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

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

**FINDINGS OF FACT, CONCLUSIONS
OF LAW, AND RECOMMENDED
ORDER ON THE MERITS**

Administrative Law Judge Bret F. Randall

March 11, 2015

This matter is before me pursuant to appointment by the Executive Director of the Utah Department of Environmental Quality dated January 9, 2014. The appointment charges me to conduct a permit review adjudicative proceeding in this matter in accordance with Utah Code Ann., § 19-1-301.5 and Utah Admin. Code R305-7. Following are my Findings of Fact,¹ Conclusions of Law, and Recommended Order on the Merits.

¹ While the Utah Code directs me to provide “findings of fact,” I note that my review of this matter is in an appellate capacity. There was no trial, no witnesses were called, no testimony was heard, and no evidence was presented to me as a trier of fact. Thus, the legislature’s requirement that the ALJ provide “findings of fact” and a proposed dispositive action should not be read to suggest that I have weighed evidence, except in an appellate-like role, applying the standards of review as discussed below.

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INTRODUCTION

This matter came before me for oral argument on September 17, 2014 at 9:30 am. Present at the argument was Joro Walker and Rob Dubuc on behalf of Petitioners; Christian Stephens for Respondent Division of Air Quality; and Steve Christiansen, David Reymann, Cheylynn Hayman, and Megan Houdeshel for Respondent Holly. Having reviewed the briefing in this matter and heard oral argument, I propose that Petitioners' Request for Agency Action and all claims asserted therein be rejected.

PROCEDURAL BACKGROUND

1. In May of 2012, Holly Refining & Marketing Company – Woods Cross, LLC (“Holly”) submitted a notice of intent (“May NOI”) to the Utah Division of Environmental Quality (“UDAQ”) requesting an approval order to expand its Woods Cross refinery (“Holly Refinery”) and modernize certain equipment in a way that would allow Holly to process an additional 20,000 barrels per day of black wax crude from the Uintah Basin in eastern Utah (“Modernization Project”). [May NOI, IR000049-001108].
2. In July of 2012, Holly re-submitted its May NOI with revisions in response to UDAQ’s request for additional information (“July NOI”). [July NOI, IR002798-003590].
3. On November 28, 2012, UDAQ released for public comment an Intent to Approve document (“First ITA”) containing a draft approval order. [First ITA, IR001967-001996].
4. During the initial 60-day public comment period, UDAQ received comments from the U.S. Environmental Protection Agency (“EPA”) [IR004001-004005]; Western Resource Advocates on behalf of Utah Physicians for a Healthy Environment and Friends of Great Salt Lake (collectively “Petitioners”) [IR004007-004035]; Blaine Rawson on behalf of

Mark J. Hall [IR004202-004217]; Alexander Sagady on behalf of Petitioners [IR009046-009135]; and Holly [IR003757-003910].

5. In February and March of 2013, Holly provided a detailed response to EPA relating to the EPA's comments referenced above, which objected (among other things) to Holly's original netting analysis. [IR008245-008259].

6. In March 2013, Holly submitted a new netting analysis partly in response to a specific request made by UDAQ in February of 2013 and partly in response to EPA's comments referenced above [IR008198-008259].

7. In April 2013, Holly formally submitted a revised NOI ("Revised NOI") to UDAQ that also included the new netting analysis. [Revised NOI at IR007335-007395].

8. In addition to certain other changes, the Revised NOI estimated PM_{2.5} emissions from Holly's gas-fired heaters and boilers based on the EPA's National Emission Inventory ("NEI") data. [*Id.*]

9. On June 5, 2013, UDAQ released for a second public comment period an Intent to Approve document ("Second ITA") and a Source Plan Review. [Second ITA, IR00008449-008479; SPR, IR008480-008575].

10. On July 25, 2013, UDAQ received comments on the draft approval order in the Second ITA from EPA ("EPA's Second Comment Letter") [IR007840-007841]; Western Resource Advocates on behalf Petitioners ("Petitioners' Second Comment Letter") [IR007842-007997]; Blaine Rawson on behalf of Mark J. Hall ("Rawson's Second Comment Letter") [IR008579-008602]; Alexander Sagady on behalf of Petitioners ("Sagady's Second Comment Letter") [IR009046-009135]; and Holly ("Holly's Second Comment Letter") [IR007613-007836].

11. On November 6, 2013, UDAQ requested additional information from Holly pertaining to certain comments raising questions about the Second ITA and Holly responded to this request for supplemental information on November 7, 2013. [IR008021, IR008022-0052].

12. On November 18, 2013, UDAQ issued a Response to Comments Memorandum (“Response to Comments Memo”) addressing all of the comments made during the second public comment period, explained UDAQ’s response to those comments, and, where appropriate, described how the comments had been incorporated into the Holly AO. [Response to Comments Memo, IR009174-009222].

13. UDAQ, having considered and answered all of the comments received during the public comment period, issued Holly a new approval order authorizing the construction of the Modernization Project (“Holly AO”), on November 18, 2013. [Holly AO, IR009223-009254].

14. On December 18, 2013, Petitioners filed their Request for Agency Action contesting UDAQ’s issuance of the Holly AO (“RAA”).

15. In January 9, 2014, the Executive Director of UDAQ appointed me as the administrative law judge (“ALJ”) to conduct a permit review adjudicative proceeding in this matter in accordance with Utah Code Section 19-1-301.5 and Utah Admin. Code R305-7.

16. On January 16, 2014, I issued a Notice of Further Proceedings, in which, among other things, ordered that the party with the burden of proof on any issue would be held to a stringent marshaling requirement (“Marshaling Requirement”).

17. On January 22, 2014, Petitioners filed an Amended Motion and Memorandum Requesting a Stay of the Approval Order (“Motion for Stay”). Oral argument was held on the Motion for Stay on March 6, 2014.

18. On March 25, 2014, I recommended to the Executive Director of the Department of Environmental Quality (“Executive Director”) deny the Motion for Stay finding that Petitioners had not satisfied the four factors required for issuance of a stay of an environmental permit.

19. On May 8, 2014, the Executive Director of the Department of Environmental Quality adopted my proposed order and denied the Motion for Stay.

20. Prior to briefing the merits, Holly and UDAQ submitted Motions to Dismiss certain issues in Petitioners’ RAA.

21. On April 2, 2014, I denied without prejudice the Motions to Dismiss, finding at that time that “preservation issues would be most efficiently addressed in connection with briefing on the merits,” which would afford a reviewing court “a more complete record for appellate review.” [Order on Motions to Dismiss at 6-7].

22. On April 16, 2014, the Petitioners filed a Motion for Clarification Regarding Notice of Further Proceedings, in which they asked me to clarify the Marshaling Requirement imposed by the Notice of Further Proceedings.

23. On April 17, 2014, I issued an Order Clarifying the Marshaling Requirement (“Clarification Order”) reiterating that the Petitioners bear the burden to marshal all of the evidence in the administrative record, both supportive of and contrary to their claims.

24. On September 12, 2014, I issued a subsequent Order regarding the Marshaling Requirement, clarifying further the Petitioners’ burden of proof in light of the Utah Supreme Court decision in State v. Nielsen, 2014 UT 10, 326 P.3d 645. In that Order, I explained that Petitioners were required to marshal all of the evidence in the administrative record to carry their burden of proof on any particular issue.

25. On September 17, 2014, after receiving briefs on the merits from all the parties, I heard oral argument to hear the merits of Petitioners' RAA, as required by the Utah Code. After reviewing and considering all of the facts and arguments presented in the briefing and at oral argument and pursuant to Utah Code Section 19-1-301.5(12)(c), I hereby submit to the Executive Director the following Proposed Findings of Fact, Conclusions of Law, and Proposed Order Regarding the Merits.

LAW APPLICABLE TO THIS ADJUDICATION

I. Standard of Review

1. This permit review adjudicative proceeding is governed by Utah Code Section 19-1-301.5, which requires the presiding ALJ to “conduct a permit review adjudicative proceeding based only on the administrative record and not as a trial de novo.” Utah Code § 19-1-301.5(8)(a). Unlike many other administrative proceedings involving an ALJ, in a permit review adjudicative proceeding it is clear that the Utah Legislature intended to limit the ALJ’s authority to a review of UDAQ’s decision, thereby placing the ALJ in an appellate-like review role. There is to be no trial. There will be no witnesses, no examination or cross examination, and no findings of fact where disputed testimony is weighed and where witness credibility is at issue, as often occurs in other administrative adjudicative proceedings. Rather, all of the weighing of the evidence has already occurred at the UDAQ level.

2. UDAQ prepared a written response to public comments in connection with the issuance of the Holly AO. [IR009174-9222]. The ALJ must “review...the director’s determination, based on the record,” culminating in a proposed dispositive action that includes findings of fact, conclusions of law, and a recommended order. Utah Code § 19-1-301.5(12)(b)-(c). Because these proceedings are, by definition, limited to the issues raised during the public

comment period, UDAQ's written response to public comments plays a central role in evaluating whether UDAQ's conclusions satisfy applicable legal requirements.

3. Petitioners have the burden of proof to demonstrate that the Director's determination to issue the Holly AO was in error. [Clarification Order at 4 ("Petitioners acknowledge that they have the burden of proof in this proceeding."); *see also Taylor v. Pub. Serv. Comm'n*, 2005 UT App 121, *1 (unpublished) ("In the typical challenge to agency action, the party challenging the action carries the burden of demonstrating its impropriety." (internal quotations omitted))].

4. The Director's determination can include factual findings, interpretations of law, and mixed determinations of law and facts.

5. To carry their burden of proof with respect to their challenge of factual findings, the Petitioners must demonstrate that UDAQ's findings of fact are not supported by substantial evidence; otherwise, the ALJ must "uphold all factual technical, and scientific agency determinations that are supported by substantial evidence taken from the record as a whole." Utah Code § 19-1-301.5(13)(b).² Under Utah case law relevant to this proceeding, the ALJ's review on questions of fact is limited to determining if UDAQ's factual findings "were reasonable and rational," while giving "great deference" to UDAQ's factual findings and not "reweighing" the evidence. Utah Chapter of the Sierra Club v. Bd. of Oil, Gas & Mining, 2012

² While subsection (13)(b) expressly applies directly to the Executive Director's review, the standard of review that the ALJ is to apply to the record is not expressly stated in the Utah Code. Under a fair reading of the statute, it is clear that the ALJ is to apply the same standard as the Executive Director is required to apply. This conclusion is based on a reading of the permit review adjudicative proceeding statute as a whole. In the first instance, the ALJ's express duty and authority is to undertake a permit review adjudicatory proceeding and not a trial *de novo* on the merits, resulting in a recommended ruling for the Executive Director. In other words, the role of the ALJ is to "stand in the shoes" of the Executive Director and provide her with a recommended ruling on the merits. Thus, the ALJ is to apply the same standard of review to the administrative record as the Executive Director is required to apply. Utah Code Ann. § 19-1- 301.5.

UT 73, ¶ 11, 38 P.3d 291 (hereinafter Sierra Club v. BOGM) (internal quotation marks omitted).³

While reviewing an agency’s determination for substantial evidence, the ALJ should “state the facts and all legitimate inferences drawn therefrom in the light most favorable to the agency’s findings.” *Id.* ¶ 12.

6. With respect to legal interpretations, the ALJ should grant “substantial discretion” to UDAQ in its interpretation of its governing statutes and rules. *See* Utah Code § 19-1-301.5(14)(c)(i). In this case, the governing statutes and rules include the Clean Air Act, the Utah Air Conservation Act, and the applicable regulations under these statutes. UDAQ’s legal interpretation of these statutes and rules may be overturned only if Petitioners show that such interpretation is a “clearly erroneous interpretation or application of the law.” *See, e.g., Sierra Club v. BOGM*, 2012 UT 73, ¶ 10; *see also Assoc. Gen. Contractors v. Bd. of Oil, Gas & Mining*, 2001 UT 112, ¶ 18, 38 P.3d 291 (an agency’s “interpretation of the operative provisions of the statutory law it is empowered to administer” must be given deference).

7. By contrast, UDAQ’s general interpretations of the law, including constitutional questions, jurisdiction, and statutes unrelated to the agency, are granted little or no deference and are simply reviewed for correctness. *Sierra Club*, 2012 UT 73, ¶ 9; *see also Sevier Citizens v. Dept. of Env’t. Quality*, 2014 UT App 257, ¶ 6 (where the statute under review was procedural, and where issue was interpretation of the statute itself that granted agency interpretive discretion, the court applied a traditional approach to standard of review and imposed a correctness standard

³ Section 19-1-301.5, however, also vests the ALJ with the authority to supplement the administrative record. Utah Code Ann. § 19-1-301.5(8)(c)(iv) (providing that the ALJ “may supplement the record with technical or factual information.”). Based on these statutory provisions, if the ALJ determines that UDAQ has not addressed an issue or UDAQ’s response to an issue is inadequate, the ALJ may request additional technical or factual information from the parties as opposed to recommending a remand of the AOs.

to the question of whether the failure to file a petition to intervene strips the agency of jurisdiction under Utah Code Section 19-1-301.5(7)).

8. Finally, when the agency has been granted discretion to interpret the statute or regulation at issue, mixed questions of law and fact are reviewed under an abuse of discretion standard. *See Murray v. Utah Labor Comm'n*, 2013 UT 38, ¶ 39, 308 P.3d 461. Here, Section 19-1-301.5(14)(c)(i) expressly grants UDAQ “substantial discretion to interpret its governing statutes and rules.” Agency decisions on mixed questions of law and fact must be upheld under this discretion standard if they are “rationally based” and set aside only “if they are imposed arbitrarily and capriciously or are beyond the tolerable limits of reason.” *Assoc. Gen. Contractors*, 2001 UT 112, ¶ 18 (internal quotation marks omitted).

II. Petitioners’ Burden of Proof

1. Petitioners, as the parties challenging UDAQ’s decision to issue the Holly AO, carry the burden of demonstrating UDAQ’s determinations were not supported by substantial evidence, were erroneous, or were an abuse of discretion. *See Sierra Club v. BOGM*, 2012 UT 73, ¶ 31; *Associated Gen. Contractors*, 2001 UT 112, ¶ 34; *Taylor*, 2005 UT App 121, *1 (Utah Ct. App 1993) (unpublished).

2. A party with the burden of proof must “fully identify, analyze, and cite its legal arguments” and “provide meaningful legal analysis” but may not “dump the burden of argument and research” on the reviewing authority. *W. Jordan City v. Goodman*, 2006 UT 27, ¶ 29, 135 P.3d 874 (internal quotation marks omitted); *see also Kennon v. Air Quality Bd.*, 2009 UT 77, ¶ 29, 270 P.3d 417 (declining to review a petitioner’s challenge to an AO where the petitioners failed to adequately brief a claim). Moreover, a party’s briefing is inadequate where the briefing “merely contains bald citations to authority without development of that

authority and reasoned analysis based on that authority.” Allen v. Friel, 2008 UT 56, ¶ 9, 194 P.3d 903 (internal quotation marks omitted); State v. Lamb, 2013 UT App 5, ¶ 11, 294 P.3d 639.

III. Petitioners’ Duty to Marshal All Relevant Evidence

1. This tribunal’s statutory jurisdiction under Utah Code Section 19-1-301.5 requires this tribunal to conduct this proceeding based only on the administrative record and to uphold “all factual, technical, and scientific agency determinations that are supported by substantial evidence viewed in light of the record as a whole.” Utah Code § 19-1-301.5(14)(c) (emphasis added). Accordingly, there will never be a “trial” on the merits. Rather, UDAQ undertook the adjudication of Holly’s NOIs after receiving and considering, among other things, public comments.

2. All of the evidentiary information upon which the Director could have relied is contained in the formal administrative record as defined by Utah Code Section 19-1-301.5(8)(b). For every issue raised in public comments, the Director provided a detailed written response, which also forms part of the administrative record. Utah Code Ann. § 19-1-301.5(8)(b).

3. The Director’s detailed response to comments provides a specific record as to how the Director considered and resolved each public comment and also, in some instances, refers to and provides citation to other evidence in the administrative record upon which the Director has relied in reaching any given conclusion. Thus, while there is no trial on the merits, the Director’s response to public comments provides a rather detailed “roadmap” as to the factual and legal basis for the Director’s decision to issue the Holly AO.

4. Because Petitioners have the burden of persuasion in this proceeding, the only way they can possibly carry that burden of proof is to convince the ALJ (or, by extension, the Executive Director, the Utah Court of Appeals, or the Utah Supreme Court) that any disputed factual, technical, or scientific agency determination is not supported by substantial evidence taken from the administrative record *as a whole*. By extension, therefore, they must marshal *all* of the evidence relevant to each claim they assert. *See, e.g., Nielsen*, 2014 UT 10, ¶ 42. In short, the Marshaling Requirement forms an inherent part of Petitioners’ burden of proof in this proceeding. Indeed, the Utah Supreme Court recently clarified that “a party who fails to identify and deal with supportive evidence *will never* persuade an appellate court to reverse under the deferential standard of review that applies to such issues.” *Nielsen*, 2014 UT 10, ¶ 40 (emphasis added).

5. In their briefing on the merits and at oral argument, Petitioners raised a number of objections to the Marshaling Requirement. These objections lack merit.⁴ The Marshaling Requirement was properly imposed, either as an inherent part of Petitioners’ burden of proof or, in the alternative, pursuant to the ALJ’s statutory grant of authority to manage all non-dispositive aspects of these proceedings.

6. The Utah Legislature has granted the ALJ the jurisdiction to “take any action in a permit review adjudicative proceeding that is not a dispositive action.” Utah Code § 19-1-301.5(9)(f). Although the Marshaling Requirement is not specifically adopted in the Utah Code or Utah Administrative Code as applied to these proceedings and Rule 24(a)(9) does not expressly apply here, an ALJ has the authorization to manage this proceeding in the most efficient

⁴ The fact that Holly was able to marshal record evidence, point by point, in the manner that I had requested of Petitioners, provides further support for the conclusion that Petitioners’ arguments against the Marshaling Requirement lack merit and should be rejected.

and effective way appropriate under the circumstances of this case.⁵ All of the policy reasons underlying Rule 24(a)(9) of the Rules of Appellate Procedure apply with full force to a permit review adjudicative proceeding.

7. In an analogous situation, the Utah Court of Appeals declined to undertake an independent review of a large record. Wright v. Westside Nursery, 787 P.2d 508, 512 n.2 (Utah App. 1990). There, the court noted that Rule 24(a)(9) was intended precisely “to spare appellate courts such an onerous burden.” *Id.* Hence, the court continued, “[a]bsent exceptional circumstances, our review of the record is limited to those specific portions of the record which have been drawn to our attention by the parties and which are relevant to the legal questions before us.” *Id.* The court noted that Rule 24(a)(9) was intended precisely “to spare appellate courts such an onerous burden.” Hence, the court continued, “[a]bsent exceptional circumstances, our review of the record is limited to those specific portions of the record which have been drawn to our attention by the parties and which are relevant to the legal questions properly before us.” *Id.* I have applied this same standard to my review of the administrative record in this proceeding, for the same reasons as stated by the Utah Court of Appeals. If this rule were not applied to the administrative record in a permit review adjudicative proceeding, an appellant on future appeal could potentially argue that the administrative law judge overlooked or failed to consider, under his or her independent review of the record, certain evidence of record even though that evidence was not specifically drawn

⁵ It is undisputed that should Petitioners appeal any issue arising from this proceeding to the Utah Court of Appeals, Rule 24(a)(9) would apply to their briefs on appeal. Because the administrative law judge and the Executive Director are called upon to apply the same standard of review to the agency determinations as the Utah Court of Appeals, it stands to reason that the marshaling requirement should also apply at the ALJ and Executive Director levels of review. Moreover, Petitioners have been on notice of this procedural requirement from the outset of this proceeding and did not appeal the ALJ’s Order Clarifying the Marshaling Requirement to the Executive Director. They cannot therefore show undue burden or prejudice.

to the attention of the administrative law judge. I find and conclude that the types of “exceptional circumstances” that may warrant deviation from this rule, as stated in *Wright*, do not apply to the present proceedings.⁶

8. This conclusion finds further support in Utah case law in the cases cited below, subject to the clarification that in these cases, the potential for a procedural default upon failure to marshal the record is not an appropriate result, as held in State v. Nielsen, *supra*. However, to the extent that Utah case law regarding the burden of proof and marshaling does not deal with the procedural default issue rejected in State v. Nelson, it is still good law and should be considered as being relevant here. *See, e.g., Simmons Media Group, LLC v. Waykar, LLC*, 2014 UT App 145, ¶¶ 46, 763 Utah Adv. Rep. 32 (dismissing a claim where the appellant “does not identify and deal with the supportive evidence” (internal quotation marks omitted)); Nebeker v. Summit County, 2014 UT App 137, ¶ 46, 762 Utah Adv. Rep. 25 (“To prevail on such a challenge, the County must acknowledge the evidence that supports the findings and demonstrate ‘a basis for overcoming the healthy dose of deference owed to factual findings’” (quoting Nielsen, 2014 UT 10 ¶¶ 41-42); Wachocki v. Luna, 2014 UT 139, ¶ 11, n. 6, 330 P.3d 717 (holding that because appellants failed to marshal the evidence, appellants did not carry their burden on appeal); W. Jordan City, 2006 UT 27, ¶ 29; Heinecke v. Dep’t of Commerce, 810 P.2d 459, 464 (Utah Ct. App. 1991) (holding that parties fail to meet their burden to marshal the evidence when they leave “it to the court to sort out what evidence

⁶ There is simply nothing in the Utah Code to suggest that the administrative law judge in a permit review adjudicative proceeding has an independent duty to comb through the entire Administrative Record to identify all relevant facts in support of a disputed factual, technical, and scientific agency determination, particularly where, as here, Petitioners are represented by experienced and competent legal counsel. To be sure, a more generous standard of briefing may apply to a permit review adjudicative proceeding where parties appear *pro se*. Because no *pro se* parties are involved in the instant proceeding, I will not speculate as to the potential applicability of the Marshaling Requirement in cases where parties are not represented by legal counsel.

actually supported the finding” and instead argued their “own position without regard for the evidence supporting the...findings”).

