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**BEFORE THE EXECUTIVE DIRECTOR OF THE  
 UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**

In the Matter of:

Revolution Fuels, LLC Coal to Liquid Facility,  
 Air Quality Approval Order (DAQE-  
 AN154900001-16)

**DIRECTOR OF THE UTAH DIVISION  
 OF AIR QUALITY’S RESPONSE BRIEF**

May 8, 2017

Administrative Law Judge Richard K.  
 Rathbun

Under Utah Code Section 19-1-301.5(8)(a)(iv), Utah Administrative Code (UAC) Rule 305-7-213, and the Administrative Law Judge’s (ALJ) Stipulated Scheduling Order dated March 15, 2017, the Director of the Utah Division of Air Quality (Director or UDAQ) submits the following Response Brief to Sierra Club’s Opening Brief.

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## INTRODUCTION

This case relates to Sierra Club's challenge to a permit, or Approval Order (AO),<sup>1</sup> issued by the Utah Division of Air Quality (UDAQ) to Revolution Fuels (Revolution) to construct and operate a new coal-to-liquids facility near Wellington, Carbon County, Utah. Sierra Club contends that UDAQ made several errors in its permitting of the facility, specifically regarding the emergency flare and the coal pile. The question for this Tribunal is whether Sierra Club has met its burden to show that UDAQ erred in issuing the permit to Revolution.

The Revolution facility is a pyrolysis plant, utilizing Fischer-Tropsch (FT) Synthesis technology. This process uses gasification to convert carbon materials to carbon monoxide (CO) and a hydrogen-rich synthetic gas (syngas). Syngas is then fed into the FT reactor that condenses it over a catalyst and converts it into wax and liquid products that can be refined into a variety of synthetic fuels. The process consists of: (1) coal delivery and storage (with an active coal pile);<sup>2</sup> (2) FT pyrolysis reactor; and (3) syngas scrubbing and refinement into synthetic fuels.<sup>3</sup>

The operation uses an emergency flare to combust any syngas or vent gas during startup, shutdown, or malfunction (SSM) events.<sup>4</sup> The AO limits the facility to four startup and shutdown events per rolling 12 month total.<sup>5</sup> The flare operates only during these SSM events, but has a continuous pilot light that emits miniscule amounts of pollutants, with the most significant emissions less than one-third of a ton per year.<sup>6</sup> Because the amount of pollution from the pilot light is minimal, UDAQ imposed a "no visible emissions" condition as best available control

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<sup>1</sup> See AR002476-88.

<sup>2</sup> See AR000113 (Notice of Intent (NOI)).

<sup>3</sup> See AR000021-22 (NOI).

<sup>4</sup> See AR000016 (NOI); AR002484 (AO).

<sup>5</sup> See AR002482 (AO, Condition II.B.1.g).

<sup>6</sup> See AR002480 (AO, Condition II.A.8); AR002484 (AO, Condition II.B.4.a); AR000051 (NOI, Combustion Calculations).

technology (BACT) for the pilot light.<sup>7</sup> Sierra Club argues that UDAQ erroneously failed to impose BACT to control flare emissions<sup>8</sup> and that the emissions are also uncontrolled during malfunction events because the permit does not impose any specific malfunction emission limits.<sup>9</sup>

The raw material for the pyrolysis process is coal, which is brought on site by the trucks and dumped in the hopper with a radial stacker that delivers coal to the active coal pile.<sup>10</sup> A covered conveyor transfers the coal from the pile to a crusher and later into the pyrolysis tube entrance.<sup>11</sup> The size of the pile is projected to be approximately 0.04 acre or 1,700 square feet<sup>12</sup> with potential to emit 1.36 tons per year (tpy) of particulate matter.<sup>13</sup> To control particulate emissions from the coal pile due to wind erosion, UDAQ imposed use of water sprays as BACT on the pile, taking into account the inherent moisture content of the coal at 10%.<sup>14</sup> This control option is up to 90% effective<sup>15</sup> and will be used in conjunction with a fugitive dust control plan required by federal regulation<sup>16</sup> and a 20% opacity limit.<sup>17</sup> Sierra Club challenges this BACT determination, arguing that UDAQ did not provide any basis for rejecting coal pile enclosure as BACT<sup>18</sup> and erroneously relying on the federal fugitive dust control plan.<sup>19</sup>

Sierra Club's last challenge is to the facility's potential to emit (PTE), which is a key calculation because it determines whether Revolution is a minor or a major source of certain

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<sup>7</sup> See AR002433 (Response to Comments (RTC)); see also AR002484 (AO, Condition II.B.4); AR002481 (AO, Condition II.B.1.b(A)).

<sup>8</sup> See Sierra Club Br. at 14.

<sup>9</sup> See *id.* at 9.

<sup>10</sup> See AR000011 (NOI).

<sup>11</sup> See *id.*

<sup>12</sup> See AR000054 (NOI, n.8).

<sup>13</sup> See AR000049 (NOI, Facility Wide Potential to Emit).

<sup>14</sup> See AR000343 (Source Plan Review (SPR)); AR002484 (AO, Condition II.B.3.b).

<sup>15</sup> See AR000113 (NOI); AR000344 (SPR).

<sup>16</sup> See AR000344 (SPR); AR002487 (AO).

<sup>17</sup> See AR002481 (AO, Condition II.B.1.b (G)).

<sup>18</sup> See Sierra Club Br. at 17.

<sup>19</sup> See *id.* at 18-19.

pollutants under the regulations. Minor sources are subject to different permitting requirements than major sources.<sup>20</sup> Sierra Club argues that if the PTE calculations for CO and NO<sub>x</sub> had included malfunction emissions, the facility might have exceeded the major source permitting thresholds, which would have subjected Revolution to more rigorous permitting requirements.<sup>21</sup> UDAQ reviewed Revolution's PTE calculations and found that under the applicable regulations, malfunction emissions were not considered normal operation and did not have to be included in the facility's PTE.<sup>22</sup> Revolution's PTE calculations showed that the proposed plant was a minor source, and UDAQ imposed corresponding minor source regulations on this facility.<sup>23</sup> Sierra Club now challenges this finding as erroneous.

### STANDARD OF REVIEW

The ALJ conducts this special adjudicative proceeding "based only on the administrative record and not as a trial de novo,"<sup>24</sup> reviewing the AO (the Director's final determination) under the applicable standards described below and submitting to the Executive Director a proposed dispositive action.<sup>25</sup> UAC Rule 305-7-214 directs the ALJ to apply the standards found in Section 19-1-301.5 of the Utah Code (Section 301.5).<sup>26</sup> The rule and the statute distinguish between factual and non-factual (legal) determinations, thus, discussion of applicable standards of review is necessary as this case presents both types of questions.

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<sup>20</sup> See Utah Admin. Code r.307-401.

<sup>21</sup> See Sierra Club Br. at 9.

<sup>22</sup> See AR002435 (RTC).

<sup>23</sup> See AR002439 (RTC); AR002478 (AO).

<sup>24</sup> Utah Code Ann. § 19-1-301.5(9)(a).

<sup>25</sup> See *id.* § 19-1-301.5(13)(c) (West, effective through March 14, 2017).

<sup>26</sup> See Utah Admin. Code r.305-7-214(2) and (3). Also note that the legislature has amended Section 301.5 effective May 9, 2017. See 2017 Utah Laws S.B. 66 (West's No. 188). The amendments affect ex parte communication provisions and page limitations for briefs, and do not alter the analysis of any substantive issues in these proceedings.

