BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF: YUHUANG CHEMICAL INC. METHANOL PLANT ST. JAMES PARISH, LOUISIANA PERMIT NO. 2560-00295-V0 ISSUED BY THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY	PETITION NO. VI-2015-03 ORDER RESPONDING TO THE PETITIONERS' REQUEST FOR OBJECTION TO THE ISSUANCE OF A TITLE V OPERATING PERMIT

ORDER GRANTING IN PART AND DENYING IN PART A PETITION FOR OBJECTION TO PERMIT

I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) received a petition dated May 18, 2015 (the Petition), from the Louisiana Environmental Action Network and Sierra Club (collectively the Petitioners), pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 U.S.C. § 7661d(b)(2). The Petition requests that the EPA object to the final operating permit No. 2560-00295-V0 (the Final Permit) issued by the Louisiana Department of Environmental Quality (LDEQ) to the Yuhuang Chemical Inc. Methanol Plant (Yuhuang or YCI or the facility) in St. James Parish, Louisiana. The operating permit was proposed pursuant to title V of the CAA, CAA §§ 501–507, 42 U.S.C. §§ 7661–7661f, and Louisiana Administrative Code (LAC) 33.III.507. *See also* 40 C.F.R. Part 70 (title V implementing regulations). This type of CAA operating permit is also referred to as a title V permit or part 70 permit.

This order contains the EPA's response to the Petition. Based on a review of the Petition and other relevant materials, including the Final Permit, the permit record, and relevant statutory and regulatory authorities, and as explained further below, the EPA grants in part and denies in part the Petition requesting that the EPA object to the Final Permit. Specifically, the EPA grants Claim IV and denies the remainder of the claims.

II. STATUTORY AND REGULATORY FRAMEWORK

A. Title V Permits

Section 502(d)(1) of the CAA, 42 U.S.C. § 766la(d)(1), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of title V of the CAA. The state of Louisiana submitted a title V program governing the issuance of operating permits on November 15, 1993, and revised this program on November 10, 1994. 40 C.F.R. part 70,

Appendix A. The EPA granted full approval to Louisiana's title V operating permits program in 1995. 60 Fed. Reg. 47296 (September 12, 1995); 40 C.F.R. part 70, Appendix A. This program, which became effective on October 12, 1995, is codified in LAC, Title 33, Part III, Chapter 5.

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable state implementation plan (SIP). CAA §§ 502(a) and 504(a), 42 U.S.C. §§ 7661a(a) and 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting and other requirements to assure sources' compliance with applicable requirements. 57 Fed. Reg. 32250, 32251 (July 21, 1992). One purpose of the title V program is to "enable the source, States, the EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements." *Id.* Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

B. Review of Issues in a Petition

State and local permitting authorities issue title V permits pursuant to their EPA-approved title V programs. Under CAA § 505(a), 42 U.S.C. § 7661d(a), and the relevant implementing regulations found at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to the EPA for review. Upon receipt of a proposed permit, the EPA has 45 days to object to final issuance of the proposed permit if the EPA determines that the proposed permit is not in compliance with applicabl : requirements of the Act. CAA § 505(b)(1), 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c) (providing that the EPA will object if the EPA determines that a proposed permit is not in compliance with applicable requirements or requirements under 40 C.F.R. Part 70). If the EPA does not object to a permit on its own initiative, CAA § 505(b)(2) and 40 C.F.R. § 70.8(d) provide that any person may petition the Administrator, within 60 days of the expiration of the EPA's 45-day review period, to object to the permit.

The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). In response to such a petition, the Act requires the Administrator to issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the Act. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(c)(l); *see also New York Public Interest Research Group, Inc. v. Whitman,* 321 F.3d 316, 333 n.11 (2d Cir. 2003) *(NYPIRG).* Under Section 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA. *MacClarence v. EPA,* 596 F.3d 1123, 1130–33 (9th Cir. 2010); *Sierra Club v. Johnson,* 541 F.3d 1257, 1266–1267 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA,* 535 F.3d 670, 677–78 (7th Cir. 2008); *WildEarth Guardians v. EPA,* 728 F.3d 1075, 1081–82 (10th Cir. 2013); *Sierra*

Club v. EPA, 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *c.f. NYPIRG,* 321 F.3d at 333 n.11. In evaluating a petitioner's claims, the EPA considers, as appropriate, the adequacy of the permitting authority's rationale in the permitting record, including the response to comments (RTC) document.

The petitioner's demonstration burden is a critical component of CAA § 505(b)(2). As courts have recognized, CAA § 505(b)(2) contains both a "discretionary component," to determine whether a petition demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act, and a nondiscretionary duty to object where such a demonstration is made. *NYPIRG,* 321 F.3d at 333; *Sierra Club v. Johnson,* 541 F.3d at 1265–66 ("it is undeniable [that CAA § 505(b)(2)] also contains a discretionary component: it requires the Administrator to make a judgment of whether a petition demonstrates a permit does not comply with clean air requirements"). Courts have also made clear that the Administrator is only obligated to grant a petition to object under CAA § 505(b)(2) if the Administrator determines that the petitioner has demonstrated that the permit is not in compliance with requirements of the Act. *See, e.g., Citizens Against Ruining the Environment,* 535 F.3d at 667 (§ 505(b)(2) "clearly obligates the Administrator to (1) determine whether the petition demonstrates noncompliance and (2) object *if* such a demonstration is made" (emphasis added)); *Sierra Club* v. *Johnson,* 541 F.3d at 1265 ("Congress's use of the word 'shall' . . . plainly mandates an objection *whenever* a petitioner demonstrates noncompliance." (emphasis added)). When courts have reviewed the EPA's interpretation of the ambiguous term "demonstrates" and its determination as to whether the demonstration has been made, they have applied a deferential standard of review. *See, e.g., Sierra Club* v. *Johnson,* 541 F.3d at 1265–66; *Citizens Against Ruining the Environment,* 535 F.3d at 678; *MacClarence,* 596 F.3d at 1130–31. We discuss certain aspects of the petitioner's demonstration burden below; however, a fuller discussion can be found in *In the Matter of Consolidated Environmental Management, Inc. – Nucor Steel Louisiana,* Order on Petition Nos. VI-2011-06 and VI- 2012-07 (June 19, 2013) *(Nucor II Order)* at 4–7.

