

# Jefferson County Foundation, Inc.

May 17, 2021

Michael Regan, Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue  
Washington, DC 20460  
**VIA Email to [Regan.Michael@epa.gov](mailto:Regan.Michael@epa.gov)**

RE: Request to Take Immediate Action to Stop Construction and Postpone Operation of the Rockwool Mineral Wool Production Facility in Ranson, West Virginia (Permit No. R14-0037, Plant ID No. 0037-00108)

Dear Administrator Regan,

I am writing on behalf of the Jefferson County Foundation (JCF)<sup>1</sup> to request that EPA use the authority provided under the Clean Air Act (CAA or Act) to immediately stop the construction and postpone the operation of the Rockwool Mineral Wool Production Facility (Rockwool), owned by Roxul USA, Inc. (Roxul), in Ranson, West Virginia, until the West Virginia Department of Environmental Protection (WVDEP) has issued a prevention of significant deterioration (PSD) permit that accurately reflects Rockwool's CAA requirements.

Immediate action is required because in 2020, two years after WVDEP issued the Rockwool PSD permit and while Roxul was engaged in its ongoing construction of the facility, WVDEP allowed Roxul to make a major change in the operation of Rockwool – switching the primary fuel source for the largest emission unit at the facility – without any analysis of the continued validity of the permit terms in light of that change and without reopening the permit for public comment. As EPA has clearly stated, “[p]ermits with conditions that do not reflect a source’s planned mode of operation are sham permits, are void *ab initio*, and cannot shield a source from the requirement to undergo preconstruction review.”<sup>2</sup> While Roxul did seek some preconstruction review in this matter, it did not seek preconstruction review for its planned operations. The only permit review was based on operation with a different primary fuel source and thus the resulting permit does not reflect its planned mode of operation. This fundamental flaw should

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<sup>1</sup> Jefferson County Foundation is a 501(c)(3) non-profit organization that works strategically to address long-term issues facing the Eastern Panhandle of West Virginia. JCF supports and promotes effective and accountable government, sustainable development, environmental justice, and the protection of health, heritage, and the environment in the Eastern Panhandle.

<sup>2</sup> See Exhibit A, Applicability of New Source Review Circumvention Guidance to 3M – Maplewood, Minnesota (June 23, 1993) at 1, also available at <https://www.epa.gov/sites/production/files/2015-07/documents/maplwood.pdf>.

be corrected before Rockwool begins operation. JCF's attempts to raise these issues to WVDEP have been unsuccessful, so we are now bringing them to you.

We can certainly raise these issues again during Rockwool's eventual title V permitting process; however, that process is unlikely to take place for at least two years, if not more.<sup>3</sup> Instead, it is highly appropriate and consistent with EPA's mission and authority to act now to ensure that the health of the citizens of Jefferson County and the surrounding region, as well as air quality in the area, are protected to the extent required by the Act. Taking action now is also appropriate and fair for all stakeholders as it avoids a situation in which Roxul would be required to add different or additional emission controls at some point in the future to bring the facility into compliance with CAA requirements.

EPA can work directly with WVDEP to resolve these air permitting issues given the cooperative federalism inherent in the CAA, but the Act also provides additional authority with which EPA can provide the necessary oversight of PSD permitting if those attempts fail. CAA § 167 provides that "[t]he Administrator shall...take such measures...as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of [the Act's PSD provisions]."<sup>4</sup> Likewise, § 113 provides that "[w]henever, on the basis of any available information, the Administrator finds that a State is not acting in compliance with any requirement or prohibition of the [the Act] relating to the construction of new sources," the Administrator may issue an order prohibiting construction of the source, issue an administrative penalty order, or bring a civil enforcement action in the federal District Court.<sup>5</sup> The U.S. Supreme Court has found that both of these provisions provide EPA with the authority to oversee PSD permitting under approved state permitting programs and to take action when PSD permits fail to comply with CAA permitting requirements.<sup>6</sup> As explained in more detail below, the facts surrounding the current PSD permit for and planned operation of the Rockwool facility demonstrate a violation of CAA's PSD permitting requirements such that EPA can and should act consistent with its CAA authority.<sup>7</sup>

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<sup>3</sup> EPA regulations require sources with PSD permits to apply for a Title V permit within 12 months of beginning operation, 40 C.F.R. § 70.5(a)(1)(ii), and the CAA requires permitting authorities to act on a complete application within 18 months, 42 U.S.C. § 7661b(c). We note that Roxul initially applied for a Title V permit for its mineral wool facility in Byhalia, Mississippi, in June 2015, but the state did not issue a proposed permit for public comment until April 22, 2021, almost six years later. See Exhibit Q, Public Notice - Mississippi Environmental Quality Permit Board (April 22, 2021) (notice of initial Title V Operating Permit for Roxul USA, Inc. d/b/a ROCKWOOL, located at 4594 Cayce Road in Byhalia, MS) and [https://www.mdeq.ms.gov/wp-content/uploads/2021/04/Roxul-USA\\_PUBLIC-Updated-Title-V-Application\\_March2021.pdf](https://www.mdeq.ms.gov/wp-content/uploads/2021/04/Roxul-USA_PUBLIC-Updated-Title-V-Application_March2021.pdf) (Title V Operating Permit application for Roxul's Byhalia facility).

<sup>4</sup> 42 U.S.C. § 7477.

<sup>5</sup> 42 U.S.C. § 7413(a)(5).

<sup>6</sup> *Alaska Department of Environmental Conservation vs. EPA*, 540 U.S. 461, 497 (2004) (finding that EPA properly used its authority under CAA sections 113 and 167 to block construction of a new major pollutant emitting facility that had a PSD permit from the state permitting authority when EPA found the BACT determination in the underlying PSD permit to be unreasonable under the CAA).

<sup>7</sup> See Exhibit B, Guidance On Enforcement of Prevention of Significant Deterioration Requirements Under the Clean Air Act (December 14, 1983) at 4 (noting that Section 167 is "a particularly effective enforcement tool against an

While WVDEP issued a PSD permit for construction of Rockwool on April 30, 2018 (Permit No. R14-0037, Plant ID No. 0037-00108),<sup>8</sup> the current permit does not accurately reflect the planned operation of the facility and the resulting emission controls necessary under the Act. Specifically, the emission limits for the melting furnace (and many other parameters) in the current permit appear to be premised on utilizing coal as the primary combustion fuel in the Melting Furnace, as explained below. However, on March 4, 2020, Roxul informed WVDEP that it planned to startup operation of the Rockwool facility using only natural gas in the melting furnace,<sup>9</sup> and on March 11, 2020, WVDEP simply acknowledged the planned change and noted that all permit terms remained in effect.<sup>10</sup>

Burning coal and burning natural gas result in fundamentally different pollutant emission profiles, and there is nothing in the current PSD permit or the record created by WVDEP demonstrating that the control technologies being installed at the facility, and the resulting emission limits in the current permit, meet CAA requirements for an operation primarily fueled by natural gas. The Act's PSD permitting program was enacted, in part, to ensure that economic growth – such as building a new production facility like Rockwool – “will occur in a manner consistent with the preservation of existing clean air resources” and that any permit for construction of a new source of emissions in an area “is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process.”<sup>11</sup> To do so, Congress required such a source to have a permit *before* the source was constructed that required installation of the best controls for the emissions that would ultimately result from it.<sup>12</sup> Those objectives are thwarted if an applicant can apply for a permit based on a specific operating scenario and then change it completely before operation without any evaluation of the permit or public participation regarding those changes.<sup>13</sup> Those problems are exacerbated here, as the current coal-based limits would allow the applicant to potentially meet those limits without using *any* controls, much less the best controls available, while operating with natural gas. While we acknowledge that the planned change in primary combustion fuel from coal to natural gas is likely to result in lower emissions from the Rockwool facility than initially anticipated, the fact remains that this

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owner or operator that ...is constructing in a manner not consistent with a validly issued permit”), *also available at* <https://www.epa.gov/sites/production/files/2015-07/documents/partc.pdf>.