The factual and mixed questions of law and fact<sup>27</sup> that are more fact-like,<sup>28</sup> i.e., “the Director’s factual, technical, and scientific determinations,” are reviewed under the clearly erroneous standard of review.<sup>29</sup> UDAQ discussed this standard at length in its standard of review brief, which is incorporated here in its entirety.<sup>30</sup>

UDAQ’s interpretations of general questions of law—not its operable statutes and regulations—require a correctness standard of review and are granted no deference.<sup>31</sup> In contrast, questions of law and mixed questions that are more law-like involving UDAQ’s interpretation of its own rules must be reviewed recognizing the agency’s “substantial discretion,”<sup>32</sup> which strongly implies a clearly erroneous standard of review. In its recent decision under Section 301.5, the Utah Supreme Court acknowledged that “UDEQ, by statute ‘has been granted substantial discretion to interpret its governing statutes and rules.’”<sup>33</sup> However, the Court’s earlier decision in *Ellis-Hall Consultants v. Pub. Serv. Comm’n of Utah*, 2016 UT 34, 379 P.3d 1270, if broadly applied, seems to have nullified this grant of substantial discretion. *Ellis-Hall* overruled prior decisions “calling for deference to an agency’s interpretation of its own orders or

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<sup>27</sup> *Murray v. Utah Labor Comm’n*, 2013 UT 38, ¶ 33, 308 P.3d 461 (quoting *In re Adoption of Baby B.*, 2012 UT 35, ¶ 42) (Mixed questions of law and fact arise “when an agency or lower court must apply ‘a legal standard to a set of facts unique to a particular case.’”).

<sup>28</sup> To determine whether a question is more fact-like, the reviewing tribunal applies the three-prong test in *State v. Levin*, 2006 UT 50, ¶ 25, 144 P.3d 1096. The tribunal must consider (1) the degree of factual variety and complexity; (2) the degree to which legal application relies on the facts observed by the tribunal; and (3) other policy reasons that determine the degree of discretion granted to the reviewing tribunal. Application of *Levin* factors (1) and (3) weighs in favor of fact-like deferential review on the mixed questions in this case because the factual record is technical and the ALJ appointed to preside over such review must meet certain statutory qualifications due to the technical nature of the cases. See Utah Code Ann. § 19-1-301(5) (West, effective through March 14, 2017).

<sup>29</sup> See Utah Code Ann. § 19-1-301.5(14)(b).

<sup>30</sup> See Director of the Utah Division of Air Quality’s Pre-Hearing Br. on Standard of Review (Oct. 28, 2016); see also Stipulated Scheduling Order at 1-2 (March 15, 2017).

<sup>31</sup> See *Utah Chapter of the Sierra Club v. Bd. of Oil, Gas, and Mining*, 2012 UT 73, ¶ 9, 289 P.3d 719; see also *Associated Gen. Contractors v Bd. of Oil, Gas and Mining*, 2001 UT 112, ¶ 18, 38 P.3d 291 (general questions of law include constitutional questions, agency’s jurisdiction, and statutes unrelated to the agency).

<sup>32</sup> Utah Code Ann. § 19-1-301.5(15)(c)(i); Utah Admin. Code r.305-7-214(3).

<sup>33</sup> *Utah Physicians for a Healthy Env’t v. Utah Dep’t of Env’tl. Quality*, 2016 UT 49, ¶ 12, 391 P.3d 148 (quoting Utah Code Ann. § 19-1-301.5(14)(c)(i) (2014)).

regulatory enactments”<sup>34</sup> and held that “agency decisions premised on pure questions of law are subject to non-deferential review for correctness.”<sup>35</sup>

UDAQ submits that *Ellis-Hall* is distinguishable and does not alter the substantial discretion granted by Section 301.5. Closer examination of *Ellis-Hall* and the line of cases it relied on, specifically *Murray v. Utah Labor Comm’n*, 2013 UT 38, 308 P.3d 461, and *Hughes Gen. Contractors v. Utah Labor Comm’n*, 2014 UT 3, 322 P.3d 712, support a narrower interpretation of *Ellis-Hall*’s holding and distinguish it from this case. In *Murray* and *Hughes*, the discretion was *inferred* from an agency’s statute or a regulation an agency was interpreting as opposed to being expressly granted by statute in Section 301.5.<sup>36</sup>

Thus, this Tribunal should apply the Section 301.5 standard of review because it has not been expressly abrogated by *Ellis-Hall* and was recently cited in *Utah Physicians*, 2016 UT 49, ¶ 12. However, even if this Tribunal finds that *Ellis-Hall* requires application of the correctness standard to the agency’s interpretation of its own governing statutes and rules, UDAQ still prevails because its legal interpretations were correct as discussed below.

In this special adjudicative proceeding, Sierra Club carries a burden of proof to show that the Director’s factual, technical, and scientific determinations are clearly erroneous.<sup>37</sup> “A natural extension” of this burden of proof is the requirement to marshal the evidence.<sup>38</sup> Sierra Club is required “to marshal and acknowledge the evidence in the record that *supports* the Director’s

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<sup>34</sup> *Ellis-Hall*, 2016 UT 34, ¶ 28.

<sup>35</sup> *Id.* ¶ 27.

<sup>36</sup> *See Murray*, 2013 UT 38, ¶¶ 8, 25 (Utah Court of Appeals inferring discretion from Section 34A-1-301 of the Utah Code, which granted the Utah Labor Commission the authority to determine the facts and apply the law it administers but did not expressly or impliedly grant any discretion to the Commission); *Hughes*, 2014 UT 3, ¶¶ 20-21, 24 (the agency interpreting a statute that did not grant any discretion to the agency by relying on federal case law and the *Chevron* deference doctrine).

<sup>37</sup> *See* Utah Admin. Code r.305-7-214(2)(a).

<sup>38</sup> *See id.* r.305-7-214(2)(b); *see also* Utah Code Ann. § 19-1-301.5(14)(b) (upon recommendation by the ALJ, executive director “shall uphold all factual, technical, and scientific agency determinations that are not clearly erroneous based on the petitioner’s marshaling of the evidence.”).

determination” and then to demonstrate that the Director’s decision is clearly erroneous in light of that supporting evidence.<sup>39</sup> “If the petitioner fails to marshal, there is a presumption that the Director’s factual, technical, and scientific determination is not clearly erroneous.”<sup>40</sup>

## ARGUMENT

### I. Sierra Club Failed to Meet its Burden of Persuasion Because of Inadequate Briefing

Notwithstanding its claim to have incorporated by reference its previous standard of review briefing, Sierra Club did not brief its case adequately because in its Opening Brief it did not classify any of its claims as factual, legal, or mixed questions, did not discuss the standard of review applicable to legal or mixed questions, and did not apply the standard it discussed in its standard of review brief to the facts of this case.<sup>41</sup> The adequate briefing requirement is a “natural extension of an appellant’s burden of persuasion.”<sup>42</sup> An appeal may be dismissed for failure to adequately brief the case and meet the burden of persuasion.<sup>43</sup> Sierra Club has not met its burden as its brief lacks the analysis necessary to show that UDAQ erred. This Tribunal should recommend dismissal of Sierra Club’s claims with prejudice, or alternatively, recommend that these issues be dismissed as waived, due to inadequate briefing.<sup>44</sup>

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<sup>39</sup> Utah Admin. Code r.305-7-214(2)(c).

<sup>40</sup> *Id.* r.305-7-214(2)(d); *see also Bd. of Oil, Gas, and Mining*, 2012 UT 73, ¶ 30 (Consequence of failing to marshal the evidence is that the reviewing tribunal “may presume the evidence supports the [agency’s] conclusion and affirm the [agency’s] decision.”).

<sup>41</sup> *See* Sierra Club Br. at 2-3; Sierra Club’s Pre-Hearing Br. Regarding the Standard of Review (Oct. 28, 2016).

<sup>42</sup> *State v. Roberts*, 2015 UT 24, ¶ 19, 345 P.3d 1226.

<sup>43</sup> *See e.g., Utah Physicians*, 2016 UT 49, ¶ 21 n.9 (dismissing appeal for failure to brief adequately, stating that the petitioners’ failure to meet their burden of persuasion was “inextricably connected to the way they chose to brief [their] case before the court”).

<sup>44</sup> *See e.g., Maak v. IHC Health Services, Inc.*, 2007 UT App 244, ¶ 30, 166 P.3d 631 (“failure to argue issues in the opening brief constitutes waiver”) (citing *Brown v. Glover*, 2000 UT 89, ¶ 23, 16 P.3d 540).

