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

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In the Matter of: Revolution Fuels, LLC Coal to Liquid Facility, Air Quality Approval Order (DAQE-AN154900001-16)	<b>SIERRA CLUB'S OPENING BRIEF</b>  Administrative Law Judge Richard K. Rathbun  March 17 , 2017
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**I. Introduction**

Revolution Fuels, LLC (Revolution) has proposed to build a new coal-to-liquids plant near Wellington, Utah that would gasify up to 750 tons of coal each day to make various industrial products including diesel fuel, jet fuel, liquefied petroleum gas (LPG) and naphtha.<sup>1</sup> The facility would include coal handling, gasification, ash handling, syngas treatment and product upgrading.<sup>2</sup> The Utah Division of Air Quality (DAQ)'s proposal to issue the project an Approval Order as a minor source of emissions generated

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<sup>1</sup> See (Revised Administrative Record (RAR) Doc. 38, AR002478), DAQ, DAQE-AN154900001-16, Approval Order: New Coal to Liquids Facility, hereafter (Approval Order), at p. 2, June 24, 2016.

<sup>2</sup> *Id.*

significant public interest. Over 200 people attended the public hearing,<sup>3</sup> and a coalition of conservation groups, including Sierra Club,<sup>4</sup> timely submitted<sup>5</sup> substantial legal and technical comments with exhibits on January 11, 2016.<sup>6</sup> All of the arguments addressed in this brief were raised in Sierra Club's Petition for Review and in Sierra Club's Comments that were timely submitted.<sup>7</sup>

On June 24, 2016, the Director of DAQ (hereafter referenced together as DAQ) issued an Approval Order (permit) for a Title V area (minor) source to Revolution (DAQE- 4N154900001-16) (Revolution permit).<sup>8</sup> DAQ estimated that the project is expected to emit: 20.2 tons per year (tpy) of particulate matter less than 10 micrograms (PM10), 20.2 tpy of particulate matter less than 5 micrograms (PM2.5), 23.42 tpy of nitrogen oxides (NOx), 84.36 of carbon monoxide (CO), 9.2 tpy of volatile organic compounds (VOC), 1.9 tpy of sulfur dioxide (SO2), 8.9 tpy of combined hazardous air pollutants (HAPs) and 295,445 tpy of carbon dioxide equivalent (CO2e), a measure of greenhouse gas pollution.<sup>9</sup> The agency simultaneously released a "Response to Public Comments."<sup>10</sup>

On July 26, 2016, Sierra Club filed a Petition for Review of DAQ's decision to issue the Revolution permit. Given the Utah Legislature's 2015 changes to Utah Code Ann. § 19-1-301.5(14)(b), in the Notice of Further Proceedings and First Prehearing

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<sup>3</sup> (RAR Doc. 36, AR002406), DAQE-MN154900001A-16, Response to Public Comments, hereafter (RTC) at p. 1, June 21, 2016.

<sup>4</sup> Utah Physicians for a Healthy Environment, Sierra Club, Western Resource Advocates, HEAL Utah, Southern Utah Wilderness Alliance, Great Salt Lake Audubon Society, Living Rivers and the Green River Keeper Affiliate, Wasatch Audubon Society, Audubon Council of Utah, and Waterkeeper Alliance.

<sup>5</sup> Utah Code Ann. § 19-1-301.5(4); Utah Admin. Code R305-7-202.

<sup>6</sup> See (RAR Doc. 30), hereafter (Sierra Club Comments). Sierra Club's technical comments on the proposed Approval Order, prepared by Air Quality Consultant Megan Williams, and Environmental and Energy Consultant Ron Sahu, are found in Exhibit A (RAR Doc. 30b, AR002074-085).

<sup>7</sup> Utah Code § 19-1-301.5(4); Utah Admin. Code R305-7-202.

<sup>8</sup> (RAR Doc. 38, AR002477), Approval Order at p. 1.

<sup>9</sup> (AR002478), *Id.* at p. 2.

<sup>10</sup> (RAR Doc. 36), RTC.

Order, Administrative Law Judge (ALJ) Brett Randall requested special briefing on the standard of review governing these proceedings. Pursuant to that scheduling order, the parties submitted briefing on the standard of review on October 28, 2016, and a hearing was held on November 21, 2016. Sierra Club hereby incorporates its brief on the standard of review in full.

Sierra Club now addresses the merits of the issues set forth in the Petition for Review. As detailed below, DAQ failed to include emissions from malfunction events in the project's potential to emit estimate, entirely ignored and exempted malfunction emissions from regulation, and failed to apply Best Available Control Technology to emissions from the flare and the coal storage pile. As a result, the Revolution permit should be revoked, vacated and remanded with instructions that DAQ reevaluate the terms and conditions of the permit as necessary to comply with R307-401 and other applicable statutory provisions and regulations.

## **II. DAQ's Failure to Properly Regulate Revolution's Flare is Unlawful**

### **A. DAQ's Decision Not to Include Emissions from Malfunctions in the Potential To Emit Was Clearly Erroneous and Lacks Substantial Evidence**

Sierra Club's technical comments detailed how the Revolution flare could release massive amounts of harmful pollution, including SO<sub>2</sub>, NO<sub>x</sub>, CO, and air toxic compounds.<sup>11</sup> Revolution's permit application,<sup>12</sup> states that "...all process equipment is routed to the flare..." and includes the broad statement that the flare will combust "any syngas or vent gas" during startup, shutdown, or upset conditions.<sup>13</sup> Thus, during a

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<sup>11</sup> (RAR Doc. 30b, AR002082-083), Exhibit A, Sierra Club Technical Comments, Sahu Attachment, (hereafter Sahu Attachment) at pp. 1-2.