<sup>8</sup> See Exhibit C, Rockwool Final Prevention of Significant Deterioration Permit (“Final PSD Permit”; April 30, 2018), *also available at* [https://dep.wv.gov/daq/Documents/April%202018%20Permits%20and%20Evals/037-00108\\_PERM\\_R14-0037.pdf](https://dep.wv.gov/daq/Documents/April%202018%20Permits%20and%20Evals/037-00108_PERM_R14-0037.pdf).

<sup>9</sup> See Exhibit D, Letter from Rockwool Group to West Virginia Department of Environmental Protection (March 2, 2020).

<sup>10</sup> See Exhibit E, Letter from West Virginia Department of Environmental Protection to Roxul USA, Inc. (March 11, 2020).

<sup>11</sup> 42 U.S.C §§ 7470(3) and (5).

<sup>12</sup> 42 U.S.C § 7475(4).

<sup>13</sup> In general, we note that the permitting issues presented here regarding the Rockwool facility are unique. They involve representations made and analyses relied upon during a facility's initial permitting process and changes announced during the initial construction that fundamentally change its planned operation, raising questions regarding the validity of the original PSD permit before *any* operations have begun. Thus, this case does not involve the modification of an “existing” stationary source that has already been operating, which can present different concerns for the integrity of the PSD permitting program.

is a new facility, and once it begins operation, pollutant emissions in the area *will* increase from their current levels. The Act requires that when a new facility is constructed under a PSD permit, the facility must have a permit that subjects it to the *best* available control technologies for each regulated pollutant it emits in order to preserve air quality in the area.<sup>14</sup> All available evidence suggests that this is not happening at the Rockwool facility.

In addition to the PSD permit deficiencies created by a failure to address the fundamental change in operation at the Rockwool facility, the planned operational change also highlights problems with the WVDEP permitting process and Rockwool PSD permit overall, as explained below. Roxul and WVDEP failed to comply with the Clean Air Act in determining that such a significant operational change could proceed without reopening the existing PSD permit, undertaking new analysis, and allowing the public to participate in that process. This failure is especially troublesome given the high level of community interest in WVDEP's permitting of the Rockwool facility following issuance of the original PSD permit on April 30, 2018. A full examination of the permitting record also shows that the current PSD permit appears to contain many other potentially problematic terms and underlying analyses that could be improved and/or better explained if WVDEP were to re-open the Rockwool PSD permitting process. As this letter focuses on the inherent CAA deficiencies created by the more recent change in primary fuel source, we only briefly raise these other potential permit problems below, but JCF would be pleased to provide EPA a fuller presentation of these concerns beyond the information provided today.

#### BACT Determinations for the Rockwool Melting Furnace Must Be Revised to Reflect Primary Use of Natural Gas Before Initial Operations Begin

Before presenting our more detailed arguments showing that the planned change to the primary fuel source at Rockwool's under-construction melting furnace requires a new BACT analysis, it is important to understand the PSD program's best available control technology (BACT) requirement, as well as the publicly available information regarding the basic operation of Rockwool's melting furnace and how the BACT limits for that furnace were established in the current PSD permit.

##### *The CAA BACT Requirement*

The CAA specifies that a new major stationary source of emissions required to have a PSD permit, such as Rockwool, be subject to the BACT for each regulated pollutant it emits, where BACT is defined as:

An emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from, or which results from, any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is

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<sup>14</sup> 42 U.S.C §§ 7475(a)(4).

achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.<sup>15</sup>

As EPA has explained, the analysis required to determine the BACT limit “is a site-specific, pollutant-specific determination that results in the selection of emissions limits representing application of air pollution control technologies or methods appropriate for the facility in question.”<sup>16</sup> While neither the CAA nor EPA regulations require a specific type of analysis to determine BACT emission limits, EPA has long advised that conducting a top-down BACT analysis will ensure compliance with the Act’s BACT requirement.<sup>17</sup> In fact, the BACT limits in Rockwool’s PSD permit are based on a top-down analysis contained in Roxul’s PSD application.<sup>18</sup> The top-down analysis is comprised of the following five steps:

- Step 1: Identify all available control technologies.
- Step 2: Eliminate technically infeasible options.
- Step 3: Rank remaining control technologies.
- Step 4: Evaluate most effective controls and document results.
- Step 5: Select the BACT.<sup>19</sup>

In conducting a top-down BACT analysis, EPA has specified that “the permitting authority must evaluate the amount of emissions reductions that each available emissions-reducing technology or technique would achieve...to establish a numeric emissions limitation *that reflects the maximum degree of reduction achievable* for each pollutant subject to BACT through the application of the selected technology or technique.”<sup>20</sup>

With regard to the issue at the heart of the current problem with the Rockwool PSD permit – use of different combustion fuels – the CAA requires consideration of “clean fuels” in determining BACT.<sup>21</sup> Accordingly, cleaner fuels than those proposed for use by the applicant should be included as an available control technology in step 1 of the BACT analysis. The only reason to not include use of cleaner fuels as a combustion source in the BACT analysis in step 1

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<sup>15</sup> 42 U.S.C §§ 7475(a)(4) and 7479(3)(emphasis added).

<sup>16</sup> *In re Palmdale Energy LLC*, 17 E.A.D. 620, 652 (EAB 2018), citing *In re N. Mich. Univ.*, 14 E.A.D. 283, 291 (EAB 2009).

<sup>17</sup> PSD and Title V Permitting Guidance for Greenhouse Gases (“GHG Permitting Guidance”; March 2011), available at <https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf>.

We note that this letter generally cites the GHG Permitting Guidance for general PSD and BACT principles, not just those associated with GHG permitting. In the GHG Permitting Guidance, EPA explained it that it summarized and updated many of the PSD permitting concepts originally set forth in the Draft New Source Review Workshop Manual (October 1990) and other EPA guidance documents and court cases, *see id.* at 19-20, and EPA provided a general overview of each step of the BACT analysis before providing GHG-specific information.

<sup>18</sup> See Exhibit F, West Virginia Department of Environmental Protection Final Determination for the Construction of Roxul USA’s RAN Facility (“Final Determination”; April 30, 2018) at 4.

<sup>19</sup> See GHG Permitting Guidance at 18.

<sup>20</sup> See GHG Permitting Guidance at 17 (emphasis added).