9. The duty to carry the burden of proof through marshaling must fall to Petitioners in this permit review adjudicative proceeding, because as a matter of longstanding administrative law, the party challenging any factual finding underlying an agency’s determination is required to marshal “all” evidence supporting the agency’s determination. Sierra Club v. BOGM, 2012 UT 73, ¶ 12; *see also* Kenyon, 2009 UT 77, ¶ 27 (“When challenging factual findings, a party is obligated to marshal ‘all record evidence that supports the challenged finding.’” (quoting Utah R. App. P. 24(a)(9))); First Nat’l Bank of Boston v. County Bd. of Equalization of Salt Lake County, 799 P.2d 1163, 1165 (Utah 1990) (In an appeal of an agency action, “the party challenging the finding...must marshal all of the evidence supporting the finding .”).

10. The duty to marshal the evidence in administrative appeals also applies to parties challenging an agency’s determination on mixed questions of fact and law. Peterson Hunting v. Labor Comm’n, 2012 UT App 14, ¶ 15, 269 P.3d 998; *see also* United Park City Mines Co. v. Stichting Mayflower Mountain Fonds, 2006 UT 35, ¶ 25, 140 P.3d 1200 (“Even where the defendants purport to challenge only the legal ruling, as here, if a determination of the correctness of a court’s application of a legal standard is extremely fact-sensitive, the [appellants] also have a duty to marshal the evidence.” (internal quotation marks omitted)).

A party obligated to marshal the evidence must do so for each claim that the marshaling mandate applies. Sierra Club 2012, 2012 UT 73, ¶ 30 & n.3 (holding that Petitioners failed to marshal one claim while determining that the same Petitioners marshaled another claim). At its core, the marshaling requirement demands that a party “marshal all of the evidence supporting the findings and show that despite the supporting facts, the...findings are not support by substantial evidence.” *Id.* ¶ 30. To do so, the party may not “simply attack [the agency’s] credibility.”

Associated Gen. Contractors, 2001 UT 112, ¶ 34 (quoting Brewer v. Denver & Rio Grande W. R.R., 2001 UT 77, ¶ 36, 31 P.3d 557).

11. In light of the Marshaling Requirement, the ALJ has ordered that Petitioners were not subject to a page limitation in their briefing on the merits. Rather, the only requirement has been that the briefing be of reasonable length. Thus, Petitioners have been afforded every opportunity to carry their burden of proof in this proceeding to convince the ALJ that any disputed factual, technical, or scientific agency determination is *not* supported by substantial evidence taken from the administrative record as a whole. In order to meet that burden of proof, it will be necessary for Petitioners to bring to the tribunal's attention *all* evidence from the administrative record that relates to any such disputed issue.

IV. Preservation Standard

1. Pursuant to Utah Code Section 19-1-301.5(10), “[a] person who files a request for agency action has the burden of demonstrating that an issue or argument raised in the request for agency action has been preserved.” Lacking such demonstration, the ALJ “shall dismiss, with prejudice, any issue or argument in a request for agency action that has not been preserved.” *Id.*

2. An issue or argument has been preserved for appeal if (a) the person raised it during the public comment period and it was supported with sufficient information or documentation to enable the director to fully consider the substance and significance of the issue, Utah Code § 19-1-301.5(4)(a)-(b); or (b) the issue was not reasonably ascertainable during the public comment period, *id.* § 19-1-301.5(6)(c).

3. The failure to raise reasonably ascertainable issues or arguments relating to the proposed permit during the public comment period deprives UDAQ from considering all

possible issues prior to any issuance of an approval order and results in less effective agency process.

4. The demonstration that each issue has been properly preserved must be found in the Petitioners' RAA at the outset of the case. *See id.*; *see also* Utah Admin. Code R305-7-203(3)(h) (mandating that an RAA provide a showing on preservation).

5. The failure to raise issues in the RAA frustrates the goals of the permit review adjudicative process by failing to place the respondents on notice of the specific claims. Such failure prevents UDAQ and Holly from assessing whether it should have supplemented the record in response to newly presented claims in the RAA. Moreover, by not raising issues in the RAA and waiting to reveal claims until the briefing, Petitioners prevented Holly from assessing the full risks of proceeding with construction under an AO subject to a permit challenge.

6. Any claims not preserved in accordance with the statutory standard set forth above will be dismissed.

7. Petitioners raised concerns in their RAA and then again in their Reply Brief about whether due process had been satisfied where Holly submitted additional information to UDAQ after the close of the public comment period and Petitioners were not given a second opportunity to submit comments on this additional material.

8. First, Petitioners have waived this claim by not briefing it in their opening brief. Petitioners may not raise claims in their RAA and then wait to address such claims until their Reply brief. *See e.g., Coleman ex rel. Schefski v. Stevens*, 2000 UT 98, ¶ 9, 17 P.3d 1122 (refusing to consider matters raised for the first time in the reply brief).

9. Even if Petitioners' claims regarding procedural due process were not waived and had merit, which is unclear in light of the fact that Petitioners do not adequately brief this issue,

fail to cite any case law, or quote from the due process clause of the Utah or United States Constitution, it is clear that Petitioners were afforded an opportunity to supplement the record and raise issues in the RAA relating to any new information submitted after the close of the public comment period.

10. Petitioners were on notice that additional information had been submitted, as it was referenced multiple times in the response to comments document UDAQ issued in conjunction with the final Holly AO. Petitioners also had access to UDAQ's permitting file after the Holly AO was issued before the deadline for filing their RAA.

11. Moreover, this tribunal has allowed arguments that were not reasonably ascertainable to be raised in the RAA, for the first time, in accordance with Utah Code Section 19-1-301.5(6)(c)(ii), and allowed the parties to supplement the record via motion in accordance with Section 19-1-301.5(8)(c). This tribunal has also waived any page limits to allow the parties the opportunity to fully develop any claims that arose either during the public comment period, or after.

12. Petitioners are incorrect that their due process rights have been implicated in this case.⁷ Any claims or issues that were reasonably ascertainable during the public comment period must have been raised in Petitioners' comments. Any claims that were not reasonably ascertainable during the public comment period could be included for the first time in the Petitioners' RAA but may not appear for the first time in Petitioners' briefing on the merits. Petitioners have failed to demonstrate how, in light of this tribunal's treatment of the claims in accordance with 19-1-301.5, any procedural due process rights have been violated.

⁷ To the extent Petitioners claim that permit review adjudication statute and rules violate the due process protections of the Utah and United States Constitutions, such claims are beyond the jurisdiction of the ALJ to decide in this permit review proceeding. *See e.g., Nebeker v. Utah State Tax Comm'n*, 2001 UT 74, ¶ 23, 34 P.3d 180.

V. Scope of Proceedings; Regulatory Background; and EPA Role

1. The evidence Petitioners presented in this matter stands for the self-evident, general proposition that air pollution is harmful to human health and to the environment. [IR at 009140-48; IR at 009139-45; IR at 009144-45; IR at 009145-47.] On that point, there is no disagreement.

2. In enacting the Utah Air Conservation Act, the Utah Legislature declared: “It is the policy of this state and the purpose of [the Utah Air Conservation Act] to achieve and maintain levels of air quality which will protect human health and safety, and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state, and facilitate the enjoyment of the natural attractions of this state.” Section 19-2-101(2), Utah Code Ann.

3. The Utah Legislature further declared that the “purpose” of the Utah Air Conservation Act is to “(a) provide for a coordinated statewide program of air pollution prevention, abatement, and control; (b) provide for an appropriate distribution of responsibilities among the state and local units of government; (c) facilitate cooperation across jurisdictional lines in dealing with problems of air pollution not confined within single jurisdictions; and (d) provide a framework within which air quality may be protected and consideration given to the public interest at all levels of planning and development within the state.” Section 19-2-101(4), Utah Code Ann.

4. Similarly, in enacting the Clean Air Act, the Congress found, among other things:
(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including

injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation; [and]

(3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments

42 U.S.C. § 7401(a).

5. Congress also stated that the “primary goal” of the Clean Air Act is to “encourage or otherwise promote reasonable Federal, State, and local governmental actions . . . for pollution prevention.” 42 U.S.C. § 7401(c).

6. In these proceedings, I am charged to conduct a permit review adjudicative proceeding in this matter in accordance with Utah Code Ann., § 19-1-301.5 and Utah Admin. Code R305-7.

7. As a matter of law, any source’s compliance with the permitting requirements set forth in the Clean Air Act and the Utah Air Conservation Act satisfies the public policy of protecting the public and the environment from the harms of air pollution.

8. The question before me in these proceedings is not whether air pollution is harmful but rather whether the Holly AO is in compliance with applicable laws, rules, and regulations. Based on the evidence in this record, the unavoidable conclusion is that the Holly AO is in compliance with the law, all as explained in more detail below.

9. The conclusions reached in these proposed Findings and Fact and Conclusions of Law, to the effect that the Holly AO is in compliance with all applicable laws, rules, and regulations, notwithstanding Petitioners’ objections, find additional support in the EPA’s independent review of the Holly AO and that agency’s conclusion that the Holly AO may be issued. *See* EPA Comment Letters [IR004001-004005; IR007840-007841]. In *Alaska Dep’t of*

Env'tl. Conservation v. EPA, 540 U.S. 461, 124 S. Ct. 983 (2004), the U.S. Supreme Court held that EPA is entitled to review the reasonableness of state permitting authorities' BACT determinations under the PSD program and has authority to issue stop construction orders if it reasonably believes that a BACT designation is erroneous or unreasonable. The CAA also provides EPA with concurrent enforcement authority that is directly applicable to the present proceeding. 42 U.S.C. §§ 7477, 7413(a)(5)(A) (describing the enforcement options available to the EPA when it finds that a state is not complying with any requirement of the CAA with respect to construction of a new source or modification of an existing source). *See* Jennifer A. Davis Foster, Note, EPA Oversight in Determining Best Available Control Technology: The Supreme Court Determines the Proper Scope of Enforcement, 69 Missouri L. Rev., Issue 4, at 1 (Fall 2004). Based on the foregoing, it is clear that if in EPA's independent judgment, any of the objections and issues Petitioners have briefed on the merits were meritorious, EPA had an independent duty and authority to pursue such issues. EPA declined to do so even after being given the opportunity in connection with the Holly AO.

10. In this permit review adjudicative proceeding, we have a somewhat unusual situation in administrative law where not one but two regulatory agencies with significant technical expertise and concurrent (and somewhat overlapping) legal jurisdiction have been involved in the procedural and substantive process that led to the issuance of the Permit. This situation provides a second layer of regulatory oversight to ensure that the applicable procedural and substantive requirements of the Clean Air Act, as adopted and enforced through the Utah Air Conservation Act in the spirit of "cooperative federalism," have been met.

**FINDINGS OF FACT AND CONCLUSIONS OF LAW FOR CLAIMS PETITIONERS
FAILED TO BRIEF ON THE MERITS**

1. Petitioners' RAA contains a number of claims that Petitioners did not raise in their briefing on the merits. Those claims are listed in a Table of Waived Claims attached hereto as **Appendix A**, incorporated herein by this reference.

2. Both Holly and UDAQ pointed out in their briefing and at oral argument that Petitioners failed to brief these claims and therefore waived such claims. Petitioners did not rebut this argument and at oral argument conceded that this tribunal need not address claims they did not brief.

3. Because Petitioners failed to brief these claims, they should be dismissed with prejudice on two separate and independent grounds: (a) waiver; and (b) failure to carry Petitioners' burden of proof. *See, e.g., See Sierra Club v. BOGM*, 2012 UT 73, ¶ 31; *Kennon*, 2009 UT 77, ¶ 29; *W. Jordan City*, 2006 UT 27, ¶ 29; *Anderson v. Kriser*, 2009 UT App 319, *2 n.3 (“[A]rguments not raised in an appellant's initial brief are waived.”); *Brown v. Glover*, 2000 UT 89, ¶ 23, 16 P.3d 540 (“Generally, issues raised by an appellant in the reply brief that were not presented in the opening brief are considered waived and will not be considered by the appellate court.”).

**FINDINGS OF FACT AND CONCLUSIONS OF LAW FOR CLAIMS PETITIONERS
BRIEFED ON THE MERITS**

Petitioners' remaining claims can be grouped into eleven independent claims, each of which will be addressed below. Before addressing the specific claims, I would like to make the following general findings of fact relating to the regulatory context, inasmuch as the general aim of many of Petitioners' comments go to the issue of the harms caused by air pollution.

I. UDAQ Is Properly Regulating the Holly Refining Flares as Required by Subpart Ja.

Petitioners' first specific argument on the merits goes to the interplay between the regulation of the Holly flares, as required by law, and the Holly AO at issue in this matter. Petitioners argue that the Holly AO is invalid because UDAQ did not "properly regulate" the refining flares by explicitly listing and explaining every applicable provision of the regulation governing the flares (New Source Performance Standards ("NSPS"), 40 C.F.R. Part 60, Subpart Ja ("Subpart Ja")). [Petitioners' Opening Brief at 4-12.] More specifically, Petitioners argue that "the Director has failed to specify in the AO – or elsewhere – the exact conditions of Subpart Ja that apply to the Holly Refining Flares and has failed to impose these conditions on the facility. Without particular AO terms and conditions that reflect the relevant Subpart Ja standards on the flares, the Heavy Crude Project will not meet the requirements of Utah Admin Code R307-401-8(1)(b)(vi), Rule 307-401-8(1)(a) and Rule R307-401-8(5)." [Petitioners' Opening Brief at 4-5.] For the reasons set forth below, this argument should be rejected.

A. Findings of Fact

1. Holly's NOI acknowledges that Subpart Ja applies to the refinery generally and to the flares specifically. [See IR002866-87, Holly's July 2012 NOI ("The following Subparts are applicable to the proposed project... Subpart Ja – Standards of Performance for Petroleum Refineries"); IR002868-69 ("The provisions of [40 C.F.R. Part 60 Subpart Ja] apply to the new FCCU and fuel gas combustion devices, including flares and process heaters.");⁸ IR002962

⁸ When Holly submitted its NOI, Subpart Ja included all flares in its definition of "fuel gas combustion device." See 40 C.F.R. § 60.101a (2012). However, during Holly's permit review process, the regulation was revised to separate fuel gas combustion devices from flares. 40 C.F.R. § 60.101a (2013). Despite this change in the regulations, in Holly's NOI and the Source Plan Review, flares were grouped together with other fuel gas combustion devices and subject to the same emission requirements. See IR005871-72.

(“Because the flare is located at a petroleum refinery, the flare must comply with the requirements and limitations presented in 40 C.F.R. Part 60 Subpart Ja.”)].

2. Holly’s NOI also incorporated emission limits derived from Subpart Ja for combustion devices. [IR002868-69, Holly’s July 2012 NOI (“Holly will comply with the following emission limitations...Holly shall not burn in any new fuel gas combustion device any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a three-hour rolling average basis and H₂S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.”).]

3. UDAQ independently recognized in the Source Plan Review that Subpart Ja applies to the Holly Refinery and that Holly is subject to the emission limitations contained in Subpart Ja. [IR008571-8572, Source Plan Review (“40 CFR 60 Subpart Ja: The provisions of this subpart apply to the new FCCU and fuel gas combustion devices, including flares and process heaters. Holly Refinery will comply with the following emission limitations...Holly Refinery shall not burn in any new fuel gas combustion device any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a three-hour rolling average basis and H₂S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.”).] UDAQ also made clear that Subpart Ja applies to the flares in its Response to Comments Memo. [IR009183, Response to Comments Memo (“NSPS Subpart Ja applies to the Woods Cross refinery generally and to both the North and South Flares.”)].

4. UDAQ determined that Holly is required to comply with Subpart Ja whether or not such emission limits were contained in the Holly AO. [See IR009183, Response to Comments Memo (“Regardless of whether the requirements [of NSPS] are in the AO, Holly Refinery must comply with all applicable subparts...Holly Refinery is not in violation of any

federal limits.”); IR009252, Holly AO (listing Subpart Ja in Section III, “Applicable Federal Requirements”).]

5. The EPA made no comments regarding issues with the applicability or enforcement of Subpart Ja as to the Holly Refinery generally or as to the AO specifically. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

6. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [See IR007858-7860, Petitioners’ Second Comment Letter.]

C. Findings and Conclusions on Burden of Proof

7. Petitioners assert that this issue is purely a question of law—whether UDAQ is required to explicitly outline and explain every applicable provision of Subpart Ja in the Holly AO. Petitioners concede that Subpart Ja applies to Holly’s flares and other combustion sources, but argue that the AO is deficient because each applicable provision is not explained in detail in the Holly AO.

8. The question of whether Utah law requires applicable NSPS provisions to be listed in approval orders is a question of law that the agency has been given discretion to interpret and so shall be reviewed under a clearly erroneous standard. Whether UDAQ correctly applied a particular NSPS provision and whether Holly is in compliance with NSPS are mixed questions of law and fact that are reviewed for reasonableness and whether there is substantial evidence in the record to support the determinations. Whether Holly is in compliance with subpart Ja is a question that is specifically handled by DAQ’s enforcement section and therefore beyond the scope of these proceedings.

9. In their briefing, Petitioners failed to reference any of the specific evidence in Holly's NOI in which Holly recognized it was subject to Subpart Ja.

10. Additionally, Petitioners' reference to other evidence in the record is relegated to footnotes and lacks any description of the document being referenced.

11. Because Petitioners have omitted multiple pieces of evidence from their analysis that show Subpart Ja does apply to the Holly Refinery, they have failed to meet their burden of proof on this issue for the reasons described in more detail above.

D. Conclusions of Law on the Merits

12. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' arguments should fail on the merits for the independent reasons discussed below.

13. Subpart Ja is one of many NSPS the EPA has promulgated for particular types of new or modified sources that EPA has determined are major emitters of criteria air pollutants, such as petroleum refineries. *See generally* 42 U.S.C. § 7411, Standards of Performance for New Stationary Sources (granting the administrator of EPA the authority to regulate certain sources). The applicability of a particular NSPS to a particular source is often specifically outlined in the text of the regulation applicable to that source category. *See e.g.*, 40 C.F.R. § 60.100a (defining modification for purposes of Subpart Ja applicability). The applicability of NSPS is evaluated separately from other Clean Air Act regulations such as the Prevention of Significant Deterioration Program ("PSD"), which is implemented through individual pre-construction permits like the Holly AO. *See generally* 42 U.S.C. §§ 7475, 7503 (setting forth the pre-construction permitting requirements).

14. Unlike the PSD program, the NSPS regulations apply to a source whether or not that source is undergoing a modification requiring pre-construction approval. *See, e.g.*, 40 C.F.R. § 60.1(a) (defining NSPS applicability); *id.* § 60.2 (defining when “construction” or “modification” takes places for purposes of NSPS applicability); Env’t Defense v. Duke Energy Corp., 549 U.S. 561, 577-78 (2007) (recognizing the distinction between the NSPS and PSD regulations). Therefore, NSPS compliance and/or applicability determinations are not dependent upon inclusion of the NSPS regulation’s language in the pre-construction permit. Compliance or non-compliance with NSPS is entirely separate from the PSD permitting process.

