Box 378  
Winona, MN 55987

RE: Air Monitoring Questions from City of Winona Planning Commission

Dear Mr. Espinoza,

The Minnesota Pollution Control Agency (MPCA) is providing responses to questions submitted by the City of Winona's Planning Commission regarding air monitoring for crystalline silica and diesel emissions. With this letter, and through the state silica sand technical team, the MPCA is committed to assisting Winona to understand the air quality questions arising from the transport of silica sand through the city. If desired, the MPCA will also provide a representative to attend a future Planning Commission meeting.

#### **Questions from the Winona Planning Commission:**

The MPCA's response to each question is provided in italics.

1. How is the MPCA responding to state legislation in terms of air quality regulation? How does this apply to air quality monitoring?

*The MPCA has not decided on the scope of its pending rule effort for silica sand operations in Minnesota. The 2013 legislation requires the MPCA to create rules for particulate matter controls at silica sand operations. The first step of the rulemaking process involves inviting public comment on the scope of a proposed rulemaking. The MPCA recently sought public comments on the potential scope of the rules, with the comment period closing on Monday, September 30 (for further information, see the public notice at <http://www.pca.state.mn.us/d6fpakf>). At this time, the MPCA has not determined if the rule will include requirements for air quality monitoring at silica sand operations. That decision will be made following consideration of the public comments.*

*The 2013 legislation also calls for the establishment of a state technical assistance team. The MPCA will make air monitoring technical assistance available through the state team to address questions from local units of government. The MPCA is also prepared to provide technical assistance regarding appropriate air monitoring in cities impacted by the growth of silica sand operations.*

2. What other silica sand facilities in Minnesota are conducting air monitoring? What activities are occurring, how large are the facilities, what is being measured, and how was it decided that these facilities should conduct monitoring?

*There are 3 silica sand facilities in Minnesota that are conducting, or will conduct, air quality monitoring. The following paragraphs provide details about the monitoring at each facility.*

Great Plains Sand

The first site, Great Plains Sand, is comprised of a mine, wet and dry processing operations, and a rail loadout. The facility is conducting monitoring for Total Suspended Particulate and PM10. The facility is also performing a subsequent laboratory analysis for silica content of every-other PM10 sample. The facility asserts that they will mine, at maximum, 1.2 million tons per year of sandstone. The facility also asserts that they have 15-20 years of reserves. The facility agreed to conduct monitoring as an outcome of the environmental review process. Scott County imposed the monitoring requirements within the Interim Use Permit, as identified here:

<http://www.co.scott.mn.us/ParksLibraryEnv/Environment/EnvReview/Pages/Great-Plains-Sands-Mining-Interim-Permit.aspx>.

Tiller – North Branch

The second site, Tiller – North Branch, is comprised of dry processing operations and a rail loadout. The Tiller facility receives sand via truck. The facility is monitoring for PM10, PM2.5, and PM4. The facility is also performing a subsequent laboratory analysis for crystalline silica content of each PM4 sample. The facility's dryer is rated at 360 tons per hour, which is (at most) 3.15 million tons per year. The facility was required to monitor as a result of an enforcement action against the facility. The requirement to monitor is contained with MPCA's air permit.

Jordan Sands – Mankato

Jordan Sands is a proposed site that is expected to start construction in late 2013 / early 2014. The site is composed of a mine, wet and dry processing operations, and a rail loadout. This facility will receive some of its sand from the Jefferson Quarry, which is approximately two miles away from the processing and rail loadout site. Jordan Sands plans to produce approximately 500,000 – 600,000 tons per year of sand. The available reserves suggest the facility can operate for 15-20 years. Jordan Sands will be monitoring for Total Suspended Particulate (TSP), PM10, PM2.5, and PM4 with subsequent analysis of the PM4 samples for crystalline silica. The facility agreed to conduct monitoring as an outcome of the environmental review process. The MPCA imposed monitoring requirements within the air permit.

3. In terms of general air quality issues and monitoring (i.e. non silica sand): When is monitoring required? How often is data analyzed? What are estimated costs and who generally pays for it? Does monitoring occur along truck routes, and if so, how is it useful?

**When monitoring is required:**

In general, MPCA conducts or requires air monitoring in two situations:

- 1) To characterize the air pollution levels at locations throughout the state to develop an understanding of the types and levels of pollution across communities or regions, and
- 2) To follow up on concerns associated with a permitted emission sources, primarily as a result of a compliance issue.

*Determining the best location for an air monitoring site will depend upon the objective of the monitoring study. The most common monitoring objective used by the MPCA is to measure air pollution concentrations that are representative of air quality across a community or region. Community or neighborhood scale monitoring results can be used to characterize air pollution levels across a broad area. These monitors are located in areas that are not directly impacted by distinct emission sources and they are sited to measure the cumulative impact of air pollution in a community or region, to characterize typical exposures to air pollution.*

*A less common objective of MPCA air monitoring, because of the maturity of modern pollution control rules and permit conditions, is to measure the concentrations of air pollution in an area near air pollution emission sources, which is typically at the property boundary of the emission source. The MPCA typically only monitors at the property boundary of a permitted emission source if there is a demonstrated case of noncompliance. However, in the case of silica sand operations, the MPCA is seeking upwind and downwind monitoring at property boundaries to ensure the operations do not create emissions that would be harmful to humans.*