<sup>21</sup> 42 U.S.C § 7479(3).

is if the record clearly shows that doing so would fundamentally redefine the source.<sup>22</sup> Likewise, clean fuels can be excluded as technically infeasible at step 2 if the analysis shows “based on physical, chemical, or engineering principles, that technical difficulties would preclude the successful use of the control option on the emissions unit under review.”<sup>23</sup> Overall, EPA has stressed that “permitting authorities should ensure that the BACT requirements contained in the final PSD permit are supported and justified by the information and analysis presented in a thorough and complete permit record,” and “should clearly explain the reasons for selection or rejection of possible control and emissions reductions options.”<sup>24</sup>

### *The Rockwool PSD Permit and BACT Analysis*

Turning to the BACT analysis and emission limits in the current Rockwool PSD permit, we first note that it is difficult to determine the exact nature of the Rockwool operation permitted by WVDEP based on the publicly available information. In issuing the permit, WVDEP generally adopted the information and BACT analyses contained in Roxul’s PSD application.<sup>25</sup> This is problematic because many important parts of the PSD Application were withheld as Confidential Business Information (CBI),<sup>26</sup> including portions of the process description for the

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<sup>22</sup> See GHG Permitting Guidance at 27. See also *Friends of Buckingham v. State Air Pollution Control Board*, 947 F.3d 68, 92 (4th Cir. 2020) (vacating and remanding a state-issued CAA permit, where the permitting authority did not provide an adequate rationale for invoking the redefining the source doctrine to remove a control technology from consideration); *In re Desert Rock Energy Company*, 14 E.A.D. 484, 538 (EAB 2009) (emphasizing that a successful redefining the source argument to exclude a technology from BACT must be based on a strong underlying administrative record); *Sierra Club v. EPA*, 499 F.3d 653, 658 (7th Cir. 2007) (upholding removal of lower-sulfur coal as a clean fuel in step 1 of the BACT analysis where the record supported the determination that the purpose of the plant was to burn coal from an adjacent mine).

<sup>23</sup> See GHG Permitting Guidance at 33.

<sup>24</sup> See GHG Permitting Guidance at 20, citing *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 131 (EAB 1999) (“The BACT analysis is one of the most critical elements of the PSD permitting process. As such, it should be well documented in the administrative record.”) and *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 224-25 (EAB 2000) (remanding BACT limitation where permit issuer failed to provide adequate explanation for why limits deviated from those of other facilities).

<sup>25</sup> See Exhibit F, Final Determination at 4 (explaining that WVDEP determined the information and BACT determinations in the Roxul PSD application were “appropriate and reasonable,” and instead of copying the analysis into the Preliminary Determination for the proposed permit, WVDEP simply provided a summary table of the resulting BACT technologies and referred to the application’s BACT analysis).

<sup>26</sup> See Exhibit G, West Virginia Department of Environmental Protection Preliminary Determination/Fact Sheet for the Construction of Roxul USA, Inc.’s RAN Facility (“Preliminary Determination”; March 18, 2018) at 2 (describing Roxul’s CBI claims), *also available at* [https://dep.wv.gov/daq/Documents/March%202018%20Drafts%20and%20IPR/R14-0037\\_Preliminary\\_Determination.pdf](https://dep.wv.gov/daq/Documents/March%202018%20Drafts%20and%20IPR/R14-0037_Preliminary_Determination.pdf), and Exhibit H, Roxul Prevention of Significant Deterioration Application (“Roxul PSD Application”; November 20, 2017) at PDF pages 2-3 (listing all sections withheld as CBI), *also available at* [https://dep.wv.gov/daq/Documents/November%202017%20Applications/037-00108\\_APPL\\_R14-0037.pdf](https://dep.wv.gov/daq/Documents/November%202017%20Applications/037-00108_APPL_R14-0037.pdf). Note that the single PDF of the Roxul PSD Application that WVDEP made available on its website is a 632 page PDF that is a combination of many separate documents. Accordingly, for reference in this document, we cite to the page within the whole PDF file (as displayed in the top margin of Exhibit H), which may differ from page numbers included on the individual pages within it. For ease of reference, JCF has also included a copy of Exhibit H at <https://bit.ly/3otmXPJ>.

Melting Furnace,<sup>27</sup> all information regarding the raw materials processed in the furnace,<sup>28</sup> the emission factors used to determine many of the emissions from the furnace's operation,<sup>29</sup> and portions of the BACT analysis itself.<sup>30</sup> The CAA prohibits emissions data being claimed as confidential,<sup>31</sup> and EPA's definition of emissions data clearly includes the information withheld in Roxul's PSD application because it is information "necessary to determine the identity, amount, frequency, concentration, or other characteristics (to the extent related to air quality)" of emissions from the Rockwool facility.<sup>32</sup> Moreover, it is unclear how any information in the application can be withheld as CBI since the WVDEP adopted the application – including the BACT analysis and air emission modeling that used that CBI information -- as its own in issuing the permit, as explained above. Thus, in relying on information that was specifically withheld in the record, WVDEP did not fully explain its rationale in issuing the permit, as it is required to do.<sup>33</sup>

However, from the information that is available, it appears that combustion of fuel in a melting furnace to produce mineral wool is very different from combustion of fuel in a boiler used to create heat and energy, for example to generate electricity. The information WVDEP issued with the proposed PSD permit describes the melting furnace as an open-top cupola in which various raw materials are heated and melted into a molten liquid, which then flows out the furnace to a spinning chamber to be spun at high speed to create fibers, which are then coated with binders, collected, and further processed to produce mineral wool insulation.<sup>34</sup> With regard to heating the Melting Furnace, which is denoted as emission unit IMF01 in the Rockwool PSD permit, WVDEP summarized the process as follows:

During start-up, a 5.10 mmBtu/hr natural gas-fired Preheat Burner (IMF24) is used to warm the Melting Furnace baghouses to prevent condensation. ...The Preheat Burner will operate for approximately two hours prior to the Melting Furnace startup. Once to temperature, the coal/pet coke and raw materials will then be added to the furnace to begin the melting process.<sup>35</sup>

This statement seems to imply that combustion of natural gas is done in the separately identified and permitted burner used only for preheating the furnace and coal is used for

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<sup>27</sup> See Exhibit H, Roxul PSD Application at PDF page 17 (two large blank spaces at the start of the 2.1.3 Melting description).

<sup>28</sup> See Exhibit H, Roxul PSD Application at PDF page 3 (all Raw Material Safety Data Sheets and related information).

<sup>29</sup> See Exhibit G, Preliminary Determination at page 15 (describing nature of melting furnace emissions information withheld).

<sup>30</sup> See Exhibit H, Roxul PSD Application at PDF page 520 (blank portion in Step 4 of the Melting Furnace BACT analysis for CO & VOC emissions).

<sup>31</sup> 42 U.S.C. § 7414(c).

<sup>32</sup> 40 CFR § 2.301(a)(2)(i)(A).

<sup>33</sup> See, e.g., *Friends of Buckingham*, 947 F.3d at 85 ("We vacate and remand for further of reliance on the redefining the source doctrine, and/or why electric turbines are not required to be considered in Virginia's BACT analysis of the Compressor Station.").

<sup>34</sup> See Exhibit G, Preliminary Determination at 4-12.

<sup>35</sup> See Exhibit G, Preliminary Determination at 7.

primary operation of the furnace while melting raw materials. However, the exact use of fuels in the melting furnace during primary operation is unclear. For example, the BACT analysis for GHG emissions in Roxul's permit application states that "[c]oal and natural gas are the predominant fuels that will be used in the melting furnace," but later in the same paragraph touts the use of coal as a combustion fuel and says "[n]atural gas, the fuel that results in the lowest GHG emissions, is the primary fuel *used elsewhere* in the plant."<sup>36</sup> Many other factors regarding the combustion fuel(s) for the Melting Furnace are unclear based on the permit record, such as:

- whether coal or natural gas will only be used for combustion when the other fuel is not used, or whether they will be combusted together in a mixture, and if so, the primary mixture that would be used;
- whether the preheat burners will be used when natural gas is used for combustion of raw material in the Melting Furnace or whether there are separate natural gas burners used for that purpose;<sup>37</sup> and
- whether the coal is added directly to the furnace with the raw materials and/or burned in separate burners located in the furnace.<sup>38</sup>

With regard to the last point, since all specific information on the raw materials used in the process was withheld as CBI and only a list of example raw materials was provided in various permit documents, it is also not clear whether coal itself could also be a raw material used to create mineral wool.