15. The oversight of Holly’s compliance with Subpart Ja is a matter for UDAQ’s enforcement section. This is true regardless of whether the provisions of Subpart Ja are in the permit or not. [IR009183, Response to Comments Memo (“Regardless of whether the requirements [of NSPS] are in the AO, Holly Refinery must comply with all applicable subparts...Holly Refinery is not in violation of any federal limits.”).]

16. If Holly were in violation of Subpart Ja, contrary to UDAQ’s determination, the Clean Air Act provides Petitioners with a separate remedy in the form of a citizen suit under Section 304 of the Clean Air Act. *See* 42 U.S.C. § 7604(a) (Clean Air Act citizen suit provision). Challenging compliance with Subpart Ja in this permit review proceeding is therefore misplaced.

17. Petitioners also are incorrect in their assertion that R307-415 of the Utah Administrative Code requires all federally-applicable NSPS requirements to be included in the Holly AO. The regulations Petitioners cite apply only to Title V operating permits—not approval orders. The Title V operating permit regulations are independent of the approval order

pre-construction permit regulations. *Compare* Utah Admin. Code R307-415 (Title V operating permit regulations), *with id.* R307-401 (pre-construction approval order permit regulations).

18. The purpose of Title V is to consolidate all applicable federal and state regulatory requirements into one permit. *See* 40 C.F.R. § 71.1(b) (“All sources subject to the operating permit requirements of title V and this part shall have a permit to operate that assures compliance by the source with all applicable requirements.”). Thus, there is no legal requirement to include all applicable NSPS regulations in an approval order.

19. Accordingly, Petitioners’ arguments that the applicable provisions of Subpart Ja must be included in the Holly AO fail on the merits and should be dismissed.

II. The North Flare is Subject to Subpart Ja.

1. The Petitioners next contend that the Director erred in reversing his position regarding the applicability of Subpart Ja to the North Flare. [Petitioners’ Opening Brief at 12-15.] For the reasons stated below, this argument should be rejected.

A. Findings of Fact

2. The Director determined that Holly must comply with all applicable subparts of the NSPS regulations and that Holly was not in violation of any federal limits. [IR009183, Response to Comments Memo (“Regardless of whether the requirements [of NSPS] are in the AO, Holly Refinery must comply with all applicable subparts...Holly Refinery is not in violation of any federal limits.”).]

3. The Director determined that the North Flare was not being modified as part of this project and therefore was outside the scope of the permitting action. [IR009183, Response to Comments Memo (“The North Flare is not being modified as part of the project proposed by

Holly Refinery in its NOI, so it is outside the scope of this permit action. NSPS Subpart Ja applies to the Woods Cross refinery generally and to both the North and South Flares.”.)]

4. According to undisputed evidence in the record, Holly’s North Flare was subject to and in compliance with Subpart J and A of the NSPS regulations. [IR007999, Email Correspondence between Eric Benson and Camron Harry (“Holly’s North Flare was applicable and compliant with 40 CFR 60 Subpart A & J upon startup.”).]

5. A consent decree entered in 2008 between Holly and EPA required that Holly bring the North Flare into compliance with applicable NSPS standards. [See IR004800-4801, Consent Decree (requiring flaring devices to become NSPS compliant).]

6. As of December 2008, Holly reported to the EPA that its North Flare was in compliance with NSPS. [See IR007946, IR007951, Semi-Annual Progress Report to EPA and UDAQ re Consent Decree (reporting that “Performance tests for both North and South Flares [were] conducted December 10, 2008” and “[the] North Flare [was] subject to NSPS as of date of [Consent Decree] entry, eliminate all routinely-generated gas” and compliance status was “Complete....[N]o routinely-generated gas sent to the flare.”).]

7. In connection with its independent review of the entire Holly AO, the EPA made no comments about the North Flare or Subpart Ja, compliance with the Consent Decree, or any of the other related issues raised by Petitioners here. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

8. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [See IR007858, IR007864, Petitioners’ Second Comment Letter.]

C. Findings and Conclusions on Burden of Proof

9. Petitioners' argument that the Director reversed his position relative to the North Flare is a question of fact and the Petitioners bear the burden to demonstrate that the Director's decision is not supported by substantial evidence in the record and was an abuse of discretion.

10. Petitioners, in their briefing, failed to marshal all of the evidence that supported the Director's ultimate conclusion that Subpart Ja applied to the North Flare and that Holly was in compliance with this Subpart. By contrast, Holly did marshal all of the evidence in its briefing.

11. Nothing in the record supports the assertion that the Director changed his mind about the applicability of Subpart Ja. From the beginning of the project, all parties agreed that this NSPS provision applied to the Holly Refinery.

12. Accordingly, Petitioners failed to satisfy their burden of proof for this claim.

D. Conclusions of Law on the Merits

13. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

14. The legislative intent of a permit review adjudicative process is to allow for an evolving understanding of a project before any final decisions are made. The Director may, at the beginning of a project, take a position in light of the information in the record at the time but later reverse that position based on additional information presented during the public comment period or otherwise, such as information provided by the source upon request. The question that must be answered in this permit review adjudication proceeding is whether the Director's final decision to issue the Holly AO is supported by substantial evidence in the record. This question

remains the same whether or not the Director may have changed his mind during the permitting process. In fact, the entire point of the permitting process as defined by the Utah Legislature is to allow for well-informed administrative decisionmaking. To the extent that the Director may have reached a different view on any given point suggests that the process is working as intended.

15. In this case, the Petitioners do not present any evidence that there was a reversal of position with respect to the applicability of Subpart Ja to the North Flare. To the contrary, all of the evidence in the record supports the position that the Director ultimately took, which was that Subpart Ja applied to the North Flare.

16. Petitioners argue that the North Flare was modified when all gases from the South Flare were routed to the North Flare and this modification triggered NSPS Subpart Ja applicability. [Petitioners' Opening Brief at 13.]

17. Regardless of whether the North Flare was modified, the record evidence demonstrates that Holly and the Director agreed that Subpart Ja applied for this project. [IR009183; IR009183; IR004800-4801; IR007946, IR007951.] Therefore, any evidence that a modification may have occurred on the North Flare would only be superfluous, not contradictory.

18. The EPA raised no procedural or substantive comments regarding with UDAQ's handling of Subpart Ja. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

19. The substantial weight of the evidence supports the Director's ultimate determination that Subpart Ja applies to Holly's North Flare and Petitioners' arguments that the Director contradicted himself should be dismissed with prejudice.

III. A BACT Analysis Was Not Required for the North Flare.

1. Petitioners argue that UDAQ erred in failing to perform or require a BACT analysis for the North Flare. [Petitioners' Opening Brief at 15-16]. For the reasons set forth below, this argument should be rejected.

A. Findings of Fact

2. Holly did not propose any physical modification of the North Flare as part of the project approved in the Holly AO. [IR009183, Response to Comments Memo (“The North Flare is not being modified as part of the project proposed by Holly Refinery in its NOI, so it is outside the scope of this permit action. NSPS Subpart Ja applies to the Woods Cross refinery generally and to both the North and South Flares.”); IR009189, Response to Comments Memo (“Because neither the North Flare nor the SRU will undergo any physical change or experience an increase in emissions as a result of Holly Refinery’s proposed project, the ‘emission units’ are not subject to the BACT analysis requirements in the PSD rules.”).]

3. UDAQ did not anticipate any increase in overall flare emissions as a result of the project. [IR008561, Source Plan Review (“there is no reason to assume that upset condition emissions will be any greater after the project is complete than before the project.”).]

4. The North Flare is already subject to and in compliance with NSPS requirements. [IR009183, Response to Comments Memo (“NSPS Subpart Ja applies to the Woods Cross refinery generally and to both the North and South Flares.”).]

5. UDAQ determined that BACT for flares was compliance with Subpart Ja. [IR008516-17, Source Plan Review (“The only technically feasible control options for emissions of all pollutants from flares are: (1) equipment design specifications and good combustion work

practices...; and (2) flare gas recovery systems...DAQ NSR recommends compliance with the requirements of 40 CFR 60 Subpart Ja as BACT.”.)]

6. According to the record, prior to the authorization of this project, all of the flare gases were being routed to the North Flare. [IR08200, Holly’s first revised netting analysis (“currently all gases are routed to the north flare”).]

7. The EPA raised no procedural or substantive comments regarding UDAQ’s analysis regarding BACT for the North Flare. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

8. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [See IR007858, IR007864, Petitioners’ Second Comment Letter.]

C. Findings and Conclusions on Burden of Proof

9. Petitioners’ claim that UDAQ erred in failing to perform a BACT analysis on the North Flare is a mixed question of law and fact. There is also a dispute regarding the correct interpretation of the regulations that trigger BACT, which is a question of law reviewed under a clearly erroneous standard. The application of that law to the facts in this case triggers the mixed question standard of review in which the ALJ reviews the Director’s determination for reasonableness.

10. Petitioners failed to marshal all of the evidence related to their claim.

11. Specifically, Petitioners failed to cite UDAQ’s finding that BACT for flares is compliance with Subpart Ja and that the North Flare is already subject to NSPS requirements.

12. Accordingly, Petitioners failed to satisfy their burden of proof on this claim and it can be dismissed on this basis.

D. Conclusions of Law on the Merits

13. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

14. In the briefing on this issue, Petitioners erroneously conflate the same definition of modification they cite in their NSPS arguments. However, a "modification" that triggers a BACT analysis is different than what is required to trigger NSPS applicability. *See, e.g., Env't'l Defense v. Duke Energy Corp.*, 549 U.S. 561, 577 (2007) ("The 1980 PSD regulations on 'modification' simply cannot be taken to track the Agency's regulatory definition under the NSPS.").

15. A modification for purposes of BACT applicability occurs when a person "intend[s] to make modifications or relocate an existing installation which will or might reasonably be expected to increase the amount or change the effect of, or the character of, air contaminants discharged." Utah Admin. Code R307-401-3(1)(a) (emphasis added). An "installation" is defined as "a discrete process with identifiable emissions which may be part of a larger industrial plant" and a "modification" is defined as "any planned change in a source which results in a potential increase of emission." *Id.* R307-100-2.

16. Accordingly, for there to be a "modification" triggering BACT applicability, there must be (1) a planned change in an emissions unit that (2) is reasonably expected to increase the amount or character of the emissions. The federal regulations contain similar requirements. *See* 40 C.F.R. § 52.21(j)(3) (BACT is required on units that experience a net emissions increase "as a

result of a physical change or change in the method of operation in the unit.”); 71 Fed. Reg. 54,235, 54,240 (Sept. 14, 2006) (“We further note that our current rules do not require BACT or LAER at unchanged units”); Letter from Robert B. Miller, Chief of the Permits and Grants Section of the EPA to Lloyd Eagan, Director of the Bureau of Air Management in Wisconsin (Feb. 8, 2000) (“[W]here an emissions unit has not undergone a physical or operational change, BACT does not apply.”).

17. Here, UDAQ specifically found that Holly was not proposing any changes to its North Flare as part of the project. A shift of emissions from one flare to the other does not result in increased emissions, only *redistributed* emissions. In its NSPS regulations, the EPA discussed the analogous situation of two interconnected flares, stating “that interconnections between flares will not alter the cumulative amount of gas being flared (i.e., interconnecting two flares does not result in an emissions increase relative to the two single flares prior to interconnection).... Considering this, we agree that the interconnection of two flares does not necessarily result in a modification of the flare and we have specifically excluded flare interconnections from the modification provisions.... [W]e agree that connections that do not increase the emissions from the flare should not trigger a modification....” 77 Fed. Reg. 56,422, 56,438 (Sept. 12, 2012). Petitioners’ argument is not the law.

18. Moreover, to the extent Petitioners are arguing that the re-route of gases to the North Flare constitutes a change in operation, such a change occurred well before Holly initiated the current black wax crude project. This is evidenced by the language Petitioners themselves quote which reflects that “*currently* all gases are routed to the north flare.” [IR08200, Holly’s first revised netting analysis (emphasis added).]

19. Without a change in operation or an increase in emissions for the North Flare, Petitioners' argument (that a "modification" of the North Flare was part of this project triggering a BACT analysis for the North Flare) is not supported by the record and should be rejected.

20. Even if Petitioners could demonstrate by substantial evidence that Holly proposed to modify the North Flare, conducting a BACT analysis on the North Flare would be superfluous because the North Flare is already subject to Subpart Ja, which itself constitutes BACT for Holly's flares. [See IR008516-17, Source Plan Review ("The only technically feasible control options for emissions of all pollutants from flares are: (1) equipment design specifications and good combustion work practices...; and (2) flare gas recovery systems...DAQ NSR recommends compliance with the requirements of 40 CFR 60 Subpart Ja as BACT."); see also IR009183, Response to Comments Memo ("NSPS Subpart Ja applies to the Woods Cross refinery generally and to both the North and South Flares.")]. Petitioners' argument fails for this independent reason as well.

21. Finally, the record suggests that Petitioners' argument is ultimately moot because Holly is required by the recently-adopted PM_{2.5} SIP to install flare gas recovery technology at the Refinery,⁹ which Petitioners do not contest is the most stringent pollution control device currently available for flares.¹⁰ [See IR008516, Source Plan Review (referring to flare gas recover as "the top control technology").] This requirement is binding on Holly regardless of whether it is explicitly stated in the Holly AO. As such, even if Petitioners' argument were

⁹ The Utah PM_{2.5} SIP requires "all major source petroleum refineries in or affecting a designated PM_{2.5} non-attainment area within the State shall install and operate a flare gas recovery system." See Utah PM_{2.5} SIP, Section IX, Part H, p. 43.

¹⁰ Flare gas recovery is a system that captures gases that would otherwise be combusted in the flare and redirects those gases as fuel sources for other refinery operations. This reduces the emissions associated with flaring and is an economic use of excess fuel gas.

correct, there is no need for a remand regarding control technology on the North Flare because there are no additional pollution controls that could be required of Holly.

22. Accordingly, Petitioners have failed to demonstrate with substantial evidence in the record as a whole that UDAQ erred in not performing a BACT analysis on the North Flare and this claim should be dismissed with prejudice on the merits.

IV. Emissions From Holly’s Flares Were Properly Calculated and Are Regulated in Accordance With the Unavoidable Breakdown Rule.

1. Petitioners next argue that the emissions from the flares have not been properly calculated and that UDAQ has not been appropriately regulating the flares in accordance with the Unavoidable Breakdown Rule (“UBR”). [Petitioners’ Opening Brief at 16-22.] For the reasons stated below, this argument should be rejected.

A. Findings of Fact

2. In the Holly AO, UDAQ imposed a number of emission limits that included emissions from the flares, thereby limiting the routine emissions from the flares. [See IR009225, Holly AO (“Previous exclusions from the AO emission caps will be removed therefore the AO emission caps will be source wide caps.”); IR009240, Holly AO (“PM₁₀ Combustion Emissions Cap Sources...Flares.”); IR009247, Holly AO (“PM₁₀ emissions from all combustion sources shall not exceed 47.5 tons per rolling 12-month period or 0.13 tpd.”); IR009245, Holly AO (“The emission of SO₂ into the atmosphere from all sources (excluding routine turnaround maintenance emissions) shall not exceed 110.3 tons per rolling 12-month period or 0.31 tons per day.”); IR009245, Holly AO (“Emissions of SO₂ shall be limited as follows...All other sources 0.21 (tpd) 74.9 (tpy).”); IR009245, Holly AO (“For all the above listed emission points a CEM shall be used to determine compliance as outlined in II.B.3.e.”); IR009247-48, Holly AO (“Total 24-hour PM₁₀ emissions for the sources shall be calculated by adding the daily results of the above

PM₁₀ emissions equations for natural gas, plant gas, and fuel oil combustion. Results shall be tabulated for every day, and records shall be kept.”); IR008568, Source Plan Review (discussion of inclusion of flares into SO₂ and PM emission caps).]

3. In response to Petitioners’ comments that the emission estimates for the flares were inaccurate because they did not include upset emissions, UDAQ explained that Holly’s emissions were capped and any exceedance due to an upset would constitute an exceedance of the cap. [IR009187, Response to Comments Memo (“The commenter is correct that there are no limits on the flares. This is because the flares are in place as control device[s] for upset conditions. However Holly Refinery does have to comply with the requirements of 40 CFR 60 Subpart Ja. The Commenter is incorrect that ‘upset’ conditions are not addressed... ‘the refineries were allowed maximum never-to-be exceeded daily limits of PM₁₀, SO₂, NO_x based on the apparent variability. Emissions were capped at these maximum levels from the sources that could have their emissions metered by fuel metering/and calculations and from the other sources that would be stack tested every 1-3 years.” (quoting Utah SIP § IX.A.6.c.(2) (1991)).]

4. 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. [IR002852, July 2012 NOI (“PM₁₀ and PM_{2.5} emissions for the Woods cross refinery flares were assumed to be zero.”); *see also* IR002857, July 2012 NOI (“Startup, shutdown, malfunction events were considered to be zero.”).]

5. According to the evidence in the record, the PTE for the flares was calculated based on the purge gas flowing through the flare and planned startups and shutdowns, but did not include calculations for upset emissions. [IR003175-76, July 2012 NOI (recognizing emissions from the flares of SO₂ were estimated based on the assumption of 1700 scfh non-upset

throughput to the flare. This is the “purge gas” amount that must run to the flare to keep it from backdrafting); IR009196, Response to Comments (“startup and shutdown emissions were included in the analysis”); IR008560-8561, Source Plan Review (“to be conservative and representative of potential increases in emissions from SU and SD, UDAQ and Holly Refinery have agreed to include these emissions in Step 1 of the PSD and NNSR applicability analysis”); IR008522, Source Plan Review (“To ensure proper flare operation, Holly Refinery will install flow meters and gas combustion monitors on the flare gas line.”); IR009211 (“The combustion of flue gas through the pilot flame is accounted for in the emission calculations.”).]

6. According to the record, upset emissions from flares are unpredictable and uncontrollable because the flare is the safety valve for excess refinery gases generated in a period of malfunction. [IR008516, Source Plan Review (“The flare system at Holly Refinery provides for the safe disposal of hydrocarbon gases which are vented automatically from process units through pressure relief valves, control valves or are manually vented.”); IR008561, Source Plan Review (“Section 3.6 of the July 2012 NOI lists upset conditions for both the North and South Flares. These upset conditions (malfunctions) do not include normal process flow combustion at the flares and there is no reason to assume that upset condition emissions will be any greater after the project is complete than before the project. Although these emissions have not been included in the netting analysis, they are noted below for reference.”).]

7. The Holly AO does not contain exceptions for emissions due to malfunctions at the refinery; such excess emissions are subject to the UBR. [IR009196, Response to Comments Memo (“All limits of the permit apply at all times, which include periods of startup, shutdown and malfunction. The ITA contains no exclusion for these events.”); IR009211 (“Flare

emissions during malfunction/upset conditions are regulated through R307-107 (ITA Condition II.3).”].]

8. In connection with its independent review of the Holly AO, the EPA raised no procedural or substantive comments regarding with UDAQ’s regulation of the Refinery Flares, including the UBR. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

9. Petitioners have partially preserved this argument in accordance with Section 19-1-301.5(4). In their comments, Petitioners challenged the calculation of the PTE for the flares but said nothing about misapplication or noncompliance with the UBR. [See IR009056-9057, Sagady second comment letter.]

10. Petitioners could have reasonably ascertained this issue as the UBR was specifically referenced in the ITA. [See IR008453.]

11. The argument that the issue is preserved because UDAQ referenced the UBR in the Response to Comments Memo is misplaced. In the responses, UDAQ simply referenced the UBR in response to an entirely unrelated comment. [See IR009210-9211, Response to Comments Memo (referring to R307-107 in response to the comment that “nothing provided by the applicant’s final revised notice of intent justifies the claimed 98% control efficiency claimed for VOC, HAP and CO Destruction efficiency from Applicant’s open air flares”).]

12. UDAQ’s unrelated response does not save Petitioners from the requirement to raise their issues and arguments in a way that gives UDAQ notice of the substance of the issue.

13. To the extent Petitioners argue that the UBR has been violated by Holly or is not being enforced by UDAQ, the argument is beyond the scope of what was raised during the

comment period and is unpreserved pursuant to Utah Code Section 19-1-301.5(4). Accordingly, it should be dismissed.

C. Findings and Conclusions on Burden of Proof

14. The claims Petitioners assert (both preserved and unpreserved) regarding the PTE for the flares constitute mixed questions of law and fact. The questions of law involve the interpretation of the UBR and the regulations and guidance relating to how PTE for flares should be calculated—specifically, whether upset emissions must be included in such calculations. The application of those laws to the facts of this case and the calculations performed by Holly create a mixed question. Accordingly, a reasonableness standard of review shall apply.

15. Petitioners have failed to meet their burden of proof for this claim because they failed in their briefing to marshal all of the relevant evidence from the record.