The EPA has looked at a number of criteria in determining whether a petitioner has demonstrated noncompliance with the Act. *See generally Nucor II Order* at 7. For example, one such criterion is whether the petitioner has addressed the state or local permitting authority's decision and reasoning. The EPA expects the petitioner to address the permitting authority's final decision, and the permitting authority's final reasoning (including the RTC), where these documents were available during the timeframe for filing the petition. *See MacClarence,* 596 F.3d at 1132–33; *see also, e.g., In the Matter of Noranda Alumina, LLC,* Order on Petition No. VI-2011-04 (December 14, 2012) at 20–21 (denying title V petition issue where petitioners did not respond to state's explanation in response to comments or explain why the state erred or the permit was deficient); *In the Matter of Kentucky Syngas, LLC,* Order on Petition No. IV-2010-9 (June 22, 2012) at 41 (denying title V petition issue where petitioners did not acknowledge or reply to state's response to comments or provide a particularized rationale for why the state erred or the permit was deficient). Another factor the EPA has examined is whether a petitioner has provided the relevant analyses and citations to support its claims. If a petitioner does not, the EPA is left to work out the basis for the petitioner's objection, contrary to Congress' express allocation of the burden of demonstration to the petitioner in CAA § 505(b)(2). *See MacClarence,* 596 F.3d at 1131 ("the Administrator's requirement that [a title V petitioner] support his allegations with legal reasoning, evidence, and references is reasonable and persuasive"); *In the Matter of Murphy Oil USA, Inc.,* Order on Petition No. VI-2011-02 (September 21, 2011) at 12 (denying a

title V petition claim where petitioners did not cite any specific applicable requirement that lacked required monitoring). Relatedly, the EPA has pointed out in numerous orders that, in particular cases, general assertions or allegations did not meet the demonstration standard. *See, e.g., In the Matter of Luminant Generation Co. – Sandow 5 Generating Plant,* Order on Petition Number VI-20 11- 05 (Jan. 15, 2013) at 9; *In the Matter of BP Exploration (Alaska) Inc., Gathering Center #1,* Order on Petition Number VII-2004-02 (April 20, 2007) at 8; *In the Matter of Chevron Products Co., Richmond, Calif. Facility,* Order on Petition No. IX-2004-10 (March 15, 2005) at 12, 24. Also, if a petitioner did not address a key element of a particular issue, the petition should be denied. *See, e.g., In the Matter of Public Service Company of Colorado, dba Xcel Energy, Pawnee Station,* Order on Petition Number: VIII-2010-X.X (June 30, 2011) at 7–10; *In the Matter of Georgia Pacific Consumer Products LP Plant,* Order on Petition No. V-2011-1 (July 23, 2012) at 6–7, 10–11, 13–14.

If the EPA grants an objection in response to a title V petition and the state responds to the objection by revising the terms or conditions of the permit or by supplementing the permit record, that response is treated as a new proposed permit for purposes of CAA section 505(b) and 40 C.F.R. §§ 70.8(c) and (d). *See Nucor II Order* at 14. As explained in the *Nucor II Order*, a new proposed permit in response to an objection will not always need to include new permit terms and conditions. For example, when the EPA has issued a title V objection on the ground that the permit record does not adequately support the permitting decision, it may be acceptable for the permitting authority to respond only by providing additional rationale to support its permitting decision. *Id.* at 14 n.10. The EPA has also explained that treating a state's response to an EPA objection as triggering a new EPA review period and a new petition opportunity is consistent with the statutory and regulatory process for addressing objections by the EPA. *Id.* at 14–15. The EPA's view that the state's response to an EPA objection is a generally treated as a new proposed permit does not alter the procedures for making the changes to the permit terms or condition or permit record that are intended to resolve the EPA's objection, however. When the permitting authority modifies a permit in order to resolve an EPA objection, it must go through the appropriate procedures for that modification. For example, when the permitting authority's response to an objection is a change to the permit terms or conditions or a revision to the permit record, the permitting authority should determine whether its response is a minor modification or a significant modification to the title V permit, as described in 40 CFR 70.7(e)(2) and (4) or the corresponding regulations in the state's EPA-approved title V program. If the permitting authority determines that the modification is a significant modification, then the permitting authority must provide for notice and opportunity for public comment for the significant modification consistent with 40 CFR 70.7(h) or the state's corresponding regulations.

C. New Source Review

Applicable requirements for a new "major stationary source" or for a "major modification" to a major stationary source include the requirement to obtain a preconstruction permit that complies with applicable new source review (NSR) requirements. For major stationary sources, the NSR program is comprised of two core types of preconstruction permit programs. Part C of the CAA establishes the Prevention of Significant Deterioration (PSD) program, which applies to areas of the country that are designated as attainment or unclassifiable for the national ambient air quality-standards (NAAQS). CAA §§ 160–169, 42 U.S.C. §§ 7470–7479. Part D of the Act

establishes the nonattainment NSR program, which applies to areas that are designated as nonattainment with the NAAQS. Where it applies, the PSD program requires a major stationary source to obtain a PSD permit before beginning construction of a new facility or undertaking certain modifications. CAA § 165(a)(1), 42 U.S.C. § 7475(a)(1). Once subject to the PSD program, permitting authorities must address several requirements in issuing a permit, including: (1) an evaluation of the impact of the proposed new or modified major stationary source on ambient air quality in the area, and (2) the application of the Best Available Control Technology (BACT) for each pollutant subject to regulation under the Act. CAA §§ 165(a)(3), (4), 42 U.S.C. §§ 7475(a)(3), (4); 40 C.F.R. § 52.21(j), (k).

The EPA has two largely identical sets of regulations implementing the PSD program. One set, found at 40 C.F.R. § 51.166, contains the requirements that state PSD programs must meet to be approved as part of a SIP. The other set of regulations, found at 40 C.F.R. § 52.21, contains the EPA's federal PSD program, which applies in areas without a SIP-approved PSD program. The EPA has approved LDEQ's PSD SIP. *See* 61 Fed. Reg. 53639 (October 15, 1996); 80 FR 68451 (November 5, 2015); 40 C.F.R. § 52.970(c) (discussing approval of PSD provisions in LAC 33:III.509); *see also* 40 C.F.R. §§ 52.999(c) & 52.986. As LDEQ administers a SIP-approved PSD program, for new major sources or major modifications that trigger PSD, the applicable requirements of the Act include complying with PSD requirements under the Louisiana SIP. *See, e.g.*, 40 C.F.R. § 70.2.[1] In this case, the "applicable requirements" include Louisiana's PSD provisions contained in LAC 33:III.509, as approved by the EPA into Louisiana's SIP.

III. BACKGROUND

A. The Yuhuang Facility

Yuhuang Chemical Inc., a subsidiary of Shandong Yuhuang Chemical Company, Ltd., has proposed to construct and operate a new methanol manufacturing facility in St. James Parish, Louisiana. The facility is designed to produce approximately 5000 metric tons per day of methanol from natural gas using Air Liquide Lurgi MegaMethanol® technology. Among other air pollutants, the facility will emit carbon monoxide (CO), volatile organic compounds (VOC), and nitrogen oxides (NOx) from various emission units, including a steam methane reformer (SMR), an auxiliary boiler, a flare, fugitive emissions, loading operations, and methanol storage tanks. The Yuhuang facility is subject to various New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP), and is permitted as a minor source for NSR purposes.

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[1] Under 40 C.F.R. § 70.1(b), "[a]ll sources subject to [the title V regulations] shall have a permit to operate that assures compliance by the source with all applicable requirements." "Applicable requirements" are defined in 40 C.F.R. § 70.2 to include "(1) [a]ny standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the [Clean Air] Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in [40 C.F.R.] part 52; (2) [a]ny term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act."

B. Permitting History

This is the initial title V permit for the facility. Yuhuang submitted its initial application for a title V permit to LDEQ on October 31, 2014. Yuhuang subsequently submitted three updated permit applications at LDEQ's request. On February 4, 2015, LDEQ submitted a proposed title V permit for public review as well as review by the EPA. The public comment period ran from February 4 to March 16, and the EPA's 45-day review period ran from February 4 until March 20, 2015. The EPA did not object to the proposed permit. After these concurrent review periods, LDEQ issued a Final Permit on May 5, 2015, along with a document containing LDEQ's Basis for Decision and a Public Comments Response Summary (referred to as a Response to Comments, or RTC).