Looking more closely at the available information, the actual substance of the BACT analysis for the melting furnace and the permit as a whole seem to reflect an operation in which coal is used as the primary combustion fuel in the melting furnace. For example:

- The melting furnace is not included in the list of Rockwool emission sources that "utilize natural-gas fired burners" and which were grouped together for determining the GHG BACT limit;<sup>39</sup>
- In the GHG BACT analysis for the Melting Furnace, Roxul stated that natural gas "is the primary fuel *used elsewhere* in the plant;"<sup>40</sup>
- In step 1 of the NO<sub>x</sub> BACT analysis for the Melting Furnace, potential control options did not include Low-NO<sub>x</sub> and Ultra Low-NO<sub>x</sub> natural gas burners, while the NO<sub>x</sub> BACT

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<sup>36</sup> See Exhibit H, Roxul PSD Application at PDF page 573-574 (emphasis added).

<sup>37</sup> Compare Exhibit G, Preliminary Determination at 7 (denoting different identification numbers for preheat burners (IMF24) and melting furnace (IMF01)) with *id.* (stating that that the melting furnace "has different burners utilizing various fuels (coal, natural gas, and oxygen injection)").

<sup>38</sup> See Exhibit G, Preliminary Determination at 7 (stating "the coal/pet coke and raw materials will then be added to the furnace" but also that the melting furnace "has different burners utilizing various fuels (coal, natural gas, and oxygen injection)").

<sup>39</sup> See Exhibit H, Roxul PSD Application at PDF page 556, § D.9.5.

<sup>40</sup> See Exhibit H, Roxul PSD Application at PDF page 552, § D.9.4 (emphasis added).



analyses for all other natural gas-fired units at the facility included consideration of these controls;<sup>41</sup> and

- Other BACT analyses result in technologies that are primarily related to control of emissions from coal, such as PM control via baghouses and SO<sub>2</sub> control via sorbent injection.<sup>42</sup>

Finally, the PSD permit includes a number of plant processes and resulting emission limits that are directly related to handling and storing large quantities of milled coal to be used in the melting furnace, as well as additional processes for preparing unmilled coal for combustion if milled coal cannot be trucked to the facility.<sup>43</sup> It is not clear why Roxul would create such an extensive infrastructure for coal use if it was not to be used as the primary combustion fuel at the Rockwool facility.

While the permitting record lacked important information regarding the operation of the Rockwool facility – information that would be important to determining if the BACT limits were appropriate – WVDEP still accepted the selected technologies and emission rates in Roxul’s PSD application “as BACT” in the proposed and final permit, explaining that they “were based on a reasonable top-down BACT Analysis as presented in [Roxul’s] permit application R14-0037.”<sup>44</sup> In the end, the Melting Furnace portion of the Final Permit contains a table of BACT emission limits and simply states that the furnace must comply with the those limits and technologies, but neither the permit terms nor the limits contain any explicit fuel-related provisions.<sup>45</sup>

#### *BACT Determinations for the Melting Furnace Must Be Revised to Reflect Primary Use of Natural Gas*

As explained above, neither the final PSD permit nor WVDEP’s supporting documents state a specific fuel type or fuel mix that would be used for primary combustion of the melting furnace, nor does Roxul’s BACT analysis contain that information.<sup>46</sup> But the examination of the record as summarized above indicates that the Melting Furnace BACT limits were based on a the use of coal as the primary combustion fuel during the processing of raw materials, and not on a primary (or even significant) use of natural gas. Against this backdrop, in March of 2020, Roxul

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<sup>41</sup> Compare Exhibit H, Roxul PSD Permit at PDF page 201 (analysis of NO<sub>x</sub> BACT Step 1 for the D.3.4 Melting Furnace), with *id.* at PDF pages 535 and 543 (analysis of NO<sub>x</sub> BACT Step 1 for the D.8.4 Rockfon Building Heater, Natural Gas Boiler 1, and Natural Gas Boiler 2, and D.8.11 Pre-Heat Burner).

<sup>42</sup> See Exhibit C, Final PSD Permit at 31-32, section 4.1.4.a (Melting Furnace emission limits).

<sup>43</sup> See Exhibit G, Preliminary Determination at 6-7 (describing the Coal/Coke Material Handling and the Coal Milling operations, and listing all of the associated emission units related to those operations) and resulting BACT summary at 34 (material handling) and 36 (coal milling), and Exhibit C, Final PSD Permit, *generally* (including various emission limits and other permit terms relating to the Coal Feed Tank and Coal Milling).

<sup>44</sup> See Exhibit G, Preliminary Determination at 37 and Exhibit F, WVDEP Final Determination at 4.

<sup>45</sup> See Exhibit C, Final PSD Permit at 30-32, section 4.1.4.a (BACT provisions for the melting furnace).

<sup>46</sup> If any information withheld as CBI includes the specific fuel content information used to inform the BACT analysis, it must also be released as it represents emissions data. See 40 CFR 2.301(a)(2)(i)(A) (defining CAA emission data to include the “[i]nformation necessary to determine the identity, amount, frequency, concentration, or other characteristics (to the extent related to air quality) of any emission” from a source).

used a one-page letter to inform WVDEP that Rockwool would operate the melting furnace “using only natural gas, as allowed under Permit No. R14-0037.”<sup>47</sup> The letter explains that Rockwool had “determined it was technically feasible to conduct Melt Furnace operations entirely on natural gas” and that the change would reduce the emissions of air pollutants from the facility.<sup>48</sup> Roxul notes that the change would require “a minor adjustment in use of raw materials” that would “result in no change in emissions.”<sup>49</sup> Roxul did not provide citations to the specific portions of the permit that they asserted allowed these changes, nor did they provide any additional information or analysis to support their conclusions regarding emission changes that would result. Roxul also asked to retain all of the coal-fired provisions of the PSD permit to allow Rockwool the option of “reverting back to coal” if needed.<sup>50</sup>

Despite this apparently significant change in operations at the facility and lack of information in Roxul’s letter, WVDEP allowed that change to proceed without any explanation or analysis of its own and noted that the current permit terms would still apply to the changed operations.<sup>51</sup> It is not clear how allowing such a fundamental change in operation for a source still under construction without reconsideration of the permit emission limits complies with the Act’s PSD requirements, including BACT. Nothing in the Act’s PSD program authorizes a source to apply to construct one type of facility but then operate a different one. Neither Roxul or WVDEP made any attempt to show that the control technologies and resulting emission limits contained in the permit would still represent BACT for the melting furnace if it began operation fired exclusively by natural gas. And it is not possible to make an independent determination given the paucity of information in the Roxul and WVDEP March letters. If Rockwool had to make physical changes to the Melting Furnace to allow for exclusive natural gas combustion, a new permitting action should be required.<sup>52</sup> Without understanding the basic operating parameters of the Melting Furnace as permitted in the current permit and comparing that to how Rockwool now plans to operate (and any changes required to do so), it is impossible to determine whether the BACT control technologies and emission limits contained in the current permit will control emissions to *maximum degree* once operations begin, as required by the Act.<sup>53</sup>

Roxul did not identify a specific term in the existing permit that allows Rockwool’s Melting Furnace to burn exclusively natural gas. In fact, comparison to other natural gas-related aspects of the permit indicate that natural gas was not considered as a primary combustion fuel

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<sup>47</sup> See Exhibit D, Letter from Rockwool Group to West Virginia Department of Environmental Protection (March 2, 2020).

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> See Exhibit E, Letter from West Virginia Department of Environmental Protection to Roxul USA, Inc. (March 11, 2020).