16. Petitioners ignore multiple pieces of evidence that explain how Holly calculated the PTE for the flares in accordance with applicable guidance and the UBR.

17. Having failed to meet their burden of proof, Petitioners' claim should be dismissed on this basis.

D. Conclusions of Law on the Merits

18. Even if Petitioners had properly preserved all of their arguments regarding the PTE calculations of the flare emissions, and even had carried their burden of proof (or to the extent marshaling is not properly applied to this claim (being a question of law)), Petitioners' claims fail on the merits for the independent reasons discussed below.

i. UBR Application

19. Petitioners claim that the UBR requires emission limits on sources of malfunction emissions. Nothing in the plain language of the UBR requires numeric limits on malfunction

emissions. Nor is there any other authority in support of requiring such a limit as part of the UBR. To the extent that Petitioners' arguments constitute a request for rulemaking, they must be rejected in these permit review proceedings.¹¹

20. In any event, such limits are impossible for malfunction emissions because such emissions are, by their very nature, unpredictable and uncontrollable. [See IR008516.]

21. The UBR simply sets forth criteria that must be met in the event of excess malfunction emissions to allow UDAQ the enforcement discretion to forgo monetary penalties. See Utah Admin. Code R307-107-1 to -3.

22. Stated differently, the UBR assumes that malfunction emissions are violations of an applicable approval order but affords to UDAQ enforcement discretion regarding the imposition of fines and penalties if a source is otherwise in compliance with the other requirements of the rule, including monitoring and good combustion practices. Utah Admin. Code R307-107-1 to -3 (requiring reporting of breakdown emissions and giving UDAQ enforcement discretion).

23. The limit in the Holly AO for malfunction emissions from the flare is zero tpy, which is accounted for in the overall SO₂ and PM emission caps. [See IR002857, July 2012 NOI ("Startup, shutdown, malfunction events were considered to be zero.")]. Any violation of those limits due to an upset or malfunction subjects Holly to the enforcement discretion of UDAQ under the UBR.

¹¹ Petitioners may not advocate for a rulemaking change in a permit review adjudicative proceeding. [See *In the Matter of: South Davis Sewer District, Order (Remand to ALJ with Directions on Determining Whether There is a Basis to Grant Friends Standing to Intervene)*, March 29, 2011, p. 11 ("a permitting proceeding is not the appropriate forum in which to advance adoption of new rules or challenge existing ones").] Such a request is only proper in a rulemaking proceeding under Utah Code Section 63G-3-101 *et seq.*

24. Any enforcement action by UDAQ, however, would be an independent proceeding separate from this adjudication and not a valid basis to remand the AO.

ii. Flare PTE

25. Petitioners challenge the PTE calculations of SO₂ and PM from the flares by arguing that the PTE inappropriately excluded upset and malfunction emissions. This argument fails for three reasons.

26. First, the law does not require the inclusion of upset emissions in a PTE calculation for flares because such upset emissions are not considered part of normal operation. *See Sierra Club v. Wyoming Dep't of Env'tl. Quality*, 251 P.3d 310, 314 (Wyo. 2011) (holding that “hypothesizing the worst possible emissions from the worst possible operation is the wrong way to calculate potential to emit...PTE includes only emissions that occur during normal operations” thus “cold start” emissions and “malfunctions” were properly excluded from the plant’s PTE); *see also Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979); *United States v. Louisiana-Pacific Corp.*, 682 F. Supp. 1141, 1158 (D. Colo. 1988) (“[P]otential to emit does not refer to the maximum emissions that can be generated by a source hypothesizing the worst conceivable operation. Rather, the concept 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.”).

27. Holly excluded malfunction emissions from its PTE calculations for the flares and, instead, calculated emissions based on the “average non-upset throughput to [the] flare” and appropriate emissions factors. [*See* IR 003175.]

28. Second, Petitioners' arguments challenging the PTE calculations for the flares also fail because federally enforceable permit conditions in the Holly AO limit malfunction emissions to zero tons per year from the flares.

29. 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.*

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

30. Holly assumed a limit of zero tpy for malfunction emissions, which it factored into its emissions totals for the SO₂ and PM₁₀ emission caps in the Holly AO. [See IR002857, July 2012 NOI (“Startup, shutdown, malfunction events were considered to be zero.”).] The SO₂ and PM₁₀ 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 SO₂ 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 “PM₁₀ emissions from all combustion sources shall not exceed 47.5 tons per rolling 12-month period.”).]

31. 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. [See IR009196, Response to Comments Memo (“All limits of the permit apply at all times, which include periods of startup, shutdown and malfunction.”).] The UBR was put in place to deal with these very kinds of emissions.

32. Finally, the 240 tpy that Petitioners contend will be emitted every year as a result of upset emissions was a conservative estimate of what malfunctions could be—not what they actually are. [See IR003780.]

33. In fact, the emission calculation documentation in the record demonstrates that actual recorded historic malfunction emissions from the flare averaged only 34 tpy of SO₂ from both flares combined.¹² [*Id.*]

34. An addition of 34 tpy of SO₂ 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 SO₂ given that the netting analysis demonstrated a 150.69 tpy overall emission reduction in SO₂. [See IR007574-7575.]

35. For all of these independent reasons, Petitioners' arguments regarding the PTE for the flares fail on the merits and should be dismissed.

iii. Reporting Requirements for the Flares

36. Petitioners' final argument relating to the flares is that the Holly AO lacks limits or enforceable reporting requirements for its flares. The substantial weight of record evidence shows that this contention is unfounded.

¹² The prediction for malfunction emissions utilized three standard deviations of the average actual malfunction emissions to come up with the 120 ton per flare figure. [See IR003780] The actual total of SO₂ emitted from the North and South Flares *combined* was:

12.7 tons of SO₂ in 2009
25.5 tons of SO₂ in 2008
91.0 tons of SO₂ in 2007
19.7 tons of SO₂ in 2006
20.8 tons of SO₂ in 2005

Id. Accordingly, contrary to Petitioners' contention that 240 tons of SO₂ from the flares will be emitted on a yearly basis, the highest emissions in any one given year was only 91 tons and the lowest was 12.7 tpy.

37. Holly is required to perform continuous emissions monitoring (“CEM”) of SO₂ emissions on all sources of SO₂, including flares. [IR009245, Holly AO, (“For all the above listed emission points a CEM shall be used to determine compliance as outlined in II.B.3.e.”).]

38. Holly also is required to install “flow meters and gas combustion monitors” on the South Flare gas line “to monitor flare combustion efficiency” [IR009251, Holly AO]; and Holly is required to calculate PM emissions from all PM sources based on the amount of fuel combusted, the totals of which are then added into Holly’s emission cap for PM and reported to the state. [IR009245-47, Holly AO.]

39. Finally, Subpart Ja—applicable to all Holly Flares—contains requirements for monitoring and recordkeeping. *See* 40 C.F.R. § 60.107a(a)(2) (requiring owners or operators of flares to install a continuous monitoring device to measure H₂S in the fuel gases going to the flare); *see also* 40 C.F.R. § 60.108a (record keeping and reporting requirements).

40. These multiple record keeping and reporting requirements all apply to Holly’s flares. Accordingly, Petitioners arguments regarding the flares all fail and should be dismissed with prejudice on the merits.

V. The Record Demonstrates That Holly’s Emissions Will Not Cause or Contribute to an Exceedance of the NAAQS.

1. Petitioners next argue, at some length, that the Holly AO is insufficient to protect the short term National Ambient Air Quality Standards (“NAAQS”) because it does not contain short term emission limits on all of Holly’s emission sources. [Petitioners’ Opening Brief at 22-34.] For the reasons stated below, this argument should be rejected.

A. Findings of Fact

2. UDAQ determined that its regulations did not require short term emission limits when there was no risk of exceedance of the NAAQS. [IR009186, Response to Comments

Memo (“Where it is clear that a source would not cause or contribute to a NAAQS violation, there is no free-standing regulation requiring short-term emissions limits.”).]

3. Based on modeling information provided by Holly and reviewed by UDAQ’s modeling staff, UDAQ determined there was no risk of any exceedance of the NAAQS from Holly’s proposed project. [IR009190-91, Response to Comments Memo (“Holly Refinery’s October 9, 2012 memo...was based on a request by UDAQ for Holly Refinery to submit an initial impact analysis based on the July 2012 NOI. This analysis showed no impact on the NAAQS CO, PM₁₀, NO₂, or SO₂.”); IR009209, Response to Comments Memo (“This modeling analysis demonstrates that the predicted 1-hour SO₂ concentrations would be 50.4 µg/m³, much lower than the NAAQS of 195 µg/m³”).]

4. Holly submitted its plans for modeling to UDAQ and those plans were approved by UDAQ’s modeling staff. [IR00031-48, Modeling Protocol (prepared by MSI setting forth the plan for the modeling); IR001153-54, Letter from UDAQ to Holly (approving of the Modeling Protocol submitted for emissions impact modeling); IR003591-97, Tom Orth Memo (analyzing Holly’s modeling and agreeing with results).]

5. Holly’s emission modeling analysis contemplated the maximum emissions that Holly could generate on a lb/hr basis, thereby ensuring that any short-term spikes in emissions were accounted for in the modeling and would not cause exceedances. [IR002993-96, July 2012 NOI (explaining that emissions input for the modeling were measured in lb/hr); IR009209, Response to Comments Memo (“This modeling analysis demonstrates that the predicted 1-hour SO₂ concentrations would be 50.4 µg/m³, much lower than the NAAQS of 195 µg/m³”).]

6. Malfunction emissions were not considered in the modeling analysis because federal and state guidance exclude malfunction emissions from the modeling protocols.

[IR009214, Response to Comments Memo (explaining the application of Appendix W and that malfunction emissions need not be included in modeling).]

7. The results of Holly’s modeling efforts clearly demonstrated there would be no exceedance of the NAAQS, including short-term NAAQS. [IR003017, July 2012 NOI (Table 6-15) (demonstrating no exceedance of NAAQS).]

8. UDAQ determined that Holly’s permit application was complete in an email sent on July 19, 2014. [See IR003767, email from Camron Harry to Eric Benson, dated July 19, 2012 (“I am notifying you that I have now determined Holly Refinery’s NOI is administratively complete.”).]

9. In connection with its independent review of the Holly AO, EPA submitted two separate comment letters to UDAQ but did not raise any comments regarding short-term NAAQS protection or otherwise exercise EPA’s broad oversight or enforcement discretion over the final Holly AO for any real or perceived failure to protect the short-term NAAQS. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

10. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [See IR007861-7863, Petitioners’ Second Comment Letter.]

C. Findings and Conclusions on Burden of Proof

11. Petitioners have not satisfied their burden of proof for this argument because they have failed to marshal all of the evidence that demonstrates the NAAQS will not be exceeded.

12. While Petitioners cite some of UDAQ’s reasoning in the response to comments, they failed to marshal the actual modeling evidence showing that short term emissions were

calculated on a lb/hr basis. This evidence supports UDAQ's determination that the short-term NAAQS were being protected regardless of whether there are short term emission limits in the Holly AO.

13. Having failed to provide any contradictory evidence in the record, Petitioners cannot satisfy their burden of proof and their claims regarding the NAAQS fail.

D. Conclusions of Law on the Merits

14. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

*i. **Short-Term Emission Limits Are Not Required for Minor Modifications***

15. Petitioners contend that short-term emission limits are always required to ensure protection of the short-term NAAQS. However, the one-hour NO₂ and SO₂ guidance documents Petitioners rely upon for this contention, [Petitioners' Opening Br. at 23-24], by their terms apply only to "major" modifications. *See* Memorandum from Anne Marie Wood, Air Quality Policy Division, to EPA Regional Directors, General Guidance for Implementing the 1-hour SO₂ National Ambient Air Quality Standard in Prevention of Significant Deterioration Permits, at 6 (Aug. 23, 2010) ("We are issuing the following guidance to explain and clarify the procedures that may be followed by applicants for *Prevention of Significant Deterioration Permits*." (emphasis added)).

16. Moreover, the guidance expressly states that it does not bind state permitting authorities. *See* Memorandum from Stephen D. Page, Office of Air Quality Planning and Standards, to Regional Air Division Directors, at 2 (Aug. 23, 2010) ("This guidance does not bind state and local governments and permit applicants as a matter of law.").

17. According to UDEQ's analysis, Holly's proposed project fell into the "major" category for CO and GHG emissions, not for NO_x, SO₂, or PM. [IR009186, Response to Comments Memo.]

18. Whether a modification is "major" is determined on a pollutant-by-pollutant basis:

Applicability of the major NSR program must be determined in advance of construction and is pollutant-specific. In cases involving existing sources, this requires a pollutant-by-pollutant determination of the emissions change, if any, that will result from the physical or operational change Once a modification is determined to be major, the PSD requirements apply only to those specific pollutants for which there would be a significant net emissions increase.

67 Fed. Reg. 80,186, 80,188 & n. 5 (Dec. 31, 2002). Because the project is not major for NO_x, SO₂, or PM, the Director, as a matter of law, was not required to adhere to federal guidance or impose short-term emissions limits for these pollutants.¹³

¹³ Petitioners claim that the Utah Supreme Court has "held that BACT emission limits must protect short term NAAQS," citing *Sierra Club v. Air Quality Board*, 2009 UT 76, 226 P.3d 719. [Petitioners' Opening Br. at 23-27.] Petitioners incorrectly interpret the Court's holding. In that case, the court simply observed in dicta "the EPA has described the goals of BACT emission limitations in three-parts: (1) to achieve the lowest percent reduction, (2) to protect short-term ambient standards, and (3) to be enforceable as a practical matter." *Id.* at 734. The court never evaluated or held this was a correct interpretation of the relevant regulations. Moreover, the fact that a goal of BACT is to protect the short-term NAAQS does not mean that short-term limits must invariably be imposed as part of a BACT determination regardless of whether the project involves a major modification or poses any actual risk of an exceedance. EPA guidance indicates that while any BACT emissions limits are to be considered in determining whether the source will cause or contribute to a NAAQS violation, the BACT requirement is not an independent basis for imposing additional short-term emissions limits. *See* Memorandum from Anne Marie Wood, Acting Director Air Quality Policy Division to Regional Air Division Directors, at 7 (Aug. 23, 2010) ("Once a level of control is determined by the PSD applicant via the Best Available Control Technology (BACT) top-down process, the applicant must model the proposed source's emissions at the BACT emissions rate(s) to demonstrate that those emissions will not cause or contribute to a violation of any NAAQS or PSD increment.").

19. Petitioners' reliance on *In re: Mississippi Lime*, PSD Appeal No. 11-01 (Aug. 9, 2011) as an alternate basis for the requirement for imposition of short-term emission limits in the Holly AO is also misplaced. The decision is inapplicable for two reasons.

20. First, in *Mississippi Lime*, the permit applicant proposed to construct a facility that, unlike Holly's proposed expansion, would emit SO₂ and NO_x in quantities well above the significance thresholds so as to render the proposed facility subject to the PSD requirements for those pollutants. See IEPA, Project Summary at 4 (2010) (noting that "Mississippi Lime's proposed lime manufacturing plant is subject to PSD for emissions of SO₂, NO_x and CO because the potential emissions of the plant are more than 100 tons/year"), available at <http://www.epa.state.il.us/public-notice/2010/mississippi-lime-pdr/project-summary.pdf>; see also *Mississippi Lime*, slip op. at 1 (noting that Mississippi Lime sought to construct a new lime manufacturing plant).

21. Second, as the Director explained in his response to comments—which Petitioners do not contest—in *Mississippi Lime*, the permit was remanded to the state permitting authority "not simply because it failed to establish a limit, but because IEPA failed to provide 'a coherent, well-reasoned explanation of the decision' not to impose such a limit." [IR009186, Response to Comments Memo.]

22. By contrast, UDAQ has a well-reasoned explanation for why it did not impose the short-term limits requested by Petitioners—the modeling demonstrated there would be no exceedance of the short-term NAAQS. [IR003017, July 2012 NOI (Table 6-15) (demonstrating no exceedance of NAAQS).]

23. Accordingly, Petitioners' argument that short-term limits were required in the Holly AO fails on the merits and should be rejected.

ii. *Holly's Modeling Constitutes Substantial Evidence That the NAAQS Will Be Protected*

24. Although UDAQ and Holly were not required to conduct modeling to demonstrate compliance with the NAAQS because Holly proposed only a minor modification for NO_x, SO₂, and PM, *see* 40 C.F.R. § 52.21(a)(2)(ii) (“The requirements of paragraphs (j) through (r) of this section apply to ... the major modification of any existing major stationary source.”),¹⁴ in an effort to be thorough, Holly conducted the modeling anyway.

25. Before conducting any modeling, Meteorological Solutions Inc. (“MSI”), Holly’s technical consultant, developed a modeling protocol setting forth the procedure that MSI would use to demonstrate that there would be no exceedance of the NAAQS, including the short term NAAQS. This protocol was sent to the modeling staff at UDAQ, who approved of the protocol. [*See* IR00031-48, Modeling Protocol; IR001153; IR003593, Orth Modeling Memo (“The applicant had an approved modeling protocol for using AERMOD in PSD modeling protocols.”).] MSI used the PTE calculations of all SO₂ and NO_x emission sources at the refinery for input into the model for the short-term modeling. [*See* IR000038 (“Maximum hourly potential to emit (PTE) emissions for existing and proposed sources will be input to the model.”); IR000041 (same).]

26. PTE is defined as “the maximum capacity of a stationary source to emit a pollutant under its physical and operational design,” taking into account enforceable emissions limits. 40 C.F.R. §§ 52.21(b)(4), 51.165(a)(1)(iii), 51.166(b)(4). Using the maximum capacity of each unit, MSI determined the total emissions the refinery could generate in one hour of operation measured in terms of lbs/hr. [*See* IR002993-96, July 2012 NOI.] Because PTE is

¹⁴ *See also* Utah Admin. Code R307-403-3 (“Every...major modification must be reviewed by the director to determine if a source will cause or contribute to a violation of the NAAQS.”)

based on maximum capacity, this calculation represented the maximum emissions that could be produced at the refinery in a one-hour period. These values were used in the model and, once the background concentrations were combined with the PTE emissions, the modeling results showed that there would be no exceedance of the NAAQS, including the short-term NAAQS. [See IR003017, July 2012 NOI (Table 6-15); IR003596, Tom Orth Memo (Table 3); *see also* IR009209 (“This modeling analysis demonstrates that the predicted 1-hour SO₂ concentrations would be 50.4 µg/m³, much lower than the NAAQS of 195 µg/m³...Accordingly there is no need to impose 1 or 24-hour SO₂ limits to protect the SO₂ NAAQS.”).]

27. UDAQ’s Orth Memorandum specifically found that “the proposed project’s impacts, when combined with other industrial sources and ambient background, would comply with federal standards,” including the one-hour NO_x and SO₂ NAAQS. In light of all of this record evidence, it was reasonable for UDAQ not to include any additional short-term emission limits in the Holly AO.

28. Petitioners do not dispute that the modeling results showed no exceedance of the NAAQS. Instead Petitioners challenge the modeling itself. These challenges do not undermine UDAQ’s approval of and reliance on the modeling analysis, particularly given the deference that UDAQ is due with respect to technical issues such as air quality modeling: “[Q]uestions pertaining to the appropriate pollutant emissions rates and other inputs to air quality models raise scientific and technical concerns that generally are best left to the specialized expertise and reasoned judgment of the permitting authority.” *In re: N. Mich. Univ. Ripley Heating Plant*, PSD Appeal No. 08-02, at 53 (EAB Feb. 18, 2009).

29. First, Petitioners argue that DAQ’s Orth Memorandum is unreliable because it states that “[t]his report outlines the methodology used in the dispersion modeling analysis of

emissions of criteria and HAP proposed in the NOI and the subsequent modeling results. It makes no determination with respect to compliance with the NAAQS or UDAQ – Toxic Screening Levels for HAPs or compliance thereof.” [IR003591-92, Tom Orth Memo.] However, that language simply indicates that the Orth Memorandum, by itself, did not constitute a determination as to compliance with the NAAQS, as illustrated by the fact that the memorandum made only a “recommendation” as to what further steps to take. [IR003597, Tom Orth Memo.] It does not mean that the Director may not consider the Orth Memorandum in determining compliance with the NAAQS and whether short-term limits are required, as the Director did in the Response to Comments Memorandum. [See IR009190-91, IR009209, Response to Comments Memo.]

30. Second, Petitioners assert that the modeling analysis cannot be used because the modeling must be “based on short term limits specified in the AO,” and may not “merely estimate short term emission rates.” [Petitioners’ Opening Br. at 29-31.] However, the modeling done here was based on the *maximum* possible hourly emissions level based on the *maximum* capacity of each emissions unit as explained above, not an estimate of average short-term emission rates. [See IR002993-96, July 2012 NOI.] UDAQ acted within its discretion when it relied upon this modeling analysis.