## II. UDAQ Properly Interpreted the Applicable Law to Exclude Malfunction Emissions from the PTE Calculation

Sierra Club contends that UDAQ clearly erred when it failed to include malfunction emissions in the facility's PTE calculation.<sup>45</sup> Sierra Club fails to meet its burden to show that UDAQ's interpretations of its governing regulations on this question of law were either clearly erroneous or incorrect. Utah regulations define PTE as "the maximum capacity of a source to emit a pollutant under its physical and operational design."<sup>46</sup> As explained below, the maximum capacity means normal operations—not the worst conceivable scenario. In response to comments, UDAQ explained that "upset emissions are not considered part of normal operations" and thus are not included in the PTE.<sup>47</sup> Any attempt to calculate malfunction emissions is speculative, especially for a newly-constructed facility that has no operational history.<sup>48</sup> Consequently, UDAQ interpreted the regulation to exclude malfunction emissions from the PTE.<sup>49</sup>

Contrary to Sierra Club's contention,<sup>50</sup> case law addressing PTE supports this interpretation. In *Sierra Club v. Wyo. Dep't of Env'tl. Quality*, 251 P.3d 310, 313 (Wyo. 2011), Sierra Club similarly argued that Wyoming DEQ "improperly excluded" malfunction emissions from the permitted facility's PTE. The Wyoming Supreme Court ruled in favor of the agency, examining the PTE definition in other cases and concluding that PTE represented "the maximum emissions that can be generated while operating the source as it is intended to be operated and as

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<sup>45</sup> Sierra Club Br. at 3.

<sup>46</sup> Utah Admin. Code r.307-401-2.

<sup>47</sup> AR002435 (RTC).

<sup>48</sup> See AR002462 (RTC) ("Upset/Breakdown/Emergency emissions cannot be calculated or reasonably estimated and are never included in the PTE.").

<sup>49</sup> See AR002462-66 (RTC).

<sup>50</sup> See Sierra Club Br. at 5-6.

it is normally operated,”<sup>51</sup> whereas “hypothesizing the worst possible emissions from the worst possible operation is the wrong way to calculate potential to emit.”<sup>52</sup>

Sierra Club argues that *Sierra Club* was wrongly decided,<sup>53</sup> and that the case it relied on—*United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141 (D. Colo. 1998)—does not support UDAQ’s position.<sup>54</sup> Sierra Club attempts first to distinguish *Louisiana-Pacific* by claiming that potential to emit in that case excluded certain emissions because they resulted from a device operating “in a manner contrary to its design.”<sup>55</sup> Sierra Club claims that here “the flare is part of the Revolution facility for the sole purpose of burning excess gas during malfunction (and startup and shutdown) events . . . [and is] part of the facility’s design . . . .”<sup>56</sup>

However, Sierra Club overlooks a central aspect of the *Louisiana-Pacific* court’s analysis that PTE “contemplates the maximum emissions that can be generated while operating the source as it is intended to be operated and as it is *normally* operated.”<sup>57</sup> Malfunction events, during which the flare combusts excess emissions, are not normal operations. Sierra Club also claims that *Louisiana-Pacific* supports “the inclusion of a certain inevitable number of hours of malfunction events,” but fails to provide specific citations for this statement or any further analysis of why it contends this statement is true.<sup>58</sup> Thus, Sierra Club has not met its burden to show that UDAQ’s interpretation of PTE is inconsistent with *Louisiana-Pacific* or is not supported by the current case law.

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<sup>51</sup> *Sierra Club*, 251 P.3d at 313 (quoting *United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141 (D. Colo. 1998)); see also *id.* at 314 (“But as we have already discussed, *Louisiana-Pacific* establishes that PTE includes only emissions that occur during normal operations.”).

<sup>52</sup> *Sierra Club*, 251 P.3d at 314 (quoting *Louisiana-Pacific*, 682 F. Supp. at 1157-58).

<sup>53</sup> See *Sierra Club Br.* at 6.

<sup>54</sup> See *id.* at 5.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 5-6.

<sup>57</sup> *Louisiana-Pacific*, 682 F. Supp. at 1158 (emphasis added) (citing *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C.Cir. 1979)).

<sup>58</sup> *Sierra Club Br.* at 6.

Next, Sierra Club argues that UDAQ improperly distinguished<sup>59</sup> the documents Sierra Club submitted during the public comment period (EPA’s Riva Memo and the six examples of other coal-based gasification or liquid fuels plants) that purportedly require inclusion of malfunctions emissions in PTE.<sup>60</sup> Specifically, Sierra Club claims that UDAQ “wrongfully disregarded [EPA’s Riva Memo] simply because” it is not “a policy pronouncement,” when it requires inclusion of malfunction emissions in PTE.<sup>61</sup> Sierra Club fails to acknowledge that UDAQ thoroughly explained<sup>62</sup> that the Riva Memo was neither controlling nor persuasive because EPA did not provide *any authority* for its statement that a source is required to estimate emissions “based on the worst-case scenario,” which Sierra Club claims includes malfunctions.<sup>63</sup> Moreover, the Riva Memo acknowledges that there is no policy regarding inclusion of malfunction emissions in PTE,<sup>64</sup> and in any event the Riva Memo’s discussion was not tied to a particular source but was a general internal discussion at the agency level.<sup>65</sup>

The Wyoming *Sierra Club* court also examined the Riva Memo and found it unresponsive of Sierra Club’s position that such malfunction emissions must be included the PTE calculation.<sup>66</sup> The court first noted that the Riva Memo seemed “inconsistent with” *Louisiana-Pacific* “that PTE ‘does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable operation.’”<sup>67</sup> The court then found that when “read in context,” the statement regarding malfunctions in the Riva Memo instead stands for the

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<sup>59</sup> See *id.* at 7.

<sup>60</sup> See *id.* at 4-9.

<sup>61</sup> *Id.* at 6 (quoting UDAQ at AR002463). Without supporting citation, Sierra Club also claims that “the Riva Memo is just one of many EPA guidelines and policy statements that confirm potential to emit must consider emissions from malfunction events.” Sierra Club Br. at 6. However, Sierra Club fails to identify any such guidelines and policy statements or submit them during public comment.

<sup>62</sup> See AR002462-63 (RTC, attached as Exhibit 1).

<sup>63</sup> AR002462 (quoting Riva Memo, Ex. E at 1-2).

<sup>64</sup> See AR002462 (citing Riva Memo, Ex. E at 1-2).

<sup>65</sup> See AR002462-63 (RTC).

<sup>66</sup> See *Sierra Club*, 251 P.3d at 314-15.

<sup>67</sup> *Id.* at 314 (quoting *Louisiana-Pacific*, 682 F. Supp. at 1158).

proposition that “emissions from startups, shutdowns, and malfunctions are not automatically excluded from PTE, nor are they automatically included . . . [but] . . . must be taken into account by including them in PTE if they fit within the regulatory definition, or excluding them if they do not.”<sup>68</sup> Accordingly, UDAQ properly assigned little weight to the Riva Memo and correctly interpreted its PTE regulation consistent with the applicable case law.

Sierra Club also complains that UDAQ ignored several examples of permit applications and permits for other coal-based plants that “demonstrated that flaring emissions during malfunctions are routinely included in calculations of potential to emit.”<sup>69</sup> Sierra Club provides virtually no analysis of UDAQ’s substantial review of these examples other than the conclusory claim that UDAQ decided that Sierra Club’s documents were “different in some insignificant manner.”<sup>70</sup> UDAQ’s analysis is contained in the record, where the agency meticulously considered each of the cited documents and explained why they do not affect UDAQ’s interpretation of its PTE regulation.<sup>71</sup> More importantly, none of these examples identifies or establishes a legal requirement to include malfunction emissions in a PTE calculation.<sup>72</sup> UDAQ properly concluded that its own regulation does not require inclusion of malfunction emissions in PTE.

Finally, Sierra Club attacks UDAQ’s reliance on the Holly Order for the PTE calculation, claiming that the order was wrongfully decided and is currently on appeal.<sup>73</sup> Sierra Club attempts to distinguish the Holly and Revolution AOs, arguing that Holly AO imposed source-wide emissions caps allegedly limiting malfunction emissions, whereas Revolution AO does not

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<sup>68</sup> *Sierra Club*, 251 P.3d at 314-15.

