



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7

11201 Renner Boulevard

Lenexa, Kansas 66219

APR 14 2016

Ms. Kyra L. Moore, Director
Air Pollution Control Program
Missouri Department of Natural Resources
PO Box 176
Jefferson City, Missouri 65102

RE: Draft Permit to Construct
Owens Corning Insulating Systems – Joplin (ID #097-0176)
Project No. 2015-05-005

Dear Ms. Moore:

A draft of the Permit to Construct for Owens Corning Insulating Systems (OCIS) in Joplin was placed on public notice March 6, 2016 by the Missouri Department of Natural Resources; Air Pollution Control Program (MDNR). The United States Environmental Protection Agency, Region 7 (EPA) has reviewed this draft construction permit and provides the following comments.

- 1) MDNR has redacted several portions of the draft prevention of significant deterioration (PSD) permit for OCIS claiming the information as confidential business information (CBI). EPA does not believe that much of the redacted information should be treated as CBI because they are emission data, standards or limitations which are not eligible for treatment as confidential treatment under 40 C.F.R. §2.301. EPA believes the following information should be publicly available and not redacted in the permit.
 - (a) The best available control technology (BACT) limits for the Cupola, Blowing Chamber, Curing Oven, Cooling Section and Saw Kerf.
 - (b) Section 3, of the PSD application, submitted by OCIS in April of 2015 and amended in November 2015, indicates that the BACT emission rates for particulate matter (PM); carbon monoxide (CO); carbonyl sulfide (COS); hydrogen fluoride (HF); hydrogen chloride (HCl); methanol; phenol; and formaldehyde are all set at the standard established by the maximum achievable control technology (MACT) as written in the National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production (40 CFR Part 63, Subpart DDD). These MACT standards are publically available information and are standards pursuant to 40 C.F.R. §2.301 and therefore should not be redacted in the PSD permit.
 - (c) The emission rates of sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), reduced sulfur compounds (RSC) and greenhouse gases (GHG) are emission data pursuant to 40 C.F.R. §2.301 and are therefore not eligible for CBI.



(d) Special Condition 22. D. provides for the emission testing of haul roads and the draft PSD permit has redacted the silt loading requirement of the haul roads. MDNR has considered the silt loading to be considered confidential business information (CBI). However, MDNR does not provide a basis for substantiating the claim that the haul road emission factor is CBI.

- 2) Once the requirement for BACT has been determined, all sources of the specific air pollutant, subject to BACT, shall be subject to the top-down BACT analysis and BACT controls shall be in place for all of the sources of the specific pollutant. The PSD Construction Permit Application, submitted by OCIS in April 2015 and amended in November 2015, indicates that all but two storage tanks and the binder mix area are sources of volatile organic compounds (VOCs). Therefore, these areas are subject to a BACT analysis and installation of BACT controls. However, neither the application nor draft PSD permit on public notice address BACT for all sources of VOC. Therefore, EPA recommends OCIS amend their PSD application to include the BACT analysis for all sources of the air pollutants subject to BACT. Then MDNR should amend the draft PSD permit to reflect current and complete BACT for all sources of all pollutants subject to BACT.
- 3) Special Condition 25 details the permittee requirements for conducting a post-startup BACT study to confirm and set permanent BACT limits. Special Condition 25. B. requires three complete stack tests from each of the blowing chamber, curing oven and cooling section. However, the cupola, which has the greatest number of temporary BACT limits in the draft PSD permit, does not appear within the list of emission units to be tested. EPA recommends MDNR require OCIS to conduct cupola testing during this post-startup period to verify and confirm permanent BACT emission limits.

Special Condition 25. C. 4) specifies that if OCIS requests a relaxation of the temporary BACT limits, as a result of the post-startup BACT determination study, OCIS must satisfy the criteria in the November 19, 1987 EPA document *Request for Determination on Best Available Control Technology (BACT) Issues – Ogden Martin Tulsa Municipal Waste Incinerator Facility*. EPA recommends MDNR detail the exact criteria OCIS is expected to satisfy in this Special Condition.