31. Third, Petitioners argue that the modeling is inadequate to demonstrate compliance with the short-term NAAQS because the modeling does not include upset emissions from the flares. [Petitioners’ Opening Br. at 31-33.] In support of this argument, Petitioners rely on 40 C.F.R. § 51, Appendix W, for the proposition that such emissions must be modeled.

Petitioners are incorrect. As UDAQ specifically explained in rejecting Petitioner’s argument:

The commenter references 40 CFR 51 Appendix W, Section 8.1.2(a) as reference that malfunction/upset emissions should be included in the modeling analysis.

However, the commenter neglected to include the following footnote from that same section: “Malfunctions which may result in excess emissions are not considered to be a normal operating condition. They generally should not be considered in determining allowable emissions. However, if the excess emissions are the result of poor maintenance, careless operation, or other preventable conditions, it may be necessary to consider them in determining source impact.”

[IR009214, Response to Comments Memo (quoting 40 C.F.R. pt. 51, App’x W, § II.B.7.a.1.2(a) n.a).] UDAQ’s explanation has not been rebutted by Petitioners.

32. UDAQ’s interpretation of Appendix W is supported by a 2011 EPA guidance document providing additional clarification of the modeling requirements under Appendix W. *See* Memorandum from Tyler Fox, Leader Air Quality Modeling Group to Regional Air Division Directors, *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard* (Mar. 1, 2011). There, EPA stated that modeling for compliance with the 1-hour NAAQS should only

address emission scenarios that can logically be assumed to be relatively continuous or which occur frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations based on existing modeling guidelines, which provide sufficient discretion for reviewing authorities to not include intermittent emissions from emergency generators or startup/shutdown operations from compliance demonstrations for the 1-hour NO₂ standard under appropriate circumstances.

Id. at 2.¹⁵

33. In an attempt to fit within the language of Appendix W, Petitioners contend that Holly’s malfunction emissions must be the result of poor maintenance, careless operation, or

¹⁵ EPA further clarified that “we are concerned that assuming continuous operations for intermittent emissions would effectively impose an additional level of stringency beyond that intended by the level of the standard itself. As a result, we feel that it would be inappropriate to implement the 1-hour NO₂ standard in such a manner and recommend that compliance demonstrations for the 1-hour NO₂ NAAQS be based on emission scenarios that can logically be assumed to be relatively continuous or which occur frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations.” *Id.* at 9. The same logic applies to the 1-hour SO₂ standard.

other preventable conditions, and therefore should have been included in the modeling analysis. Petitioners argue that because EPA's NSPS regulations relating to flares require a root cause analysis where a flare emits more than 500 pounds of SO₂ in a 24-hour period, emissions over that level are necessarily the result of poor maintenance, careless operation, or other preventable conditions. [Petitioners' Opening Br. at 33.] However, Petitioners cite no authority suggesting that the separate requirement to conduct a root cause analysis contained in the NSPS regulations somehow amounts to a determination that as a matter of law all upsets emitting more than 500 pounds of SO₂ are necessarily caused by preventable conditions for purposes of Appendix W. Petitioners cite no reason to conclude that, just because an investigation into the cause of all emission events over a certain size is required, all such emission events are necessarily caused by preventable conditions. Indeed, EPA recognizes that "the probability of successfully identifying a means to avoid future emissions from each root cause analysis performed is certainly less than 100 percent," 72 Fed. Reg. 27,178, 27,197 (May 14, 2007), indicating that far from all emissions that trigger a root cause analysis would be caused by preventable conditions. [Petitioners' Opening Br. at 32-33.] Petitioners' argument finds no support in the record. The record evidence is to the contrary, recognizing that

if SO₂ modeling would have been required, then the malfunction emissions for SO₂ would not have been included because they do not represent normal, controlled operations. The 120 tpy of SO₂ from the flares due to malfunctions, as documented in the SPR Reviewer Note 5 (pp81-82), are based on Holly Refinery's historical data and do not predict future malfunctions. Nor do they result from poor maintenance or careless operation of the flare.

[IR009214-15, Response to Comments Memo.]

34. In light of UDAQ's technical conclusion, it was well within UDAQ's discretion to determine that the malfunction emissions should not be included in the modeling analysis.

iii. Holly Was Not Required to Model for PM_{2.5}

35. Petitioners raise one final challenge to Holly's modeling. Specifically, Petitioners argue the modeling did not address the revision of the annual PM_{2.5} NAAQS that took place in January 2013. This argument does not relate to any purported need for short-term emissions limits but rather is a separate attack on the modeling analysis.

36. For the same reasons as stated above, Holly's modification was not determined to be "major" for PM_{2.5} and therefore Holly was not required to do any modeling for PM regardless of whether the NAAQS were amended. *See* 40 C.F.R. § 52.21(k)-(m); *see also* Utah Admin. Code R307-410-4.

37. Additionally, Holly's application fell within the grandfathering provision of the revised PM_{2.5} NAAQS and so did not need to be updated to address the revised NAAQS. In finalizing the PM_{2.5} NAAQS, EPA explained:

To facilitate timely implementation of the PSD requirements resulting from the revised NAAQS, which would otherwise become applicable to all PSD permit applications upon the effective date of this final PM NAAQS rule, the EPA is finalizing a grandfathering provision for pending permit applications. This final rule incorporates revisions to the PSD regulations that provide for grandfathering of PSD permit applications that have been determined to be complete on or before December 14, 2012 or for which public notice of a draft permit or preliminary determination has been published as of the effective date of today's revised PM_{2.5} NAAQS. Accordingly, for projects eligible under the grandfathering provision, sources must meet the requirements associated with the prior primary annual PM_{2.5} NAAQS rather than the revised primary annual PM_{2.5} NAAQS.

78 Fed. Reg. 3,086, 3,249 (Jan. 15, 2013).

38. Holly's application was determined to be administratively complete on July 19, 2012, long before the PM_{2.5} NAAQS modeling requirements became effective. [*See* IR003767, email from Camron Harry to Eric Benson, dated July 19, 2012 ("I am notifying you that I have

now determined Holly Refinery’s NOI is administratively complete.”.)] Therefore, no additional modeling was required.

39. In short, none of Petitioners’ challenges to the modeling analysis itself succeed. Petitioners have failed to provide any evidence that would undermine the significant evidence in the record demonstrating there would not be an exceedance of the NAAQS. The modeling analysis demonstrated that Holly’s project would not cause or contribute to any NAAQS violation, including the short-term NAAQS. EPA raised no comments about any of the foregoing issues in connection with its independent technical and legal review of the Holly AO. Therefore Petitioners’ arguments fail on the merits and should be dismissed.

VI. Holly and the Director Properly Calculated PM Emissions from the FCC Units.

1. Petitioners next argue that the Director erred in failing to require Holly to count condensable emissions in determining compliance with the emission limits on the FCC Units. [Petitioners’ Opening Brief at 34-36.] For the reasons stated below, this argument should be rejected.

A. Findings of Fact

2. UDAQ determined that condensable particle emissions would not be counted for compliance with FCC Unit limits, but would be included in inventory calculations. [IR009243, Holly AO (“The condensable particle emissions shall not be used for compliance demonstration, but shall be used for inventory purposes.”).]

3. The Utah PM₁₀ SIP, approved by EPA in 1994 (64 Fed. Reg. 68031 (July 8, 1994)), excluded condensable PM emissions from compliance demonstration with the PM₁₀ emission caps in the SIP. [IR007826, PM₁₀ SIP (attached as Exhibit L to Holly’s Comment

Letter, (“The back half condensibles are required for inventory purposes and shall be determined using the method specified by the Executive Secretary.”).]

4. UDAQ recognized that the language in the PM₁₀ SIP controlled for purposes of drafting the Holly AO and excluded condensable emissions from all compliance limits for all PM₁₀ SIP cap sources—including the FCC Unit 25. [IR008569, Source Plan Review (“Holly Refinery is listed in the PM₁₀ SIP. That document established several emission limitations, one of which is a cap on PM₁₀ emissions. At the time the SIP was written the cap on PM₁₀ emissions was established using only the filterable PM₁₀ emissions captured during stack testing. This limitation was then included in the AO (and subsequent revisions) issued to Holly Refinery. UDAQ has since agreed that all future particulate (PM₁₀ and PM_{2.5}) limitations at all sources will also include the condensable fraction of particulate emissions (such as those found in the back half of a particulate sampling train or by reference test method 202). However, any limitation which is derived directly from the PM₁₀ SIP cannot be altered without similarly altering the SIP. Therefore, those limitations on SIP-listed sources will continue to retain the original ‘filterable emissions only’ language, with the condensable emissions being used only for inventory purposes. Such is the case with Holly Refinery’s PM₁₀ cap emission limit. It is the intent of the Division to update these types of conditions once new SIP limitations are established in the PM_{2.5} SIP.”).]

5. UDAQ specifically determined that it would not set PM_{2.5} limits on the new FCC Unit 25 because source wide limits of PM_{2.5} were being set for Holly in the new PM_{2.5} SIP that was being developed at the time UDAQ issued the Holly AO. [IR009183, Response to Comments Memo (“UDAQ has not set a condensable limit on the FCC Unit 25 in this permitting action because UDAQ is currently developing a SIP for PM_{2.5}. In this SIP, the contribution of

Holly Refinery to the valley airshed will be part of that evaluation and condensable limitations will be addressed.”); IR009206, Response to Comments Memo (“PM_{2.5} condensable emissions will be addressed in the PM_{2.5} SIP.”).]

6. In connection with its independent review of the Holly AO, the EPA submitted two separate comment letters to UDAQ but did not raise any comments regarding condensable emissions in determining compliance with the PM emission limits on the FCC Units or otherwise exercise EPA’s broad oversight or enforcement discretion over the final Holly AO for any real or perceived failure regarding the same. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

7. During the public comment period, Petitioners’ comments were limited to challenging the PTE calculations for the new FCC Unit 25 and whether such calculations properly included condensable emissions. [See IR007857, WRA Second Comment Letter (“Holly’s Permit Application Underestimates the Increase in PM Emissions from the new FCCU”).]

8. Petitioners’ challenge to the FCC Unit 25 emission limit and the exclusion of condensables was never raised in the comments notwithstanding the fact that this issue was reasonably ascertainable as the limit was included in the ITA. [See IR008469, ITA (“Condensable particle emissions shall not be used for compliance demonstration, but shall be used for inventory purposes”).]

9. Petitioners also appear to argue in their Opening Brief that the BACT analysis for the FCC Unit 25 was invalid because it did not address condensables. Petitioners failed to raise this argument during the comment period and therefore it was not preserved.

10. Because, Petitioners failed to preserve both of these arguments as required by Utah Code Section 19-1-301.5(4), they should be dismissed.

C. Findings and Conclusions on Burden of Proof

11. Even if Petitioners had preserved their claims, Petitioners have failed to meet their burden of proof.

12. Whether condensable emissions are required to be included for purposes of compliance with emission limits is a question of law. Because this question of law is one with which UDAQ has been charged to administer, the ALJ must apply a clearly erroneous standard of review.

13. Petitioners do not acknowledge the requirements of the PM₁₀ SIP. Although this is not an instance where marshaling is required, Petitioners' disregard of the PM₁₀ SIP requirements is fatal to their claim that condensable emissions must be included for compliance with the FCC Unit's limits.

14. Petitioners have failed to point to any valid legal basis that undermines UDAQ's conclusion that the PM₁₀ SIP does not require condensables to be included for compliance with the PM emission limits in the Holly AO.

D. Conclusions of Law on the Merits

15. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

16. The PM₁₀ SIP imposes a cap on all PM₁₀ sources at the Holly refinery including the new FCC Unit 25 but does not require condensable PM emissions to be calculated for compliance with that cap. [IR007826, PM₁₀ SIP (attached as Exhibit L to Holly's Comment

Letter (“The back half condensibles are required for inventory purposes and shall be determined using the method specified by the Executive Secretary.”); IR009243, Holly AO (“The condensable particle emissions shall not be used for compliance demonstration, but shall be used for inventory purposes.”); IR008569, Source Plan Review (recognizing the PM₁₀ SIP cap).]

17. At the time the Holly AO was being considered, the PM₁₀ SIP was the only applicable PM SIP and any provisions in the Holly AO that conflicted with that SIP would have required a SIP amendment. [See IR008569, Source Plan Review (“any limitation which is derived directly from the PM₁₀ SIP cannot be altered without similarly altering the SIP”); IR007826; Attachment L to Holly’s second comment letter (excerpt from PM₁₀ SIP stating “[t]he back half condensibles are required for inventory purposes...[t]he PM₁₀ captured in the front half...shall be considered for compliance purposes”).]

18. Although the recently adopted PM_{2.5} SIP now requires condensable PM emissions to be calculated for compliance purposes, such a requirement was not in place prior to the issuance of the Holly AO. Utah law is clear that permits are only required to incorporate regulatory requirements that exist at the time of permit issuance. [See, e.g., In the Matter of Petroleum Processing Plant Emery Refining, LLC, Order Returning Recommended Order Re Motions to Stay to Administrative Law Judge for Further Action, April 8, 2014 (“Emery Order”) at 4 (limiting ALJ’s review to the record before her and prohibiting consideration of a separate NOI that could be granted or denied sometime in the future).]

19. Petitioners’ references to Federal Register notices and guidance requiring PM condensable emissions for compliance purposes are misplaced because such requirements had not yet become binding on Holly. See 73 Fed. Reg. 28321, 28334 (May 16, 2008) (describing a

transition period for incorporation of condensable requirements into state implementation plans but only requiring such inclusion on major NSR projects).

20. If EPA believed UDAQ erred in its handling of condensables in the Holly AO, it had the jurisdiction and obligation to raise that issue in connection with its independent review of the Holly AO. EPA declined to do so. [See IR007840-7841, EPA comment letter (raising no issues about permit limits or the inclusion of condensables for compliance purposes).]

21. Petitioners also appear to argue that the BACT analysis for the new FCC Unit 25 is invalid because it does not account for condensable emissions. This argument fails not only because Petitioners did not preserve it during the comment period but also because any emission control technology that reduces filterable emissions will necessarily control for condensable emissions, both being post-control components of Holly's emission sources. Petitioners do not present any evidence that an alternative emission control technology would more effectively control condensable emissions beyond that which Holly is already required to install.

22. All of Petitioners' arguments regarding UDAQ's treatment of condensable PM emissions in the Holly AO fail on the merits and should be dismissed with prejudice.

VII. Holly Properly Calculated and Included in its Netting Analysis VOC Emissions Reductions From its Cooling Towers.

1. Petitioners next argue that Holly improperly claimed a 39.28 tpy VOC emission reduction from its cooling towers in the netting analysis it submitted to UDAQ. [Petitioners' Opening Brief at 36-41.] For the reasons set forth below, this argument should be rejected.

A. Findings of Fact

2. In 2009, Holly implemented a voluntary monitoring program in which it identified leaks in its cooling tower operation and fixed those leaks, thereby reducing emissions of VOCs from its cooling towers. [IR009203, Response to Comments Memo ("The reduction in

VOC emissions reported in Holly Refinery's NOI was a result of a voluntary monitoring program of the cooling towers that identified leaks from the towers that Holly Refinery fixed, thereby reducing its VOC emissions.”.]

3. This monitoring program was made mandatory in the Holly AO on a going forward basis to ensure that the emission reductions Holly experienced by fixing its equipment remained at the reduced level. [IR007236, email from Mike Astin (environmental manager for Holly) to Camron Harry (permit writer for UDAQ), dated March 26, 2013 (“For the cooling towers, we monitor the cooling water return lines monthly for volatile organics using the Texas El Paso method. If any leaks are identified, we use screening methods to identify the leaking heat exchanger and repair it.”); IR009230; Holly AO (requiring that “all cooling towers implement the Modified El Paso Method.”); IR009244, Holly AO (requiring repair of any leaks detected “as soon as practicable, but no later than 45 days after identifying the leak...[v]erification of the repair shall be done through additional testing”).]

4. Prior to implementing the leak detection and monitoring program, Holly utilized an “uncontrolled” emission factor to calculate emissions from its cooling towers. [IR009203, Response to Comments Memo (“Prior to using the Modified El Paso Method, the AP-42 VOC ‘uncontrolled’ emissions were the basis for refineries to report cooling tower VOC emissions.”).]

5. After implementation of the monitoring program made mandatory by the Holly AO, Holly utilized a “controlled” emission factor to calculate emissions from its cooling towers. [IR008558, Source Plan Review (“VOC emissions from cooling towers 4 through 8 were previously estimated using the uncontrolled emission factor listed in AP-42 Section 5.1 of 6 lb/10⁶ gal cooling water. In 2009, Holly Refinery began a voluntary daily monitoring program to detect VOC leaks into cooling water and to eliminate those leaks. In 2012, the monitoring

method was replaced with monthly monitoring using the Texas El Paso method. With continued use of regular monitoring, it is proposed to utilize the ‘controlled’ emission factor of 0.7 lb/10⁶ gallons cooling water in AP-42 Section 5.1. This method will also be implemented for cooling towers 10 and 11.”.]

6. It is the difference between the calculations with the “uncontrolled” and “controlled” emission factor that makes up the emission reduction that Holly included in its netting analysis. [*Id.*]

7. In connection with its independent review of the Holly AO, EPA submitted two separate comment letters to UDAQ. [*See* IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.] While the Second Comment Letter requested more information regarding “the basis for the estimate of emissions reduced by converting from gas fired to electric motors for the compressors” [IR007840], the EPA raised no concerns about the netting issues raised by Petitioners here. Moreover, EPA’s request for supplemental information on this issue was satisfied in UDAQ’s response to comments.

B. Findings and Conclusions on Preservation

8. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [*See* IR004214-4216, Mark Hall First Comment Letter.]

C. Findings and Conclusions on Burden of Proof

9. Petitioners’ claim that Holly incorrectly included a VOC emission reduction from its cooling towers is a mixed question of law and fact. The correct interpretation of the regulations governing when a source can utilize an emission reduction in a netting analysis is a

question of law. However, the application of those regulations to the facts in this case presents a mixed question to which the ALJ must apply a reasonableness standard of review.

10. Because this is a mixed question of law and fact, Petitioners had the burden to marshal the relevant factual evidence that pertained to this claim.

11. Petitioners failed to meet this burden by failing to reference the requirements in the Holly AO that make monitoring and leak repairs for the cooling towers enforceable permit conditions. This evidence undermines Petitioners' argument that the cooling tower emission reductions are not enforceable or creditable.

12. Having failed to marshal this and other relevant evidence, Petitioners cannot satisfy their burden to prove that UDAQ acted unreasonably in accepting Holly's netting analysis.

D. Conclusions of Law on the Merits

13. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

14. Petitioners challenge the creditability and enforceability of the VOC emission reduction from the cooling towers because they claim it resulted from a voluntary monitoring program and therefore was unenforceable. *See* 40 C.F.R. § 52.21(b)(3) (requiring decreases in actual emissions be creditable and enforceable in order to be included in a netting analysis); [*see also* Petitioners' Opening Br. at 36-37]. Petitioners also claim that Holly was precluded from including the emission reduction in its netting analysis because the State of Utah arguably relied upon the emission reduction for demonstration of attainment of the PM_{2.5} SIP. [*Id.*] Both arguments fail on the merits.

i. Creditability of the VOC emission reduction

15. The UDAQ reasonably found that Holly's VOC emission reduction to be creditable because it resulted from a physical change to refinery equipment and will be maintained through an enforceable permit condition in the Holly AO. [See IR009230; Holly AO (requiring that "all cooling towers implement the Modified El Paso Method."); IR009244, Holly AO (requiring repair of any leaks detected "as soon as practicable, but no later than 45 days after identifying the leak...[v]erification of the repair shall be done through additional testing").]

16. Under applicable law, an emission reduction is creditable if "(a) the old level of actual emissions exceeds the new level of actual emissions; (b) it is enforceable as a practical matter; [and] (c) it has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change." 40 C.F.R. § 52.21(vi)(a)-(c). The VOC emission reduction Holly claimed satisfies each of these three requirements.

17. First, Holly's VOC cooling tower emissions were higher prior to Holly's physical repairs to the cooling towers. [See IR009203, Response to Comments Memo ("The reduction in VOC emissions reported in Holly Refinery's NOI was a result of a voluntary monitoring program of the cooling towers that identified leaks from the towers *that Holly Refinery fixed*, thereby reducing its VOC emissions.") (emphasis added); see also IR007236, email from Mike Astin (environmental manager for Holly) to Camron Harry (permit writer for UDAQ), dated March 26, 2013 ("For the cooling towers, we monitor the cooling water return lines monthly for volatile organics using the Texas El Paso method. If any leaks are identified, we use screening methods to identify the leaking heat exchanger and repair it.").]