C. Timeliness of Petition

Pursuant to the CAA, if the EPA does not object to a proposed permit during its 45-day review period, any person may petition the Administrator within 60 days after the expiration of the 45-day review period to object. 42 U.S.C § 7661d(b)(2). Thus, any petition seeking the EPA's objection was due on or before May 19, 2015. The Petition was received on May 18, 2015, and therefore the EPA finds that the Petitioners timely filed the Petition.

IV. EPA DETERMINATIONS ON CLAIMS RAISED BY THE PETITIONERS

Claim III: "EPA must object because the permit fails to comply with the Act's requirements for public participation."

Petitioners' Claim: The Petitioners' first claim, titled Claim III, alleges that the permit process failed to comply with public participation requirements because the permit application did not contain information "sufficient to evaluate the subject source and its application and to determine all applicable requirements." Petition at 7 (quoting 40 C.F.R. § 70.5(a)(2)). The Petitioners also cite 40 C.F.R. § 70.5(c)(3), which requires that permit applications contain certain emission-related information sufficient to verify which requirements are applicable to the source. Specifically, the Petitioners claim that a spreadsheet, containing information used to support the vendor-supplied inputs that were ultimately used to calculate the facility's emissions, was not made available to the public. *See* Petition at 7. The Petitioners contend that "[t]he public must be able to verify the accuracy of the inputs. Nowhere in the application is there any information about how the vendor determined th[e] inputs." *Id.* The Petitioners also claim that "LDEQ argues that only the 'calculations' must be provided [in the permit application], not the 'inputs' to the calculations." *Id.*

EPA's Response: For the reasons stated below, the EPA denies the Petitioners' request for an objection on this claim.

As an initial matter, it is not clear whether the Petitioners are alleging a deficiency relating to the public participation requirements of 40 C.F.R. § 70.7(h) or the permit application requirements

of § 70.5.[2] In either case, the EPA has previously explained the interaction between these two requirements in the title V petition context. *In the Matter of Cash Creek Generation, LLC*, Order on Petition No. IV-2010-4 (June 22, 2012) at 8–10 (*Cash Creek Order*); *In the Matter of Consolidated Environmental Management Inc. – Nucor Steel*, Order on Petition Nos. VI-2010-05, VI-2011-06, & VI-2012-07 (Jan. 30, 2014) at 38-42. In summary, when a title V petition seeks an objection based on the unavailability of information during the public comment period in violation of title V's public participation requirements, the petitioner must demonstrate that the unavailability deprived the public of the opportunity to meaningfully participate during the permitting process. *Cash Creek Order* at 9. To guide this analysis under title V, the EPA generally looks to whether the petitioner has demonstrated "that the alleged flaws resulted in, or may have resulted in, a deficiency in the permit's content." *In the Matter of Sirmos Division of Bromante Corp.*, Order on Petition No. II-2002-03 (May 24, 2004) at 6 (*Sirmos Order*). This analysis concerning the availability of information during the public comment period is related to the regulatory standard under 40 C.F.R. § 70.5(c) that governs what information may not be omitted from a permit application. Specifically, under 40 C.F.R. § 70.5(c), a permit application may not omit information "needed to determine the applicability of, or to impose, any applicable requirement." The public participation and permit application issues can be related in a title V petition when "the unavailability during the public comment period of information needed to determine the applicability of or to impose an applicable requirement also may result in a deficiency in the permit's content." *Cash Creek Order* at 9 (citations omitted). Where the permitting authority has explained its decision not to make something available during the public comment period, the petitioner bears the burden of demonstrating that the explanation is unreasonable. *Id.*

LDEQ, in responding to comments regarding the permit application, explained that the information in the requested spreadsheet "document[ed] the *origin* of the inputs used in the emission calculations," and noted that "[t]he inputs themselves are disclosed in the application and were provided by the supplier of the technology . . . ." RTC at 4. LDEQ further asserted that the application was consistent with the requirements of 40 C.F.R. § 70.5(c)(3)(viii), because "the application contain[ed] the calculations on which the 'emission-related information' described in 40 CFR 70.5(c)(3)(i)-(vii) [was] based and [was] 'sufficient to evaluate the subject source and . . . to determine all applicable requirements.'" *Id.* (citations omitted) (final alteration in original).

To the extent that the Petitioners allege a deficiency in the permit application relative to 40 C.F.R. § 70.5, the Petitioners have not demonstrated any basis for an objection to the permit. Specifically, the Petitioners have not demonstrated that LDEQ's explanation that the permit application satisfied the requirements of 40 C.F.R. § 70.5(c)(3) was unreasonable. *See Cash Creek Order* at 9. The Petitioners mischaracterize LDEQ's response, which indicated that both the inputs as well as the emission calculations were included in the permit application; the spreadsheet at issue simply documented the *origin* of the inputs. In addressing LDEQ's response, the Petitioners do not provide any citation to a legal authority in support of their contention that

[2] Although the Petitioners state in the title to this claim that "the permit fails to comply with the Act's requirements for public participation," the text of the Petition cites 40 C.F.R. § 70.5, which governs permit applications.

the public must be able to verify the accuracy of all of the inputs included in the permit application.

To the extent that the Petitioners claim that the alleged unavailability of information in the permit application during the public comment period violated title V's public participation requirements, the Petitioners have not demonstrated "that the alleged flaws resulted in, or may have resulted in, a deficiency in the permit's content." *See, e.g.*, *Sirmos Order* at 6. The Petitioners simply make the overly broad and general claim that the application "fail[ed] to provide information sufficient to evaluate the sources of emissions to determine all applicable requirements." Petition at 7. The Petitioners do not provide any citation or analysis regarding which, if any, applicable requirements may have been affected by the alleged lack of this information. Therefore, because the Petitioners did not identify how the unavailability of this information may have resulted in a permit deficiency, the Petitioners have not demonstrated that they were denied a meaningful opportunity to participate in the permitting process.

For the foregoing reasons, the EPA denies the Petitioners' request for an objection on this claim.

Claim IV: "EPA must object to the permit because it fails to meet PSD requirements."

Claim IV on pages 7–35 of the Petition includes several sub-claims that are summarized below. These claims include substantially overlapping issues; the EPA's response will therefore address the issues raised in Claim IV together, following the summaries of the Petitioners' claims.

Petitioners' Claim: The Petitioners' second claim, titled Claim IV, alleges that Yuhuang has the potential to emit (PTE) CO, VOC, and NOx in excess of the applicable 100 ton per year (TPY) PSD major stationary source threshold. Petition at 7 (citing LAC 33:III.509.B). Therefore, the Petitioners claim that the facility was inappropriately characterized as a minor source, and that the title V permit is deficient because it does not include emission limits and other conditions necessary to assure compliance with PSD requirements. Petition at 7–8 (citing 42 U.S.C. § 7661c(a)). Specifically, the Petitioners claim that the permit does not "include limits that will assure compliance with BACT for each PSD-regulated pollutant emitted from sources at the proposed plant," specifically BACT limits for particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM_{10}), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), NOx, CO, VOC, and greenhouse gases (GHGs). Petition at 8.

The Petitioners raise numerous specific issues related to Yuhuang's PTE, concerning the potential emissions of CO, VOC, and NOx from the SMR, auxiliary boiler, flare, fugitive sources, loading operations, and methanol storage tanks. These issues concern the validity of the facility's emission calculations contained in Yuhuang's permit application, as well as the enforceability of emission limits and other permit conditions that are intended to restrict the facility's PTE. Regarding the latter, the Petitioners generally claim that the permit does not contain limits that are "federally enforceable and enforceable as a practical matter." *E.g.*, *id.* at 18. The Petitioners' specific claims on these issues are summarized below, organized by emission unit.

