

**Wolverine Power Supply Cooperative, Inc.**  
**Permit to Install Application No. 317-07**  
**Fact Sheet Addendum**  
**Modeling Review Revision**  
**November 7, 2008**

Particulate matter less than 10 microns (PM-10)

During the review of the latest submitted particulate model runs (September 30, 2008), it was discovered that the previously submitted PM-10 modeling analyses had inadvertently omitted the existing quarry haul road emissions. The MDEQ review of the most recent modeling submittal also identified differing release parameters from the transfer houses than had been reported in the previous submittals.

The existing haul road traffic emissions were added and the transfer house emissions parameters were revised in the latest modeling analysis. Resulting predicted concentrations (including background) demonstrate NAAQS compliance as follows:

- **PM-10 National Ambient Air Quality Standard (NAAQS)**

Maximum 24-hour Impact: 115.0 ug/m<sup>3</sup> (NAAQS threshold: 150 ug/m<sup>3</sup>)  
Maximum Annual Impact: 29.5 ug/m<sup>3</sup> (NAAQS threshold: 50 ug/m<sup>3</sup>)

The existing quarry haul road emissions do not consume increment since they are existing emission sources. The change in transfer house emissions parameters could potentially affect previously determined increment consumption, therefore increment was re-evaluated. Resulting final predicted concentrations demonstrate compliance with total PSD increment as follows:

- **Facility Only PM-10 Increment (Total on-site Wolverine plus increased off-site quarry traffic)**

Maximum 24-hour Impact: 17.1 ug/m<sup>3</sup> (57.0% of Increment threshold: 30 ug/m<sup>3</sup>)  
Maximum Annual Impact: 3.1 ug/m<sup>3</sup> (18.2% of Increment threshold: 17 ug/m<sup>3</sup>)

- **Total PM-10 Increment**

Maximum 24-hour Impact: 25.3 ug/m<sup>3</sup> (Increment threshold: 30 ug/m<sup>3</sup>)  
Maximum Annual Impact: 3.4 ug/m<sup>3</sup> (Increment threshold: 17 ug/m<sup>3</sup>)

Particulate matter less than 2.5 microns (PM-2.5)

PM-2.5 impacts were also reviewed. The latest modeling submittal (September 30, 2008), received after the initial comment period, pertained to potential PM-2.5 impacts. This analysis was submitted voluntarily by the applicant as the facility remains subject to the 1997 guidance document entitled "Interim Implementation for the New Source Review Requirements for PM<sub>2.5</sub>" (John S. Seitz, EPA, October 23, 1997) allowing PM-10 to be used as the surrogate for PM-2.5. Where documented emissions data existed, potential PM-2.5 emission rates were used. If PM-2.5 emissions data could not be documented, PM-2.5 emission rates were assumed to equal PM-10 emission rates. The modeling analysis was provided only for NAAQS compliance (98<sup>th</sup> percentile or 8<sup>th</sup> Highest Impact) since no increment threshold for PM-2.5 has been established by EPA.

- **Facility Only PM-2.5 Impact**

Maximum 24-hour Impact: 6.1 ug/m<sup>3</sup> (no threshold)  
Maximum Annual Impact: 1.5 ug/m<sup>3</sup> (no threshold)

- **PM-2.5 NAAQS**

Maximum 24-hour Impact: 33.4 ug/m3 (NAAQS threshold: 35 ug/m3)  
Maximum Annual Impact: 11.7 ug/m3 (NAAQS threshold: 15 ug/m3)

Nitrogen Dioxide (NO<sub>2</sub>)

The impact for NO<sub>2</sub> emissions were also revised. The NO<sub>2</sub> impact listed in the first public notice was based on the impact submitted in the original application. The final NO<sub>2</sub> emissions and stack parameters were revised to reflect worst case startup/shutdown scenario.

- **NO<sub>2</sub> NAAQS**

Maximum Annual Impact: 14.8 ug/m3 (NAAQS threshold: 100 ug/m3)

- **Facility Only NO<sub>2</sub> Increment (Total on-site Wolverine)**

Maximum Annual Impact: 3.2 ug/m3 (12.8% of Increment threshold: 25 ug/m3)

- **Total NO<sub>2</sub> Increment**

Maximum Annual Impact: 7.2 ug/m3 (Increment threshold: 25 ug/m3)

Sulfur Dioxide (SO<sub>2</sub>)

SO<sub>2</sub> impacts were inadvertently omitted from the original public notice. The final SO<sub>2</sub> emissions and stack parameters were also revised to reflect worst case startup/shutdown scenario.

- **SO<sub>2</sub> NAAQS**

Maximum 3-hour Impact: 254.8 ug/m3 (NAAQS threshold: 1300 ug/m3)  
Maximum 24-hour Impact: 82.8 ug/m3 (NAAQS threshold: 365 ug/m3)  
Maximum Annual Impact: 7.4 ug/m3 (NAAQS threshold: 80 ug/m3)

- **Facility Only SO<sub>2</sub> Increment (Total on-site Wolverine)**

Maximum 3-hour Impact: 85.0 ug/m3 (16.6% of Increment threshold: 512 ug/m3)  
Maximum 24-hour Impact: 41.7 ug/m3 (45.8% of Increment threshold: 91 ug/m3)  
Maximum Annual Impact: 3.6 ug/m3 (18.0% of Increment threshold: 20 ug/m3)

- **Total SO<sub>2</sub> Increment**

Maximum 3-hour Impact: 220.2 ug/m3 (Increment threshold: 1300 ug/m3)  
Maximum 24-hour Impact: 64.2 ug/m3 (Increment threshold: 365 ug/m3)  
Maximum Annual Impact: 4.7 ug/m3 (Increment threshold: 80 ug/m3)

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