



west virginia department of environmental protection

Division of Air Quality
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Austin Caperton, Cabinet Secretary
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April 27, 2018

Ms. GERALLYN DUKE
Acting Associate Director
U.S. EPA, Region III
Office of Permits and State Programs (3AP10)
1650 Arch St.
Philadelphia, PA 19103-2029

RE: **Response to Comments**
ROXUL USA, Inc.
RAN Facility
Permit No. R14-0037
Plant ID No. 037-00108

Dear Ms. Duke:

On April 25, 2018, the West Virginia Division of Air Quality (DAQ) received a letter from you with comments concerning ROXUL USA, Inc.'s (ROXUL's) Preliminary Determination/Fact Sheet (PD/FS) and Draft Permit (R14-0037). The DAQ would like to thank you on the timely submission of the comments and take this opportunity to respond to each below.

COMMENTS ON MODELING REPORT

Comment 1: Modeled 1-Hour SO₂ Violations

USEPA provided comments and recommendations concerning the modeled exceedances of the 1-hour SO₂ NAAQS in the multi-source modeling performed as part of ROXUL's the air dispersion modeling analysis.

DAQ Response: As indicated in your comments, the DAQ's modeling analysis demonstrates that ROXUL does not significantly contribute to any of the modeled 1-hour SO₂ NAAQS violations and, therefore, can proceed through the permitting process. However, the DAQ will review these predicted exceedances of the 1-hour SO₂ NAAQS and take any actions thereto (and taking into consideration your recommendations) that may be determined to be appropriate.

Comment 2: ROXUL Melting Furnace 30-Day SO₂ Emission Limit

USEPA provided comments concerning the use of a 30-Day Rolling Average SO₂ Emission Limit on the Melting Furnace and requested a discussion on the expected variability of the actual SO₂ emission rate from the unit.

DAQ Response: As noted in your comments, the DAQ believes that the approach taken to validate the SO₂ 30-day rolling average compliance demonstration is reasonable and has similar precedent in other recent permitting actions/SIP demonstrations and is generally supported in guidance. As the emission of SO₂ is fuel-based and well controlled by the sorbent injection system, there is not expected to be significant variability in the SO₂ emissions. However, to mitigate the possibility of unrepresentative short-term exceedances, ROXUL requested (and validated, as noted above) the 30-day rolling average SO₂ compliance demonstration.

Comment 3: PM-2.5 Increment Modeling/Source Trigger Dates

USEPA provided comments concerning the conservative nature of the PM-2.5 Increment Modeling Analysis and requested a discussion of any minor source baseline triggering dates.

DAQ Response: WVDAQ's modeling analysis demonstrates that no modeled exceedances of the increments are predicted. Although the approach used may be conservative, the DAQ believes that the analysis method is appropriate and relevant for use in the permitting process for ROXUL. The use of this more conservative approach in this ROXUL modeling analysis will, however, not preclude from the DAQ accepting a less conservative methodology when deemed reasonable or appropriate on a case-by-case basis. Further, a discussion of what minor source baseline dates were triggered by the ROXUL permitting process was included in the PD/FS on page 40 and the relevant information is included again here for your reference.

Minor Source Baseline Triggering

Pollutant	Berkeley County	Jefferson County
NO ₂	Previously	ROXUL (12/21/17)
PM _{2.5}	Previously	ROXUL (12/21/17)
PM ₁₀	Previously	ROXUL (12/21/17)
SO ₂	ROXUL (12/21/17)	ROXUL (12/21/17)

COMMENTS ON PRELIMINARY DETERMINATION/FACT SHEET & DRAFT PERMIT

Comment 1: Phased Permitting

USEPA provided comments concerning the proposed future construction and use of an oxygen plant to provide pure oxygen to the melting furnace and the potential impact on NO_x emissions.

DAQ Response: On page 25 of the permit application, ROXUL states that "[o]xygen will be dosed to the Melting Furnace to ensure oxygen enrichment. Initially, oxygen will be delivered to the site and stored in pressurized storage vessels; later an onsite oxygen plant is to be constructed." Therefore, prior to the possible construction of the Oxygen Plant, ROXUL will use tanked O₂ in the Melting Furnace. There should be no difference in the temperature of the melting process when using tanked or manufactured O₂.