- 4) This PSD permit application and amendment submitted by OCIS appears to rely heavily upon capture efficiency as an integral part of the control scheme to achieve BACT and to meet Ambient Air Quality Impact Analysis (AAIQA). The draft permit includes Special Condition 20 which details all permittee requirements to achieve 100% capture efficiency. Special Condition 20. A. requires continuous static pressure monitoring and recording at the cupola, however, the static pressure monitoring and recording at the blowing chamber, curing oven and cooling section monitoring and recording is a mix of daily, weekly, quarterly and as appropriate. Also, the draft permit requires, either daily or quarterly monitoring and recording of static pressure at the saw kerf and mix building. If 100% capture efficiency is critical to achieving emission unit control and ambient air quality, then it appears to EPA that continuous monitoring and recording is more appropriate. If continuous static pressure monitoring and recording at the cupola is achievable, then it would appear continuous static pressure monitoring and recording at the blowing chamber, curing oven, cooling section, saw kerf and mix building is also achievable. Finally, air flow velocity and motor amperage would appear to be two measures readily adaptable to continuous monitoring and recording. Therefore, EPA recommends MDNR and OCIS strongly consider continuous monitoring and recording of the parameters to verify static pressure required to meet 100% capture efficiency.

- 5) Section 2.2.7 of the OCIS PSD Construction Permit Application submitted in April 2015 and Section 2.1.2 of the PSD amendment dated November 2015, describe the process used by OCIS to prepare their binder solution for use within the overall mineral wool manufacturing process. Based on the discussion in both sections, it appears that this binder preparation process might be subject to 40 C.F.R. Part 63, Subpart OOO; “*National Emission Standards for Hazardous Air Pollutants: Manufacture of Amino/Phenolic Resins.*” (MACT OOO) 40 C.F.R. §63.1400 says these standards are applicable to processes that produce amino/phenolic resins and 40 C.F.R. §63.1402 defines amino/phenolic resin as one or both amino resin or phenolic resin. Amino resin is further defined as a thermoset resin produced through the reaction of formaldehyde or formaldehyde solutions with compounds that contain amino group including melamine, urea and urea derivatives. The binder, being prepared by OCIS for their mineral wool manufacturing process is described as phenol-formaldehyde resin reacting with aqueous urea. The draft PSD permit includes a review of the applicability of 40 C.F.R. Part 63 Subpart FFFF, “*National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.*” However, the PSD permit review summary does not address MACT OOO. Therefore, EPA recommends MDNR prepare and include a review of MACT OOO in this PSD permit describing how this MACT OOO standard is or is not applicable to the OCIS-Joplin facility.
- 6) Special Condition 15. C. sets the baghouse flow rates for CD-12, CD-13, CD-14, CD-15, CD-16 and CD-17 on a 24-hour average. The special condition requires the permittee to “determine compliance using manufacturer’s specifications.” However, there is no requirement for the permittee to measure, record and calculate the 24-hour flowrate to verify achievement of compliance. Additionally, Special Condition 15. D. relies on manufacturer’s specifications to demonstrate compliance grain loading at the discharge of these same six (6) baghouses. Again, Special Condition 15. D. does not include a permittee requirement to monitor, record and calculate compliance verification with the BACT limits. EPA recommends MDNR include a monitoring and record keeping requirement in Special Conditions 15. C. and a requirement to periodically stack test to verify compliance with the stated BACT limits in Condition 15.D.
- 7) Special Condition 12. B. refers to Table 2-2 in Owens Corning Insulation System PSD construction permit application addendum for the list of mix building emission points to be captured and controlled by baghouse CD-11. However, table 2-2 is a summary of all of the emission units and emission points for the proposed OCIS installation. The specific emission units and emission points affiliated with the mix building baghouse CD-11 are not readily identifiable. Additionally, the PSD construction permit application addendum is not a part of the permit to construct and is not enforceable. EPA believes the appropriate list of emission units and emission points should be extracted from Table 2-2 and placed into Special Condition 12. B. This approach would be consistent with Special Condition 13. A.; Special Condition 16. A.; and Special Condition 22 which have embedded tables.

