July 2, 2018

Director Fred Durham
Division of Air Quality
West Virginia Dept. of Environmental Protection
601 57th Street SE
Charleston, WV 25304

Dear Director Durham:

On behalf the membership of Sierra Club Eastern Panhandle, thank you for the opportunity to provide feedback on Permit Number: R14-0037 for Roxul/Rockwool Group's planned mineral wool site in Ranson, WV.

Our technical staff have reviewed Rockwool Group's underlying permit application, and I'd like to relay a number of their significant concerns. We are grateful for your consideration of these issues as we work together towards the mutual goal of protecting public health.

The permit application uses 1992 demographic data, which is extremely outdated for Jefferson County, WV. Since 1992, the Jefferson County population has grown more than 50%, and much of that growth is in new residential neighborhoods near the plant site. Rockwool Group's classification of land use in the area around the site as "less than 1% urban" (pages 460-461 of 608) is surely no longer accurate; in fact there are four public schools and two freestanding daycare facilities within two miles of the plant. The close proximity of these schools-- North Jefferson Elementary is just 2,300 feet away-- raises our level of concern about the potential impact of the facility and warrants the state revisiting the permit.

With that in mind, the permit application does not include the results of any air quality modeling. The permit application contains a modeling plan, but does not appear to include the actual results of that proposed air quality modeling. Obviously it is difficult for

the public to understand or provide comments on the environmental impact of the facility without the modeling result.

Further, the air quality modeling plan does not include any potential modeling of the impacts of emissions of hazardous air pollutants such as formaldehyde, methanol, HF, HCl, and phenol. While modeling for criteria pollutant emissions is important and is planned, equally if not more important is an evaluation of the impacts of air toxic emissions on the nearby schools. The state should require that Rockwool Group evaluate the ambient air impacts and the human health risk to the children at the nearby schools from the emissions of HAPs from the facility.

The facility will further use phenol-formaldehyde resins in the manufacturing process. These resins are the matrix within which the mineral wool fibers are embedded during the process of making various products at the facility. As you know, phenol and especially formaldehyde are toxic pollutants. Formaldehyde in particular has been linked to numerous health impacts from cancer to neurological damage. It is critical for the facility model to include the impact of HAP emissions on nearby schools.

Just as important, Rockwool Group's permit application explicitly declines to evaluate a major potential pollution vector: transient operations, maintenance, startup, shutdown, and upsets. From page 439 of 608*: "Transient operations, such as startup and shutdown, related to scheduled maintenance occur once a week. Furthermore, when transient operations do occur, the emission profile of pollutants is only significantly impacted for a short period of time. Given that these events are infrequent in nature, Roxul is not proposing to separately model transient operations.*"

We strongly disagree with that position. Given the proximity of the facility to North Jefferson Elementary and three other schools, emissions from transient operations should be evaluated for their potential impact on children's health. In addition, the facility's own modeling plan (page 452 of 608) shows that the facilities emissions result in potential impacts within a fraction of one percent of the level that should result in more in-depth analysis of ambient ozone impacts (99.2% versus 100%). Spikes in emissions of ozone precursors like VOC and NOx during transient operations could elevate the steady state impacts (99.2%) to above the 100% threshold.

Likewise, the impacts of steady state emissions from the facility on visibility at nearby Class I areas (page 470 of 608) are very close to the regulatory Q/d limit (9.6 versus 10) that would require a more rigorous analysis of visibility impacts. Transient emissions could readily push the visibility impacts of the facility above the Q/d = 10 threshold.

Because of the proximity to the schools, as well as ambient ozone impacts, visibility impacts, and potentially others, Rockwool Group should be required by WVDEP to evaluate all air emissions from the facility, including both steady state and transient emissions.