<sup>52</sup> See *In re Indeck-Elwood LLC*, 13 E.A.D. 126, 148 (EAB 2006) (finding that “allowing for construction of a facility that is physically different than the one permitted, and which may potentially have different emission characteristics” is more than an administrative permit change to a PSD permit, which should be reopened to allow for public comment on the change).

<sup>53</sup> 42 U.S.C §§ 7475(a)(4) and 7479(3).

for the Melting Furnace. For example, natural gas simply is not specifically identified in any of the Melting Furnace permit terms, while all other emission sources that were identified as burning natural gas included a specific permit condition indicating which type of natural gas that had to be used, i.e. pipeline-quality natural gas (or PNG).<sup>54</sup> Moreover, if the Melting Furnace was permitted to burn natural gas, it should have been included in the list of natural-gas fired burners in the GHG BACT analysis and to which the resulting GHG emission limit applies, but it was not.<sup>55</sup>

Instead of providing WVDEP with the specific permit terms that allow Rockwool to switch to exclusive natural gas firing, Roxul's March 4, 2020 letter stated that "[n]either the permit application nor the permit specifies the amount of each fuel that is to be combusted in the Melt Furnace."<sup>56</sup> This statement represents the fatal flaw in both the current PSD permit and the assumption of Roxul and WVDEP that this planned change in operation can proceed without any changes to current permit.

On one hand, if the permit allows use of either coal or natural gas as the primary fuel, the current PSD permit limits are improperly premised on the primary use of coal burning, as shown above. Instead, the original BACT analysis should have analyzed primary use of both fuels in the analysis, which Roxul did not do. EPA has consistently advised that if an emission source can be fired by more than one fuel – as Roxul claims here – the BACT analysis must consider burning both fuels as the primary combustion source.<sup>57</sup> The only exception to conducting a full analysis of both fuel types is if the record clearly shows that doing so would fundamentally redefine the source.<sup>58</sup> Roxul made no such claim regarding natural gas in any part of the BACT analyses for the Melting Furnace.<sup>59</sup> And even if they did make a redefining the

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<sup>54</sup> Compare Exhibit C, Final PSD Permit at 30-32, § 4.1.4.a (simply noting that the Melting Furnace shall not exceed the BACT emission limits and shall utilize the BACT technologies identified in the accompanying table, which includes no indication of fuel type) with *id.* at 29, § 4.1.3.a (Coal Mill Burner - specifying use of "pipeline-quality natural gas (PNG)"), 4.1.7.c (Rockfon line ovens - same), 45, § 4.1.8.a (Fuel Burning Units - same), and 50, § 4.1.11.c(1) (Product marking burners - same).

<sup>55</sup> See Exhibit H, Roxul PSD Application at PDF page 577-578.

<sup>56</sup> Exhibit D, Letter from Rockwool Group to West Virginia Department of Environmental Protection (March 2, 2020).

<sup>57</sup> See *In the Matter of Cash Creek Generating, LLC*, Order (EPA Administrator, Dec. 15, 2009), available at [https://www.epa.gov/sites/production/files/2015-08/documents/cashcreek\\_response2008.pdf](https://www.epa.gov/sites/production/files/2015-08/documents/cashcreek_response2008.pdf) (finding PSD permit inadequate where the facility could burn both natural gas and syngas, but permitting authority did not show why natural gas could not be used as the primary fuel); See Exhibit I, *In the Matter of Hibbings Taconite Company*, Order (EPA Administrator, July 19, 1989), also available at <https://www.epa.gov/sites/production/files/2015-07/documents/taconite.pdf> (finding that when facility had the ability to burn natural gas and had been doing so, primary burning of natural gas could only be excluded as a viable control strategy in the BACT analysis with a sufficient explanation, which could not rely on an argument that it would result in a fundamental change to the facility since the fuel was already being used).

<sup>58</sup> GHG Permitting Guidance at 27. See also *id.* at 28 (where an applicant is already using a fuel in one aspect of its design, greater utilization of that fuel should be listed at step 1 of the BACT analysis, "unless it can be demonstrated that such an option would disrupt the applicant's basic business purpose for the proposed facility").

<sup>59</sup> We note that Roxul did seem to argue that considering use of other cleaner fuels (such as biomass) would redefine the source and thus be a basis for excluding consideration of them at step 1 (not available) and step 2 (not feasible) of the Melting Furnace GHG BACT analysis. See Exhibit H, Roxul PSD Application at PDF page 574.

source argument to exclude any consideration of natural gas as a primary combustion fuel for the melting furnace in the original PSD permitting process, the switch described in their March 2020 letter to WVDEP would be an acknowledgement that they are planning to operate that furnace as a fundamentally different emission source, which would require a new permitting process.

On the other hand, if the current permit limits are correct, then the permit only allows the primary use of coal – either in its entirety or in a mixture with natural gas – as the combustion fuel in the melting furnace and does not allow the primary (or exclusive) use of natural gas.<sup>60</sup> Accordingly, the existing permit must be re-opened and revised or a whole new permitting process completed to allow primary (or exclusive) firing by natural gas during Rockwool’s Melting Furnace operations. Moreover, if the current permit limits are premised on the ability to use a mix of coal and natural gas fuel for combustion in the melting furnace, then the existing emission limits are based on the specific mix of those fuels that was used in determining the emission and control calculations in the BACT analysis such that burning a different mix would require changes to that analysis and the permit terms. When a fuel mixture is considered in determining BACT, the analysis should address a range of different fuel mixes (including from primarily one type to primarily the other), with selection of BACT as that mix that results in the best emission control based on the various fuel mixes considered, and the particular fuel mix should be specified in the permit.<sup>61</sup> The Roxul BACT analysis adopted by WVDEP did not conduct any analysis of this type. In this case, nothing in the available record demonstrates that Roxul did any BACT analysis that relied on any specific mix of fuels, much less on the primary burning of natural gas, in the Melting Furnace. Nor did Roxul’s BACT analysis attempt to explain why doing so would redefine the source<sup>62</sup> or be technically

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<sup>60</sup> See Exhibit H, Roxul PSD Application at PDF page 552, § D.9.4 (noting that with regard to the Melting Furnace, natural gas is the “*primary fuel used elsewhere* in the plant” (emphasis added)).

<sup>61</sup> See Guidance for Determining Best Available Control Technology for Reducing Carbon Dioxide Emissions From Bioenergy Production (“Biomass BACT Guidance”; March 2011) at 15-16 (“In cases where a permit applicant proposes to co-fire or combine biomass fuels with another primary fuel type, the list of BACT options [in step 1] should include the option of utilizing both types of primary fuels in different combinations...[Unless] the permit applicant is unable to demonstrate that a different allocation of primary fuels would fundamentally redefine the proposed source, the options at Step 1 should include varying allocations of the two primary fuels if the proportional allocation of fuels has the potential to affect the amount of GHGs emitted from the facility or the net atmospheric GHG concentrations.”), available at <https://www.epa.gov/sites/production/files/2015-12/documents/bioenergyguidance.pdf>, and *In re N. Mich. Univ.*, 14 E.A.D. at 295-303 (finding PSD permit inadequate where the permitting authority examined a number of different wood and fossil fuel mixtures in the BACT clean fuels analysis but failed to justify selection of BACT as burning the combination with the lowest wood content).