<sup>12</sup> (RAR Doc. 1, AR000001), Revolution Fuels Notice of Intent (NOI), (May 8, 2015).

<sup>13</sup> *Id.* at p. 1 (citing Section 2.8 of Revolution Fuels NOI, p. 2-10,(RAR Doc. 1, AR000016)).

malfunction, all gases at the Revolution facility could be vented to the flare, resulting in significant uncontrolled emissions of flared gases.<sup>14</sup>

Yet, DAQ did not consider these potentially significant emissions from the Revolution flare during malfunction events to determine the facility's potential to emit. It is crucial that all of a proposed facility's emissions are considered in the potential to emit because the estimate determines whether a source complies with major source permitting requirements, or less stringent requirements for minor source permitting.<sup>15</sup>

Under the Clean Air Act, its implementing regulations and Utah regulations, a major source is one that "has the potential to emit one hundred tons per year or more of any pollutant..."<sup>16</sup> Potential to emit (PTE) is defined as:

*the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.*<sup>17</sup>

Sierra Club's legal and technical comments pointed out that all emissions from Revolution's flare, including releases during startup, shutdown and malfunction (SSM) events must be included in the project's potential to emit.<sup>18</sup> EPA guidelines and policy

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<sup>14</sup> *Id.* at p. 2, fn 3 (citing various EPA documents "New and Revised Emission Factors for Flares and New Emission Factors for Certain Refinery Process Units and Determination for No Changes to VOC Emission Factors for Tanks and Wastewater Treatment Systems" available at [http://www3.epa.gov/ttn/chief/consentdecree/index\\_consent\\_decree.html](http://www3.epa.gov/ttn/chief/consentdecree/index_consent_decree.html)).

<sup>15</sup> (RAR Doc. 30b, AR002093), EPA Memorandum from Terrell E. Hunt and John S. Seitz to Regional Counsels, Guidance on Limiting Potential to Emit in New Source Permitting (June 13, 1989) (Exhibit C of Sierra Club Technical Comments) ("The definition of 'potential to emit' under the new source regulations is extremely important."); *see* (RAR Doc. 36, AR002411), RTC at p. 5 ("DAQ does not concede that the foregoing authorities addressing federal enforceability govern DAQ's authority... to issue permits under its minor source NSR program...").

<sup>16</sup> Utah Admin. Code § R307-101-2 ("Major Source"); *see also* 42 U.S.C. § 7602(j); 40 C.F.R. § 51.165(a)(1)(iv)(A).

<sup>17</sup> 40 C.F.R. § 52.21(b)(4) (emphasis added); Utah Admin. Code R307-101-2 (same definition).

<sup>18</sup> (RAR Doc. 30, AR000445-446, Sierra Club Comments at pp. 10-11; (RAR Doc. 30b, AR002083), Sahu Attachment at p. 2.

statements explain that potential to emit is a “worst-case” accounting that must include emissions from SSM events.<sup>19</sup> DAQ agreed with Sierra Club that emissions during startup and shutdown events must be considered in the potential to emit and regulated in the Revolution permit. In response to Sierra Club’s comments, DAQ added a new condition to the permit to limit the facility to four startups and four shutdowns a year, and updated the potential to emit to include emissions from four startup and four shutdown events.<sup>20</sup> DAQ, however, declined to consider emissions or set any limits on the emissions vented to the flare during malfunction events. This is a major loophole in the permit that must be addressed – to be consistent with the regulatory definition of potential to emit, DAQ must consider emissions from malfunctions, as well as startups and shutdowns, when calculating “*the maximum capacity of a stationary source to emit a pollutant.*”

DAQ’s position that “[w]hen calculating the PTE [potential to emit] for flares for permitting purposes, the law does not require the inclusion of upset emissions because such upset emissions are not considered part of normal operations,”<sup>21</sup> is not supported by the case the agency cites, *United States v. Louisiana-Pac. Corp.*, 682 F. Supp. 1141, 1159 (D. Colo. 1988).<sup>22</sup> In that case, the court held that potential to emit should not be calculated by operating a device “in a manner contrary to its design.” Here, the flare is part of the Revolution facility for the sole purpose of burning excess gas during malfunction (and startup and shutdown) events. Thus, the flare and its emissions are part

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<sup>19</sup> (RAR Doc. 30, AR000445-446), Sierra Club Comments at pp. 10-11 (citing EPA Memorandum from Steven Riva to William O’Sullivan, Accounting for Emergency Generators in the Estimate of Potential to Emit, at 2 (Feb. 14, 2006) (hereafter “Riva Memo”; Exhibit E) (emphasis added) (RAR Doc. 30b, AR002140).

<sup>20</sup> (RAR Doc. 38, AR002482), Approval Order at 6.

<sup>21</sup> (RAR Doc. 36, AR002435), RTC at p. 29.