<sup>69</sup> *Sierra Club Br.* at 6.

<sup>70</sup> *Id.*

<sup>71</sup> *See* AR002441-43 (RTC, attached as Exhibit 2).

<sup>72</sup> *See* AR002443 (RTC).

<sup>73</sup> *See* *Sierra Club Br.* at 7-8.

impose such caps.<sup>74</sup> As explained in the next section, although Revolution does not have source-wide caps, UDAQ relied on the Holly Order because the Holly AO, just as the Revolution AO, presumed that any malfunction emissions were violations of the permit. Both permits assumed zero malfunction emissions.<sup>75</sup>

Sierra Club therefore fails to meet its burden to show that UDAQ clearly erred or was incorrect in interpreting its PTE regulation, and the Director's interpretation and subsequent PTE calculations must be affirmed.

### **III. UDAQ Properly Determined that the Unavoidable Breakdown Rule Regulates Malfunction Emissions**

The Unavoidable Breakdown Rule (UBR)<sup>76</sup> governs the applicability and reporting of malfunction emissions and vests UDAQ with enforcement discretion to address violations due to malfunction emissions.<sup>77</sup> Sierra Club contends that because UDAQ did not set any flare-specific or facility-wide emission caps that limit the quantity of malfunction emissions, the UBR will never apply, and consequently, malfunction emissions are unlimited.<sup>78</sup>

Whether the UBR applies to regulate malfunction emissions in the absence of a specific permit limit is a mixed question of law and fact, requiring application of the regulation to the facts of the proposed permit. Therefore, to meet its burden, Sierra Club must marshal the evidence supporting UDAQ's determination that UBR properly regulates malfunction emissions

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<sup>74</sup> See *id.* at 8.

<sup>75</sup> See AR002436 (RTC) ("The limits in the proposed permit contemplate zero upset emissions from the flare. Any exceedance of the permit limits, due to upset conditions or otherwise, is a violation of the permit."); Findings of Fact, Conclusions of Law, and Recommended Order on the Merits, In the Matter of: Approval Order No. DAQE-AN101230041-13, Holly Refining & Marketing Company-Woods Cross, LLC Heavy Crude Processing Project, Project No. N10123-0041 (Holly Order) at 40, ¶ 4 (March 11, 2015), available at <https://deq.utah.gov/Admin/proceedings/docs/2015/06Jun/HollyALJRecommendedOrder.pdf> (last visited May 8, 2017) ("The assumption in determining the PTE for the flares was that upset emissions would be zero because they are not part of normal refinery operation.").

<sup>76</sup> See Utah Admin. Code r.307-107.

<sup>77</sup> See *id.* r.307-107-3.

<sup>78</sup> See Sierra Club Br. at 9.

and show that the agency's interpretation of the law and application to the facts is clearly erroneous or incorrect. Otherwise, UDAQ's determination must be affirmed.

Sierra Club erroneously assumes that the UBR applies only where the AO imposes a specific limit, i.e., that certain amount of malfunction emissions is permissible. However, the limits in the AO apply only to normal operations.<sup>79</sup> Malfunctions are not normal operations, and any emissions due to malfunctions are subject to the UBR.<sup>80</sup> In other words, the applicability of the UBR to malfunction emissions does not depend on any individual limit and applies any time a malfunction occurs. UDAQ explained, "The limits in the proposed permit contemplate zero upset emissions from the flare. Any exceedance of the permit limits, due to upset conditions or otherwise, is a violation of the permit."<sup>81</sup>

The UBR provides a mechanism for reporting and regulating unforeseeable breakdowns. Malfunction emissions occur during a breakdown, which is defined as "any malfunction or procedural error . . . which will result in the inoperability or sudden loss of performance of the control equipment or process equipment causing emissions *in excess* of those allowed by approval order or Title R307."<sup>82</sup> Because the Revolution AO does not allow malfunction emissions, any emissions released and combusted through the flare during a malfunction event are "in excess" of those allowed by the AO, must be reported under the UBR, and are subject to UDAQ's enforcement discretion.<sup>83</sup> Thus, the UBR does not require imposition of limits on malfunctions, nor does it excuse malfunctions. Malfunction emissions are never exempt from regulation, and no amount of such emissions is allowed by the Revolution AO.

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<sup>79</sup> See AR002435 (RTC).

<sup>80</sup> *Id.*

<sup>81</sup> AR002435-36 (RTC).

<sup>82</sup> Utah Admin. Code r.307-101-2 (emphasis added).

<sup>83</sup> See AR002435 (RTC) (the UBR assuming that all "malfunction emissions are violations of an applicable approval order but afford[ing] DAQ discretion regarding the imposition of fines and penalties").

Sierra Club further argues that UDAQ cannot rely on the Holly Order because Holly AO had a source-wide cap on emissions that was federally enforceable, and that there is no similar federally enforceable limit in the Revolution AO.<sup>84</sup> However, this distinction is irrelevant because for both the Holly and Revolution permits, UDAQ's enforcement option is the same—neither permit allows malfunction emissions, so any such emissions are violations subject to the UBR.<sup>85</sup> In any event, Sierra Club exaggerates the significance of the Holly emissions cap. Holly considered the malfunction emissions in that case by assuming “a limit of zero tpy . . . which it factored into its emissions totals for the SO<sub>2</sub> and PM<sub>10</sub> emission caps.”<sup>86</sup> UDAQ assumed malfunction emissions to be zero in Revolution AO as well.<sup>87</sup> The Holly emissions cap did not mean that Holly's malfunction emissions would have to exceed the cap before the UBR would apply, as the UBR applies to *any* malfunction emissions, just as it does to the Revolution facility.

By failing to marshal the evidence and show that UDAQ's factual determinations and legal conclusions are either clearly erroneous or incorrect, Sierra Club has not met its burden on this fact-like mixed question.

#### **IV. UDAQ Properly Analyzed BACT for the Flare**

Revolution's flare is a control device to burn excess emissions (nitrogen purge gas and syngas) during SSM events.<sup>88</sup> Other than these events, the only continuous source of miniscule emissions from the flare is its pilot light.<sup>89</sup> The pilot light is subject to a BACT limitation, which is a “no visible emissions” standard.<sup>90</sup> Sierra Club contends that the flare is an independent source of emissions requiring the application of BACT, and that UDAQ's decision not to impose

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<sup>84</sup> See Sierra Club Br. at 11.

<sup>85</sup> See Holly Order at 41, ¶ 7; see also AR002436 (RTC).

<sup>86</sup> Holly Order at 46, ¶ 30.

<sup>87</sup> See AR002436.

<sup>88</sup> See AR000016 (NOI); AR000051 (emissions inventory in NOI); AR002484 (AO, Condition II.B.4.a).

<sup>89</sup> See AR000015 (NOI); AR002480 (AO, Condition II.A.8).

<sup>90</sup> See AR002433 (RTC); see also AR002484 (AO, Condition II.B.4); AR002481 (AO, Condition II.B.1.b(A)).

BACT on the flare was erroneous.<sup>91</sup> This issue presents a fact-like mixed question of law and fact because it requires the application of the BACT rule to the facts regarding the design and operation of the flare. Again, to meet its burden, Sierra Club must marshal the evidence on the factual determinations it attacks and explain why UDAQ's decision is either clearly erroneous or incorrect. Sierra Club fails to meet this burden because it provides only a handful of record citations<sup>92</sup> and no meaningful analysis explaining why the flare is an emission unit subject to BACT.

BACT is required for new sources<sup>93</sup> such as Revolution and, depending on the circumstances, represents an emission limitation (*including a visible emissions standard*), design, equipment, or work practice that achieves the maximum degree of reduction for each air pollutant that UDAQ imposes on a case-by-case basis, accounting for energy, environmental, and economic impacts.<sup>94</sup> BACT applies to emissions from stationary sources and emission units.<sup>95</sup> State regulations define an "emission unit" as "any part of a stationary source which emits or would have the potential to emit any air pollutant."<sup>96</sup>

The record shows that Revolution's flare is not an emission unit under the regulatory definition because it is not a source of emissions.<sup>97</sup> Rather, the flare combusts syngas that is routed to the flare during startups when all the vessels and equipment contain nitrogen purge until the necessary amount of syngas is introduced into the system.<sup>98</sup> During normal operations, all process equipment (which represents emission units in this case) is also routed to the flare in the event of a malfunction, where the flare will combust all syngas or vent gas and prevent their

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<sup>91</sup> See Sierra Club Br. at 13-14.