Another issue is Best Available Control Technology (BACT). There are several air streams containing Volatile Organic Compounds (VOCs) and organic HAPs (like formaldehyde) that the facility is proposing to control with an afterburner (page 492 of 608, page 505 of 608). However, there is another technology, Catalytic Combustion, that might be able to achieve higher levels of pollution destruction and reduce emissions more than is possible with an afterburner. Even small increases in control efficiency, for example from 95% to 99%, can result in huge differences in emissions. Stack emissions in lbs/hr or tons/year will decrease by a factor of 5 if the control technology has a 99% control efficiency versus a 95%. Emissions of 100 tpy with a device that controls at 95% would fall to 20 tpy at a 99% control. Likewise, emissions would drop by a factor of 10 with increases in control efficiency from 99% to 99.9%.

Unfortunately, the justification for ruling out catalytic combustion in the BACT analysis is very thin: the possible presence of particulates that could foul the catalyst. While these VOC streams might contain particulates, these particulates can be removed to high efficiency by cleaning them first in devices like the wet electrostatic precipitator or fabric filters planned at the facility.

Rockwool Group should be required to submit a more rigorous BACT analysis for VOC and organic HAP control that includes the potential use of catalytic combustion and removal of particulates, especially with the consideration of the close proximity of the school. Small increases in control efficiency, through the use of catalytic systems, can result in huge drops in actual emissions. (BACT analysis and State Rule 45 CSR 06)

Another area of concern is Rockwool Group's failure to include emission estimates for metallic hazardous air pollutants. The application described how the facility will be using fuel and raw materials like coal, pet coke, anodes, eruptive stones such as basalt/diabase, amphibolite and anorthosite, slags such as blast furnace slag and converter slag, dolomite and/or limestone, mineral additives, such as olivine sand and high alumina content materials such as bauxite, kaoline clay and aludross. These fuels and raw materials are known to contain numerous hazardous air pollutants, such as mercury, arsenic, cadmium, and chromium.

During the heating, combustion, and mechanical manufacturing processes at the facility, large amounts of particulate matter are generated in the form of PM_{10} and $PM_{2.5}$. While

the application includes emission estimates and BACT analysis for PM10 and PM2.5 from the various emission points, the application does not speciate the particulate matter into the numerous metallic HAPs that are constituents of those fuels and raw materials. Therefore, the community has no idea via this application what level of mercury, arsenic, cadmium, chromium, or any other metallic HAP emissions they can expect from this facility.

Likewise, since the particulate matter is not speciated and emissions of the metallic HAPs are not provided, there is no plan in the PSD application to conduct an air quality analysis of the impact of those metallic HAP emissions on the nearby schools. WVDEP should ask Rockwool Group to speciate PM emissions, provide estimates of emissions of metallic HAPs into the community, and evaluate the impact of those emissions on the ambient air and health risk at the nearby schools.

State Rule 5.2 governs odor impacts, but the PSD application fails to evaluate the impact of the facility in terms of odors. Given the emissions of phenol, formaldehyde, and other organics, an odor analysis should be provided. The application does not contain any compliance methods, monitoring methods, controls, odor threshold analyses, air quality modeling, or any other considerations for odor impacts.

We also were unable to fully analyze the Air Pollution Control Device Sheets (Attachment M forms), as they contain numerous blanks of critical information. Rockwool Group actually failed to answer key questions and provide essential information in every Attachment M. The company should be asked to complete a new set of forms with each question answered, so that the public can fully evaluate the proposed facility.

For example, the Selective Non Catalytic Reduction (SNCR) is proposed to help reduce NOx emissions from the melt furnace. Because of all the missing information in the Attachment M forms, it is not clear if the facility is proposing to monitor the outlet concentration of ammonia from SNCR operations. This should be a requirement in the permit if SNCR is used, to help avoid excessive emissions of ammonia into the community.

Finally, as you know, there are real-time and continuous monitors available to measure concentrations of formaldehyde in exhausts, such as the Picarro G2307 Gas Concentration Analyzer. The close proximity of North Jefferson Elementary in particular makes the continuous monitoring of formaldehyde important, so that the facility, regulators, and the public have confidence that emission rates and the performance of control equipment are meeting expectations.

Please let me know if we need to provide further information. We would request a meeting with DEP in order to discuss additional monitoring and pollution controls. Thank you for your consideration of these concerns and we look forward to your response.

Sincerely,

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