<sup>22</sup> *Id.*

of the facility's design, not "contrary to its design." While the *Louisiana-Pacific* Case stands for the proposition that the potential to emit should not assume that the flare operates all of the time, it does support the inclusion of a certain inevitable number of hours of malfunction events. DAQ also cites to a Wyoming case, which Sierra Club believes was wrongly decided and contrary to EPA policy, guidance and the definition of potential to emit.<sup>23</sup>

DAQ failed to provide a rational basis for its interpretation of potential to emit, or for dismissing the legal authority Sierra Club provided in its comments. For example, the Riva Memo confirms potential to emit is a "worst-case" accounting that must include emissions from startup, shutdown and malfunction events.

for the purposes of determining PTE in the New Source Review (NSR) and the Title V programs, EPA has no policy that specifically requires exclusion of "emergency" (or malfunction) emissions. Rather, to determine PTE, a source must estimate its emissions based on the worst-case scenario taking into account startups, shutdowns and malfunctions.<sup>24</sup>

DAQ wrongfully disregarded the Riva Memo simply because "it does not characterize itself as a policy pronouncement,"<sup>25</sup> however, 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's comments also demonstrated that flaring emissions during malfunctions are routinely included in calculations of potential to emit in applications and permits for other coal-based gasification or liquid fuels plants. The technical comments

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<sup>23</sup> (RAR Doc. 30, AR000445-446, Sierra Club Comments at pp. 10-11; (RAR Doc. 30b, AR002083), Sahu Attachment at p. 2.

<sup>24</sup> (RAR Doc. 30b, AR002139-140), Riva Memo, Exhibit E, at pp. 1-2.

<sup>25</sup> (RAR Doc. 36, AR002462-3), RTC at p. 56-57.

provided six such examples.<sup>26</sup> DAQ’s only rationale for failing to adopt the legally appropriate approach to determining potential to emit used for these similar projects was: “The fact that a source attempts to include flare emissions in a permit application does not mean it is a regulatory requirement,” and noted that the examples provided were for major sources of emissions or different in some insignificant manner.<sup>27</sup> Because the same potential to emit method is used to determine whether a source is minor or major, differences in project design and whether or not a project is a major source of emissions are distinctions without any legal or technical significance.<sup>28</sup>

DAQ also relies on the Executive Director’s decision in the Holly Order<sup>29</sup> as authority for its position that PTE calculations for the flare need not include emissions

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<sup>26</sup> (RAR Doc. 30b, AR002083-085), Sahu Attachment at pp. 2-4, citing all of the following:

- (a) the Ohio permit provided in the application itself [Revolution Fuels NOI, Red Lion Air Permit, pp. 21-23, available at [http://web.epa.state.oh.us/dapc/permits\\_issued/308493.pdf](http://web.epa.state.oh.us/dapc/permits_issued/308493.pdf);
- (b) Application p. 1-1. Application for TCEQ Air Quality Permit, Summit Texas Clean Energy, LLC, Texas Clean Energy Project, Ector County, Texas, April 2010, excerpts in Exhibit 19, entire 300-page exhibit available upon request, (RAR Doc. 30a, AR000804);
- (c) Summit Texas Clean Energy LLC Permit No. 92350 and PSDTX1218, pdf p. 34, Exhibit 20, (RAR Doc. 30a, AR000839);
- (d) FutureGen Final Environmental Impact Statement, November 2007; Appx. E, pp. E-4 and E-5; available at <http://energy.gov/sites/prod/files/EIS-0394-FEIS-01-2007.pdf>, Exhibit 21, (RAR Doc. 30a, AR001342-343);
- (e) Medicine Bow Fuel & Power LLC Industrial Gasification & Liquefaction (IGL) Plant, Carbon County, Wyoming, Prevention of Significant Deterioration Permit Application, December 31, 2007, Amended Permit Application, Appx. B (HP Flare Detail Sheet: 40 hours HP flare; LP Flare Detail Sheet: 8 hours LP flare); available at <http://eqc.state.wy.us/orders/Air%20Closed%20Cases/09-2801%20Medicine%20Bow%20Fuel%20&%20Power,%20LLC/Ex%204.DEQ's%20Motion%20or%20Summary%20Judgment.pdf>, Exhibit 22, (RAR Doc. 30a, AR001753-754);
- (f) PSD Construction Permit Application for the Southern Illinois Coal Gasification to Synthetic Natural Gas (SNG) Facility, Prepared for Power Holdings of Illinois, Southern Illinois Coal to SNG Facility, October 17, 2007, Chapters 1 and 2, Exhibit 23, (RAR Doc. 30a, AR001933-968).

<sup>27</sup> (RAR Doc. 36, AR002441), RTC at p. 35.

<sup>28</sup> 40 C.F.R. § 52.21(b)(4); Utah Admin. Code R307-101-2 (same definition).

<sup>29</sup> 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 11 (March 11, 2015), available at <http://www.deq.utah.gov/Admin/proceedings/docs/2015/06Jun/HollyALJRecommendedOrder.pdf>, adopted by Order Adopting Findings of Fact, Conclusions of Law, and Recommended Order on the Merits (March 31, 2015), available at <http://www.deq.utah.gov/Admin/proceedings/docs/2015/06Jun/HollyFinalExecutiveDirectorOrder.pdf>.

from upsets.<sup>30</sup> Petitioners Utah Physicians for a Healthy Environment and Friends of Great Salt Lake have appealed the Holly Order, and that appeal is currently pending in the Utah Supreme Court.<sup>31</sup> Sierra Club does not believe the Holly Order was accurately decided. Nevertheless, DAQ misses a key distinction between the Holly permit and the Revolution permit. The Holly permit did not consider malfunction emissions in the potential to emit because it contains a federally enforceable overall emission cap that effectively limits malfunction emissions to zero. In contrast, the Revolution permit contains no overall emission cap, and therefore no limits whatsoever on flaring emissions during malfunctions. This issue is discussed in the next section.