18. Petitioners argue that these emissions are merely estimated from emission factors and do not represent actual emission reductions, and therefore are not credible. Contrary to

Petitioners' arguments, however, the applicable regulations contemplate the calculation of emissions through emission factors. *See* 40 C.F.R. § 52.21(b)(21)(i) (providing that emissions "shall be calculated"). The EPA-drafted preamble to the relevant regulation explains that emission factors may be used in calculating "actual emissions." 67 Fed. Reg. 80,186, 80,195 (Dec. 31, 2002) ("When you calculate the baseline actual emissions for an existing emissions unit...you may select any consecutive 24 months of source operation within the past 10 years. Using the relevant source records for that 24-month period, including such information as the utilization rate of the equipment, fuels and raw materials used in the operation of the equipment, *and applicable emission factors*, you must be able to calculate an average annual emissions rate, in tpy, for each pollutant emitted by the emissions unit that is modified, or is affected by the modification." (emphasis added)).

19. I find that a "calculation" of emissions from cooling towers would necessarily be an estimate based on operating hours, production rates, and types of materials. Holly's VOC calculation was based on these same factors. [*See* IR008558, Source Plan Review (noting that Holly used the 'controlled' emission factor of 0.7 lb/10⁶ gallons cooling water as described in AP-42 Section 5.1)]; *See also* AP-42 5.1 Petroleum Refining emission calculation descriptions, available at <http://www.epa.gov/ttnchie1/ap42/ch05/final/c05s01.pdf> (including in the emission calculation for cooling tower emissions the cooling water rate and refinery feed rate).]

20. Prior to Holly's voluntary monitoring program and physical changes to its cooling towers to reduce and eliminate VOC leaks, Holly utilized the "uncontrolled" AP-42 emission factor to calculate the VOC emissions from the cooling towers. [*See* IR009203, Response to Comments Memo ("Prior to using the Modified El Paso Method, the AP-42 VOC 'uncontrolled' emissions were the basis for refineries to report cooling tower VOC emissions.")].

21. After the units were repaired, Holly used the AP-42 “controlled” emission factor which resulted in a calculated emission reduction. [IR008558, Source Plan Review (“VOC emissions from cooling towers 4 through 8 were previously estimated using the uncontrolled emission factor listed in AP-42 Section 5.1 of 6 lb/10⁶ gal cooling water. In 2009, Holly Refinery began a voluntary daily monitoring program to detect VOC leaks into cooling water and to eliminate those leaks. In 2012, the monitoring method was replaced with monthly monitoring using the Texas El Paso method. With continued use of regular monitoring, it is proposed to utilize the ‘controlled’ emission factor of 0.7 lb/10⁶ gallons cooling water in AP-42 Section 5.1. This method will also be implemented for cooling towers 10 and 11.”).]

22. Where actual emissions are not easily measured—such as VOC emissions leaking from cooling towers—calculation estimates can provide reliable information to satisfy 40 C.F.R. § 52.21(vi)(a)-(c). *See* 74 Fed. Reg. 55,670 55,679 (Oct. 28, 2009) (noting that certain historical inventory data based on the AP-42 factors and “the AP-42 emission factors are the best available data by which to estimate cooling tower emissions”).

23. Second, the VOC emission reduction from the cooling towers is enforceable because it was the result of a physical change to the refinery equipment, which must be monitored and maintained under the terms of the HollyAO. [IR009224, Holly AO (condition II.B.4.a *Id.*; *see also* 40 C.F.R. § 52.21(b)(3)(vi)(b) (reduction is creditable if it is enforceable “at and after the time that actual construction on the particular change begins”).]

24. Holly is required, pursuant to the terms of the Holly AO, to continue monitoring for leaks from the cooling towers and must fix any discovered leaks in order to maintain the lower VOC emission levels from the cooling towers. [*See* IR009230; Holly AO (requiring that “all cooling towers implement the Modified El Paso Method.”); IR009244, Holly AO (requiring

repair of any leaks detected “as soon as practicable, but no later than 45 days after identifying the leak...[v]erification of the repair shall be done through additional testing”).] Any failure to do so subjects Holly to enforcement action by UDAQ—making these requirements, and the associated emission reduction, enforceable.

25. Third, Holly has satisfied the qualitative significance requirement that Petitioners claim has been violated. EPA’s NSR Manual states that “[c]urrent EPA policy *is to assume that an emissions decrease will have approximately the same qualitative significance* for public health and welfare as that attributed to an increase” unless the state has reason to believe otherwise. [Petitioners’ Reply Brief at 34 (emphasis added) (quoting EPA NSR Workshop Manual, 1990, A-38-39).]

26. Holly’s modeling demonstrates that there will be no violation of any NAAQS or PSD increments and overall, VOC emissions will be reduced. [See IR002980-3021, Holly’s NOI, section 6.0; see also IR003591-3597, Tom Orth Memorandum; IR007575, UDAQ information sheet (indicating a -17.02 overall VOC emission decrease from the project).]

27. Consequently, UDAQ had no reason to believe that the qualitative presumption would not be met in this case, and Petitioners have not identified any contrary evidence. See, e.g., *In re Inter-Power of N.Y., Inc.*, No. 92-8, 5 E.A.D. 130, 153-54 (EAB Mar. 16, 2014) (rejecting the argument that EPA should have conducted a health assessment to demonstrate that the qualitative significance of emissions was approximately the same, and holding that the burden was on the petitioner to “document[] that [the source’s] fuel change has increased its heavy metals emissions or created any health concerns. Accordingly, [petitioner] has not pointed to any record evidence” that indicates that this provision was not satisfied). Holly’s inclusion of the VOC emission reductions from the cooling towers therefore was proper.

28. Petitioners also argue that the 52.95 tpy VOC emission baseline referenced in the July 2012 NOI is inflated and, therefore, the emission reduction of 39.28 tons of VOC is inflated. Petitioners overlook that the emission spreadsheet they cite indicates that if 52.95 tpy was the VOC baseline, the associated emission reduction would have been 48.08 tons—not 39.28. [IR003059, July 2012 NOI.] Holly had two different baseline calculations for VOC emissions because at different points in the application process it used different baseline years for its netting calculations. [*Compare* IR003059, July 2012 NOI, *with* IR007300, Revised NOI.] In its Revised NOI, Holly used 44.15 tpy as a baseline for VOC emissions, which resulted in the reduction of 39.28 tons of VOC. [IR007300.] Had it used the higher baseline, the emission reduction would have also been higher, which means Holly’s netted VOC reduction is conservatively low. All of these baseline totals are derived from emission inventory reports that Holly submitted to DAQ, and they were all calculated with AP-42 emission factors. [IR003059, July 2012 NOI (citing “VOC Baseline 2008-2009” inventory years; IR007300, Revised NOI (citing “VOC baseline 2008-2009” inventory years”).]

ii. **Holly Was Not Required to Adjust Downward its Baseline VOC Emission Calculations**

29. Petitioners also challenge the VOC emission reduction on the basis that Holly should have adjusted downward its baseline VOC emission calculations because the El Paso monitoring method is required by a Maximum Achievable Control Technology (“MACT”) requirement under a National Emission Standard for Hazardous Air Pollutants and has been relied upon by UDAQ as a Reasonably Available Control Technology (“RACT”) requirement in the PM_{2.5} SIP to demonstrate attainment.

30. Any requirements that are otherwise required to be imposed as MACT standards under section 112 of the Clean Air Act that result in emission reductions can still be used for

netting purposes unless the state has specifically relied upon the emission reduction in demonstrating attainment of a NAAQS in a SIP. *See* 40 CFR § 52.21(b)(48)(ii)(b) & (c) (“[I]f an emission limitation is part of a maximum achievable control technology standard..., the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan.”); *see also* Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Bob Hanneschlager, Acting Director, Multimedia Planning and Permitting Division, Region VI (Nov. 12, 1997) (“Since the MACT program is not designed to limit criteria or other pollutants regulated by NSR programs of parts C and D of title I of the Act, EPA’s policy is that actual emissions reductions of hazardous or other air pollutants that result from complying with MACT regulations codified at 40 CFR part 63 may be considered ‘surplus’ for purposes of NSR netting and are not precluded from NSR netting as long as the reductions are otherwise creditable under NSR.”).

31. Petitioners argue that UDAQ relied upon the MACT standard of the Texas El Paso Method in the PM_{2.5} SIP to demonstrate compliance. However, that assertion is misplaced because the PM_{2.5} SIP had not been formally adopted at the time UDAQ issued the Holly AO. Petitioners overlook that the regulation upon which they rely for this assertion provides only that emissions must be adjusted downward where such emissions “would have exceeded an emissions limitation with which the major stationary source must *currently comply*,” with “currently comply” referring to the time of permit issuance. 40 C.F.R. § 52.21(b)(48)(ii)(c) (emphasis added).

32. That Holly may have been on notice that the El Paso Method might subsequently be required as a RACT standard is irrelevant in this analysis and Petitioners cite no authority holding otherwise.

33. Accordingly, UDAQ acted reasonably in accepting Holly's netting analysis with the VOC emission reductions included therein. Petitioners' claims to the contrary should be dismissed with prejudice on the merits.

VIII. The FCC Unit 25's PTE Was Accurate and its Emission Limits Are Adequate.

1. Petitioners challenge the accuracy of Holly's PTE calculations for the FCC Unit 25, arguing that the Holly AO is insufficient because it does not impose specific PM emission limits on the unit. [Petitioners' Opening Brief at 41-46.] For the reasons stated below, this argument should be rejected.

A. Findings of Fact

2. The emissions from the FCC Unit 25 are limited by the maximum capacity of the unit of 8500 barrels per day ("bpd"). [IR002811, July 2012 NOI ("A Fluid Catalytic Cracking Unit (FCCU) with a capacity of processing 8500 barrels per day will be constructed along with a 45 MMBtu/hr feed heater. Emissions from the FCCU will be controlled by a wet gas scrubber."); IR002820, July 2012 NOI ("A Fluid Catalytic Cracking Unit (FCCU) from an idled New Mexico refinery will be relocated to the Woods Cross Refinery. This unit is capable of processing 8500 barrels of gas oil per day and is similar in size to the existing FCCU."); IR003078, July 2012 NOI ("FCC Capacity Limit based on Equipment Specifications 8500 bbls/day."); IR003160, July 2012 NOI ("New FCCU...Capacity...8500 bbpd."); IR008491, Source Plan Review ("To process the additional bottom cut from the new crude unit (Unit 24), an additional Fluid Catalytic Cracking Unit ('FCCU Unit 25') with a capacity of processing 8500 barrels per day will be constructed."); IR009227, Holly AO ("Unit 4: Fluid Catalytic Cracking Unit (FCCU) 8,880 bpd annual average capacity"); IR009229, Holly AO ("Unit 25: FCCU 8,500

bpd annual average capacity”); IR009192, Response to Comments Memo (explanation for why the FCC Unit 25 emissions are limited by the operational capacity of the unit).]

3. The information relating to the capacity of the FCC Unit 25 contained in Holly’s NOI was certified as accurate by the Plant Manager, Mike Wright. [IR007836, certification signature page (Mike Wright certified that the information provided for the approval order was accurate and complete).]

4. UDAQ determined that a coke burn rate of 6200 lb/hr was reasonable based on the data Holly provided. [IR009219, Response to Comments Memo (“Based on UDAQ’s technical expertise and experience,” UDAQ determined that “the 6200 lb/hr value is a fair and reasonable estimate of the quantity of coke burn in FCC Unit 25.”); IR008052, November 7, 2013 letter (Holly’s emission calculations for PTE of the FCC Unit 25).]

5. UDAQ also determined that Holly was subject to a PM emission cap that included the FCC Unit 25, and that any exceedance of the PTE calculated for the unit would subject Holly to enforcement for exceedance of the emission cap. [IR009208, Response to Comments Memo (“regardless of maximum throughput rates, the emissions are limited at the values established in ITA”); IR009219, Response to Comments Memo (explanation for why the PTE for the FCC Unit #25 was correct because the unit is subject to the PM emission cap and any exceedance of that cap would be a violation).]

6. In connection with its independent review of the Holly AO, the EPA submitted two separate comment letters to UDAQ but did not raise any comments regarding UDAQ’s PTE calculations for any FCCU or otherwise exercise EPA’s broad oversight or enforcement discretion over the final Holly AO for any real or perceived failure regarding the same. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

7. In their public comments, Petitioners only challenged the accuracy of the PTE calculations for Holly's FCC Unit 25. Specifically, Petitioners argued there was insufficient evidence to support the 6200 lbs/hr coke burn rate calculation, and that as a result, additional limits were needed for the unit. [See IR008598-8599, Mark Hall Second Comment Letter.]

8. In response to this comment, UDAQ requested that Holly provide additional documentation and calculations to support the 6200 lb/hr coke burn rate. [IR008021.]

9. Holly responded by providing the calculations it used to determine the coke burn rate. [IR8022-8023; IR008052.]

10. Petitioners argued differently in their Motion for Stay, that the 6200 lb/hr figure would not effectively limit PM emissions because emissions would increase if more coke was burned.

11. In Petitioners' briefing on the merits, Petitioners challenge for the first time the accuracy of the maximum capacity of the FCC Unit 25, claiming that there was no evidence in the record to support the 8500 bpd figure.

12. This maximum capacity was expressly stated in multiple places in the NOI and ITA. Any concern with the accuracy of the number was therefore reasonably ascertainable during the public comment period. [IR002811, July 2012 NOI ("A Fluid Catalytic Cracking Unit (FCCU) with a capacity of processing 8500 barrels per day"); IR008491, Source Plan Review ("To process the additional bottom cut from the new crude unit (Unit 24), an additional Fluid Catalytic Cracking Unit ('FCCU Unit 25') with a capacity of processing 8500 barrels per day will be constructed.").]

13. Accordingly, the only issue that has been adequately preserved by Petitioners is their challenge to the 6200 lb/hr coke burn rate and their assertion that additional limits are required for the FCC Unit 25. Their most recent challenge to the accuracy of the 8500 bpd capacity limit on the FCC Unit 25 has not been preserved in accordance with Utah Code Section 19-1-301.5(4) and should be dismissed for the reasons described above.

C. Findings and Conclusion on Burden of Proof

14. Even if Petitioners had preserved their challenge to the accuracy of the 8500 bpd capacity limit on the FCC Unit 25, Petitioners have failed to satisfy their burden of proof.

15. Whether the PTE emission calculations for the FCC Unit 25 are supported in the record is a highly technical factual issue that requires this tribunal to give deference to UDAQ in its review of the issue. Petitioners must demonstrate that UDAQ lacked substantial evidence in the record to support its decision that the PTE was calculated correctly.

16. Accordingly, Petitioners carry a heavy burden of proof to marshal the evidence relating to this issue to allow this tribunal to adequately evaluate and weigh the evidence relating to the claims at issue.

17. Petitioners have failed to meet their burden here by ignoring the relevant evidence in Holly's NOI explaining how Holly calculated the emissions that would be generated by the FCC Unit 25. Petitioners also provide no evidence contradicting Holly's certification that all of the numbers contained in the NOI were accurate.

18. DAQ invited commenters, including Petitioners here, during the public comment period to provide technical evidence of alternate coke burn rates that commenters argued would be more appropriate. Neither Petitioners nor other commenters responded to DAQ's request. [IR009219, Response to Comments Memo ("The commenter makes general reference to the

‘UOP yield estimates’ and ‘other more generic publications,’ but provided no documents or primary data to support or detail to which estimate, if any, was used to derive the suggested range of coke burn estimates. Based on UDAQ’s technical experience and expertise, the 6200 lb/hr value is a fair and reasonable estimate of the quantity of coke burn in FCC Unit 25. The commenter has not provided any specific technical information to UDAQ that would suggest a higher value is more appropriate.”)

19. Failing to carry their burden of proof on this highly technical issue, Petitioners’ claims fail.

D. Conclusions of Law on the Merits

20. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners’ claims fail on the merits for the independent reasons discussed below.

21. The question of whether Holly and UDAQ correctly calculated the potential emissions for the FCC Unit 25 is a highly technical issue that requires this tribunal and any reviewing court to give deference to the agency because the agency, in its technical expertise, is in the best position to evaluate these issues.

22. Holly based its conclusion that the new FCC Unit 25 would burn coke at a rate of 6200 lb/hr on empirical data it obtained from the FCC Unit 4 that was in current operation at the refinery. [IR008052.] UDAQ requested and reviewed Holly’s calculation information and was satisfied that it justified the coke burn rate. [IR009219, Response to Comments Memo (“Based on UDAQ’s technical expertise and experience,” UDAQ determined that “the 6200 lb/hr value is a fair and reasonable estimate of the quantity of coke burn in FCC Unit 25.”); IR008052, November 7, 2013 letter (Holly’s emission calculations for PTE of the FCC Unit 25).]

23. The 6200 lb/hr figure was a conservative estimate. The original calculations showed a rate of 5653.964 lb/hr, and the FCC Unit 4 is a larger unit than the new FCC Unit 25. [IR008052; *see also* Holly AO at IR009227-009229 (The FCC Unit 4 processes 8,880 barrels per day (“bpd”) while the proposed FCC Unit 25 can only process 8,500 bpd).]

24. Petitioners are incorrect in their assumption that because the rate is not included as a limit in the Holly AO that Holly will exceed the PM limit of 0.30lb/1000 lbs of coke burned. The FCC Unit 25 emissions will not exceed the PTE because there is a finite capacity limit on the FCC Unit 25 that acts as a physical limitation on the amount of PM that can be emitted.

25. Even were this not the case, the refinery is limited to an overall PM₁₀ emission cap of 47.5 tpy and 0.13 tpd for combustion sources. [See IR009219, Response to Comments Memo.] “If these limitations are not met, the refinery will be out of compliance until it remedies the problem with additional control equipment or redesign of the system until it meets these limits.” [*Id.*]

26. Petitioners have failed to point to any evidence in the record that undermines the reasonableness of UDAQ’s reliance on the calculations Holly provided.

27. Petitioners’ only challenge to the PM cap that limits emissions from the FCC Unit 25 is the contention that EPA generally disfavors source wide cap limits. This assertion is without merit.

28. In the PM₁₀ SIP that EPA approved, UDAQ specifically noted that due to the significant variability of emission sources at a refinery, emission caps are appropriate. [See IR07768, PM₁₀ SIP language attached to Holly Comment letter as Exhibit I, (because “there was significant variability from day to day and from year to year...the refineries were allowed maximum never-to-be exceeded daily limits of PM₁₀, SO₂, NO_x based on the apparent

variability”).] This is true even though EPA generally disfavors source wide caps. In this case, EPA recognized an exception to the general approach in approving such caps in the PM₁₀ SIP.

29. In light of the highly technical nature of this issue, UDAQ must be afforded the greatest degree of deference in its conclusions regarding the evidence in the record supporting the FCC Unit 25’s PTE calculations. *See* Utah Code § 19-1-301.5(14). Lacking any evidence that would undermine UDAQ’s conclusions,¹⁶ Petitioners’ challenge to the PM emission calculations fail.

IX. Holly is in Compliance with Title V.

1. Petitioners next argue that the Holly AO may not be issued if Holly is not in compliance with Title V of the Clean Air Act. Petitioners make three distinct arguments related to this claim: (1) Holly’s Title V application is not complete because the AO and Source Plan review lack certain Title V requirements; (2) Holly has not adequately supplemented its Title V application; and (3) not all applicable parts of Subpart Ja are included in the Holly AO in violation of Title V regulations. [Petitioners’ Opening Brief at 46-51.] For the reasons stated below, these arguments should be rejected.

¹⁶ For the first time in their Reply Brief, Petitioners appear to suggest that that the Holly AO is purportedly deficient because the Director’s use of PM₁₀ modeling as a surrogate for PM_{2.5} modeling was invalid. Specifically, Petitioners assert that the FCC Unit 25 must contain a separate PM_{2.5} limit to ensure its emissions will not contribute to a NAAQS violation. [Petitioners’ Reply Brief at 42.] Even were it permissible to raise a new argument in a Reply Brief, Petitioners never raised any concerns about this alleged surrogate policy in their comment letters; thus the issue is not preserved. Moreover, Holly is now subject to a source wide emission cap in the PM_{2.5} SIP that will limit its PM_{2.5} emissions. [Utah PM_{2.5} SIP, January 8, 2014, p. 21 (setting a source wide PM_{2.5} limit of 47.6 tons per rolling 12-month period).] UDAQ was reasonable in determining that its regulation of Holly’s PM_{2.5} sources in the PM_{2.5} SIP would limit Holly’s emissions and that a separate limit in the Holly AO was unnecessary.