<sup>92</sup> See *id.* at 15.

<sup>93</sup> See Utah Admin. Code r.307-401-8(1)(a).

<sup>94</sup> See *id.* r.307-401-2(1).

<sup>95</sup> See *id.*

<sup>96</sup> *Id.*

<sup>97</sup> See AR002433 (RTC).

<sup>98</sup> See AR000016 (NOI).

release into the atmosphere.<sup>99</sup> During shutdown, any syngas remaining in the process equipment (which again is produced during pyrolysis by the process equipment) is routed to the flare for combustion.<sup>100</sup> The fact that the flare must combust those emissions does not convert the flare into an “emission unit” because it only combusts emissions generated elsewhere in the system.

Despite arguing that UDAQ should require further controls on the flare, during public comment Sierra Club did not provide any examples of such technologies.<sup>101</sup> UDAQ explained that flares are highly effective in controlling VOC emissions with “a minimum 98% destruction rating,”<sup>102</sup> and Sierra Club failed to provide “any suggestions or examples to limit gaseous emissions” beyond what the flare already does.<sup>103</sup> Sierra Club now claims, “BACT options cannot be analyzed because the application did not provide critical details on the flare design.”<sup>104</sup>

During public comment, Sierra Club was on notice of the facility type, emitted pollutants, the use of the flare, and its role as a control device in the pyrolysis process.<sup>105</sup> This information was sufficient to comment on available control technologies, but Sierra Club apparently could not find any examples of such technologies. Additionally, after the close of the public comment period and in response to Sierra Club’s comments, Revolution submitted calculations for flare emissions during startups and shutdowns.<sup>106</sup> These calculations provided additional details on flare operating conditions, composition and amount of pollutants combusted through the flare during SSM events.<sup>107</sup> UDAQ included these calculations in the administrative record.

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<sup>99</sup> *See id.*

<sup>100</sup> *See id.*

<sup>101</sup> *See* AR002433 (RTC).

<sup>102</sup> AR002440 (RTC).

<sup>103</sup> *Id.*

<sup>104</sup> Sierra Club Br. at 16.

<sup>105</sup> *See* AR000015 (Auxiliary Systems); AR000016 (Startup, Shutdown, and Upset Conditions); AR000044 (Point Source Stack Parameters); AR000048 (Operational Parameter Assumptions); AR000051 (Emissions Inventory).

<sup>106</sup> *See* AR002489-507.

<sup>107</sup> *See e.g.*, AR002494 (composition of emissions during startup and shutdown); AR002496 (Flare Emergency Malfunction Emission Calculations).

Accordingly, nothing prevented Sierra Club from using this additional information to determine and suggest appropriate controls for the flare in its brief, but it failed to do so.

Without providing specific examples of control technologies, Sierra Club continues to argue that BACT must be imposed due to allegedly unregulated malfunction emissions because the AO “contains emissions limits for point sources with control technologies” such as the Reaction Chamber controlled by Selective Catalytic Reduction (SCR).<sup>108</sup> Comparing the flare with the Reaction Chamber and its controls is unwarranted. The Reaction Chamber itself is an emission unit and a source of NO<sub>x</sub> and CO emissions that are controlled with SCR and an oxidation catalyst.<sup>109</sup> Based on these controls, the AO imposes NO<sub>x</sub> and CO limits on the Reaction Chamber.<sup>110</sup> Conversely, the flare is not a source of emissions (except for the pilot light emissions discussed below) but a control device that combusts emissions generated by other units in the process. UDAQ properly presumed flare emissions to be zero tpy with any exceedances subject to the UBR.<sup>111</sup>

The only source of the miniscule emissions from the flare itself is a pilot light with “a PTE of 0.21 tpy of NO<sub>x</sub> and 0.36 tpy of CO.”<sup>112</sup> UDAQ properly imposed BACT on this emissions unit, which is “no visible emissions from the flare” due to the small amount of emissions.<sup>113</sup> Sierra Club argues that this BACT does not cure the absence of emission limitations during malfunctions,<sup>114</sup> does not “limit the quantity, rate or concentration of emission of air pollutants,”<sup>115</sup> and does not “limit all pollutants from the flare,” including the ones

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<sup>108</sup> Sierra Club Br. at 15.

<sup>109</sup> See AR002479 (AO, Condition II.A.2); AR002482-84 (AO, Condition II.B.2).

<sup>110</sup> See AR002482 (AO, Condition II.B.2.a).

<sup>111</sup> See AR002432-36.

<sup>112</sup> AR002433 (RTC); see also AR002484 (AO, Condition II.B.4.a).

<sup>113</sup> AR002481 (AO, Condition II.B.1.b(A)).

<sup>114</sup> See Sierra Club Br. at 16.

<sup>115</sup> *Id.* (quoting Utah Admin. Code r.301-101’s definition of “emission limitation”).

allegedly emitted during episodes other than flaring.<sup>116</sup> Sierra Club ignores both the fact that the BACT definition expressly states that BACT may be a visible emission standard,<sup>117</sup> and UDAQ's explanation that limitations, in any event, are unnecessary because all malfunction events are presumptively violations and addressed under the UBR.<sup>118</sup> Therefore, Sierra Club has not met its burden to show that UDAQ acted either unreasonably or incorrectly when it determined that BACT for the pilot light met the regulatory requirements.

Sierra Club next argues that UDAQ should have started its BACT analysis for the flare with Subpart Ja of the New Source Performance Standards (NSPS)<sup>119</sup> for Petroleum Refineries.<sup>120</sup> UDAQ explained that it did not consider Subpart Ja because the regulation applies only to petroleum refineries and Sierra Club did not explain "how Subpart Ja would apply in this case."<sup>121</sup> Sierra Club nevertheless argues that UDAQ may still use "refinery regulations and plans for flares as a starting point" for Revolution's flare.<sup>122</sup> However, in its brief Sierra Club again fails to provide any basis or analysis for its desired application of Subpart Ja to the flare. Consequently, Sierra Club has not met its burden to show that UDAQ erred in not applying Subpart Ja petroleum refinery requirements to the Revolution coal-to-liquid facility.

Finally, Sierra Club claims that UDAQ's BACT analysis for the flare is similar to the BACT analyses that EPA's Environmental Appeals Board (EAB) found clearly erroneous.<sup>123</sup> EAB cases are not binding on UDAQ and can serve as advisory opinions only. Moreover, Sierra

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<sup>116</sup> See Sierra Club Br. at 16.

<sup>117</sup> Utah Admin. Code r.307-401-2(1) ("Best available control technology' means an emissions limitation (including a *visible emissions standard*) . . .") (emphasis added).

<sup>118</sup> See AR002436 (RTC).

<sup>119</sup> The NSPS are technology-based standards determined by source category that apply regardless of the air quality in any particular area. See 40 C.F.R. § 60.1. EPA specifies the NSPS by regulation, codified in 40 C.F.R. § 60.1 *et seq.* NSPS reflect the degree of emission limitation achievable through the application of the best system of emission reduction, which EPA determines has been adequately demonstrated. See 42 U.S.C. § 7411(a)(1) (West 2017). Subpart Ja applies to refineries constructed or modified after May 14, 2007. See 40 C.F.R. § 60.100a(b).

<sup>120</sup> See Sierra Club Br. at 16-17.

<sup>121</sup> AR002436 (RTC).

<sup>122</sup> Sierra Club Br. at 16-17.

<sup>123</sup> *Id.* at 17 (citing to EAB cases).

Club refers this Tribunal to its standard of review brief, which addressed the standard of review applicable to factual issues only and did not apply the cited EAB cases to the Revolution flare BACT. Sierra Club inadequately briefed this issue and failed to meet its burden of persuasion because it asks the ALJ to review the cases and attempt to determine how they support Sierra Club's position instead of providing this analysis to the Tribunal and the respondents.