DAQ's decision not to account for the flare emissions during malfunction events in the facility's potential to emit is a clearly erroneous decision of law.<sup>32</sup> As described, DAQ misinterprets the holding in the *Louisiana-Pacific* case, mistakenly relies on the Holly Order because the Holly permit has an overall cap on emissions and the Revolution permit does not, and ignores the many authorities and examples provided by Sierra Club that show malfunction emissions can and must be counted. Failure to properly estimate all of a facility's emissions is a violation of law,<sup>33</sup> and the Revolution permit must be reversed on this basis.

Given that DAQ issued the Revolution permit under the less stringent minor source regime, it is especially important that all of Revolution's potential emissions be considered. A proper accounting for flare emissions could show that Revolution is

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<sup>30</sup> (RAR Doc. 36, AR002435, AR002463), RTC at p. 29, 57.

<sup>31</sup> *Utah Physicians for a Healthy Environment et al. v. Executive Director of the UDEQ*, Appeal No. 20140344-CA.

<sup>32</sup> Sierra Club incorporates its Pre-Hearing Brief Regarding the Standard of Review by reference.

<sup>33</sup> (RAR Doc. 30, AR000445), Sierra Club Comments at p. 10, fn. 60 (citing *In re Masonite Corp.*, 5 E.A.D. 551, 1994 WL 615380 at \*18-19 (E.P.A. 1994) (finding clearly erroneous EPA's decision not to consider all emissions of particulate matter related to a facility modification)).



required to undergo the more stringent permitting review process for major sources of emissions. For example, accounting for malfunction flare emissions could readily push the potential to emit carbon monoxide emissions from 84.36 tons per year over the 100 tpy major source threshold, or could push the nitrogen oxides from 93.61 tpy over the 100 tpy NO<sub>x</sub> limit.<sup>34</sup>

**B. DAQ’s Decision to Exempt Malfunction Emissions from Any Regulation in the Revolution Permit Was Clearly Erroneous and Lacks Substantial Evidence**

The Revolution permit contains the following conditions on the flare:

II.A.8 Flare 1 MMBtu/hr continuous flare pilot

...

II.B.1.b Visible emissions from the following emission points shall not exceed the following values: A. Flare and combustor - no visible emissions

...

II.B.1.g The owner/operator shall not exceed 4 start ups and 4 shutdowns on a rolling 12 month period. Records documenting all start ups and shutdowns shall be kept in a log. The log will identify the date when the start up/shutdown occurred, the duration in hours of the emergency flare operation. [R307-401]

...

II.B.4 Flare Requirements

II.B.4.a All exhaust gas/vapors from startup, shutdown and upset conditions shall be routed to the flare operating with a continuous pilot. [R307-401]

....

The Revolution permit does not impose any flare-specific or facility-wide emission caps that limit the quantity of emissions from the flare.<sup>35</sup>

As Sierra Club explained in its comments, malfunction emissions from the Revolution flare are not regulated. Utah’s “breakdown” rule, Rule 307-107, does not apply to upset emissions from the Revolution flare<sup>36</sup> because a source only needs to

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<sup>34</sup> (RAR Doc. 38, AR002478), Approval Order at p. 2; (RAR Doc. 36, AR002439), RTC at p. 33; Utah Admin. Code R307-101-2 (“Major Source”).

<sup>35</sup> See (RAR Doc. 36, AR002481), Approval Order at II.B.1 (listing site-wide requirements that do not include site-wide emission caps).

<sup>36</sup> (RAR Doc. 30, AR000448 -449), Sierra Club Comments at pp. 13-14.

report a “breakdown,” which occurs only when an incident results in excess emissions of the terms and conditions of an Approval Order.<sup>37</sup> Utah regulations define “Breakdown” as:

any malfunction or procedural error, to include but not limited to any malfunction or procedural error during start-up and shutdown, 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>38</sup>

Because there are no limits that apply to the Revolution flares during upsets, those emissions would not be considered “excess” and therefore Rule 307-107 does not apply.<sup>39</sup>

In its response to comments, DAQ baldly claims that R307-107 applies to malfunction emissions, and stated: “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>40</sup>

DAQ does not explain how “the limits in the proposed permit contemplate zero upset emissions from the flare,” when there are no limits that apply to flare emissions during malfunctions. DAQ does not point to any permit limits that apply to malfunction emissions from the flare,<sup>41</sup> and DAQ admits that malfunction emissions were not included in the potential to emit.<sup>42</sup> Similarly, DAQ does not explain how any emissions from the flare during malfunctions could be an “exceedance of the permit limits” when there are no applicable limits that could ever be exceeded.<sup>43</sup> Finally, DAQ does not

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<sup>37</sup> (AR000448-9), *Id.* at p. 13-14 (citing Utah Admin. Code R307-107-2).

<sup>38</sup> Utah Admin. Code R307-101-2 (“Breakdown”)(emphasis added).

<sup>39</sup> (RAR Doc. 30, AR000448-9), Sierra Club Comments at p. 13-14.

<sup>40</sup> (RAR Doc. 36, AR002436), RTC at p. 30.

<sup>41</sup> (AR002434-6), *Id.* at pp. 28-30.

<sup>42</sup> (AR002435), *Id.* at p. 29.