Auxiliary Boiler

First, regarding the auxiliary boiler, the Petitioners claim that CO and VOC emissions from the boiler are underestimated, and the Petitioners also raise various concerns related to the 49.67 TPY CO limit. The Petitioners challenge the vendor-supplied emission factor—30 ppm CO—that underlies the emission calculations for CO from the boiler and challenge the lack of a justification or vendor guarantee for this emission factor. *Id.* at 11–13. The Petitioners claim that the permit does not require any monitoring to demonstrate that the boiler will meet the CO concentration of 30 ppm during all phases of operation, including during startup, shutdown, and malfunction. *Id.* at 13. The Petitioners request that the permit be modified to require an oxidation catalyst to control CO emissions and a CO Continuous Emission Monitoring System (CEMS) to continuously measure CO. *Id.* at 13.

The Petitioners also address LDEQ's RTC that discussed the Petitioners' request for an oxidation catalyst and CO CEMS. The Petitioners claim that LDEQ "asserts that the auxiliary boiler will be equipped with a 'continuous oxygen trim system' that will 'continuously measure and maintain the optimum air to fuel ratio.'" *Id.* at 13. The Petitioners claim that the permit does not require the use of a continuous oxygen trim system, and the Petitioners challenge specific aspects of how a continuous oxygen trim system would function to limit CO emissions. *Id.* at 13–14.

The Petitioners also challenge the adequacy of a single stack test every 5 years to monitor CO emissions from the boiler. *Id.* at 12–13 (citing Specific Requirement (SR)) 78 in the Proposed Permit[3]). Referring to this requirement as "[a] three hour optimal snap shot," the Petitioners allege that requiring such a test "every 5 years is not adequate to assure the CO emissions remain below the 100 ton/yr major source threshold and comply with the auxiliary boiler CO emission rates." *Id.* at 12. The Petitioners later conclude that there are no enforceable limits on CO from the boiler. *Id.* at 18.

Regarding VOC, the Petitioners allege that VOC emissions from the boiler are unenforceable, claiming that the permit does not require any testing for VOC emissions from the boiler. *Id.* at 27–28. The Petitioners claim that LDEQ did not adequately respond to the public comment regarding VOC emissions from the boiler, in part because LDEQ did not add any VOC testing for the boiler. *Id.* at 28.

The Petitioners also claim that the PTE calculations for CO and VOC from the boiler were based on the average, rather than the maximum, emissions rate, and that nothing in the permit would prohibit the boiler from operating at its maximum emission rate continuously. *Id.* at 16–17, 27–28. The Petitioners assert that "[t]he permit must be modified to limit the number of hours that each source may operate at the maximum rate and these conditions must be made enforceable." *Id.* at 17.

[3] The EPA observes that in the Final Permit, the stack testing requirement is found in SR 81.

Steam Methane Reformer

Regarding the SMR, the Petitioners claim that the PTE for CO and VOC from the SMR was underestimated, and the Petitioners also raise concerns related to the 34.78 TPY CO emission limit for the SMR. The Petitioners challenge the vendor-supplied emission factor—10 ppm CO—that supports the emission calculations for CO from the SMR, and claim that the vendor data "must be supported by a vendor guarantee and must be made enforceable as a practical matter by permit conditions." *Id.* at 14–16. The Petitioners claim that in order to base the facility's PTE on the vendor-supplied 10 ppm CO concentration, the permit "must be modified to specify temperature and oxygen operating ranges, require a CO CEMS, and continuously monitor CO, temperature, and oxygen to assure the CO emission limits are satisfied." *Id.* at 16. The Petitioners additionally claim that "the permit does not require continuous CO monitoring to demonstrate that the SMR will routinely, as well as during startup, shutdown, and malfunction, meet the asserted but unsupported CO concentration of 10 ppm." *Id.*

The Petitioners also claim that there are no enforceable limits on CO from the SMR, and that the VOC emissions from the SMR are unenforceable. *Id.* at 18, 27–28. The Petitioners claim that the permit does not contain sufficient monitoring to confirm compliance with the CO and VOC limits for the SMR. *See id.* at 15, 28. The Petitioners specifically challenge the adequacy of proposed condition 38,[4] which requires a single stack test every five years for purposes of demonstrating compliance with the CO and VOC emission limits from the SMR. *Id.* Similar to the Petitioners' concerns regarding the boiler, the Petitioners allege that "[a] three hour snap shot every 5 years under ideal operating conditions is not adequate to assure continuous compliance with a CO emission limit" for the SMR. *Id.* at 15.

The Petitioners also claim that the PTE for CO and VOC emissions from the SMR was calculated based on the average, rather than the maximum, emissions rate, and that there is nothing in the permit that would prohibit the SMR from operating at its maximum emission rate continuously. *Id.* at 16–17, 27–28. Petitioners assert that "[t]he permit must be modified to limit the number of hours that each source may operate at the maximum rate and these conditions must be made enforceable." *Id.* at 17.

Flare

Next, the Petitioners raise concerns regarding NOx and CO emissions from the flare. The Petitioners claim that PTE calculations for NOx and CO from the flare did not include a "safety factor" that was included for VOC PTE estimates, and that LDEQ did not adequately respond to comments on this point. *Id.* at 9–10, 18–19. The Petitioners also claim that the NOx and CO PTE calculations for the flare did not account for emissions from upsets, and that the permit does not contain an enforceable prohibition on upset emissions. *Id.* at 10–11, 19. Moreover, the Petitioners claim that the permit does not require any monitoring or reporting of flare upset events. *Id.* at 10, 19. Finally, the Petitioners claim generally that there are no enforceable limits on CO emissions from the flare. *Id.* at 18.

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[4] The EPA notes that this corresponds to Final Permit SR 39.

The Petitioners claim that the PTE for CO emissions from the flare was calculated based on the average, rather than the maximum, emissions rate, and that there is nothing in the permit that would prohibit the flare from operating at its maximum emission rate continuously. *Id.* at 16–17. Petitioners assert that "[t]he permit must be modified to limit the number of hours that each source may operate at the maximum rate and these conditions must be made enforceable." *Id.* at 17.

Fugitives

The Petitioners also claim that the permit underestimates fugitive CO emissions. Specifically, the Petitioners assert that the PTE calculations failed to account for fugitive CO emissions from the non-fuel gas system, including pumps, compressors, valves, and connectors. The Petitioners thus conclude that LDEQ incorrectly determined that the permit's 0.14 TPY limit on CO fugitive emissions is sufficient to limit the facility's PTE below the PSD significance threshold. *Id.* at 20.