<sup>62</sup> See n. 58, *supra*, noting that Roxul’s GHG BACT analysis for the Melting Furnace did argue that the use of “lower carbon fuels” would redefine the source, but they did not explain why and they did not clearly state that such a claim included the primary burning of natural gas. Regardless, there is no such redefining the source claim made in the BACT analysis for all other pollutants emitted from the Melting Furnace. See *generally* Exhibit H, Roxul PSD Application at PDF pages 500-532 (Melting Furnace BACT analysis for non-GHG pollutants).

infeasible in step 2 of the BACT analysis,<sup>63</sup> arguments that would be difficult to support since Roxul claims the Melting Furnace was permitted to – and can – burn primarily natural gas.

The CAA’s requirement that PSD permits contain BACT limits that represent the best, or maximum, degree of emissions control for a particular emission source means that Roxul cannot have it both ways – undertaking a BACT analysis that assumed primary coal combustion to create BACT limits that allowed higher levels of emissions, while also stating that the permit itself did not specify a primary fuel source. The CAA permit issued to allow for construction of a new facility should reflect its planned operation, otherwise it is a sham permit.<sup>64</sup> and Roxul cannot be allowed to reflect one type of operation in its PSD application and resulting permit limits and then, while the permitted facility is still under construction, argue that the permit allows a fundamental switch in those operations. Burning natural gas results in significantly fewer emissions than burning coal,<sup>65</sup> so if Roxul is allowed to make this change without reopening the PSD to adjust the BACT limits, it is likely that they could easily meet the current BACT emission limits without applying *any* emission controls, much less the *best* controls for natural gas-fired combustion sources as the CAA’s BACT provisions require.

On this point, we note that the Melting Furnace NOx and SO2 BACT limits in the current permit are based on a 30-day rolling average. Thus, under the current permit, the Rockwool facility with the ability to burn primarily coal and primarily natural gas under the same emission limit could exceed those limits while burning coal for many days within that period and avoid a violation of the permit by burning natural gas for a shorter period of time to make up the difference. In other words, the permit does not come close to ensuring BACT on a continuous basis, as required by the Act.<sup>66</sup>

Accordingly, there is sufficient information available to determine that the current PSD permit does not comply with the Clean Air Act with regard to Roxul’s planned operations of the melting furnace as a primarily natural gas-fired unit. We also note that there is nothing requiring Roxul to primarily burn natural gas in the Melting Furnace. Roxul can burn coal at any

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<sup>63</sup> While Roxul’s later letter describing the change to burn entirely natural gas at the Melting Furnace said that it was now “technically feasible” to do so, its PSD Permit Application does not include any claims that burning primarily natural gas is technically infeasible in the Melting Furnace BACT analysis. See Exhibit H, Roxul PSD Application at PDF pages 510-527 (Melting Furnace BACT analysis for non-GHG pollutants) and 573-575 (Melting Furnace GHG BACT analysis at Step 2).

<sup>64</sup> See Exhibit A, Applicability of New Source Review Circumvention Guidance to 3M – Maplewood, Minnesota (June 23, 1993) at 1, and *In re Indeck-Elwood LLC*, 13 E.A.D. at 148 (finding that “construction of a facility that is physically different than the one permitted” should result in a reopening of the PSD public comment period).

<sup>65</sup> Energy Information Administration, *Natural Gas Explained* (September 24, 2020), available at <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php> (“Burning natural gas for energy results in fewer emissions of nearly all types of air pollutants and carbon dioxide (CO2) than burning coal or petroleum products to produce an equal amount of energy.”).

<sup>66</sup> 42 U.S.C. §§ 7602 (k) (defining a CAA “emissions limitation” to be a requirement “which limits...emissions of air pollutants on a continuous basis”) and 7479(3) (defining BACT as an “emission limitation”). See also *In the Matter of Southwestern Electric Power Company, H.W. Pirkey Power Plant*, Order (Feb. 3, 2016), at 8 (“EPA has consistently stated that a BACT limitation must apply at all times”) and cases cited therein, available at [https://www.epa.gov/sites/production/files/2016-02/documents/pirkey\\_response2014.pdf](https://www.epa.gov/sites/production/files/2016-02/documents/pirkey_response2014.pdf).

time in the future and specifically explained that it “wishes to retain the sources associated with the use of coal-fired operations, in the event operations require reverting back to coal.”<sup>67</sup> Making the operation change to burning natural gas will only be enforceable if the permit is re-opened and natural gas firing is made an explicit permit term. The Melting Furnace BACT issue must be resolved and the PSD permit updated to ensure that the Rockwool facility begins operating with emission controls that provide the level of protection for the citizens of and air quality in Jefferson County and surrounding region required by the Act.

### The Permitting Process Must Be Re-opened to Allow Public Input on the Facility Changes

The CAA deficiencies highlighted above are compounded by the perfunctory way in which WVDEP and Roxul addressed these planned operational changes, including the complete lack of public involvement in the process. One reason it is difficult to fully assess the nature of the change in Rockwool’s operations is that the entirety of the publicly available permitting information regarding it is the one-page Roxul letter sent to WVDEP on March 4, 2020. As explained above, that letter contains no citations to specific permit provisions, nor does it include any specific information or analysis to support the claims made within it.<sup>68</sup> And in response, WVDEP simply said “The Division of Air Quality (DAQ) confirms that on March 4, 2020, we received your letter that provided information on Roxul’s plans to operate the Melting Furnace using only natural gas and without the use of coal. Please note that all applicable conditions in the permit remain in effect.”<sup>69</sup> Nothing in the PSD permitting process or the permit itself contemplated operation of the facility primarily, much less entirely, on natural gas. Accordingly, we do not understand how WVDEP could simply acknowledge this fundamental change without requiring more information and reopening the permit process.

The lack of information provided in the Roxul letter is more concerning when compared to public statements Rockwool made about the change in its operations. For example, on July 30, 2020, Rockwool’s Facebook page also announced the change in operations to burn natural gas and explained that the facility could do so because of “the highly advanced, proprietary, fuel-flexible melting technology” being deployed there and that “no one else in our industry has this capability.”<sup>70</sup> From this post, it is unclear whether the “new technology” that allowed for the change to entirely natural gas combustion was the technology addressed in the existing PSD permit or whether Roxul was using a new technology not contemplated at the time of permitting. In either case, this information indicates that the permit should have been re-opened because either the original permit should have at least analyzed – if not selected – BACT emission limits (and other required analyses) based on burning of natural gas in the

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<sup>67</sup> See Exhibit D, Letter from Rockwool Group to West Virginia Department of Environmental Protection (March 2, 2020).

<sup>68</sup> *Id.*

<sup>69</sup> See Exhibit E, Letter from West Virginia Department of Environmental Protection to Roxul USA, Inc. (March 11, 2020).

<sup>70</sup> See Exhibit J, Rockwool Ransom Community Facebook Page Post (July 31, 2020).

melting furnace, or the facility was changing in a way that did not reflect the operations analyzed and authorized by its permit.<sup>71</sup>

However, WVDEP did not reopen the permit and did not share this information on its public page regarding the Rockwool facility.<sup>72</sup> When the Jefferson County Foundation learned of this change months, JCF sent a letter to WVDEP asking it to reopen the PSD permitting process to adjust the BACT limits to reflect the use of natural gas and correct other deficiencies.<sup>73</sup> In response, WVDEP sent a letter to JCF just thirteen days later explaining that after “internal review and consultation with [EPA],” Rockwool’s 2018 PSD permit “is and remains valid for the construction and proposed operation of the facility” and noted that “no Administrative Updates...have been issued, or are warranted by” the issues raised in JCF’s letter, including the change to burning primarily natural gas.<sup>74</sup> This unexplained reliance on internal discussions simply does not provide a meaningful response to public concerns about this permitting process. JCF’s attempts to understand the nature of the referenced EPA consultation have also failed to reveal why a fundamental change in the operations of the Roxul facility currently under construction could be allowed to proceed without any revisions to the existing permit.<sup>75</sup>

It should be noted that West Virginia’s permitting rules do not allow permits to be changed without public comment if they result in a physical change or a change in the method of operation at the facility.<sup>76</sup> As noted above, it is unclear if Roxul’s announced change at the

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<sup>71</sup> See discussion *supra*. For example, we note that there was no consideration of whether natural gas combustion will be sufficient to maintain the temperatures assumed in the NOx BACT analysis and the limits established for the selected NOx controls.