<sup>43</sup> (AR002436), *Id.* at p. 30.

explain how Revolution would even be required to report any upset emissions to DAQ since under the breakdown rule, Rule 307-107, a source need only report an incident that results in emissions in excess of the terms and conditions of an Approval Order (permit).<sup>44</sup>

DAQ's frequent reliance on the Holly Order in the response to comments<sup>45</sup> further demonstrates that the agency's failure to limit the malfunction emissions from the Revolution permit in any manner is in error. As explained below, the Holly permit contains a federally enforceable overall emission cap which effectively limits its malfunction emissions to zero. In contrast, the Revolution permit contains no overall emission cap, and therefore no limits whatsoever on flaring emissions during malfunctions.

In the Holly Order, the Director explained that the overall emission caps assumed zero emissions from the flare,<sup>46</sup> and if emissions from a flaring event exceeded the overall cap, the facility would be subject to enforcement.<sup>47</sup> The Holly Order states that:

Holly assumed a limit of zero tpy for malfunction emissions, which **it factored into its emissions totals for the SO<sub>2</sub> and PM<sub>10</sub> emission caps** in the Holly AO [Approval Order / permit]. ...The SO<sub>2</sub> and PM<sub>10</sub> emission caps, which include emissions from all combustion sources including flares, are **federally enforceable operational limitations**. [See IR009245, Holly AO (Section II.B.6.a, "The emission of SO<sub>2</sub> into the atmosphere from all sources (excluding routine turnaround maintenance sessions) shall not exceed 110.3 tons per rolling 12-month period or 0.31 tons per day."); see also IR009247, Holly AO (Section II.B.7.a "PM<sub>10</sub> emissions from all combustion sources shall not exceed 47.5 tons per rolling 12-month period.").]<sup>48</sup>

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<sup>44</sup> (RAR Doc. 30, AR000448-9), Sierra Club Comments at p. 13-14 (citing Utah Admin. Code R307-107-2).

<sup>45</sup> (RAR Doc. 36, AR002435, AR002443, AR002462), RTC at p. 29, 37, 56-7.

<sup>46</sup> Holly Order at para. 23.

<sup>47</sup> *Id.* at para. 31.

<sup>48</sup> *Id.* at para. 30 (emphasis added).

Thus, the Order reasoned “If Holly exceeds its emission caps due to an upset or malfunction, Holly will be in violation of its permit and subject to enforcement by UDAQ.”<sup>49</sup>

DAQ cannot reach the same conclusion about the Revolution permit because the permit does not have any emission caps like the emission caps in the Holly permit. Thus, there is no similar federal enforceable limit on Revolution’s overall emissions that limits the emissions from the flare. The Revolution permit allows the facility to emit any level of pollution, including massive amounts of SO<sub>2</sub> and NO<sub>x</sub>, during malfunction events and not be subject to any enforcement action.

The Holly Order also declined to count the flare’s malfunction emissions based on the reasoning that, even if additional emissions from flare upsets were considered in the potential to emit, nothing would change about the permit.

An addition of 34 tpy of SO<sub>2</sub> from the flares, even if such emissions were required for purposes of calculating PTE, **would not have changed the conclusions of the netting analysis or made this project major for SO<sub>2</sub> given that the netting analysis demonstrated a 150.69 tpy overall emission reduction in SO<sub>2</sub>.** [See IR007574-7575.]<sup>50</sup>

This reasoning would not apply to the Revolution project because the record does not contain any estimate of the emissions from malfunction events. Moreover, DAQ issued Revolution a minor source permit, and DAQ’s consideration of additional emissions could make the Revolution project a major source of emissions. For example, Revolution’s potential to emit carbon monoxide is 84.36 tpy, which is not much less than

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<sup>49</sup> *Id.* at para. 31.

<sup>50</sup> Holly Order at para. 34.

100 tpy major source threshold, and, if the controls are not operating, the potential to emit nitrogen oxides is 93.61.<sup>51</sup>

DAQ's reliance on the Holly Order is misplaced because the Holly Order relied on "federally enforceable permit conditions in the Holly AO [that] limit malfunction emissions to zero tons per year from the flare."<sup>52</sup> Revolution's permit has no such limits. DAQ's decision not to limit Revolution's malfunction emissions in the potential to emit based on the Holly Order, despite Revolution's lack of an overall emissions cap was not "rational in light of all the information in the record,"<sup>53</sup> and therefore clearly erroneous and not supported by substantial evidence.

### **C. DAQ's Failure to Apply BACT to the Flare Was Clearly Erroneous and Not Supported by Substantial Evidence**

One of the core goals of the Clean Air Act's preconstruction permitting program is to ensure that new sources of air pollution incorporate state-of-the art controls.<sup>54</sup> The Director may issue a permit only if she or he determines that the "degree of pollution control for emissions...is at least [BACT]."<sup>55</sup> BACT, considered "[o]ne of the most

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<sup>51</sup> (RAR Doc. 38, AR002478), Approval Order at p. 2; (RAR Doc. 36, AR002439), RTC at p. 33; Utah Admin. Code R307-101-2 ("Major Source").

<sup>52</sup> Holly Order at para. 28.

<sup>53</sup> See Sierra Club's Pre-Hearing Brief Regarding the Standard of Review at 5 (listing EAB cases on the clearly erroneous standard, including *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002)).