MTSCAP

The Petitioners state that the proposed permit contains a 15.9 TPY VOC emissions limit,[5] referred to as the Methanol Transfer and Storage Cap (MTSCAP), which regulates VOC emissions from truck and railcar loading, marine loading, a crude methanol storage tank, and five methanol product tanks. *Id.* at 21. The Petitioners claim that the MTSCAP's proposed 15.9 TPY VOC emission limit is not enforceable. *Id.* at 21. The Petitioners cite to proposed permit condition 214,[6] which requires the facility to record VOC emissions under the MTSCAP each month, but claim that the permit does not explain how emissions would be determined or calculated. *Id.* at 22. Further, the Petitioners explain that VOC emissions depend on the vapor pressure of the material stored and transferred, and that vapor pressure depends on temperature. *Id.* at 22. Thus, in order for the MTSCAP to be enforceable, the Petitioners assert that the permit must include both limits as well as periodic monitoring of vapor pressure and temperature for all emission units under the MTSCAP, and that the permit must specify the method used to calculate emissions once these inputs are measured. *Id.* at 22–23. The Petitioners also claim that the permit "does not require that calculations used to determine compliance (and that were used to estimate potential to emit) account for site-specific conditions and unusual emissions that occur as a result of process upsets, malfunctions, startups and shutdowns." *Id.* at 22.

As discussed further below, the Petitioners raise additional concerns related to the MTSCAP, separately addressing potential VOC emissions from the loading operations and the methanol storage tanks.

Loading Operations

Regarding the loading operations, the Petitioners first claim that the VOC emission factor of 2.16 lb/Mgal,[7] upon which loading emissions were calculated, is underestimated because it was not

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[5] The EPA notes that this limit was modified to 19.8 tons VOC in the Final Permit.

[6] The EPA notes that this corresponds to Final Permit SR 218.

[7] 1 Mgal represents 1,000,000 gallons.

based on the worst-case mode of operation or the correct control efficiency. *Id.* at 24. The Petitioners claim that the 2.16 lb/Mgal emission factor was based on submerged loading with dedicated normal service. *Id.* at 24. However, because the permit does not specify the mode of operation for the loading operations, the Petitioners claim that the PTE must be based on the worst-case mode of operation. *Id.* at 24. The Petitioners assert that the worst-case mode of operation would be splash loading, with an emission factor of 5.23 lb/Mgal. *Id.* at 24. The Petitioners also address a point in LDEQ's RTC, which indicated that it is not necessary to specify a particular mode of operation because the permit requires an organic monitoring device. *Id.* at 25. The Petitioners claim that although Final Permit SR 122 requires an organic monitoring device to be installed, the permit "does not require that it be used to determine VOC emissions from truck and railcar loading operations to demonstrate compliance with emission rates nor to confirm that the source is minor for VOC emissions." *Id.* at 25.

The Petitioners also claim that the facility's PTE for VOC from loading was based on the average, rather than the maximum, emission rate, and allege that nothing in the permit would prohibit continuous loading at the maximum emission rate. *Id.* at 25. Additionally, the Petitioners claim that the throughput "limit" of 308,639,340 gallons per year does not restrict VOC emissions from loading to 6.66 TPY, contrary to LDEQ's assertion in its RTC. *Id.* at 26. Specifically, the Petitioners claim that assuming the maximum throughput limit and continuous barge loading with an emission rate of 0.25 lb/1000 gallons, VOC emissions could reach 38.5 TPY. *Id.*

Last, the Petitioners claim that the emission calculations omit VOC emissions from spills during loading operations, and the Petitioners challenge the sufficiency of the equipment standards and leak prevention requirements included in the permit to limit VOC emissions from leaks. *Id.* at 26–27 (citing Final Permit SR 135 and 165).

Storage Tanks

Regarding the methanol storage tanks, the Petitioners first claim that the VOC emissions were significantly underestimated, based on alleged inaccuracies with the temperature and vapor pressure inputs assumed for both the crude methanol tank and methanol product tanks. *Id.* at 29–32. The Petitioners challenge LDEQ's contention in its RTC that the temperatures used in the emission calculations represent the highest possible temperatures for these storage tanks, claiming that LDEQ did not adequately support this assertion and claiming that storage temperature could increase due to process upsets or hot weather. *Id.* at 31–32.

The Petitioners also claim that the permit lacks enforceable limits on VOC emissions from the six tanks because the permit does not include limits on the temperature or vapor pressure of the tanks, and because it does not require periodic monitoring, recordkeeping, and reporting of temperature and vapor pressure. *Id.* at 28–32. Regarding the crude methanol tank, the Petitioners challenge the adequacy of proposed condition 110,[8] which requires the facility to determine the Reid vapor pressure of the crude methanol tank. *Id.* at 30. The Petitioners assert that this requirement could be satisfied by a single measurement, that it does not serve to limit VOC

[8] The EPA notes that this corresponds to Final Permit SR 113.

emissions from the crude methanol tank, and that it is not required to be used to estimate VOC emissions. *Id.* at 30.

The Petitioners claim that "the design of the crude methanol storage tank must be modified to confirm to LAC 63.119(a)(2) and 2103.E & F, which requires that the tank be equipped with a closed vent system and control device." *Id.* at 30–31.

Finally, citing an EPA webpage, the Petitioners claim that TANKS 4.09, the EPA's emissions model used to calculate emissions and also used to determine compliance with the MTSCAP, does not include VOC emissions from tank roof landings and tank cleanings. *Id.* at 35. The Petitioners challenge the adequacy of the Final Permit SR 263, which requires Yuhuang to record the number and duration of roof landings and the number of tank cleanings, claiming that the permit does not require that these emissions be included in determining compliance. *Id.* at 34–35. Instead, the Petitioners note that Final Permit SR 217 allows the use of Tanks 4.09 to determine compliance. *Id.* at 35. Therefore, the Petitioners conclude that "[n]one of the compliance provisions require that these [roof landing] emissions be included in determining compliance." *Id.* at 35. Relatedly, the Petitioners claim the calculations used to determine compliance do not account for site-specific conditions and unusual emissions, and that non-routine emissions from the tank, such as those that occur when tanks are improperly operated, defective, or in disrepair, are not accounted for in the estimates of the facility's PTE. *Id.* at 22, 35.

EPA's Response: For the reasons stated below, the EPA grants the Petitioners' request for an objection on this claim.

Relevant Legal Background

In support of the EPA's response to Claim IV, below is a brief overview of relevant legal background related to this claim. As an initial matter, consideration of whether a facility constitutes a "major stationary source" for PSD purposes depends on whether the facility emits or has the potential to emit certain pollutants in excess of specified thresholds: the threshold for sources within listed categories, including chemical process plants such as Yuhuang, is 100 TPY; for all other sources, 250 TPY. *See* 42 U.S.C. § 7479(1) (defining "major emitting facility"); LAC 33:III.509.B (defining "Major Stationary Source"); *see also* 40 C.F.R. § 51.166(b)(1)(i) (defining "major stationary source" in EPA regulations that identify minimum requirements for SIP approved PSD programs); *cf.* 40 C.F.R. § 52.21(b)(1)(i) (defining "major stationary source" in EPA regulations for PSD permits issued under the EPA's permitting authority). Under Louisiana's federally approved SIP, the calculation of a facility's PTE for purposes of determining whether the facility triggers PSD requirements for a particular pollutant includes consideration of:

> [T]he 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.

> Secondary emissions do not count in determining the potential to emit of a stationary source.