A. Findings of Fact

2. Holly's predecessor-in-interest received a letter from UDAQ in 1995 that stated Holly's operating permit application was administratively complete, which provides Holly with an application shield from Title V enforcement action. [IR007725, Letter from UDAQ to the Phillips 66 Company, Holly's predecessor in interest (stating that "the Operating Permit application for Phillips Refinery (application #47) has been reviewed and determined to be complete in accordance with Utah Administrative Code (UAC) R307-15-5(1)(b)," that "the above site is shielded from enforcement action for operating without a permit until a permit is issued," and that additional information would be requested if needed).]

3. UDAQ recognized that Holly had a Title V application shield letter in its response to Petitioners' comments regarding Title V. [IR009175, Response to Comments Memo (Holly submitted at UDAQ's request "a July 29, 1995 letter from UDAQ indicating that a complete Title V Permit application had been received [and it] has been included in the record."); IR009184, Response to Comments Memo ("In any event...Holly Refinery is operating under an application shield...[t]he Title V application is currently pending.").]

4. UDAQ also recognized that Petitioners pointed to no statute or regulation that would preclude Holly from receiving an approval order without first obtaining a final Title V permit. [IR009184, Response to Comments Memo ("UDAQ does agree that Holly Refinery is a major source and is thus bound by R307-415, but the commenter has not referenced regulations that prevent a major source without a Title V permit from obtaining an AO, nor is UDAQ aware of such a regulation.").]

5. UDAQ determined that Holly was still subject to all applicable federal regulations regardless of whether Holly was in receipt of a final Title V permit. [IR008571, Source Plan

Review (“Title V of the Clean Air Act of 1990 applies to Holly Refinery as a major source. The absence of a Title V permit does not negate the requirements of Holly Refinery, it is still subject to all AO conditions and federal regulations that would be included in the Title V permit.”).]

6. In connection with its independent review of the Holly AO, the EPA submitted two separate comment letters to UDAQ but did not raise any comments regarding non-compliance with Title V or otherwise exercise EPA’s broad oversight or enforcement discretion over the final Holly AO for any real or perceived failure regarding the same. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.]

B. Findings and Conclusions on Preservation

7. Petitioners did raise a Title V issue during the comment period that focused on the allegation that Holly was illegally operating without a Title V permit. [See IR007860-7861, Petitioners’ Second Comment Letter (“Holly Refinery is illegally operating and will continue to do so until it receives a valid Title V permit.”).]

8. However, this is a much different claim than what Petitioners advocate in their briefing on the merits—that somehow Holly’s approval order and supporting documentation turned into a Title V application that is insufficient, leaving Holly in violation of Title V of the Clean Air Act.

9. This new argument was also not raised by Petitioners in their RAA even though the source plan review signature page they rely upon in the briefing was available for Petitioners to review. [See IR007834-7835 (attached to Holly’s Second Comment Letter).]

10. The relief requested in the RAA was simply that the Director must issue a Title V permit for Holly prior to authorizing the expansion project—not that Holly’s Title V application was incomplete or insufficient. [See RAA at 38.]

11. To the extent Petitioners' arguments extend beyond their initial contention that Holly is allegedly illegally operating without a valid Title V permit, such arguments have not been adequately preserved and should be dismissed on this basis.

C. Findings and Conclusions on Burden of Proof

12. The question of whether Holly is in compliance with Title V and whether UDAQ properly interpreted the Title V statute and rules to allow UDAQ to issue the Holly AO presents a mixed question of law and fact. The questions regarding interpretation of the Title V rules and regulations are questions of law. The application of that law to this specific case presents a mixed question of fact and law that must be reviewed under a reasonableness standard.

13. Petitioners are required to marshal all of the relevant evidence on this issue to allow this tribunal to adequately evaluate whether there is substantial evidence in the record to support UDAQ's decision to issue the Holly AO.

14. Petitioners have failed to satisfy their burden of proof for this claim. In fact, Petitioners' fail to reference the only piece of record evidence related to Title V compliance: UDAQ's letter to Holly's predecessor expressly stating that the refinery *is in compliance* with Title V. [*See* IR007725.]

15. Petitioners also fail to identify any final determination on Holly's pending Title V application that would restrict UDAQ's ability to issue Holly its approval order.

16. Lacking this evidence, Petitioners cannot satisfy their burden of proof and their claims regarding Title V must fail.

D. Conclusions of Law on the Merits

17. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

18. Petitioners argue that before the Director may issue Holly an approval order, he must purportedly determine whether Holly is in compliance with Title V. *See* Utah Admin. Code R307-401-8(1)(b)(x) (an approval order may only be issued if "the proposed installation will meet the applicable requirements of...all other provisions of R307"); [*see also* Petitioners' Opening Br. at 47].

19. Petitioners assert that Holly is in violation of Title V because its Title V application is not complete and it has violated its duty to supplement its application "as necessary to address any requirements that become applicable to the source." Utah Admin. Code R307-415-5b. In support of this assertion, Petitioners rely on the fact that, as part of Holly's approval order application, Holly signed an optional signature page allowing the information in the Source Plan Review to be included in Holly's pending operating permit application. [*See* IR007836, SPR signature page.] Because this signature page signifies that the AO application is an update to Holly's Title V application but lacks certain Title V requirements, Petitioners argue that Holly's Title V application is legally deficient.

20. Petitioners similarly argue that by omitting the Subpart Ja requirements in the Holly AO, Holly also has violated the application requirements under Title V. On these bases, Petitioners assert that UDAQ may not issue an approval order to Holly while it is in violation of the Title V permit application requirements.

21. These arguments fail for four reasons.

22. First, any arguments related to Title V compliance or the sufficiency of Holly's Title V application is outside of this tribunal's jurisdiction. The Executive Director of DEQ has made clear that an ALJ's jurisdiction is limited to the administrative record before him or her and the particular permit under review. [*See* Emery Order (limiting ALJ's jurisdiction to the record before her and prohibiting consideration of an NOI application that could be granted or denied at some point in the future).] Any other permits or applications for permits that Holly may have submitted—all of which involve separate administrative records—are beyond the scope of these proceedings. *Id.* More important, Petitioners do not point to any final Title V permit decision that could be reviewed by this tribunal even if it had jurisdiction to do so.

23. Second, even if I had jurisdiction, it is clear from this record that Petitioners have not presented any evidence or authority that renders invalid the application shield letter issued to Holly's predecessor-in-interest. [*See* IR007725.] This shield remains in place until the permitting authority takes action on the entire Title V permit application, which it appears has not yet occurred. *See* 42 U.S.C. § 7661c(d) (“if a part 70 source submits a timely and complete application for permit issuance (including for renewal), the source's failure to have a part 70 permit is not a violation of this part until the permitting authority takes final action on the permit application”); *see also* 40 C.F.R. § 70.7(b) (same); *see also* Utah Admin. Code. R307-415-5a(3)(e) (same). This means every approval order that Holly has received is an update to its Title V permit application. The Holly AO is no exception and does not independently give rise to a cause of action under Title V's separate rules or regulations.

24. Third, even if I had jurisdiction, this argument fails as a matter of law: Nothing in the Title V statute or applicable regulations contains any time period for supplementation of the Title V application. *See* Utah Admin. Code R307-415-5b. That Holly continues to provide

information to EPA and UDAQ regarding NSPS compliance (which is a Title V requirement) effectively evidences that Holly's Title V permit application is being updated on an ongoing basis. [See IR004138-59, Exhibit 7 to Petitioners' first comment letter (containing a compliance report, sent to the EPA and UDAQ, including compliance demonstration for NSPS requirements).] Thus, Petitioners' reliance on the signature page as evidence of an incomplete Title V application is without merit.

25. Fourth, even if I had jurisdiction, Petitioners' argument that UDAQ's failure to recite the entire Subpart Ja regulation in the Holly AO violates Title V is incorrect. [Petitioners' Br. at 10-11.] As previously explained, UDAQ is not required to recite the entire 43-page Subpart Ja regulation in the Holly AO. In any event, the record demonstrates that Subpart Ja *does apply* and that Holly is in compliance with all federal requirements. [See IR007725.]

26. For all of these reasons, Petitioners' claims regarding Title V fail on the merits and should be dismissed with prejudice.

X. The Record Supports the Use of the NEI Emission Factors in Holly's Emission Calculations.

1. Petitioners next argue that the Director erred when he authorized the use of the NEI emission factors to calculate PM emissions from certain of Holly's heaters and boilers. [Petitioners' Opening Brief at 51-58.] For the reasons discussed below, this argument should be rejected.

A. Findings of Fact

2. Holly submitted to UDAQ two independent expert reports explaining why the NEI emission factors were more accurate and better predictors of emissions than the AP-42 emission factors—namely, because of the newer dilution testing methodology that was used to develop the NEI emission factors. [IR007238-58, First Glen England Report (“England I”)]

(explaining why the NEI emission factors more accurately predict PM_{2.5} emissions from gas fired heaters and boilers); IR008024-44, Second Glen England Report (“England II”) (same).]

3. Because the NEI emission factors were untested at the Holly refinery, UDAQ imposed stack testing requirements to verify the accuracy of the emission factor calculations. [IR009215-16, Response to Comments Memo (explaining that UDAQ imposed stack testing requirements to verify the accuracy of the NEI emission factors, reviewed the Glen England Reports and maintained the original conclusion that use of the NEI emission factors was appropriate); IR009217, Response to Comments Memo (explaining that Holly was subject to a stringent emission limit for its heaters and boilers that matched the NEI emission factor calculations and that Holly is subject to stack testing requirements to verify compliance).]

4. UDAQ also imposed an emission limit of 0.00051 lb/MMBtu in Section II.B.7.a.2 of the Holly AO. [IR009248, Holly AO.]

5. UDAQ only imposed this limit on Holly’s NSPS heaters and boilers. [IR008558-59, Source Plan Review (explaining use of NEI emission factors for NSPS sources); IR009218, Response to Comments Memo (explaining use of NEI emission factors for NSPS sources).]

6. Presumably at the request of Mark Hall, a commenter on the draft Holly AO, EPA staff members sent emails to an undisclosed Gmail account discussing the accuracy of the NEI emission factors and the ability of EPA to approve new emission factors generally. [IR008911-8922; IR009043.] Neither the attachments to these emails nor the complete emails were included with the comments. [*Id.*]

B. Findings and Conclusions on Preservation

7. Petitioners preserved some aspects of their argument regarding their challenge to the NEI emission factors in accordance with 19-1-301.5(4) by raising the issue during the public comment period. [See IR008584-8595, Mark Hall Second Comment Letter.]

8. Petitioners did not, however, preserve the argument that § 7430 of the Clean Air Act precluded the use of the NEI emission factors.

9. Section 7430 of the Clean Air Act was not cited anywhere in the comments submitted during the public comment period but was reasonably ascertainable because it was codified in the U.S. Code during the public comment period.

10. Petitioners did not raise this substantive argument until their briefing on their request for a stay in this proceeding.

11. Accordingly, any arguments relating to § 7430 of the Clean Air Act are unpreserved and should be dismissed.

12. In their Reply Brief, Petitioners, argued for the first time that the § 7430 claim was made in response to additional information submitted to UDAQ after the close of the public comment period and was therefore not barred by the preservation rules found in Utah Code Section 19-1-301.5(4). Petitioners asserted that any prohibition to their ability to address information submitted after the close of the public comment period would be a violation of their due process rights.

13. Petitioners' due process argument relating to their ability to assert the § 7430 claim was not briefed until the Reply. Issues raised for the first time in a reply brief are rejected in appellate contexts. See *e.g.*, *Coleman ex rel. Scheffski v. Stevens*, 2000 UT 98, ¶ 9, 17 P.3d 1122 (refusing to consider matters raised for the first time in the reply brief). Accordingly, this

tribunal will not entertain Petitioners' due process arguments briefed for the first time in their Reply Brief.

14. Additionally, even if such an argument were properly before this tribunal, the only information Holly submitted after the close of the public comment period relating to the NEI emission factors was the second Glen England Report, in which Mr. England expanded on his prior report (submitted before the public comment period) explaining why the NEI emission factors were the most representative factor for determining emissions from Holly's new heaters and boilers. [See IR008024-44.]

15. Petitioners' § 7430 argument is not directed at this second Glen England report and does not address any of the technical findings contained therein. Instead, as Petitioners admit, the § 7430 argument is purely a legal argument relating to whether UDAQ could use emission factors other than the AP-42 factors, officially approved by EPA.

16. Therefore, in light of the fact that the § 7430 argument has nothing to do with the Glen England Report and is a purely legal argument that was reasonably ascertainable during the public comment period, the claim has not been adequately preserved, and no due process rights have been infringed.

C. Findings and Conclusions on Burden of Proof

17. Even if Petitioners' claims had all been adequately preserved, they have failed to meet their burden of proof.

18. Petitioners' claim that UDAQ erred in relying on the NEI emission factors to calculate the PTE for Holly's NSPS heaters and boilers presents a mixed question of law and fact. Whether UDAQ is legally authorized to use an emission factor other than AP-42 is a question of law and UDAQ has been given discretion to interpret this law, requiring the

application of a clearly erroneous standard of review. The question of whether UDAQ was reasonable in accepting the NEI emission factor data is a highly technical mixed question of law and fact that is reviewed for reasonableness.

19. Although Petitioners reference, in a footnote, the Glen England Reports, they do not analyze any of the information contained in those reports. Instead, Petitioners focus on a paper that Glen England published in 2004, which discusses generally the NEI emission factors as well as several emails from EPA staff discussing the adequacy of the NEI emission factors.

20. Petitioners also focus their argument on the assertion that UDAQ is prohibited by Section 7430 of the Clean Air Act from using any emission factors not specifically approved by EPA.

21. Petitioners have failed to adequately marshal all of the relevant evidence for this highly complicated issue. Accordingly, they have not satisfied their burden of proof to challenge Holly's use of and UDAQ's acceptance of the NEI emission factors.

D. Conclusions of Law on the Merits

22. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

23. Petitioners advance multiple arguments as to why the use of the NEI emission factors to calculate emissions from Holly's heater and boilers was improper. Each of these arguments fails for the reasons discussed in detail below.

i. **There is No Legal Requirement that UDAQ use AP-42 Emission Factors**

24. Petitioners argue that the law mandates UDAQ use AP-42 emission factors to calculate PM emissions from Holly's NSPS heaters and boilers. This argument fails for three reasons.

25. First, nothing in Utah's minor source permitting regulations and nothing in the federal PSD/NSR regulations requires the use of AP-42 emission factors. In fact, those regulations do not mention the AP-42 factors at all.

26. While EPA has identified the AP-42 factors as one method of estimating potential emissions under the PSD/NSR program, the AP-42 factors are not the only authorized method. EPA also has sanctioned numerous other methods, including "emissions from technical literature." [EPA New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting, draft dated October 1990 ("EPA Puzzlebook"). The NEI emission factors are "emissions from technical literature" that Holly used to calculate potential PM_{2.5} emissions from its gas fired heaters and boilers.

27. Moreover, the AP-42 factors themselves caution that they are not to be mechanically applied, but may be superseded by more specific or appropriate technical information. As EPA has advised:

Before simply applying AP-42 emission factors to predict emissions from new or proposed sources, or to make other source-specific emission assessments, the user should review the latest literature and technology to be aware of circumstances that might cause such sources to exhibit emission characteristics different from those of other, typical existing sources. Care should be taken to assure that the subject source type and design, controls, and raw material input are those of the source(s) analyzed to produce the emission factor. This fact should be considered, as well as the age of the information and the user's knowledge of technology advances.

EPA, *Introduction to AP-42*, 4 (Jan. 1995), available at www.epa.gov/ttnchie1/ap42/c00s00.pdf.

In this fashion, EPA delegates to the relevant permitting authority discretion to determine how to calculate emission rates.

28. Second, Petitioners' argument that the NSPS regulations mandate the use of AP-42 is also misplaced because the NSPS program is entirely separate from the PSD program and regulations from one program cannot dictate action in the other. *See, e.g., Env'tl. Defense v. Duke Energy Corp.*, 549 U.S. 561, 577 (2007) (recognizing the definitions of "modification" under the PSD and NSPS programs are distinct and the "PSD regulations on 'modification' simply cannot be taken to track the Agency's regulatory definition under the NSPS").

29. Finally, Petitioners' argument that 42 U.S.C. § 7430 prohibits the use of the NEI emission factors because EPA has not specifically approved such factors also fails.

30. The plain language of this statute contradicts Petitioners' argument because Section 7430 applies only to emission factors used "to estimate the quantity of emissions of *carbon monoxide, volatile organic compounds, and oxides of nitrogen* from sources of such air pollutions."¹⁷ 42 U.S.C. § 7430 (emphasis added). The statute says nothing about the use of emission factors to estimate the quantity of PM_{2.5} and PM₁₀—the only emissions for which Holly used NEI factors to estimate emissions from its heaters and boilers.

31. In any event, Section 7430 does not dictate that UDAQ use any specific emission factors in a permitting proceeding, but requires EPA to update emission factors, saying nothing

¹⁷ Consistent with the plain language of the statute, EPA has repeatedly explained that this provision applies only to "the emission factors used to estimate emissions of volatile organic compounds (VOC), carbon monoxide (CO), and oxides of nitrogen (NO_x) from area and mobile sources," not to emission factors for PM_{2.5} and PM₁₀. 67 Fed. Reg. 56289 (Sept. 3, 2002); 62 Fed. Reg. 45802 (Aug. 29, 1997).

about when such factors must be used. UDAQ retains discretion to decide which emission factors are appropriate, in its expert technical opinion.

32. As EPA has explained in evaluating the use of emission factors generated under Section 7430:

These procedures are *not* a means for individual facilities to obtain EPA approval of a site-specific emission factor or to determine the appropriateness of applying a published EPA factor to a specific facility. *EPA does not approve site-specific factors or judge the appropriateness of its factors for specific facilities. The responsibility for such decisions continues to be that of the State or local regulating authority, as well as the facility operators themselves.*

EPA's published emission factors are intended to provide an affordable method of estimating emissions where no better data are available. They are best used to characterize the total emissions loading of a large geographic area containing many individual facilities. Therefore, these factors attempt to represent a typical or average facility or process in a given industry. *EPA recognizes that other methods of obtaining emissions estimates may be more accurate than industry-average emission factors, and encourages the use of better methods whenever the source and/or the State or local regulating authority is able to support those methods.*

Public Participation Procedures for EPA Emission Estimation Guidance Materials, at 2 (May 1997) (second and third emphasis added).¹⁸

33. EPA has specifically recognized that state permitting authorities may use other methods *without* obtaining approval under § 7430, so long as the permitting authority “is able to support these methods.” *Id.*

34. UDAQ had substantial evidence in the record to support its decision to use the NEI emission factors as set forth in section *ii.* below.

¹⁸ Available at <http://tinyurl.com/EPA-guidance>.

35. Petitioners have failed to establish any valid legal basis mandating the use of AP-42 emission factors for estimating PTE for permitting purposes. Therefore this claim fails on the merits.

ii. ***It Was Reasonable for UDAQ to Accept Holly's Use of the NEI Emission Factors***

36. UDAQ did not abuse its discretion by following EPA's instruction and looking to alternative methods of calculating emissions in this case. As noted above, the determination of which emission factors to use falls squarely within the discretion of UDAQ. That determination is entitled to substantial deference, particularly given its technical nature. *See, e.g.*, Utah Code § 19-1-301.5(13)(b); *accord In re: N. Mich. Univ. Ripley Heating Plant*, PSD Appeal No. 08-02, at 53 (EAB Feb. 18, 2009) (“[Q]uestions pertaining to the appropriate pollutant emissions rates and other inputs to air quality models raise scientific and technical concerns that generally are best left to the specialized expertise and reasoned judgment of the permitting authority.”); *In re: Newmont Nev. Energy Inv., LLC, TS Power Plant*, 12 E.A.D. 429, 444 (EAB 2005) (“[W]e accord broad deference to permitting authorities with respect to issues requiring the exercise of technical judgment and expertise.”); *Utah Dep't of Admin. Servs. v. Pub. Serv. Comm'n*, 658 P.2d 601, 610 (Utah 1983) (“[A] court should afford great deference to the technical expertise or more extensive experience of the responsible agency.”).

37. Before explaining why UDAQ's acceptance of the NEI emissions factors is reasonable, supported by substantial evidence, and does not constitute an abuse of discretion, it is necessary to provide some brief background regarding PM and emission factors generally.