<sup>54</sup> (RAR Doc. 30, AR000440), Sierra Club Comments at p. 5, fn 20 (citing *See Nat'l Parks Conservation Ass'n v. Tenn. Valley Auth.*, 480 F.3d 410, 412 (6th Cir. 2007); 42 U.S.C. §§ 7470-7492.)

<sup>55</sup> *Id.*, fn. 24 (citing Utah Admin. Code R307-401-8(1)(a); *id.* R307-401-8(5) ("If the director determines that a proposed source...does not meet the conditions established in (1) above, the director will not issue an approval order.")).

critical elements of the [PSD] permit[ing] process,”<sup>56</sup> is “an emissions limitation . . . based on the maximum degree of reduction for each air contaminant which would be emitted from any proposed stationary source...”<sup>57</sup> An “emission limitation” means:

a requirement established by the Board, the director or the Administrator, EPA, which limits the quantity, rate or concentration of emission of air pollutants on a continuous emission reduction including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction...<sup>58</sup>

Alternatively, only with a demonstration of infeasibility, may the Director impose a “design, equipment, work practice, operational standard or combination thereof” on the flare.<sup>59</sup> The Director’s decision to issue the Revolution permit with *no* BACT analysis of any sort or emissions limitation for flare malfunctions is clearly erroneous and not supported by substantial evidence.

Sierra Club’s comments explained that because the flare is a source of emissions, the Director must derive and impose a BACT emission limitation or standard on the flare.<sup>60</sup> However, the application did not provide any details on which processes are connected to the flare, the size of the flare or any other details on its design, although Sierra Club’s technical expert Ranajit Sahu explained in comments that this information is needed before analyzing BACT options.<sup>61</sup> Sierra Club also suggested that the Director

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<sup>56</sup> *Id.*, fn 21 (citing *In re Knauf Fiber Glass*, 8 E.A.D. 121, 131 (E.A.B. 1999), 1999 WL 64235.) Rule 307-401 does not differentiate between minor PSD and NSR, and DAQ must apply an identical definition of BACT to both minor PSD and NSR. See AR000442, Sierra Club comments at 7 (citing Utah Admin. Code r.307-401-3, 8(1)(a), 8(5)). See also *id.* at p. 7, fn 40 (citing 76 Fed. Reg. 41712-01, 41714 (July 15, 2011)); *id.* (“Utah applies the same essential control technology and modeling requirements to minor sources as it does to major sources.”), SIP, Section VIII (“In addition to the PSD permitting program, Utah also requires new minor sources and minor modifications to all sources to apply [BACT].”).

<sup>57</sup> (RAR Doc. 30, AR000449), Sierra Club Comments at p. 14, fn 78 (citing Utah Admin. Code R307-401-2(1)).

<sup>58</sup> Utah Admin. Code R107-101(“Emissions Limitation”).

<sup>59</sup> Utah Admin. Code R307-401-2(1).

<sup>60</sup> (RAR Doc. 30, AR000449-450), Sierra Club Comments at pp. 14-15 (citing Utah Admin. Code R307-401-2(1) (“Alternatively, only with a demonstration of infeasibility, the Director may impose a ‘design, equipment, work practice, operational standard or combination thereof’ on the flare.”))

<sup>61</sup> (AR000447), *Id.* at p. 12; (RAR Doc. 30b, AR002082), Sahu Attachment at p. 1.

refer to New Source Performance Standards for Petroleum Refineries (Subpart Ja) and Utah's limitations and monitoring on the Salt Lake area as a starting point for BACT.<sup>62</sup>

In the response to comments, DAQ first claims that it disagrees with Sierra Club that the flare is a source of air pollution because it is a control technology.<sup>63</sup> DAQ's point is unclear, but nonetheless refuted by all of the following: 1) the application's statements that "...all process equipment is routed to the flare..." and the flare will combust "any syngas or vent gas" during startup, shutdown, or upset conditions;<sup>64</sup> 2) the permit contains emissions limits for point sources with control technologies (*i.e.*, the Reaction Chamber, which is controlled with Selective Catalytic Reduction);<sup>65</sup> and, 3) DAQ added conditions limiting Revolution to four startups and four shutdown events per year.<sup>66</sup> Thus, the flare is indisputably a source of air pollution, and DAQ's position that it cannot set limits for sources with control technology is contradicted by the permit's limits on the number of startup and shutdown events, and the limits on the control technology for the Reaction Chamber. The fact that the flare is a control technology does not relieve DAQ of its obligation to derive a BACT emission limitation or establish a work practice if the imposition of an emission limitation is infeasible.<sup>67</sup>

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<sup>62</sup> (RAR 30, AR000450), Sierra Club Comments at p. 15, fn 82 (citing 40 C.F.R. § 60.100a-109a). NSPS for refineries includes: "1) develop and implement a flare management plan; 2) conduct root cause analyses and take corrective action when waste gas sent to the flare exceeds a flow rate of 500,000 standard cubic feet (scf) above the baseline flow to a flare in any 24-hour period; 3) conduct root cause analyses and take corrective action when the emissions from the flare exceed 500 lb of SO<sub>2</sub> in a 24-hour period; and 4) optimize management of the fuel gas by limiting the short-term concentration of H<sub>2</sub>S to 162 ppmv during normal operating conditions (determined hourly on a 3-hour rolling average basis)." *Id.*, fn 83 (citing 77 Fed. Reg. 56422, 56430 (Sept. 12, 2012)).

<sup>63</sup> (RAR Doc. 36, AR002433), RTC at p. 27.