LAC 33:III.509.B (definition of "Potential to Emit" in Louisiana's SIP); *see also* 40 C.F.R. § 51.166(b)(4) (PTE definition in EPA regulations that identify minimum requirements for SIP approved PSD programs); *cf.* 40 C.F.R. § 52.21(b)(4) (PTE definition in EPA regulations for PSD permits issued under EPA's permitting authority). Therefore, if a permit applicant agrees to enforceable limits that are sufficient to restrict PTE, the facility's "maximum capacity to emit" for PTE purposes is calculated based on those limits. *In the Matter of Hu Honua Bioenergy Facility*, Order on Petition No. IX-2011-1 (Feb. 7, 2014) at 9 (*Hu Honua Order*); *Cash Creek Order* at 15; *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 (June 22, 2012) at 28 (*Kentucky Syngas Order*).[9]

Importantly, only limits that meet certain enforceability criteria may be used to restrict a facility's PTE, and the permit must include sufficient terms and conditions such that the source cannot lawfully exceed the limit. *See, e.g.*, *Cash Creek Order* at 15 (explaining that an "emission limit can be relied upon to restrict a source's PTE only if it is legally and practicably enforceable"); *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC*, Order on Petition No. II-2001-05 (April 8, 2002) at 4–7 (2002 *Pencor-Masada Order*). One of the key concepts in evaluating the enforceability of PTE limits is whether the limit is enforceable as a practical matter. *See, e.g.*, 2002 *Pencor-Masada Order* at 4–7 (emphasizing the importance of practical enforceability in the permit terms and conditions that limit PTE). Moreover, the concept of "federal enforceability" has also been interpreted to encompass a requirement for practical enforceability. *See, e.g.*, *In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit,* 13 E.A.D. 357, 394 n.54 (EAB 2007). In order for an emission limit to be enforceable as a practical matter, the permit must clearly specify how emissions will be measured or determined for purposes of demonstrating compliance with the limit. *See, e.g.*, *Hu Honua Order* at 10. Thus, limitations must be supported by monitoring, recordkeeping, and reporting requirements "sufficient to enable regulators and citizens to determine whether the limit has been exceeded and, if so, to take appropriate enforcement action." 2002 *Pencor-Masada Order* at 7. Further, generally speaking, to effectively restrict a facility's PTE under the relevant major stationary source threshold, a permit's emission limits must apply at all times to all actual emissions, and all actual emissions must be considered in determining compliance with the respective limits. *Hu Honua Order* at 10–11; *Cash Creek Order* at 15; *Kentucky Syngas Order* at 29–30. Additionally, as the EPA has previously

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[9] There is substantial body of EPA guidance and administrative decisions relating to PTE and PTE limits. *E.g., see generally*, Terrell E. Hunt and John S. Seitz, "Limiting Potential to Emit in New Source Permitting" (June 13, 1989); John S. Seitz, "Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act" (January 25, 1995); Kathie Stein, "Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and § 112 Rules and General Permits" (January 25, 1995); John Seitz and Robert Van Heuvelen, "Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit" (Jan. 22, 1996); *In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit*, 13 E.A.D. 357 (EAB 2007); *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC*, Order on Petition No. II-2001-05 (April 8, 2002) at 4–7.

explained: "Although it is generally preferred that PTE limitations be as short-term as possible (e.g., not to exceed one month), EPA guidance allows permits to be written with longer term limits if they are rolled (meaning recalculated periodically with updated data) on a frequent basis (e.g., daily or monthly). [EPA guidance] also recognizes that such longer rolling limits may be appropriate for sources with 'substantial and unpredictable variation in production.'" 2002 *Pencor-Masada Order* at 6. This type of rolling cumulative limit may be appropriate where the permitting authority determines that the limit, in combination with applicable monitoring, reporting, and recordkeeping, provides an assurance that compliance can be readily determined and verified. *See id.* at 6-7.

Overview of Permit Terms and LDEQ's Response

The Final Permit[10] contains annual limits on CO, VOC, and NOx emissions from various individual emission units, discussed in more detail below.[11] These unit-specific emission limits, expressed in terms of Tons/Year or TPY, appear intended to cumulatively restrict the facility's annual CO emissions to 88.08 tons, annual VOC emissions to 78.39 tons, and annual NOx emissions to 85.45 tons. Thus, these unit-specific emission limits appear to be intended to restrict the facility's annual plant-wide emissions under the 100 TPY major stationary source threshold for each of these three criteria pollutants. The Final Permit's "Air Permit Briefing Sheet" also includes a chart indicating that "Permitted emissions for the YCI Methanol Plant, in tons per year (TPY)," are 88.08 TPY for CO, 78.39 TPY for VOC, and 85.45 TPY for NOx.[12]

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[10] This Order contains numerous citations to the Final Permit. Because the Final Permit is not consecutively paginated, all cited page references in this Order refer to the specific page of the Portable Document Format (pdf) file of the Final Permit document identified as Document ID 9749612 on Louisiana's Electronic Document Management System (EDMS), available at *https://edms.deq.louisiana.gov/app/doc/querydef.aspx*.

[11] These unit-specific "Tons/Year" or "TPY" limits are established in the table titled "Emission Rates for Criteria Pollutants and CO2e." Final Permit at pdf 25–26. This section of the permit establishes emission limitations, pursuant to General Condition III of LAC 33:III.537, and that General Condition is incorporated by Specific Requirements 286 and 287. *See* Final Permit at pdf 56. The terms "unit-specific emission limit" and "annual emission limit" used in this section are intended to encompass all of the "Tons/Year" limits that apply to individual emission units and are included in the Emission Rates table of the Final Permit.

[12] The EPA notes that these source-wide values in the Air Permit Briefing Sheet appear to represent the sum of the annual emission limits for individual emission units that are included in the Emission Rates table. However, it is unclear whether this chart indicating the source-wide "permitted emissions" at the facility was intended to establish independently enforceable source-wide emission limits. Unlike the unit-specific annual emission limits that *are* included in the "Emission Rates for Criteria Pollutants and CO2e" table, which pursuant to General Condition III of LAC 33:III.537 establishes emission limitations, the 88.08 TPY source-wide rate for CO, the 78.39 TPY source-wide rate for VOC, and the 85.45 TPY source-wide rate for NOx do *not* separately appear in the Emission Rates table.

LDEQ, in its response to comments, claims that "the ton per year limits of the permit also serve to restrict potential to emit." RTC at 21. Citing to the EPA's 2012 *Cash Creek Order*, LDEQ explains, "if a permit applicant agrees to an enforceable limit that is sufficient to restrict PTE, the facility's PTE is calculated based on that limit." *Id.* LDEQ further claims that "[t]he limits in Permit No. 2560-00295-V0 are both federally enforceable and enforceable as a practical matter (or practically enforceable)." *Id.* As an example, LDEQ also states: "If CO emissions from the auxiliary boiler are determined to be higher than allowed by the permit, Yuhuang would be in violation of the permit and subject to enforcement action. If CO emissions from the auxiliary boiler are such that potential CO emissions from the YCI Methanol Plant exceed 100 tons per year, the facility would be a major stationary source under the Prevention of Significant Deterioration (PSD) program . . . ." *Id.* at 19. In its RTC, LDEQ also provided specific justifications for individual permit terms and conditions that may be related to these limits, as discussed further below.