#### ***Frequency of Data Analysis***

*Ambient monitoring results are evaluated quarterly for quality assurance and made available for data analysis. Compliance with ambient air quality standards are assessed upon completion of monitoring for a full calendar year. Annual compliance results for the previous year are typically available by March or April of each year. In the case of analysis of crystalline silica concentrations, the standard calls for a year's worth of data for proper comparison to the health benchmark.*

*The MPCA does make some data available on hourly basis, through the Air Quality Index (AQI) system. This data is not intensely reviewed for quality assurance prior to posting through the AQI system, and the intent of the system is provide citizens with real-time data to understand the air quality conditions in their area.*

#### ***Who pays for air monitoring?***

*For community and neighborhood air monitoring the MPCA pays for the entire cost of equipment, maintenance and operation, sample analysis and staffing. The MPCA receives federal grants to conduct air monitoring to characterize air quality for compliance with federal standards. The MPCA also receives state funding to supplement the air monitoring coverage in Minnesota for locations and air pollutants not covered by federal grants.*

*For air monitoring at an emission source, the cost is typically borne by the owner or operator of the facility.*

4. Given recommendations of Winona's CEQC in support of air quality monitoring at existing silica sand facilities and along Winona's truck routes, what are the MPCA's suggestions on options moving forward? In particular, what are thoughts on the following:

A) At this time, is air quality monitoring for crystalline silica at Winona's silica sand facilities and PM 2.5 along truck routes recommended?

*Until the MPCA better understands the particulate matter and crystalline silica emissions from silica sand operations, the MPCA will require the air monitoring of particulate matter and crystalline silica at the property boundaries of new operations that require an individual air permit. If the City of Winona chooses to require air monitoring at existing silica sand facilities in its jurisdiction, then the MPCA can provide technical assistance to establish a viable air monitoring plan for each facility.*

*While the MPCA does not believe that there are imminent air quality issues for PM2.5 or crystalline silica along Winona's truck routes, the MPCA is willing to partner with the City of Winona on a pilot project to monitor for PM2.5 and crystalline silica at one site in the city. The pilot would provide information to the MPCA and other cities regarding the potential for elevated levels of PM2.5 and crystalline silica along truck routes.*

*The MPCA would ask the City of Winona to identify a location for the air monitoring and will work closely with the city to find a site that meets the relevant regulations for air monitoring. The MPCA would also ask the city to provide on-the-ground assistance for the operation of the air monitors; more specifics will be provided if the city agrees to partner with the MPCA on this effort.*

*The MPCA will provide the air monitoring instruments, oversight of site operation, lab analysis, data reporting, quality assurance review and data analysis for the effort. The monitoring would be planned to run for a year with a decision to continue for a longer period of time dependent upon a review of the monitoring results.*

B) If the answer to letter A) is yes, what should the regulations be and how should air quality monitoring be conducted (e.g. standards, locations, type of equipment, duration, etc)? What are estimated costs associated with this type of monitoring and what third party companies do this work? If air monitoring results are higher than regulations, what actions can be taken to reduce particulates?

*The MPCA will conduct the air monitoring consistent with our standard air monitoring efforts, which comply with federal rules. Through the proposed monitoring pilot project, the MPCA will provide a generalized air monitoring plan for use the state technical team.*

*The cost of air monitoring depends greatly upon the type of monitoring being conducted, the frequency of sample collection for crystalline silica and the requirements for site preparation or construction. The MPCA estimates that the equipment and lab analysis costs of the proposal described above is \$60,000; this estimate does not include staffing costs or any site preparation costs.*

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October 7, 2013

*The MPCA is aware of small number of environmental consultants that have conducted air monitoring in Minnesota. If the city chooses to employ a contractor for this type of work, the MPCA recommends the city investigate numerous environmental consultants to consider cost and qualifications. The MPCA can provide technical assistance to the city on reviewing an air monitoring plan proposed by an environmental consultant.*

*The corrective actions available if air monitoring results are above standards or health benchmarks depend significantly upon the objective of the monitor. If the monitor is on the property boundary of a silica sand operation, then fugitive dust controls and process emission controls should be instituted to minimize emissions. If the monitor is along the truck routes, then a more comprehensive analysis of the data and the potential emission sources, including the site's meteorological data, would be conducted to determine the most effective measures to reduce air pollution levels.*

C) If the answer to letter A) is no, what other courses of action are recommended to protect public health?

*Regardless of a decision to conduct air quality monitoring, there are actions available to minimize the possibility of exposure to crystalline silica or diesel emissions along truck routes in the city. The city could take actions to ensure that trucks carrying silica sand through the city cover their loads to minimize the potential releases during transport. To minimize diesel emissions, the city can consider adopting an anti-idling ordinance as well consider requirements for the use of Clean Diesel trucks (manufactured after 2007) or trucks with diesel engines retrofitted with pollution controls.*

If you have any further questions regarding this letter, or would like to discuss an amenable time for and MPCA representative to meet with the Planning Commission, please contact me at [frank.kohlasch@state.mn.us](mailto:frank.kohlasch@state.mn.us) or 651-757-2500.

Sincerely,



Frank L. Kohlasch, Manager  
Air Assessment Section  
Environmental Analysis and Outcomes Division

FK:flk

cc: David Thornton, MPCA Assistant Commissioner  
Will Seuffert, Minnesota Environmental Quality Board Executive Director  
Shannon Lotthammer, MPCA  
Wendy Turri, MPCA Rochester Regional Office  
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