## V. UDAQ Properly Applied BACT to the Coal Pile

A BACT determination must be at least as stringent as the NSPS.<sup>124</sup> When UDAQ determined BACT for the coal pile, it consulted NSPS Subpart Y, which identifies control technologies for coal piles.<sup>125</sup> UDAQ determined that BACT for the coal pile would be application of water sprays to comply with a 20% opacity limitation, and compliance with the fugitive dust control plan under Subpart Y.<sup>126</sup>

Sierra Club attacks the coal pile BACT analysis on three grounds, claiming: (1) erroneous reliance on Subpart Y of the NSPS;<sup>127</sup> (2) a lack of evidentiary basis for UDAQ's conclusion that enclosing the pile is not feasible;<sup>128</sup> and (3) a lack of basis for "relying on a fugitive coal dust emission control plan that has yet to be completed as BACT."<sup>129</sup> All three issues are fact-like mixed questions of law and fact reviewed under a clearly erroneous standard because they require application of the BACT rule to the facts in the record. As set forth below, on all three questions Sierra Club fails to meet its burden to show that UDAQ erred.

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<sup>124</sup> See Utah Admin. Code r.307-401-2(1) (definition of BACT) ("In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61.").

<sup>125</sup> AR002456 (RTC).

<sup>126</sup> See AR000343-44 (SPR); AR000349 (SPR, Condition II.B.1.b (F)); AR002454 (RTC).

<sup>127</sup> See Sierra Club Br. at 18.

<sup>128</sup> See *id.* at 17.

<sup>129</sup> *Id.* at 19.

Sierra Club first argues that UDAQ wrongfully relied on Subpart Y “without conducting a proper BACT analysis.”<sup>130</sup> Specifically, Sierra Club contends that the coal pile BACT analysis does not show that the selected BACT will achieve the maximum reduction of pollutants.<sup>131</sup> Sierra Club fails to marshal the evidence and meet its burden on this mixed question.

Subpart Y identifies control technologies for coal piles, including “[l]ocating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents on the source . . . use of a wind barrier, compaction, or use of a vegetative cover.”<sup>132</sup> UDAQ reviewed the BACT analysis submitted by Revolution,<sup>133</sup> which identified these same controls for the coal pile as Subpart Y.<sup>134</sup> In responding to Sierra Club’s comments, UDAQ stated that it was “not aware of any additional control technologies that would be technologically and economically feasible” for the coal pile in addition to those identified in the regulation.<sup>135</sup> Sierra Club faults this explanation, claiming that UDAQ’s response “disregards DAQ’s responsibility for conducting a BACT analysis under Utah’s BACT rule and the Utah Supreme Court’s *Sierra Club* case, which recognized that DAQ must provide sufficient evidence to show BACT emission limits are achieving the maximum reduction of pollutants possible.”<sup>136</sup> However, Sierra Club does not provide any meaningful analysis of UDAQ’s BACT review or the *Sierra Club* case on which it purports to rely because it fails to explain how UDAQ’s BACT analysis conflicts with these authorities.

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<sup>130</sup> *Id.* at 18.

<sup>131</sup> *See id.*

<sup>132</sup> 40 C.F.R. § 60.254(c)(2); *see also* AR002456 (RTC).

<sup>133</sup> *See* AR000113-14 (NOI); AR000343-44 (SPR).

<sup>134</sup> *See* AR000113-14 (NOI); AR000343-44 (SPR).

<sup>135</sup> AR002456 (RTC).

<sup>136</sup> *Sierra Club Br.* at 18.

The closest Sierra Club comes is alleging that UDAQ improperly rejected Sierra Club's comments regarding two<sup>137</sup> California administrative regulations, which it proposed for consideration in the coal pile BACT analysis.<sup>138</sup> However, as UDAQ explained, "[T]he commenter has not identified and DAQ is not aware of any Utah state or federal rule that requires the DAQ to consider a rule from another state as BACT for a minor source in Utah."<sup>139</sup> Moreover, UDAQ complied with UAC Rule 307-401-7(3) by reviewing Sierra Club's comments, which it documented in the record.<sup>140</sup> The fact that UDAQ disagreed with Sierra Club does not mean that the agency did not consider the comment adequately. Thus, Sierra Club has not met its burden to show that UDAQ's decision was clearly erroneous.

Next, Sierra Club argues that the record does not support UDAQ's determination that enclosing the coal pile is not economically feasible. Here, Revolution proposed and UDAQ approved BACT controls for the coal pile that are 90% effective<sup>141</sup> in reducing projected particulate emissions of only 1.36 tpy.<sup>142</sup> Revolution will apply water sprays to comply with a 20% opacity limitation and the fugitive dust control plan under Subpart Y of the NSPS.<sup>143</sup> The cost of building and maintaining the structure to enclose an active pile to further reduce the remaining 10% of emissions (.136 tpy or slightly more than one tenth of a ton per year) is obviously cost-prohibitive. EPA itself considers the cost of enclosing an "open coal storage piles

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<sup>137</sup> *Id.*; Sierra Club claims that "DAQ's response also completely ignores *several* credible examples of BACT for the coal pile Sierra Club provided in comments." *Id.* at 18-19 (emphasis added). However, a simple review of the record shows that the *only* examples Sierra Club provided during comment were the two California regulations. *See* AR000453-54; AR002204-19; AR002220-42. UDAQ addressed these examples in the response to comments. *See* AR002454. If there are other examples, Sierra Club has never identified them. This failure undercuts Sierra Club's argument that there are other controls beyond those identified in Subpart Y, and supports UDAQ's argument that Subpart Y contains all the known control options for the coal pile.

<sup>138</sup> *See* Sierra Club Br. at 18-19.

<sup>139</sup> AR002454 (RTC).

<sup>140</sup> *See* AR002454 (RTC); AR002457 (RTC).

<sup>141</sup> *See* AR000113 (NOI); AR000344 (SPR).

<sup>142</sup> *See* AR000049 (NOI, Facility Wide Potential to Emit).

<sup>143</sup> *See* AR000343-44 (SPR); AR002454 (RTC).

to be . . . unreasonable.”<sup>144</sup> Consequently, EPA determined that under Subpart Y “complete enclosures with fabric filters” do not “constitute adequately demonstrated control technologies for open storage piles.”<sup>145</sup>

Sierra Club apparently does not contest the BACT result, but only the BACT process, arguing that UDAQ should have required cost analyses or calculations to support the economic infeasibility of an enclosure.<sup>146</sup> However, Sierra Club never establishes any feasibility standard to measure the conclusion that the expenditure of enclosing an active coal pile is proportional to reducing 1.36 tpy of particulates as opposed to BACT UDAQ imposed. Therefore, in the absence of such analysis, it is unclear how Sierra Club can conclude that additional evidence is needed for such an obvious conclusion. Therefore, Sierra Club has not met its burden to show that UDAQ erred or that the BACT result would be any different even with the additional analysis that Sierra Club claims is necessary.

Sierra Club also fails to marshal the evidence, but seeks to avoid its marshaling obligation by artificially narrowing the issue to whether there is adequate support for economic infeasibility of the enclosure.<sup>147</sup> However, this question cannot be answered without reviewing all the evidence in the record supporting the coal pile BACT determination. Sierra Club should have marshaled and addressed this evidence, including the size of the coal pile,<sup>148</sup> the amount of emissions estimated from the pile,<sup>149</sup> the various potential controls identified by Revolution and

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<sup>144</sup> Standards of Performance for Coal Preparation and Processing Plants (40 CFR 60 subpart Y), Response to Comments Received on Proposed Amendments (Published April 28, 2008; 73 FR 22901) and Supplemental Proposal (Published May 27, 2009; 74 FR 25304) at 95 (Sept. 2009), available at <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2008-0260-0150&contentType=pdf> (last visited May 8, 2017).

<sup>145</sup> *Id.*

<sup>146</sup> *See* Sierra Club Br. at 18.

<sup>147</sup> *See id.* at 17-18.

<sup>148</sup> *See* AR000054 (NOI, n.8).