<sup>64</sup> (RAR Doc. 30b, AR002082), Sahu Attachment at 1 (citing Section 2.8 of Revolution Fuels NOI, p. 2-10, (RAR Doc. 1, AR000016).

<sup>65</sup> (RAR Doc. 38, AR002479, AR002482), Approval Order at 3, 6.

<sup>66</sup> (RAR Doc. 38, AR002482), Approval Order at 6.

<sup>67</sup> Utah Admin. Code R307-401-2(1)

DAQ claims that the limit requiring no visible emissions from the flare is BACT for “normal operation,”<sup>68</sup> which does not address the comment that the permit includes no emissions limitations during malfunction events. Additionally, DAQ offers no explanation of how the visible emissions limitation represents an emissions limitation that “limit[s] the quantity, rate or concentration of emission of air pollutants” and assures “continuous emission reduction,” as required by law.<sup>69</sup> As Sierra Club’s technical consultant explained in his comments, visible emissions are not the only emissions that are emitted during flaring.<sup>70</sup> Thus, the limit on visible emissions does not limit in any way gaseous pollutants from the flare, possibly including combustion products of the process gas (e.g., SO<sub>2</sub>, NO<sub>x</sub>, CO, etc.), and also air toxic compounds.<sup>71</sup> The visible emissions limitation does not limit all pollutants from the flare, and therefore it cannot be BACT, which requires an emissions limitation for “each air pollutant...”<sup>72</sup>

DAQ faulted the commenters for not providing an example of a control device for the flare during upset conditions or giving suggestions on how to limit gaseous pollutants.<sup>73</sup> However, the comments explained that BACT options cannot be analyzed because the application did not provide critical details on the flare design.<sup>74</sup> DAQ also ignored Sierra Club’s suggestion that it consider New Source Performance Standards for Petroleum Refineries (Subpart Ja) and limitations and monitoring on the Salt Lake area refineries.<sup>75</sup> Just because Revolution is not classified as a refinery<sup>76</sup> does not mean that

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<sup>68</sup> (AR002433), *Id.* at p. 27.

<sup>69</sup> Utah R107-101 (“Emissions Limitation”).

<sup>70</sup> (RAR 30b, AR002082), Sahu Attachment at p.1.

<sup>71</sup> *Id.*

<sup>72</sup> Utah Admin. Code R307-401-2.

<sup>73</sup> (RAR Doc. 36, AR002433, AR002440), RTC at pp. 27, 34.

<sup>74</sup> (RAR Doc. 30, AR000447), Sierra Club Comments at p. 12; (RAR Doc. 30b, AR002082-083), Sahu Attachment at pp. 1-2.

<sup>75</sup> (RAR Doc. 30, AR000450), Sierra Club Comments at p. 15.



DAQ cannot use the refinery regulations and plans for flares as a starting point for analyzing BACT for the Revolution flare.

DAQ's failure to conduct a BACT analysis for the emissions from flares during malfunctions or to derive BACT limits on these flare emissions is clearly erroneous for similar reasons that the Environmental Appeals Board found the BACT analyses clearly erroneous in *In re Steel Dynamics*, *In Re: Knauf Fiber Glass, Gmbh*, and *In re Masonite*.<sup>77</sup> DAQ failed to consider Sierra Club's suggestions for BACT, failed to provide sufficient details on the flare to undertake a proper BACT analysis, failed to explain how a visible emission limit can be BACT for all the potential emissions from the flare, and otherwise failed to justify its decision.<sup>78</sup>

### **III. DAQ's BACT Analysis for the Coal Storage Pile Was Clearly Erroneous and Not Supported by Substantial Evidence**

Sierra Club explained in its comments that the DAQ's analysis of BACT for the coal storage pile was fatally flawed for several reasons.

First, DAQ's conclusion that enclosing the storage pile is not feasible is not supported by any evidence.<sup>79</sup> DAQ's only response to Sierra Club's comment was "[t]he BACT analysis submitted to DAQ as per UAC R307-401 in Appendix G 6.2 of the NOI determined that the cost associated of controlling 1.38 tpy of PM10 by enclosing the coal storage piles is economically infeasible."<sup>80</sup> However, Appendix G only baldly states:

Enclosure or covering of inactive piles to reduce wind erosion can also reduce emissions. Although enclosing storage piles can be an effective means to reduce

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<sup>76</sup> (RAR Doc. 36, AR002435-436), RTC at pp. 29-30.

<sup>77</sup> Sierra Club Pre-Hearing Brief on the Standard of Review at 6 (citing *In re Steel Dynamics, Inc.*, 9 E.A.D. 165 (EAB 2000), *In Re: Knauf Fiber Glass, Gmbh*, 8 E.A.D. 121 (EAB 1999), *In re Masonite*, 5 E.A.D. 551, 566 (EAB 1994)).

<sup>78</sup> Utah Code Ann. § 19-1-301.5(14)(b); *see id.*

<sup>79</sup> (RAR Doc. 30, AR000453), Sierra Club Comments at p. 18, fn 98 (citing DAQ, Source Plan Review at 10, RAR Doc. 11, AR000344).