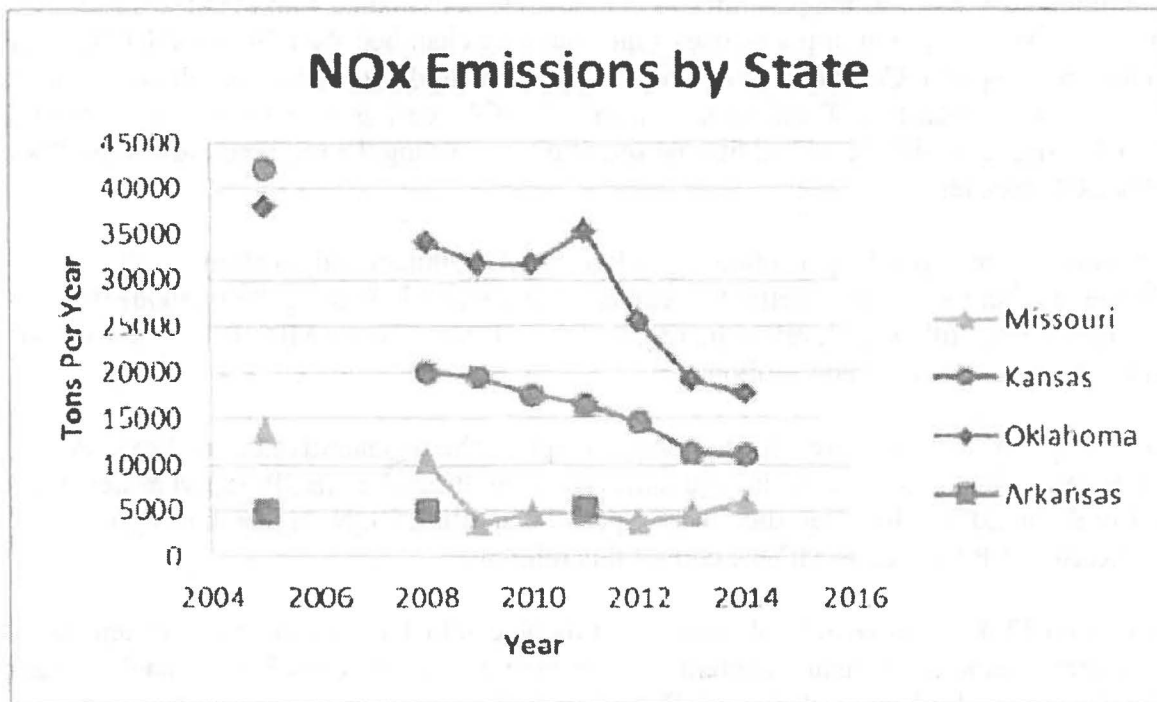
Special Condition 12. B. says the mix building emission points are summarized on page 43 of 106 of the PSD construction permit application addendum, *Figure A-2.2 Process Flow Diagram*. However, the PSD permit application addendum available for public review only has 98 pages and there is no *Figure A-2.2 Process Flow Diagram*. EPA recommends MDNR provide a table of the mix building emission points and relative information. EPA also recommends MDNR provide a OCIS mineral wool manufacturing process flow diagram to aid in the public review of this draft PSD permit.

Special Condition 18. A. refers to Table 4. However, the draft permit to construct does not include a Table 4. EPA recommends MDNR include a Table 4 listing the miscellaneous heaters subject to Special Condition 18.