The Final Permit also contains other limits that may have been intended to restrict the facility's PTE. It appears that LDEQ intended to place a limit on the facility's throughput; the "Inventories" section of the Final Permit indicates that the maximum operating rate for the truck and railcar loading and the marine loading operations is 308.63934 million gallons per year. Final Permit at pdf 23. Also, the Final Permit appears to establish maximum hourly emission limits for many of the facility's emission units.[13] The Final Permit also includes numerous specific requirements for each emission unit, some of which could be related to ensuring the enforceability of the permit's emission limits intended to restrict the facility's PTE. The permit incorporates various NSPS and NESHAP provisions applicable to each unit; these standards contain monitoring, recordkeeping, and reporting requirements designed to ensure compliance with these particular standards. The Final Permit also includes additional requirements related to ensuring compliance with the annual emission limits that are intended to restrict the facility's PTE, as discussed in more detail below. Additional discussion of relevant permit limits and terms is included below accompanying the EPA's analysis.

EPA's Analysis

Because Yuhuang has agreed to accept permit limitations that are intended to restrict the facility's PTE below the applicable PSD major stationary source threshold, an objection to Yuhuang's title V permit is warranted if the Final Permit does not impose limits on the facility's PTE that are enforceable as a practical matter. *See Hu Honua Order* at 9–10; *Cash Creek Order* at 15; *Kentucky Syngas Order* at 29. The EPA is granting Claim IV because the Petitioners have demonstrated that the Final Permit and permit record are inadequate to ensure that the unit-specific emission limits for CO, VOC, and NOx—which appear to be intended to restrict the facility's PTE below the applicable 100 TPY threshold for PSD applicability purposes—are enforceable as a practical matter.

[13] Along with the annual limits, these maximum hourly rates are also included in the table titled, "Emission Rates for Criteria Pollutants and CO2e." *See* Final Permit at pdf 25–26. It is unclear whether LDEQ intended for the maximum hourly rates, in addition to the annual emission rates, to restrict PTE.

In light of this grant, I am not resolving some of the specific issues raised by the Petitioners in Claim IV. In responding to this grant, LDEQ may take steps to ensure that the limits placed on the CO, VOC, and NOx emissions are enforceable as a practical matter. If LDEQ does so, the facility's PTE may be calculated based on these limits, obviating the Petitioners' specific technical concerns about how the facility's emissions were initially estimated. Thus, in light of LDEQ's and Yuhuang's intent to restrict PTE below major source thresholds, it is an appropriate exercise of the EPA's discretion and a reasonable use of agency resources to focus on whether the permit limits that purport to restrict the facility's PTE are enforceable such that they are sufficient to limit PTE, and to not resolve technical issues concerning how the facility's emissions were initially estimated. *See Hu Honua Order* at 12-13; *Cash Creek Order* at 15; *Kentucky Syngas Order* at 30.

Although LDEQ states generally that the "ton per year" limits in the permit are enforceable as a practical matter, the Final Permit and permit record do not support this assertion. Here, the Final Permit labels the unit-specific emission limits in terms of "Tons/Year," and LDEQ refers them as "ton per year limits" in its RTC. Final Permit at pdf 25-26; RTC at 21.[14] As written, the form of these limits could potentially allow for compliance to be demonstrated only once per calendar year; this type of "blanket" annual emission limit standing alone would not be enforceable as a practical matter.[15] For this reason and the reasons described below, the Final Permit and permit record are inadequate to ensure that Yuhuang's PTE remains below the 100 TPY major source threshold.

The Petitioners have identified a number of specific deficiencies in the permit and permit record relating to the enforceability of the permit's CO, VOC, and NOx emission limits intended to restrict Yuhuang's PTE. These deficiencies are discussed in more detail in the paragraphs below in relation to each emission unit addressed by the Petitioners in this claim.

Auxiliary Boiler

The Final Permit includes a limit for annual emissions of CO from the auxiliary boiler of 49.67 TPY. Final Permit at pdf 26. The Final Permit includes a limit for annual emissions of VOC from the boiler of 12.48 TPY. *Id.* Overall, the EPA finds that the Final Permit and permit record are insufficient to ensure that the annual CO and VOC emission limits for the auxiliary boiler are enforceable as a practical matter.

CO: As described above, during the public comment period and in the Petition, the Petitioners raised concerns with the sufficiency of a single stack test conducted every 5 years to demonstrate

[14] To the extent that this Order refers to the emission limits in the Yuhuang permit as "ton per year" limits or "annual" limits, the EPA is simply referring to these limits as they are described in the permit and permit record, and this reference is not intended to imply that "blanket" annual emission limits, with compliance demonstrated only once per calendar year, could be enforceable as a practical matter.

[15] The EPA notes that Final Permit SR 217 specifies that the MTSCAP limits aggregate VOC and methanol emissions from the loading operations and tanks to "19.80 tons per 12-consecutive month period." However, the Final Permit does not include any similar clarification for the "Tons/Year" emission limits contained in the Emission Rates table for the other emission units.

compliance with the CO emission limit on the boiler. Petition at 12-13; Petition Exhibit A at 5. In response to this comment, LDEQ did not discuss the frequency of the stack test, but indicated that "in addition to the initial and periodic stack tests described by the commenter, the auxiliary boiler will be equipped with a continuous oxygen trim system." RTC at 19. LDEQ also noted that such a system "functions to continuously measure and maintain the optimum air to fuel ratio. Therefore, a CO CEMS is not required." *Id.*

The permit record does not adequately justify how the permit's various monitoring conditions are sufficient to ensure that the 49.67 TPY CO emission limit, intended to restrict the facility's PTE, is enforceable as a practical matter. First, nowhere in its RTC did LDEQ address the commenter's allegations that the 5 year testing frequency was inadequate, and the permit record lacks any justification for the frequency of this stack testing condition.[16] LDEQ also did not explain and the permit does not specify how the stack test information would be used to demonstrate compliance with the annual CO limit. It is not clear, for example, whether the stack test would serve as a direct indicator of the facility's emissions, or as a means to periodically confirm the accuracy of (or to establish) an emission factor or other parameter that is used in the compliance demonstration. LDEQ's response appears to suggest that this infrequent stack testing, in combination with the use of a continuous oxygen trim system, would be sufficient to ensure compliance with the annual CO emission limits. However, LDEQ does not point to any permit term that would require the facility to install or use a continuous oxygen trim system.[17] Moreover, even if such a system were required by the permit, LDEQ does not explain how data from such a system would be used to demonstrate compliance with the annual CO limit on the boiler. Because the Final Permit and permit record do not clearly explain how the facility will monitor and demonstrate compliance with the 49.67 TPY CO limit on the boiler, the EPA finds that the Final Permit and permit record do not adequately ensure that this limit is enforceable as a practical matter. *See, e.g., Hu Honua Order* at 10 (indicating that the permit must clearly specify how emissions will be measured or determined for purposes of demonstrating compliance with an emission limit for it to be enforceable as a practical matter).

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[16] The EPA has previously indicated that a single stack test every 5 years, when used alone, would not constitute adequate monitoring for purposes of demonstrating compliance with permitted shorter-term emission limits. *See, e.g., In the Matter of Consolidated Edison Co. of NY, Inc., Ravenswood Steam Plant*, Order on Petition No. II-2001-08 (September 30, 2003) at 19–21. However, in certain circumstances, stack testing every 5 years, when used in conjunction with other more frequent monitoring techniques (such as continuous parametric monitoring), could be appropriate, *when viewed as a whole*, where the permitting authority provides an adequate justification explaining the sufficiency of the monitoring scheme. *See, e.g., Kentucky Syngas Order* at 48–49, 51; *In the Matter of Public Service of New Hampshire, Schiller Station*, Order on Petition No. VI-2014-04 (July 28, 2015) at 14–16; *In the Matter of Public Service Company of Colorado, dba Xcel Energy, Cherokee Station*, Order on Petition No VIII-2010-XX (September 29, 2011) at 11–12.