38. Particulate matter (PM) is comprised of a complex mixture of extremely small particles and liquid droplets. [Utah PM_{2.5} State Implementation Plan, adopted December 4, 2013 (“2013 SIP”), § 1.1.] PM₁₀ is particulate matter with an aerodynamic diameter of 10 microns or

less. 40 C.F.R. § 51.50. PM_{2.5} is particulate matter with an aerodynamic diameter of 2.5 microns or less. *Id.*

39. There are two types of PM emissions: primary and secondary. The type on which Petitioners focus in their challenge, primary PM, is comprised of particles that are directly emitted from a source as a solid or liquid (“filterable PM”) or vapor that immediately condenses after discharge to form solid or liquid PM (“condensable PM”). *See* 40 C.F.R. § 51.50. According to EPA’s AP-42 emission factors, condensable PM accounts for 75% of PM emissions from the type of natural gas combustion sources at issue here. [*See* AP-42 Compilation of Air Pollutant Emission Factors (1998); *see also* England II at IR008029.]

40. An emission factor attempts to estimate the quantity of a pollutant released into the atmosphere with an activity associated with the release of that pollutant. 47 Fed. Reg. 52723-01, 52724 (Oct. 14, 2009). EPA’s AP-42 emission factors were “initially developed for emission inventory purposes only”—i.e., to assist national, regional, state, and local regulatory authorities with making air quality management decisions and developing emission control strategies. *Id.* at 52723, 52725. Since then, however, EPA has recognized the AP-42 emission factors have been “used for many other air pollution control activities for which they were not designed,” including permitting and enforcement. *Id.*

41. Various testing methods have been developed for calculating primary PM_{2.5} emissions (both filterable and condensable). The AP-42 factors on which Petitioners rely were originally developed almost twenty years ago using a “stack test impinger method,” which draws a gas sample through a heated filter and then a series of iced “impingers.” [England I at IR007240.] As explained in the England Reports, the problem with this method is that cooling the sample with chilled water causes emissions—and particularly SO₂ emissions—to condense

and particulate out as “pseudo-particulate” matter. Although the gas emissions would not condense to form particulate matter under normal operating conditions, the AP-42 factors nevertheless measure this pseudo-particulate matter as primary PM_{2.5}. [England II at IR008027-8029; England I at IR007240, IR007242.]

42. EPA has recognized this same problem with the stack test impinger method. EPA has observed, for example, that “sulfur dioxide (SO₂) gas (a typical component of emissions from several types of stationary sources) can be absorbed partially in the impinger solutions and can react chemically to form sulfuric acid. This sulfuric acid ‘artifact’ is not related to the primary emission of [condensable particulate matter] from the source, but may be counted erroneously as [condensable particulate matter].” 75 Fed. Reg. 80,118, 80,121 (Dec. 21, 2010). EPA also has acknowledged “that SO₂ in particular, and perhaps other gaseous compounds, can react with the collecting liquids used in the [stack test impinger] method to form materials (artifacts) that would not otherwise be solid or liquid or would not condense upon exiting the stack.” 72 Fed. Reg. 20,586, 20,653 (Apr. 25, 2007).

43. The Glen England Reports explain that this problem is particularly acute for gas-fired sources. EPA developed its test methods for sources such as coal-fired boilers, which emit PM concentrations at much higher levels than gas-fired sources, and EPA has never evaluated the performance of these methods for gas-fired sources. [England II at IR008029, IR008034.] These measurement errors caused by the hot filter/iced impinger methods “are so significant when applied to gas-fired boilers and heaters ... that they partially or completely obscure the true emission level.”¹⁹ [England II at IR008029.]

¹⁹ In addition to being based on flawed test methods which measure artifacts that do not actually constitute particulate matter, the relevant AP-42 PM_{2.5} factors are based on limited data. The AP-42 PM_{2.5} factors are based on only 11 tests of four emissions units for condensable

44. The NEI factors, by contrast, were developed using a newer “dilution method.” Unlike the old stack test methods, dilution-based testing does not create artificial pseudo-particulate matter because the gas sample is cooled with filtered air, similar to what happens to emissions in the course of actual operations. According to the England Reports, this results in much more representative and accurate PM_{2.5} measurements. [England II at IR008027, IR008030-8032; England I at IR007241.]

45. EPA has recognized the benefits of this newer testing method, observing “that a dilution sampling method for measuring direct PM_{2.5} eliminates essentially all artifact formation *and provides the most accurate emissions quantification.*” 72 Fed. Reg. 20,586, 20,653 (Apr. 25, 2007) (emphasis added). In fact, EPA has expressly identified certain applications “where dilution sampling provides advantages over the standard test methods,” and actively “*encourage[d]* sources that encounter these situations[d] to request that the regulatory authority ... use this method to approve the use of dilution sampling as an alternative to the test method specified for determining compliance.” 75 Fed. Reg. 80118-01, 80132 (emphasis added).

46. In this case, EPA raised no objection to use of the NEI emission factors during the public comment period.²⁰ [See Response to Comments at 43 (noting that “during the public comment period, EPA did not object to the use of [the NEI] emission factors”).] Nor has EPA

particulate matter (which forms the majority of PM_{2.5} emissions). [England II at IR008039.] These tests were not performed by EPA, but by contractors on behalf of individual facilities or industry trade associations. [England II at IR008035.] Moreover, the measurement uncertainty of the AP-42 PM_{2.5} factors for gas-fired sources is greater than the average estimate of emissions. [England II at 4.] The England Reports describe these and a number of other flaws with the AP-42 PM_{2.5} factors that are not reiterated in detail here. [See England II at 3.]

²⁰ While EPA did ask for more information as to the basis for the reduction of PM₁₀ and PM_{2.5} potential-to-emit numbers in Holly’s second netting analysis, [see IR007840-7841], UDAQ addressed this inquiry in its Response to Comments, explaining that the calculations were “based on the 2006 EPA-published National Emissions Inventory (NEI) Information.” [IR009176] Subsequent to this direct identification of the use of NEI emission factors, EPA has raised no further questions concerning the netting analysis or otherwise challenged Holly’s AO.

challenged the issuance of the AO. EPA also has raised no objection to UDAQ's recent authorization of the NEI factors for purposes of calculating PM_{2.5} under UDAQ's PM_{2.5} State Implementation Plan. [See Utah SIP § I.X.H.11(k)(i), dated January 8, 2014 ("SIP Part H") at 60.]

47. In arguing that UDAQ must use the AP-42 emission factors, Petitioners do not defend the accuracy of the AP-42 factors on a technical basis. Nor do they address any of the criticisms, expressed by both EPA and the England Reports, about the inaccuracies of the stack test impinger methods on which the AP-42 factors are based.

48. The fact that AP-42 factors have been used in the past does not mean that UDAQ must continue to rely on those same factors for the Holly AO. UDAQ's determinations—including the "technical" and "scientific" questions such as what emission factors are to be used—are to be made on the basis of the evidence provided to UDAQ and placed in the administrative record in a particular permitting action. Utah Code § 19-1-301.5(13)(b). Holly provided UDAQ with data regarding the flaws in the AP-42 PM_{2.5} factors and outlining the superior accuracy of the NEI PM_{2.5} factors. UDAQ evaluated this evidence and "determined that the NEI emission factors can be used." [IR009216, Response to Comments Memo.] Prior use of the AP-42 PM_{2.5} factors does not undermine this conclusion.²¹

²¹ Petitioners' claim that the May 2011 RTI International Emission Estimation Protocol for Petroleum Refineries endorses the use of the AP-42 emission factors and does not identify the NEI PM_{2.5} data. [See IR008661, attachment F to Mark Hall Second Comment Letter.] However, the purpose of the protocol was not to identify the *absolute* level of PM_{2.5} emissions from each refinery, but to require the tested refineries to use the same emissions factor so that their *relative* emissions could be compared. In responding to comments on the protocol, EPA explained that "it is important that default emission factors are consistent between different reporters so we can properly compare the results." [Summary of Comments and Responses, EPA-HQ-OAR-2010-0682 (Feb. 2, 2011), Appx. V of Holly's Opposition to Motion for Stay, also available at www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2010-0682-0028.] In any event, the protocol itself states that the "emission factors in AP-42 are *the recommended default* emission

49. Based on the substantial evidence in the record providing technical support for UDAQ's decision to accept use of the NEI emission factors and the emission calculations based on those factors, and given the lack of contradictory technical evidence, Petitioners cannot meet their burden to demonstrate that UDAQ acted unreasonably.

iii. The NEI PM_{2.5} Emission Factors are Based on Sound Technical Data and Petitioners' Reference to Other Information Does Not Undermine the Data.

50. The majority of the technical data supporting the NEI emission factors is found in the England Reports, which state that “[t]he NEI PM_{2.5} emission factors were derived by EPA staff from data contained in GE EER's comprehensive test reports published from 2002-2004,” along with “detailed supporting test data.” [England II at IR008032.]

51. This testing program “included extensive quality assurance measures,” and more comprehensive data than is provided in the compliance tests used to develop the AP-42 factors. [England II at IR008034-8035.] These results have been subject to peer review and have been corroborated by other independent scientific studies. [England II at IR008032.] The NEI test data is also quantitatively superior when it comes to condensable particulate matter emissions, which form the majority of PM_{2.5} emissions: the AP-42 factors were based on 11 test runs of four units, while the NEI factors were based on 20 test runs of six units. [England II at IR008039, IR008041.]

52. The cautionary statements regarding the NEI emission factors upon which Petitioners rely “do not suggest in any way that those factors are insufficiently supported by data or should not be used.” [England II at IR008033.] The AP-42 PM emission factors are accompanied by similar language explaining that the emission factors are based on limited data factors,” not that the AP-42 factors are the only permissible emission factors. [IR008715 (emphasis added).]

and may not be accurate. [England II at IR008029-8030.] Such cautionary language is generally found in all instances where emission factors are used.

53. The boiler sampling data and performance guarantees from the John Zink Company are an incomplete compilation of data that is not explained, nor relatable to Holly's gas fired heaters and boilers. The boiler standards were provided to UDAQ on a one-page sheet of test results, without the full test reports or any explanation as to the testing methodology or nature of the emissions sources. [See IR008586, Mark Hall Second Comment Letter.] Additionally, two of the four boilers did not burn natural gas during their tests and so are not analogous to the gas-fired sources at issue here. [England II at IR008030 n.1.] The emissions from the remaining two sources vary widely, resulting in "very low" confidence in the average. [England II at IR008040.] Accordingly, this data does not undermine use of the NEI emission factors.

54. The Zink guarantees were similarly provided without context or explanation. Without the testing data, it is impossible to verify that these factors were not based on the same flawed test methods as the AP-42 factors. Moreover, the Zink guarantees are not emission factors or estimates, but rather guarantees provided by a commercial manufacturer that emissions will not exceed a certain level. Equipment manufacturers have an incentive to guarantee emissions that are conservatively high so that the commercial risk associated with failing to meet the guarantee is low. [England II at IR008034 ("If PM guarantees are not met during performance tests on a new unit, tens or hundreds of millions of dollars in customer payments may be at stake.").]

55. In weighing the evidence in the record, as this tribunal must do in accordance with Utah Code Section 19-1-301.5, it is clear that the use of the NEI emission factors is

supported by the majority of sound scientific evidence in the record and UDAQ was therefore reasonable in its acceptance of the NEI factors.

iv. UDAQ Was Reasonable in its Reliance on Enforceable Emissions Limits in the Holly AO in Determining the Potential to Emit for Holly's Heaters and Boilers.

56. Petitioners argue that emission limits on Holly's heaters and boilers cannot be used to limit the facility's potential to emit and so UDAQ erred in its determination that Holly's project was minor for PM_{2.5}. This tribunal disagrees.

57. The AO imposes an enforceable limit on PM_{2.5} emissions from each of the emissions units for which the NEI emission factors were used in an amount equal to the NEI emission factors. [IR009248, Holly AO (providing that "[t]he emissions of PM₁₀ from the following NSPS Boilers and heaters shall not exceed 0.00051 lb/MMBtu").]

58. The methodology used in this case to determine whether the proposed modification was "major" for PSD/NSR purposes was a comparison of the refinery's potential to emit after the expansion project versus its baseline actual emissions before the expansion. *See* 40 C.F.R. § 52.21(a)(2)(iv)(d). [*See also* IR008560, Source Plan Review (noting that Holly has used the potential to emit methodology to determine the projected increases from the expansion project).] Under this method, the estimated potential emissions are compared to the baseline emissions; if the difference between the two exceeds a certain quantity, the modification is deemed "major" for that pollutant.

59. "Potential to emit" 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.*²²

40 C.F.R. § 52.21(b)(4) (emphasis added); Utah Admin. Code R307-101-2 (same definition).²³

60. The emissions limit imposed on the NSPS boilers and heaters is an enforceable limitation in the Holly AO. [See IR009218, Response to Comments Memo (“If the stack testing indicates that Holly Refinery cannot comply with these emission factors, it would be out of compliance with its AO...”)]; *see also* 67 Fed. Reg. 80,186, 80,190-91 (Dec. 31, 2002) (explaining when an emissions limitation is enforceable). Accordingly, the potential to emit of these emissions units was properly limited to 0.00051 lb/MMBtu – the same level as established by the NEI emission factors.

61. UDAQ was reasonable in relying on this limiting factor in its determination that Holly’s project would only be a minor modification for PM.

62. Ultimately, none of Petitioners’ arguments challenging Holly’s use of the NEI emission factors undermines UDAQ’s reasonable decision to accept Holly’s emission calculations based on those factors. Petitioners’ arguments on this claim all fail on the merits and should be dismissed with prejudice.

XI. The Emission Reductions From the Decommissioning of the Propane Pit Flare Were Properly Included in Holly’s Netting Analysis.

²² The term “federally” in this definition is interpreted as meaning “practically enforceable” by a federal, state, or local entity. 67 Fed. Reg. 80,186, 80,191 (Dec. 31, 2002). [See also Memorandum from John S. Seitz re: Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit, at 3 (Jan. 22, 1996).]

²³ Petitioners suggest that the NSPS regulations provide a definition for calculating “potential to emit.” This is incorrect. The NSPS rules nowhere use the concept of “potential to emit” to determine whether a modification has taken place. Instead, the NSPS definition of modification is based on whether there has been a change in the hourly emissions rate, while the PSD regulations are based on total annual emissions. *See Duke Energy Corp.*, 549 U.S. at 577-78.

1. Petitioners final argument is that Holly inaccurately calculated the emission reductions from its decommissioning of the propane pit flare and should not have included such emissions in its netting analysis. [Petitioners' Opening Brief at 60-61]. For the reasons stated below, this final argument should be rejected.

A. Findings of Fact

2. The emission reductions that Holly claimed from its decommissioning of the propane pit flare came from actual emission inventory information submitted to UDAQ in 2008 and 2009 and were not re-calculated specifically for purposes of this project. [IR009218, Response to Comments Memo (“flare emissions came from the UDAQ inventory record for reported actual emissions from 2008-2009 based on 259 MMBtu/hr and actual throughput data”).]

3. The historic modifications to the propane pit flare to bring it into compliance with NSPS did not affect the baseline calculations or the AP-42 emission factor calculations. [IR007337, Revised NOI (“Compliance with NSPS affects neither the AP-42 emission factor calculation, which is based on the amount of propane used, nor the baseline calculations.”).]

4. None of Holly's modifications to the Propane Pit Flare affected overall emissions. Therefore Holly was free to take credit for the emission reductions when the flare was decommissioned. [IR009182, Response to Comments Memo (“Because compliance with 40 CFR 60 Subparts A & J did not affect emissions, reductions from the removal of this propane pit flare are creditable reductions.”).]

5. In connection with its independent review of the Holly AO, EPA submitted two separate comment letters to UDAQ. [See IR004001, EPA First Comment Letter; IR007840-7841, EPA Second Comment Letter.] While the Second Comment Letter requested more

information regarding (a) “the basis for the estimate of emissions reduced by converting from gas fired to electric motors for the compressors” [IR007840] and (b) the netting calculations relating to the new benzene saturation unit #23 and applying a boiler #5 NOx limit [IR007841], the EPA raised no concerns about the netting issues raised by Petitioners in their final argument on appeal. Moreover, EPA’s request for supplemental information on this issue was satisfied in UDAQ’s response to comments.

B. Findings and Conclusions on Preservation

6. Petitioners preserved this argument in accordance with 19-1-301.5(4) by raising this issue during the public comment period. [See IR007857 Petitioners’ Second Comment Letter.]

C. Findings and Conclusions on Burden of Proof

7. The issue of whether Holly accurately estimated reduction of PM emissions from the removal of its propane pit flare presents highly technical factual questions. It also presents legal questions about what data may be used for reduction purposes in a netting analysis. Accordingly, this issue is a mixed question of law and fact and UDAQ’s decision to include the emission reductions in the netting analysis will be analyzed under a reasonableness standard.

8. Petitioners failed to marshal all of the evidence pertaining to this issue—namely the 2008 and 2009 emission inventory data. Petitioners merely question the final calculations without presenting any conflicting evidence or analyzing the evidence in the record.

9. Accordingly, Petitioners have not met their burden of proof on this claim and it fails on that basis.

D. Conclusions of Law on the Merits

10. Even if Petitioners had carried their burden of proof, or to the extent marshaling is not properly applied to this claim (being a question of law), Petitioners' claims fail on the merits for the independent reasons discussed below.

11. Petitioners argue that the propane pit flare emissions were overestimated based on Holly's use of AP-42 emission factors. Petitioners contend the emission reduction must be overestimated because based on the calculated reduction, the propane pit flare would have been burning every day of the year.

12. Petitioners submit no evidence in support of this contention. Specifically, Petitioners do not address the fact that the emission reduction was based on the 2008 and 2009 historic emission inventory data that Holly submitted to UDAQ as required by Utah Admin. Code R307-150.

13. Part of this calculation involved the use of AP-42 emission factors to calculate the emissions from the flares because emission factors are necessary where emissions are generated from an open flame. [*See* IR007337, Revised NOI, ("Baseline emissions for the flare at the propane pit were calculated based on the AP-42 emission factors for flares.").]

14. For purposes of netting, the regulations expressly provide that the historical inventory information may be used as a baseline for calculating emissions increases and decreases. *See* 40 C.F.R. § 52.21(b)(48)(ii).

15. That Holly used NEI emission factors to calculate emissions from its heaters and boilers is irrelevant to the question of whether the flare emissions were properly calculated with AP-42 factors. Petitioners have pointed to no statute or regulation that would require Holly or UDAQ to re-calculate historic inventory information every time new emission factors are developed.

16. Petitioners' claim that there is no evidence in the record to support these historic emission calculations also fails because all parties, including Petitioners, agreed to exclude the emission inventory calculations from the record given the volume of those files. [*See Holly's Surreply at 28; see also UDAQ's Surreply at 33.*] If Petitioners thought there was an error in the calculations, the information could have been made available to them for their review. Petitioners may not now argue, without having asked to review the calculations, that the lack of such evidence supports their claim.

17. Petitioners have failed to present any evidence that would undermine the significant deference afforded to UDAQ in its review of highly technical emission calculations and review of netting analyses. Moreover, Petitioners have presented no technical evidence that undermines the accuracy of the historical inventory information. Accordingly, Petitioners' challenge to the propane pit flare emission calculations fails on the merits and should be dismissed with prejudice.

CONCLUSION AND PROPOSED ORDER

1. Based on the foregoing, Petitioners have not met their burden to demonstrate that UDAQ erred in issuing the Holly AO.

2. Further based on the foregoing and having satisfied my charge to undertake a permit review adjudicative proceeding in connection with this matter in accordance with Utah law, I recommend that the Executive Director deny Petitioners' Request for Agency Action and affirm UDAQ's issuance of the Holly AO.

DATED this 11th day of March, 2015.

A handwritten signature in black ink, appearing to read "B. Randall", written over a horizontal line.

BRET F. RANDALL
Administrative Law Judge

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 11th day of March 2015, I served the foregoing
FINDINGS OF FACT, CONCLUSIONS OF LAW AND RECOMMENDED ORDER
REGARDING THE MERITS via email on the following:

Administrative Proceedings Record Officer
deqapro@utah.gov

Joro Walker
Charles R. Dubuc, Jr.
WESTERN RESOURCE ADVOCATES
joro.walker@westernresources.org
rob.dubuc@westernresources.org

Christian C. Stephens
Veronique Jarrell-King
Marina V. Thomas
ASSISTANT UTAH ATTORNEYS GENERAL
cstephens@utah.gov
vjarrellking@utah.gov
marinathomas@utah.gov

Steven J. Christiansen
David Reyman
Cheylynn Hayman
Megan Houdeshel
PARR BROWN GEE & LOVELESS, P.C.
185 S. State Street, Suite 800
Salt Lake City, UT 84111
schristiansen@parrbrown.com
dreymann@parrbrown.com
mhoudeshel@parrbrown.com
chayman@parrbrown.com

/s/ Bret F. Randall, ALJ

APPENDIX A

Table of Waived Claims Petitioners Raised in Their RAA But Failed to Brief on the Merits

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