<sup>149</sup> *See* AR000049 (NOI, Facility Wide Potential to Emit).

reviewed by UDAQ,<sup>150</sup> and the effectiveness of the imposed BACT controls.<sup>151</sup> With these facts in view, the basis and context for the agency's BACT decision is clear. Equally clear is that Sierra Club has not met its burden by failing to confront the evidence in the record relevant to the cost of the enclosure when compared to the miniscule amount of additional particulate emissions reduction it might achieve beyond the current BACT controls.

Lastly, Sierra Club argues that "BACT must be determined before a permit is issued[,]" and that UDAQ did not provide a basis for "relying on a fugitive coal dust emission control plan that has yet to be completed as BACT."<sup>152</sup> Sierra Club fails to marshal the evidence and acknowledge that the fugitive dust control plan was not the exclusive BACT imposed on Revolution's coal pile, but was only one of the conditions. The applicable federal regulations require that such a plan be submitted to the agency prior to the startup of the facility irrespective any BACT determination.<sup>153</sup> The comprehensive BACT for the coal pile is the application of water sprays, the 20% opacity limitation, and compliance with the fugitive dust control plan under Subpart Y.<sup>154</sup> Sierra Club failed to meet its burden on this issue because it did not demonstrate that the agency's BACT determination for the coal pile is clearly erroneous or incorrect.

## CONCLUSION

Sierra Club failed to meet its burden of proof because it did not marshal the evidence supporting UDAQ's decision and inadequately briefed its claims. Sierra Club also failed to show that UDAQ's decision to issue the Revolution AO is either clearly erroneous or incorrect. For the

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<sup>150</sup> See AR000343-44 (SPR); AR002484 (AO, Condition II.B.3.b); AR002481 (AO, Condition II.B.1.b (G)).

<sup>151</sup> AR000113 (NOI).

<sup>152</sup> Sierra Club Br. at 19-20.

<sup>153</sup> See 40 C.F.R. § 60.254(c)(4)(i); *see also* AR002478 (the source is subject to 40 C.F.R. 60 Subpart Y).

<sup>154</sup> See AR000343-44 (SPR); AR002454 (RTC).

reasons set forth in this brief, UDAQ respectfully requests that this Tribunal recommend denial of Sierra Club's Petition for Review and that the Revolution AO be upheld in its entirety.

DATED this 8<sup>th</sup> day of May 2017.

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**CERTIFICATE OF SERVICE**

I certify that on this 8<sup>th</sup> day of May 2017, I filed a true and correct copy of the foregoing **DIRECTOR OF THE UTAH DIVISION OF AIR QUALITY'S RESPONSE BRIEF** via e-mail with the following recipients:

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# **Exhibit 1**

**(In the Matter of: Revolution Fuels, LLC Coal to Liquid Facility,  
Air Quality Approval Order (DAQE-AN154900001-16),  
Administrative Record AR002462-AR002463)**

and II.B.3.a of the proposed AO, and the commenter does not explain how these provisions are unenforceable.

See response to Comment 37 regarding recordkeeping requirements.

No changes were made to the AO as a result of this comment.

## **Startup/ Shutdown and Upset/Breakdown/Emergency**

### **Comment 71: Environmental Coalition**

Page 10, ¶ 5 (footnotes omitted)

*"All emissions from the flare, including during startup, shutdown and malfunction (SSM) events must be included in the project's emissions estimate. Utah regulations define Potential to Emit (PTE) as 'the maximum capacity of a stationary source to emit a pollutant under its physical and operational design.' 'The definition of 'potential to emit' under the new source regulations is extremely important.' 'Failure to properly estimate all of a facility's emissions is a violation of law.'"*

#### **DAQ Response:**

DAQ requires sources to estimate potential to emit emissions based upon normal operations. Where startup/shutdown emissions can be reasonably estimated they are included in the source-wide PTE.

Upset/Breakdown/Emergency emissions cannot be calculated or reasonably estimated and are never included in the PTE. See Holly Order at 40; 44-46. To control startup/shutdown emissions appropriately, the DAQ has taken two approaches. Where technically feasible, the DAQ will establish separate emission limits that are only applicable during startup/shutdown or will evaluate source operations to estimate the number of startup/shutdown events to occur on an annual basis. For this permit, a condition will be added limiting the source to four startups and four shutdowns a year. The emissions from the startups and shutdowns have been included in the potential to emit of the facility and did not change the classification of the source or trigger any additional modeling.

The flare will be used during upset/breakdown/emergency situations and purging during startups and shutdowns. Upset/Breakdown/Emergency situations are not quantifiable from a permitting standpoint, and not classified as normal operations and shall be covered under R307-107.

The commenter cites several sources in support of its comment. First, the commenter relies on the Riva Memo, an EPA document that the commenter argues requires that malfunction emissions be included in PTE calculations. The Riva Memo was a response from EPA to a state permitting agency that made an inquiry regarding PTE for emergency generators, not a coal-to-liquids facility. However, EPA answered broadly, apparently not tying its answer to any particular type of source but to calculation of PTE generally. In the memo, EPA states that it has no policy that requires exclusion of emergency or malfunction emissions. Despite having no policy, EPA (without citing any authority) then states that "to determine PTE, a source must estimate its emissions based on the worst-case scenario taking into account startups, shutdowns

and malfunctions.” Ex. E, Riva Memo at 1-2 (attached to Environmental Coalition comments). If not on policy grounds, it is unclear on what authority EPA based this statement, as it does not cite the CAA, applicable statutes or regulations, cases, or any administrative decisions. As such, EPA seems to base its answer on undocumented discussions with OAQPS and OECA.

The Riva Memo seems to acknowledge that use of enforcement discretion would be appropriate for upset conditions, at least for the amount of upsets beyond those assumed upsets factored into the PTE in the first place. *Id.* at 2. But in practical terms, for any source upset conditions are always unknown, and can only ever be an estimate. Relying as it is on nothing more than internal discussions and not characterizing itself as a policy pronouncement, the Riva Memo carries little weight and does not overcome DAQ’s stated decision that malfunction emissions, being unpredictable and thus unable to be estimated, are not included in PTE. *See Holly Order* at 40; 44-46.

Second, the commenter relies on EPA Region 8 comments on a Wyoming coal-to-liquids facility. However, EPA’s comments appear to apply only to startups. In this case, both startups and shutdowns are included in the PTE. Therefore, these EPA comments do not appear to contradict anything in the ITA. Moreover, EPA claims that “the regulations do not provide exemptions for excluding startup emissions from a facility’s Potential To Emit (PTE).” Ex. F, EPA Region 8 Comments to WYDEQ at 1 (attached to Environmental Coalition comments). However, EPA Region 8 does not explain to which regulations it refers.

Third, the commenter relies on *In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 (E.P.A. 1994), raised in the context of PTE for the flare. *See Environmental Coalition comments* at 11, n.63. The commenter says two things: (1) “the Environmental Appeals Board remanded a PSD permit because the EPA failed to consider all emissions of particulate matter related to a modification of a paneling and siding facility. The EPA erred by not counting increases in fugitive emission of PM10 from the handling of wood chips at the facility, and the EAB ‘therefore remanded this issue to the Region to reconsider its determination that there was not a significant net increase of PM10’”; and (2) “[a]ssessing the net emissions increase from a major modification is akin to estimating the potential to emit from a new source; the estimate determines whether or not a BACT analysis must be performed.” *Id.* at 11-12.