<sup>72</sup> See Exhibit K, WVDEP Information About The Rockwool Facility In Jefferson County, West Virginia (as of May 3, 2021), available at <https://dep.wv.gov/news/Pages/RockwoolInformation.aspx> (noting it was last modified on January 11, 2019 and not containing the March 2020 exchange of letters in the Air Permitting section).

<sup>73</sup> See Exhibit L, Letter from Jefferson County Foundation to West Virginia Department of Environmental Protection (July 29, 2020). NOTE: Exhibits B – M to this July 29 JCF letter are not included as attachments to this current letter but can be supplied upon request.

<sup>74</sup> See Exhibit M, Letter from West Virginia Department of Environmental Protection to Jefferson County Foundation (August 5, 2020).

<sup>75</sup> See Exhibit N, Copies of three documents JCF received in response to Freedom of Information Act requests to EPA regarding the Rockwool planned fuel change, none of which explain the basis of EPA Region 3’s support of WVDEP’s approach with regard to that change:

- (1) A calendar entry/email showing that a meeting between EPA Region 3 and WVDEP to discuss JCF’s July 29, 2020 letter was scheduled and then cancelled with direction that WVDEP would issue any response.
- (2) A summary regarding the Rockwool fuel change issue that contains two key inaccuracies: (a) it says there was a “permit change that removed the option of Rockwool burning coal in its Melting Furnace,” there was no permit change, only statements from Roxul regarding their plan to burn natural gas; and (b) it notes there was “significant public interest” at the time WVDEP issued the PSD permit, but public interest only came after the original PSD permitting process.
- (3) A response to a reporter inquiry that simply notes EPA reviewed the permit and the JCF letter and “found WVDEP’s conclusion that the proposed operation of the Melt Furnace using only natural gas is allowable under Permit No. R14-0037 to be reasonable.”

<sup>76</sup> 45 C.S.R. §§ 13- 4.1.d (only Class I administrative changes may proceed without public comment) and 4.2.a.4 (stating Class I administrative changes do not include those that involve a physical change or a change in the method of operation at the facility), available at <https://dep.wv.gov/daq/planning/Documents/45-13.pdf>.

Rockwool facility requires a physical change to deploy their new proprietary technology, but it is clearly a change in the operation of the facility – the existing PSD permit does not contain conditions reflecting a melting furnace fueled entirely by natural gas *and*, by Roxul’s own admission, the change will require unexplained adjustments to the raw materials used in the operations.<sup>77</sup> Moreover, as explained fully above, the changes here represent a significantly different process and facility than was analyzed and permitted by the existing PSD permit, which should require a new PSD permit – with a corresponding public comment process – under West Virginia’s rules.<sup>78</sup> However, WVDEP’s March 11 Response to Roxul and August 11 response to JCF indicate that they do not think any change of the permit is needed, much less one that required public process. Based on the scant information that is available, the permitting process should be reopened so that Roxul can provide full information about the operation and resulting emissions from the melting furnace when operated exclusively by natural gas, include that new operational design as an enforceable term in the permit, conduct a full BACT analysis to determine if any changes to the permit emission limits are needed, and also provide the analysis required to support continued coal combustion in the future.

The lack of a public process resulting from this change at the Rockwool facility is also frustrating given the intense public interest from the surrounding community. At the time the original PSD permit was issued, JCF and other members of the public were generally unaware of the planned Rockwell facility and the various environmental impacts it would bring.<sup>79</sup> While WVDEP had provided the required public notice of the proposed permit in the local newspaper, the public either did not see it or did not understand the nature of the facility and its potential environmental impacts, which is understandable given the information in the public record withheld as CBI. However, after the PSD permit was issued and more information regarding the facility came to light, many people in the community started to express concern.<sup>80</sup> Of particular concern are potential impacts on the Jefferson County residents most closely situated to the Rockwood site, which includes some of the most disproportionately impacted populations in the state.<sup>81</sup> In fact, North Jefferson Elementary School, a Title 1 school in which 56% of

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<sup>77</sup> See Exhibit D, Letter from Rockwool Group to West Virginia Department of Environmental Protection (March 2, 2020). We also note that Roxul appears to have fundamentally misrepresented to WVDEP (and the public, including EPA) during the PSD permitting process that the Rockwool melting furnace was the same as that already operating at their similar facility in Byhalia, Mississippi. In fact, as implied in their more recent Facebook post, n. 68 *supra*, it appears to be a new type of melting furnace employing a new and novel technology. See Exhibit J, Rockwool Ransom Community Facebook Page Post (July 31, 2020) (explaining that the ability to “convert to natural gas is the result of the highly advanced, proprietary, fuel-flexible melting technology” being deployed).

<sup>78</sup> See 45 C.S.R. § 13-5 (regarding the preconstruction permitting requirements of new or modified stationary sources).

<sup>79</sup> See Exhibit F, Final Determination at 3 (summarizing comments from EPA Region 3 on the proposed permit and noting that no other public comments were received).

<sup>80</sup> See Exhibit K, WVDEP Information About The Rockwool Facility In Jefferson County, West Virginia (as of May 3, 2021) at the “Additional Documentation” section (containing a list of inquiries from various community groups and local government officials between July 2018 and March 2019 raising various environmental concerns about the facility and WVDEP’s permitting of it).

<sup>81</sup> See Exhibit O, EJSCREEN Report (Version 2020), for a 1 mile Ring Centered at 39.377540,-77.878440 [the location denoted on Rockwool’s final PSD permit]. This report denotes that the one mile area surrounding the facility has among the highest proportion of people of color, people lacking a high school education, and children under the



students are economically disadvantaged, is located within a half mile of the Rockwool facility.<sup>82</sup> The immediate community and people throughout Jefferson County and the surrounding area deserve a fulsome, open, and transparent CAA permitting process to ensure the Rockwool facility is addressing emissions at a stringency required by the Clean Air Act.

As WVDEP provided a total of five (5) substantive sentences in responding to both the Roxul and JCF letters regarding the planned primary fuel switch, we cannot assess the validity of their analysis in concluding that no changes to Rockwool's existing PSD permit are needed to accommodate the planned switch to burn entirely on natural gas. However, in light of the extensive information provided by JCF in this request regarding potential permitting deficiencies created by this planned change in operation, we believe WVDEP incorrectly found that the current PSD permit meets the CAA requirements for the planned operation of the Rockwool facility. WVDEP should be required to re-open the existing permit to modify Melting Furnace provisions to accurately reflect and address the pollutant emissions resulting from the new operation or undertake a new PSD permitting process, either of which would require an opportunity for JCF and other members of the public to participate in the process.

#### Other Permit Concerns

Having highlighted multiple issues regarding the BACT analysis and permit terms regarding emissions from the Melting Furnace in Rockwool's current PSD permit, it should come as no surprise that JCF (and others) have identified a number of other concerns with that permit. If the Rockwool PSD permit is re-opened or a new permit is issued to address the intended change to natural gas firing of the melting furnace, these other issues should also be addressed either through revised terms or a more thorough explanation of their foundation in the permitting analysis. We have listed a number of these concerns below so that EPA may understand the full extent of potential issues that could, and should, be addressed by any future action you, WVDEP, or Roxul may take.

