



west virginia department of environmental protection

Division of Air Quality
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Austin Caperton, Cabinet Secretary
dep.wv.gov

Pursuant to §45-14-17.7, the Division of Air Quality presents the

FINAL DETERMINATION

for the

CONSTRUCTION

of

**ROXUL USA, Inc.'s
RAN Facility**

proposed to be located in

Ranson, Jefferson County, WV.

**Permit Number: R14-0037
Facility Identification Number: 037-00108**

Date: April 30, 2018

Promoting a healthy environment.

BACKGROUND INFORMATION

Application No.: R14-0037
Plant ID No.: 037-00108
Applicant: ROXUL USA, Inc.
Facility Name: RAN Facility
Location: Ranson, Jefferson County
SIC/NAICS Code: 3296/327993
Application Type: Major Source Construction
Received Date: November 21, 2017
Engineer Assigned: Joseph R. Kessler, PE
Fee Amount: \$14,500
Date Received: November 28, 2017
Complete Date: December 21, 2017
Due Date: June 19, 2018
Applicant Ad Dates: November 22, 2017
Newspaper: *Spirit of Jefferson*
UTM's: Easting: 252.06 km Northing: 4,362.62 km Zone: 18
Latitude/Longitude: 39.37754/-77.87844
DAQ Ad Date: March 28, 2018
Newspaper: *Spirit of Jefferson*

On March 28, 2018, the West Virginia Division of Air Quality (DAQ) went to public notice in the above noted newspaper with a preliminary determination to issue the Prevention of Significant Deterioration (PSD) permit R14-0037 to ROXUL USA, Inc. (ROXUL) for the proposed construction of a new mineral wool manufacturing facility at the "Jefferson Orchards" site in Ranson, Jefferson County, WV. On this date, pursuant to §45-13-8.7 and §45-14-13.3, a copy of the preliminary determination, draft permit, and public notice was forwarded to USEPA Region III, the National Park Service (NPS) and the US Forest Service (USFS). A non-confidential copy of the application, complete file, preliminary determination and draft permit was made available for public review at the DAQ Headquarters in Charleston and on DAQ's website. Additionally, pursuant to §45-14-17.5, a copy of the public notice was sent to the mayor of Ranson, WV, the County Clerk of Jefferson County, WV, the Virginia Department of Environmental Quality (VDEQ), and the Maryland Department of the Environment (MDE). Comments on the preliminary determination and the draft permit were required to be submitted by 5:00 PM on April 27, 2018.

This document will summarize the comments received on the draft permit, any actions taken as a result of the comments, any substantive changes to the draft permit, and the final determination of the DAQ regarding R14-0037.

COMMENTS RECEIVED

On April 25, 2017, USEPA Region III submitted seven (7) comments on the both the air dispersion modeling report (three comments) and the preliminary determination/fact sheet (PD/FS)

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and draft permit (four comments). Each of the comments shall be briefly summarized below and DAQ's response attached. For the full text of the received comments, please see the submitted comments in the file. No other comments were received from any entity concerning R14-0037.

USEPA 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)

USEPA Comments on PD/FS & 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 a discussion of 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.

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.”

CHANGES TO DRAFT PERMIT

The only substantive change made to the draft permit was a result of USEPA Comment 4 on the PD/FS and Draft Permit (see above). As a result of that change, footnote (2) of Table 4.1.2(e)

was removed. The effect of this is to no longer classify the Portable Crusher emission limits as BACT limits and will remove the annual hours of operation restriction as a part of the formal BACT control strategy.

No other changes were made to the permit as a result of any comments.

NOTIFICATIONS

Upon the Director's acceptance of this final determination, a copy of the final determination and final permit will be made available for review at DAQ Headquarters in Charleston and posted on DAQ's website at:

<http://dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx>

FINAL DETERMINATION

It is the view of the writer that, after consideration of all comments received, all available information indicates ROXUL USA, Inc.'s proposed construction of a new mineral wool manufacturing facility in Ranson, Jefferson County, WV, will meet the emission limitations and conditions set forth in the permit and will comply with all currently applicable state and federal air quality management rules and standards. It is, therefore, the recommendation of the undersigned that the WVDAQ issue a final determination to issue the attached permit R14-0037.



Joseph R. Kessler, PE
Engineer

4-30-18

Date

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