<sup>80</sup> (RAR Doc. 36, AR002457), RTC at p. 51.

wind erosion emissions enclosing stockpiles that are actively used is not economically feasible.<sup>81</sup>

Neither Revolution nor DAQ provided any evidence, cost analysis, calculation or comparison to support the conclusion of economic infeasibility.<sup>82</sup> Thus, because DAQ's conclusion that enclosure is not economically feasible is not supported by any evidence, it is clearly erroneous because it is not "adequately explained and supported in the record."<sup>83</sup>

Second, DAQ erroneously relied on New Source Performance Standard (NSPS) Subpart Y without conducting a proper BACT analysis. NSPS is "the absolute floor... and a starting point from which a search for the best available control technology may begin."<sup>84</sup> DAQ acknowledges that NSPS is "the 'minimum' control technology," and DAQ's only rationale for not conducting a BACT analysis was that "[t]he Director is not aware of any additional control technologies that would be technologically and economically feasible for the Revolution Fuels coal storage pile."<sup>85</sup> This statement 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>86</sup> DAQ's response also completely ignores several

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<sup>81</sup> (RAR Doc. 1, AR000113), ITA at Appendix G-8; (RAR Doc. 30, AR000453), Sierra Club Comments at p. 18, fn. 98 (citing DAQ, Source Plan Review at 10, RAR Doc. 11, AR000344).

<sup>82</sup> (RAR Doc. 1, AR000113), ITA at Appendix G-8; (RAR Doc. 30, AR000452-453), Sierra Club Comments at pp. 17-18.

<sup>83</sup> See, e.g. *In re Shell Offshore, Inc.* ("Shell Offshore 2007"), 13 E.A.D. 357, 386 (EAB 2007) ("The permit issuer's rationale for its conclusions must be adequately explained and supported in the record.")

<sup>84</sup> (AR000453), *Id.* at p. 18, fn 94 (citing Utah Admin. Code R307-401-2(1) ("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>85</sup> (RAR Doc. 36, AR002456), RTC at p. 50.

<sup>86</sup> (RAR Doc. 30, AR000452), Sierra Club Comments at p. 17; see also Utah Admin. Code R307-401-2(1), *Utah Chapter of Sierra Club v. Air Quality Bd.*, 2009 UT 76, 226 P.3d 719, 734.

credible examples of BACT for the coal storage pile Sierra Club provided in comments, including South Coast Air Quality Management District (SCAQMD) Rule 1158 that requires, *inter alia*, that any coal storage pile be enclosed.<sup>87</sup> DAQ also failed to consider SCAQMD Fugitive Dust Rule 403, which requires *inter alia*, that an operator may not allow visible dust from an open storage pile to move beyond the property line of the emission source.<sup>88</sup>

DAQ argued that, although rules from other states can serve as possible control technologies, it is not required to consider a rule from another state as BACT for a minor source.<sup>89</sup> DAQ's rationale not to consider the BACT options Sierra Club provided simply because it was not required to consider them shows DAQ did not "adequately consider[ed] the comments received," and thus the decision was clearly erroneous,<sup>90</sup> and unsupported by substantial evidence. Moreover, Utah uses the same definition of BACT for the purposes of minor sources and major sources and therefore there is no basis in the text for the distinction DAQ makes. Finally, based on the plain language of Utah's BACT rule, the technologies that have been applied to other sources is exactly where appropriate BACT analysis begins.

Third, DAQ provided no basis for relying on a fugitive coal dust emission control plan that has yet to be completed as BACT.<sup>91</sup> BACT must be determined before a permit is issued,<sup>92</sup> and the public is entitled to comment on the proposed permit terms and

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<sup>87</sup> (AR000453-454), *Id.* at pp. 18-19 (citing (Exhibit K) Rule 1158(a), RAR Doc. 30b, AR002204-219).

<sup>88</sup> (AR000454), *Id.* at p. 19 (citing (Exhibit L), Rule 403(a), RAR Doc. 30b, AR002220-242).

<sup>89</sup> (RAR Doc. 36, AR002454), RTC at p. 48.

<sup>90</sup> *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121 (1999) (remanding in part because "we cannot find that [the agency] adequately considered the comments received on the BACT issue").

<sup>91</sup> (RAR Doc. 30, AR000453), Sierra Club Comments at p. 18.

<sup>92</sup> (AR000453), *Id.* at 18. The Director may issue an AO only if he determines that the "degree of pollution control for emissions...is at least BACT." Utah Admin. Code r.307-401-8(1)(a); r.307-401-8(5) ("If the

conditions and to determine whether the Director has met his permitting responsibilities.<sup>93</sup> DAQ's only response to Sierra Club's comments was that "[t]he fugitive coal dust control plan is required to meet the requirements of 40 C.F.R. Pt. 60, Subpart Y."<sup>94</sup> This conclusory statement does not address the problems identified in the comments. DAQ's failure to determine BACT for the fugitive coal dust emission control plan before issuing Revolution's permit was clearly erroneous and without substantial evidence.

#### **IV. Conclusion**

Based on the above deficiencies, Sierra Club respectfully requests that the Director revoke Revolution's permit and/or remand Revolution's permit to DAQ with instructions that the agency comply with the law by undertaking a full and proper analysis as outlined above.

Respectfully submitted and signed on this 17th day of March, 2017.



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director determines that a proposed ... modification ... does not meet the conditions established in (1) above, the director will not issue an approval order.”)

<sup>93</sup> *Id.*, fn 103 (citing Utah Admin. Code R307-401-7).

<sup>94</sup> (RAR Doc. 36, AR002458), RTC at 52.

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**CERTIFICATE OF SERVICE**

I hereby certify that on this 17th day of March, 2017, a true and correct copy of the foregoing **SIERRA CLUB’S OPENING BRIEF** as filed via e-mail with the following:

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