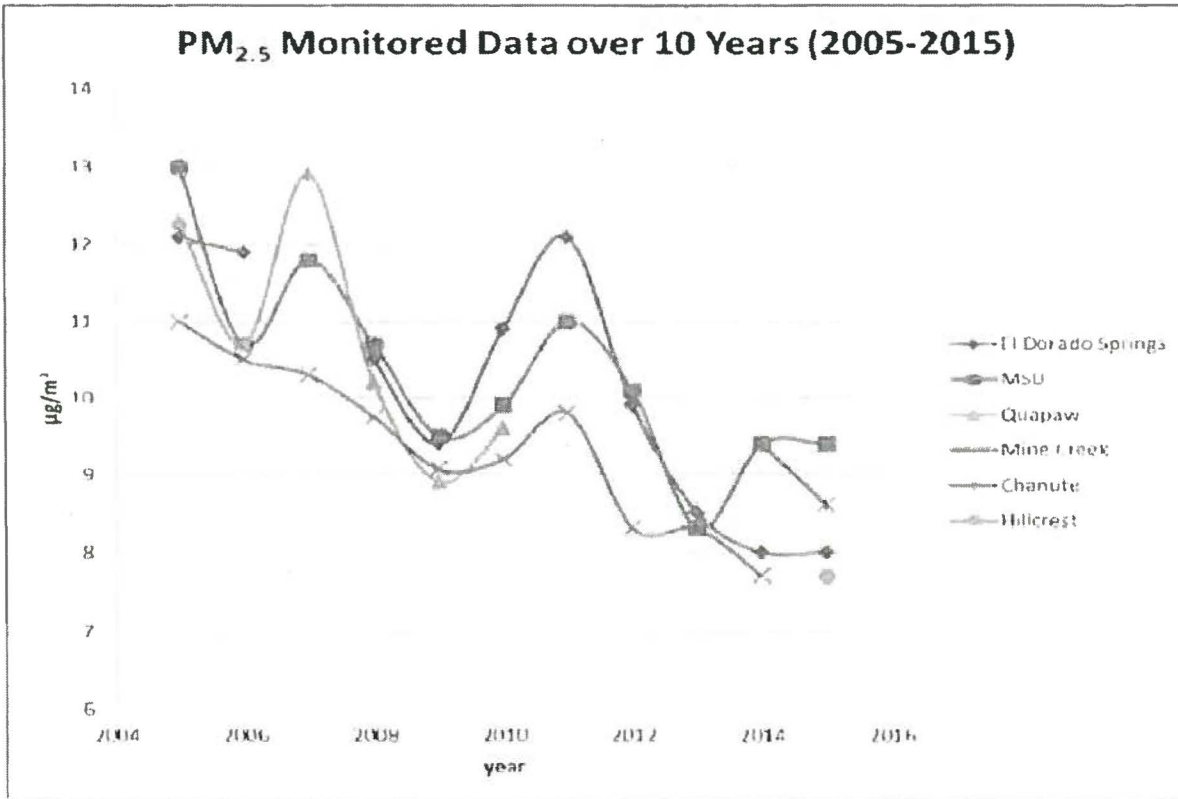
- 8) Special Condition 9. C. sets a maximum flow rate through the Saw Kerf baghouse and requires the permittee to demonstrate compliance by establishing a flow rate versus amperage curve prior to startup of commercial operation. Special Condition 9. C. also requires that the amperage be monitored and recorded at least once daily and the resulting flow rate to be recorded at least once daily. Air flow rate and amperage are two (2) measurements which would appear to be easily and conveniently monitored and recorded on a continuous basis. Therefore EPA suggests that OCIS and MDNR consider the continuous monitoring and flow rate through baghouse CD-10. Special Condition 10. B. requires the permittee to monitor and record melt temperature in the laminating process once per 8-hour period. Temperature monitoring and recording are readily adaptable to continuous monitoring and recording and EPA suggests OCIS and MDNR consider continuous temperature monitoring and recording of the laminating process.
- 9) Special Condition 19. A. requires the permittee to pave all haul roads except unpaved segments URHDEL1, URHDEL2, URHDEL3 and BUNKAREA, as identified in *Section 8 Ambient Air Quality Impact Analysis (AAQIA) for the Owens Corning Insulation Systems, LLC (OCIS)* dated March 3, 2016. However, these undefined acronyms defining unpaved haul road segments could not be identified in the AAQIA. EPA suggests MDNR define the acronyms “URHDEL” and “BUNKAREA” and provide an accurate location of these unpaved haul road segments. Additionally, the acronym “LIW”, as used in both Special Conditions 15. B. and 20. H., and the acronym ASTM, used in Special Condition 22. D. 4), are not defined in either the body of the draft permit or in Appendix A. EPA deems Appendix A to be a very handy and useful addition that can greatly assist permit reviewers. However, Appendix A should be tailored to each permit and EPA suggests MDNR include all of this draft permit abbreviations and acronyms in Appendix A.
- 10) Special Condition 1. A. 5) requires the permittee to calculate project potential-to-emit (PTE) for any change in anode type from spent primary aluminum prior to its usage. However, the special condition does not indicate the calculation methodology to be used to determine if the change is a significant change as defined in 10 CSR 10-6.061(3)(A)3. EPA suggests that MDNR specify the formula(s) to be used by the permittee to determine cupola PTE resulting from the changing of anodes.
- 11) Special Condition 1. E. 3); Special Condition 3. C. 3); Special Condition 5. B. 5); Special Condition 7. B. 3) and Special Conditions 15. B. 1), 2), and 3) all require air pollution control devices which require the determination of pressure drop across the control device and require the permittee to operate within an established range. However, none of these special conditions require the permittee to record the pressure drop, during process operation, to verify compliance. Therefore, EPA suggests that MDNR include a pressure drop recording requirement to verify the air pollution control devices are operating at their established pressure drop.
- 12) Special Condition 1. E. 4); Special Condition 1. E. 6); and Special Condition 5. B. 6) all require the permittee to equip and operate pollution control devices with measuring devices to meet the requirements of 40 C.F.R. Part 63 Subpart DDD. EPA suggests that MDNR include the specific appropriate paragraph, from 40 CFR 63, Subpart DDD, in all three (3) of these special conditions.