Comment 2: BACT limit for NO_x, CO, and SO₂

USEPA requested reasons for why the NO_x, CO, and SO₂ emission limits were each based on a 30-day rolling average.

DAQ Response: First it is noted that the wool production process is not a batch process, as raw materials are continuously fed to the Melting Furnace at the same time that melt (and subsequently mineral wool) is produced. Additionally, CO is not a PSD pollutant (facility-wide PTE is < 100 TPY) and is permitted under the authority of WV Legislative Rule 45CSR13 (minor source permitting rule).

As discussed in the second comment on the modeling report, USEPA has agreed, with respect to SO₂, that the approach taken by ROXUL in conducting additional air dispersion modeling at a rate higher than the 30-day rolling average limit is a valid approach to mitigate the possibility of unrepresentative short-term exceedances. The DAQ believes that this approach is also valid for NO_x (which, due to potential higher variability, was modeled at up to a 75% higher rate than the 30-day average). Section 4.4.1 (page 38) of the ROXUL's Air Quality Assessment provides a discussion of the sensitivity analysis done in support of the 30-day rolling average limits.

Based on the results of the NO₂ sensitivity analysis, the lower emission rate of CO from the Melting Furnace, and the much higher NAAQS and SILs for CO, the DAQ has determined that a 30-day rolling average for CO is also reasonable, appropriate, and valid for this specific emission unit.

The DAQ believes that the modeled increases conservatively represent the anticipated actual variability of emissions from the Melting Furnace. However, the Melting Furnace will have CEMS for NO_x, CO, and SO₂, which will allow for real-time monitoring of these pollutants. The DAQ reserves the right to revisit this issue with ROXUL if real-time emissions data indicates that these sensitivity analyses do not conservatively represent the anticipated actual variability of emissions.

Comment 3: BACT Determination

USEPA provided comments on DAQ's process of selecting the BACT emission limits and the use of a BACT summary table in the PD/FS.

DAQ Response: The DAQ (the "Administrator") did set BACT emission limits pursuant to the applicable regulations as given under WV Legislative Rule 45CSR14 (see Draft Permit R14-0037) that were based on a reasonable top-down BACT Analysis as presented in permit application R14-0037. It is noted, that on page B.53 of the draft New Source Review Workshop Manual, it states that:

It is the responsibility of the permit agency to review the documentation and rationale presented [of the BACT determination] and; (1) ensure that the applicant has addressed all of the most effective control options that could be applied and; (2) determine that the applicant has adequately demonstrated that energy, environmental, or economic impacts justify any proposal to eliminate the more effective control options.

The DAQ did review ROXUL's BACT determination and provided its conclusion that (see page 37 of the PD/FS) "ROXUL reasonably conducted a BACT analysis using, where appropriate, the top-down analysis and eliminated technologies for valid reasons. The DAQ further concludes that the selected BACT emission rates given in the draft permit are achievable, are consistent where appropriate with recent applicable BACT determinations, and are accepted as BACT. Further, the DAQ accepts the selected technologies as BACT."

Based on the DAQ's determination that ROXUL's BACT determination was appropriate and reasonable, it was deemed as not necessary to replicate in the PD/FS the very large analysis presented in the permit application but instead provide a summary (in Table 8) and refer to the application for a detailed discussion of the BACT.

Comment 4: Portable Crusher BACT limit

USEPA provided comments that the use of an annual hours of operation limit on the Portable Crusher was not an appropriate BACT control strategy.

DAQ Response: While the DAQ doesn't necessarily agree that restrictions on hours of operation or throughput, on a case-by-case basis, are never appropriate or reasonable as part of a BACT control strategy (if noted that they are not intended to set a precedent and are applied on a case-by-case basis), pursuant to your comment, we will note in the final determination that the Portable Crusher hours of operation limit is not formally a BACT limit and that the emission limits given under 4.1.2(e) in the draft permit are not BACT limits.

Again, thank you for your timely comments concerning R14-0037. We will provide notification when a final determination is made regarding this permitting action. Should you have any questions, please contact me at (304) 926-0499 ext. 1219.

Sincerely,



Joseph R. Kessler, PE
Engineer