In general, since the emissions from the Melting Furnace and associated emissions to address coal handling appear to represent a significant portion of the total emissions from the facility, any changes that result from new BACT requirements to address primary (or exclusive) firing by natural gas will necessitate a re-examination of the air quality analysis and air dispersion modeling for the entire facility. However, if that type of broad re-analysis is not conducted, the following deficiencies in the current permit should also be examined.

- To the extent any existing air dispersion modeling relies on information, including emission factors, that was withheld as CBI, that information should be released and the modeling put forward for public comment.

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age of 5 in West Virginia, and ranks above the 50 percentile statewide for all air pollution-related environmental indicators.

<sup>82</sup> See <https://www.usnews.com/education/k12/west-virginia/north-jefferson-elementary-220074>.

- Air dispersion modeling should be redone using air monitoring from more representative, closer proximity monitors, as required by EPA guidelines.<sup>83</sup> For PM2.5 and SO2 monitoring data, Roxul relied on data from a monitor that is not approved for use in PSD modeling, and for NO2 monitoring data, Roxul relied on a faraway monitor when there are closer monitors within the same Metropolitan Statistical Area as Jefferson County.
- Air dispersion modeling should be redone without use of the large exclusionary boundary included in the original analysis, which removed a number of nearby emission sources from the analysis.
- Air dispersion modeling should be redone using a finer reception grid, similar to that used by other PSD permit applicants in West Virginia. The grids used in Roxul’s analysis avoided inclusion of important community sites in the receptor modeling.
- Air quality modeling and emission limit analysis should include reasonably discernable start-up, shut-down, and malfunction (SSM) emissions. Roxul based all modeling and emission estimates on fully optimized, steady state emissions, even though SSM events will occur on a regular basis.<sup>84</sup>
- To the extent air dispersion modeling, emission limits, or other permit terms and related analyses relied on emission data taken from the Roxul Mineral Wool facility in Byhalia, Mississippi, they should be redone to address the change in operations. Rockwool’s July 31, 2020 Facebook post claimed that no other facility in the industry has the capability to burn only natural gas, so we must assume the Byhalia plant relied primarily upon coal firing, thus removing it as a good comparison for emission estimation purposes. Instead, Roxul should rely on natural gas emission factors from AP 42<sup>85</sup>

JCF has previously provided WVDEP with information regarding the permitting issues listed above, and we have attached those documents to this letter for your convenience.<sup>86</sup> We also encourage you to review correspondence from other community groups, individuals, and local government officials contained on the WVDEP webpage regarding the Rockwool facility and the

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<sup>83</sup> See generally *Clean Air Act Permit Modeling Guidance*, available at <https://www.epa.gov/scram/clean-air-act-permit-modeling-guidance>.

<sup>84</sup> See Exhibit H, Roxul PSD Application at PDF page 462 (noting that “[t]ransient operations, such as startup and shutdown, related to scheduled maintenance occur once a week”). The use of fully optimized, steady state emissions in the modeling is also inconsistent with the 30-day rolling averages of many emission limits in the Rockwool permit, since those long averaging periods could allow the facility to exceed emission limits for significant portions of the averaging period but then reduce production or switch to natural gas for the time needed to meet the 30-day limit.

<sup>85</sup> EPA, *AP-42: Compilation of Air Emission Factors*, Vol.1, 1.4 (Natural Gas Combustion), available at <https://www3.epa.gov/ttn/chief/ap42/ch01/>.

<sup>86</sup> See Exhibit L, Letter from Jefferson County Foundation to West Virginia Department of Environmental Protection (July 29, 2020), and Exhibit P, Memorandum from Jefferson County Foundation to West Virginia Department of Environmental Protection (July 9, 2020).

WVDEP on-line file for this permit.<sup>87</sup> While we touch upon these issues lightly in this letter, JCF would be happy to provide EPA a fuller assessment of these concerns.

If the Rockwool PSD permit is re-opened or a new permit is issued to address the intended fuel switch, these concerns listed above should also be addressed to ensure the entire facility is permitted as required by the CAA.<sup>88</sup>

## Conclusion

We believe EPA is in the best position to resolve the Rockwool PSD permitting issues we have identified above in a timely manner, and that such resolution is needed to ensure the Rockwool facility operates in compliance with the CAA from the outset of operations. We encourage you to engage with WVDEP to re-open the existing permit (or undertake a new permitting process) to analyze and incorporate the melting furnace fuel change in an enforceable PSD permit and to include public participation in that process. If those efforts should fail, we ask you to take action under the enforcement provisions of the CAA as this is exactly the situation sections 167 and 113 were intended to address – where construction of the improperly permitted facility is ongoing and the state permitting authority refuses to reopen the permit to address the problems.<sup>89</sup>

We are also contemplating bringing a citizen enforcement action under CAA § 304 to address the PSD permitting deficiencies at the facility, but the time and resources needed for such a suit make it unlikely that the necessary permitting changes and more stringent emission limits would be in place until well after operations begin. Likewise, attempting to address these issues in the eventual title V permitting process would only delay the resolution of these important permitting issues while allowing Rockwool to operate for more than a year with a deficient permit and the resulting pollutant emissions.

JCF seeks to protect air quality throughout Jefferson County and the surrounding area, especially in the disproportionately impacted communities nearest the facility, by ensuring that Rockwool begins operations with a permit that controls pollution emissions to the maximum extent as required by the Clean Air Act. While we and others in the community were encouraged by Roxul's decision to burn primarily natural gas instead of coal at the melting furnace, we do not think it is unreasonable to request that PSD permit include emission limits reflecting the CAA-required best available controls for pollutants resulting from a natural-gas fired melting furnace, that this change in fuel type be enforceable in the PSD permit, and that

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<sup>87</sup> See <https://dep.wv.gov/news/Pages/RockwoolInformation.aspx> (WVDEP Information About The Rockwool Facility In Jefferson County, West Virginia) and <https://documents.dep.wv.gov/AppXtender> (WVDEP file for Rockwool permitting; access using DEP for the Username & Password, then select PERMITSAIR – New Query – PRIMARY ID 037-00108 for the Rockwool files).

<sup>88</sup> To the extent Roxul and WVDEP refuse to reopen the permit for comment and/or conduct any such additional analysis, they should explain their decision to do so in the permit record.

<sup>89</sup> See, e.g., *Alaska Department of Environmental Conservation vs. EPA*, 540 U.S. 461; Exhibit B, Guidance On Enforcement of Prevention of Significant Deterioration Requirements Under the Clean Air Act.

the public be allowed to participate in that process. Accordingly, we ask EPA to engage with WVDEP to address the melting furnace fuel change in a public process and to use its authority under the Clean Air Act, including under sections 167 and 113 if needed, to ensure this happens.

We ask that you work quickly to assess EPA's potential action in this matter. While Rockwool construction is on-going, it is our understanding that they plan to conduct preliminary operational testing soon and could begin full operation in June, and it would be in everyone's interest if the plant possessed a PSD permit fully compliant with the Clean Air Act before it begins full operation. To assist in your efforts, JCF would be happy to set up a time to discuss these issues with you or others at EPA, or to participate in any conversations you might have with WVDEP regarding this matter. Please reach out to me at 304-582-7064 if you would like to arrange such a meeting.

Jefferson County Foundation looks forward to EPA's prompt action in this matter.

Sincerely,

*Christine L Wimer*

Dr. Christine Wimer

President, Jefferson County Foundation

Cc (via email):

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