- 13) Special Condition 2. E. requires the permittee to demonstrate the cupola is meeting its emission limits for PM, PM₁₀ and PM_{2.5} through the use of data gathered from the PM continuous emissions monitoring system (CEMS) and the cupola stack test. EPA suggests that MDNR include the specifics of the required cupola stack test, including but not limited to the test method the permittee is required to use.
- 14) Special Condition 4. B. requires the permittee to demonstrate compliance with the blowing chamber BACT and non-BACT emission limits by use of the “blowing chamber 3% LOI and 4% LOI stack tests.” Additionally, Special Condition 6 requires the permittee to demonstrate compliance with the curing oven BACT and non-BACT emission limits by use of the curing oven 3% LOI and 4% LOI stack tests. EPA suggests MDNR add additional specificity regarding the requirements of the 3% LOI and 4% LOI stack tests.
- 15) Special Condition 22 requires the permittee to stack test each pollutant and location specified in Table 3. However, there are no test methods included with Table 3 indicating the methods the permittee is required to follow to develop the required data. EPA suggests MDNR include the test method(s) the permittee is required to follow.
- 16) Special Condition 5. B. 6) c) requires the permittee to replace the regenerative thermal oxidizer (RTO) heat recovery bed according to the Standard Operating Procedure (SOP) report as developed in Special Condition 20. N. However, there is no Special Condition 20. N. in this draft Permit to Construct, therefore EPA suggests MDNR correct this reference.
- 17) Special Condition 22. L. requires that subsequent testing be conducted once annually, except for haul roads, material handling moisture content, pollutants monitored by CEMS, saws baghouse and mix building baghouse. EPA suggests that MDNR identify the more customary specific annual testing OCIS is required to conduct and not specify the testing OCIS is not required to conduct.
- 18) The Modeling Memo touches on the use of the beta option ARM2 in modeling demonstration for NO_x. Since ARM2 is beta option that MDNR needed approval from the EPA 7 Regional Office to use, a more detailed discussion of ARM2 would be recommended to be included in the Modeling Memo. Particularly, MDNR in communications with EPA Region 7 provided an analysis of the in-stack ratios of the combined NO_x emissions from the cupola and blowing chamber which provided justification to use the minimum NO₂/NO_x ratio of 0.2 in ARM2. Also, MDNR states that Owen Corning meets criteria #3 (i.e., background ozone data does not have multiple days each year above 80-90 ppb) for use of ARM2, yet 2011 and 2012 did see multiple days above 80 ppb. MDNR correctly followed EPA guidance and did an additional analysis to show that all but 1 of high background ozone days coincided with maximum modeled NO_x impacts, thus justifying that Owen Corning NO_x modeling meets criteria #3 for ARM2. In addition, it could be pointed out that the Joplin region in 2011 and 2012 experienced extreme summer temperatures outside of climatological norms, which led to the possibility of anomalous high ozone during those years. This can be pointed out to say that under normal regional meteorological summertime conditions, the Joplin area has ozone concentrations that fit the criteria for use of ARM2.

19) MDNR provided a qualitative analysis for impacts of secondary PM2.5 from Owens Corning precursor emissions. In its analysis MDNR looked at trends in regional emissions inventories and regional monitors that measure PM2.5. In its analysis of the National Emissions Inventory, MDNR plots "Facility wide totals of NOx, SOx and PM25 were pulled and combined to get a total amount of emissions per year for each state."



It is not clear what exactly the emissions data that make up these graphs. For example, are all mobile, area, and point sources included? Is it the statewide inventory, or a summation of a few counties from each state located near the new Owens Corning facility?



Also, the likely impacts of year-to-year variability in meteorology is apparent in the graph of monitor trends of PM_{2.5}. The overall trend is downward, but the spikes in 2007 and 2011 are likely due meteorological phenomena. Drawing conclusions from emission trends to monitored concentrations should be done with caution without an attempt to tease out the variability of meteorology.

Finally, The UTM Northing Coordinate for East Warehouse & Packaging Generator (ESTWHGN8) of 41004015.9 appears to be incorrect. There appears to be an extra "0" in the location input.

We appreciate the opportunity to provide what we hope you will find to be a constructive comments. If you have any questions, please contact Bob Cheever by phone at (913) 551-7980 or email at cheever.robert@epa.gov.

Sincerely,

Mark A Smith, Chief
Air Permitting and Compliance Branch
EPA Region 7