The commenter misconstrues and thus misapplies *In re Masonite* to this proposed permitting action. The EAB stated that a remand was necessary because EPA Region 9 had “confused two distinct inquiries, which are subject to different standards.” *In re Masonite*, 1994 WL 615380, at \*18. Specifically, Region 9 had confused a “threshold applicability determination” with a “pollutant applicability determination.” *Id.*, at \*18-19. EAB stated that the first determination is whether a given increase in emissions of a regulated pollutant is major or minor. *See id.*, at \*19. Once determined, a second, distinct inquiry is necessary to determine which pollutants are subject to a BACT analysis. *See id.* EAB determined that fugitive emissions are not included in the former, but are considered in the latter. *See id.*

There are a number of fundamental distinctions between *In re Masonite* and the Revolution Fuels’ proposal. *In re Masonite* deals specifically with fugitive emissions, not malfunction emissions. In *In re Masonite*, EAB pointed to specific regulations that omitted fugitive

# **Exhibit 2**

**(In the Matter of: Revolution Fuels, LLC Coal to Liquid Facility,  
Air Quality Approval Order (DAQE-AN154900001-16),  
Administrative Record AR002441-AR002443)**

*during unspecified and non-defined periods such as startup, shutdown, or upset – it means that unlimited quantities of syngas/vent gas can be flared with no regard to emissions.”*

DAQ Response:

Startup and shutdown are defined in 40 C.F.R. Pt. 60, Subpart A and breakdown is defined in Utah Administrative Code R307-101-2. The commenter cites no requirement that these terms be defined in the permit. In any event, the definitions apply to the source regardless of whether they are defined in the permit or only in the applicable regulations.

No changes were made to the AO as a result of this comment.

**Comment 43: Environmental Coalition**

Exhibit A, Technical Comments, Page 2, ¶ 6, Ron Sahu

*“... in the Ohio permit provided in the application itself [Revolution Fuels NOI, Red Lion Air Permit, pp. 21-23] NOx, CO, and SO2 emissions for the flare in that case include not just the pilot emissions but also emissions from flaring based on the “maximum heat output of the flare of 174 mmbtu/hr...” for calculating the hourly NOx, CO and SO2 emissions. Additionally, for annual emissions, the Ohio permit requires that NOx, CO, and SO2 emissions include the heat input associated with 30% of the syngas produced during the year. [Id.]. In the present instance, there is nothing noted as to the heat output capacity of the flare at all. And, annual emissions include no contributions of syngas/vent gas that the application itself states will be combusted.”*

DAQ Response:

Details for vendor-supplied items like the flare system are to be confirmed once selected vendor information is available.

The commenter references the Ohio Red Lion Air Permit that is a PSD source. This comment is not relevant to this minor source project.

No changes were made to the AO as a result of this comment.

**Comment 44: Environmental Coalition**

Exhibit A, Technical Comments, Page 2, ¶ 6, Ron Sahu

*“... other coal-based gasification plants (which are similar to the one proposed by Revolution, since coal is first gasified and the resulting syngas is then converted to various liquids) have explicitly considered flare emissions in their air quality analyses. We provide a recent example from Texas.”*

DAQ Response:

The Summit Texas Clean Energy, FutureGen site is an integrated gas combined cycle power plant producing 400 MW and processing 2,114,195 tons per year of coal. FutureGen appears to have limits on the flares, but only in one instance does it specify startup, shutdown and malfunction. The fact that a source attempts to include flare emissions in a permit application does not mean it is a regulatory requirement.

Additionally, FutureGen is a major PSD source for PM10, NOx and SOx. Revolution Fuel gasifies coal to syngas and then to liquids and is not a major source. As such, it should not be compared with a major PSD source, as the throughput and end products are different. FutureGen uses coal gasification to generate power, using over 2,000,000 tons of coal annually. Revolution Fuel is using 273,000 tons of coal annually. Summit Texas has 60 startups and 60 shutdowns calculated and Revolution Fuels is restricted to 4 startups and 4 shutdowns annually.

The commenter relies on an Environmental Impact Statement (EIS) used for the FutureGen gasification project. EISs are prepared under the National Environmental Policy Act (NEPA). Congress has expressly exempted the Clean Air Act from NEPA review. *See* 15 U.S.C. § 793(c)(1) (“[n]o action taken under the Clean Air Act shall be deemed a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act”).

By contrast, Revolution Fuels’ proposed project is a minor source, and Utah’s minor New Source Review program is part of an EPA-approved State Implementation Plan codified at 40 C.F.R. § 52.2320, as required by Section 7410(a)(2)(C) of the Clean Air Act. As such, all permits issued thereunder are issued not just pursuant to state authority but also under the state’s SIP authority under the Clean Air Act. *See Sierra Club v. Korleski*, 681 F.3d 342, 343 (6th Cir. 2012) (“if the EPA approves a State’s proposal, then the SIP is added to the Code of Federal Regulations and becomes federal law”); *see also* <http://www.epa.gov/nsr/minor.html> (EPA informational webpage on Minor New Source Review).

Even if the FutureGen EIS were properly before DAQ, it is unclear whether the calculations the commenter relies on were conducted for air permitting purposes. The EIS does not specifically mention malfunctions, and does not state that FutureGen is satisfying a specific regulatory requirement. E-4 of the FutureGen EIS (App’x E) states that “unplanned restart events cannot be predicted.” Likewise, on page E-5: “To estimate air quality impacts associated with unplanned restarts emissions, DOE developed a ‘worst case’ profile based on the occurrence of a single plant upset mode following prolonged steady state operations with an immediate return to steady-state emissions.” The profile was developed by the Department of Energy and does not appear to have been developed under CAA requirements for CAA purposes, and instead might have been for NEPA purposes. Consequently, it cannot be used or imposed as a CAA requirement. It also does not answer the question of whether it is a requirement or whether upsets can be predicted, or are part of normal operation.

Table 3.6 of the Medicine Bow gasification project application provided by the commenter contains estimates of malfunction emissions, but the comment does not state that this inclusion was pursuant to a regulatory requirement.

The Power Holdings permit application that the commenter submitted was for a coal-to-synthetic natural gas project, while Revolution Fuels is a coal-to-liquid project. The application appears to address malfunctions in context of BACT, which is a separate analysis from whether such emissions should be included in PTE. Moreover, the application seems to have evaluated malfunction emissions in the AERMOD model, using three malfunction scenarios. The Power Holdings application also states that “A review of the RBLC data and other recent ‘energy

project' permits shows that many permits contain emission limits that totally exclude periods of startup, shutdown, and malfunction, while others such as the Facility proposed to include these periods in the permit," and that "Flares are, in and of themselves, control devices. BACT for flares is generally accepted as means to control gas streams that have some heat content. Power Holdings proposes to install flares to control emissions from the gasification trains during start up and during malfunction events." Ex. 19 Summit Application at 1-97, 1-100 (attached to Ex. A, Technical Comments, Ron Sahu at 4, n.6). Neither statement supports the commenter's claim that malfunction emissions must be included in air quality analyses. The second statement supports DAQ's position that the flare is a control device.

To summarize, in addition to the other flaws that make these projects distinguishable from the proposed Revolution Fuels project, none of the examples the commenter provides show that malfunction emissions must be included in air quality analysis. Moreover, the commenter does not acknowledge that DEQ has already determined that such emissions are not included. Holly Order at 40; 44-46.

BACT has been submitted as per R307-401-5; a flare is a control device to combust gases with a design destruction efficiencies for gases. BACT limit for gases is the use of a flare with an opacity limit to be monitored using an EPA-approved testing Method 9. The flare will be purchased, installed and operated to meet the permit requirements.

No changes were made to the AO as a result of this comment.

## **LDAR**

### **Comment 45: Environmental Coalition**

Page 16, ¶ 2

*"The Director Failed to Evaluate Fugitive VOC and HAP Emissions and Require a Leak Detection and Repair (LDAR) Program."*

Exhibit A, Technical Comments, Page 8, ¶ 2, Megan Williams

*"DAQ should consider additional storage tank requirements including inspection and maintenance and leak detection and repair measures."*

#### **DAQ response:**

The Revolution Fuels facility is not subject to 40 C.F.R. Pt. 60, Subpart VVa, Subpart GGG, or Subpart KKK. Revolution Fuels is subject to Subpart GGGa (Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006) for the Fischer-Tropsch, hydro processing and distillation process units. Accordingly, LDAR is applicable to these processes. This source will comply with all requirements within this subpart. The source has also agreed to perform an annual facility-wide LDAR analysis for all units not subject to Subpart GGGa. LDAR requirements are contained in section II.B.5 of the permit.

The evaluation of installing leakless components on a plant-wide basis in place of conventional gas and light liquid valves and light liquid pumps for VOC containing process streams showed