[17] Moreover, LDEQ does not cite to any regulatory provision that would make representations in a permit application binding operational requirements in a subsequently issued permit unless those specific representations are incorporated into the Specific Requirements of the permit. *Cf.* General Condition III of LAC 33:III.537.

Regarding the Petitioners' challenges to the 30 ppm CO emission factor used in the initial emissions estimates, the EPA notes that permit record is not clear as to whether LDEQ intended this emission factor to be related to the enforceability of the 49.67 TPY CO emission limit intended to restrict the facility's PTE. However, to the extent that LDEQ intended for Yuhuang to demonstrate compliance with the annual CO emission limit for the boiler through calculations based on a specific emission factor, this compliance demonstration methodology does not appear to be specified anywhere in the Final Permit or the permit record. Moreover, the Final Permit does not specify the value of any emission factor to be used in compliance demonstration calculations, or indicate whether the 30 ppm CO emission factor used in the initial emission calculations (which the Petitioners have challenged) will also be used for purposes of demonstrating compliance with the annual CO limit that is intended to restrict the facility's PTE from the boiler. Finally, it is not clear how the accuracy of this emission factor will be verified or established, such as through the stack testing requirement discussed above. Overall, to the extent that the LDEQ intends for Yuhuang to use an emission factor to demonstrate compliance with the 49.67 TPY CO emission limit on the boiler, the permit record for any such emission factor is inadequate, further undermining the enforceability of this limit. *See generally In the Matter of United States Steel Corporation – Granite City Works*, Order on Petition No. V-2011-2 (December 3, 2012) at 10–12 (USS Granite City II Order) (granting a petition and directing the permitting authority to specify in the permit the actual emission factors that will be used to demonstrate compliance, to clearly explain how the emission factors will be used to determine compliance, to provide supporting documentation for the accuracy of the emission factors based on historical source test data or other available information, and to specify how these emission factors or equations will be updated as new emissions information becomes available, or alternatively, to specify a periodic monitoring methodology adequate to demonstrate compliance with permit limits).

Finally, regarding the Petitioners' claim involving emissions during startup, shutdown, and malfunction periods, Petition at 13-14, the Final Permit and permit record are inadequate to ensure that all emissions during these periods are accounted for when determining compliance with the annual CO emission limit for the boiler. LDEQ, in responding to comments, indicated that "the permit limitations include startup and shutdown emissions and 'all operation at the maximum emission rate.' They only exclude emissions associated with malfunctions, which LDEQ considers to be excess emissions." RTC at 21. This appears to indicate that any actual emissions during malfunctions would not be considered for purposes of demonstrating compliance with the 49.67 TPY CO emission limit on the auxiliary boiler. As discussed above, all actual emissions, at all times, and from all emission units—including emissions during startups, shutdowns, maintenance, upsets, *and* malfunctions—must be included when determining compliance with emission limits intended to restrict a facility's PTE. *See, e.g., Hu Honua Order* at 10–11.

VOC: In responding to comments regarding VOC emissions from the boiler and SMR, LDEQ indicated that it "disagrees that the VOC permit limits for the SMR and auxiliary boiler are 'unenforceable' simply because the proposed permit does not require a performance test." RTC at 30. However, LDEQ did not identify any permit terms or conditions related to the enforceability of the VOC limit on the auxiliary boiler or otherwise specifically address the enforceability of the annual boiler VOC emission limit. *See* RTC at 21, 30.

As a result, the EPA finds that the Final Permit and permit record are inadequate to ensure that the 12.48 TPY VOC limit on the auxiliary boiler is enforceable as a practical matter. As noted above, LDEQ did not provide any explanation in its RTC regarding what, if any, permit terms ensure the practical enforceability of the annual VOC limit on the boiler. Further, although LDEQ added a stack test requirement for VOC for the SMR in the Final Permit in response to the Petitioners' comments, LDEQ did not add a similar condition for VOC from the boiler. *See* RTC at 30. Thus, as the Petitioners suggest, the Final Permit does not appear to require any stack testing for VOC from the boiler, and the permit record does not identify any other specific requirements that will be used for purposes of ensuring compliance with the 12.48 TPY VOC emission limit. Moreover, the Final Permit does not appear to specify a compliance demonstration methodology for this limit, so it is not evident how compliance with the limit would be determined. *See, e.g.*, *Hu Honua Order* at 10. The Final Permit and permit record are also unclear as to whether all actual emissions, including emissions during startup, shutdown, and malfunction, are included when determining compliance with the annual VOC emission limit for the boiler. *See, e.g.*, *id.* at 10—11.

Steam Methane Reformer

The Final Permit contains a limit on annual CO emissions from the SMR of 34.78 TPY, and a limit on annual VOC emissions from the SMR of 28.34 TPY. Final Permit at pdf 26. However, the EPA finds that the Final Permit and permit record are inadequate to ensure that these limits are enforceable as a practical matter, for similar reasons as those discussed above regarding the auxiliary boiler.

CO: During the public comment period and in the Petition, the Petitioners challenged the sufficiency of a single stack test conducted every 5 years, used to demonstrate compliance with CO emissions from the SMR. Petition at 15; Petition Exhibit A at 6-7. In response to this comment, LDEQ again did not directly address the adequacy or the frequency of the stack test requirement for CO, but indicated that "[t]he SMR will also be equipped with a continuous oxygen trim system." RTC at 20. Additionally, in responding to a comment from the EPA on the SMR, LDEQ explained that a term was added to the final permit that requires the amount of fuel combusted by the unit to be monitored and recorded. *Id.* at 2.

The permit record does not justify why the permit's monitoring, recordkeeping, and reporting conditions are sufficient to ensure that the 34.78 TPY CO limit for the SMR is enforceable as a practical matter. First, as discussed above relative to CO from the boiler, LDEQ's RTC does not include any justification explaining why LDEQ believes the single stack test every five years would be adequate to ensure compliance with this annual emission limit, either alone or in combination with other conditions in the permit. Also, as discussed above, LDEQ also does not identify any permit condition that would require the installation or operation of a continuous oxygen trim system for the SMR, or explain how information from such a device would be used to demonstrate compliance with the annual emission limit. Additionally, although Final Permit SR 40 does require the facility to record and keep records of the amount of fuel combusted each day, as LDEQ noted in its RTC, neither the Final Permit nor the permit record explains how this requirement, either alone or in conjunction with any other requirements of the permit, would

relate to ensuring compliance with the annual CO limit intended to restrict PTE from the SMR. To the extent that LDEQ intended for Yuhuang to demonstrate compliance with the annual CO emission limit for the SMR through calculations based on a specific emission factor, potentially incorporating the daily fuel combustion information required by SR 40, this compliance demonstration methodology is not specified anywhere in the Final Permit or the permit record. Moreover, the Final Permit does not specify the value of any emission factor to be used in any compliance demonstration calculations, or indicate whether the 10 ppm CO emission factor used in the initial emission calculations (the appropriateness of which the Petitioners have challenged) would also be used for purposes of demonstrating compliance with the annual CO limit intended to restrict the facility's PTE from the SMR. It is also not clear how the accuracy of this emission factor would be verified. Overall, because the Final Permit does not specify how Yuhuang will demonstrate compliance with the 37.78 TPY CO limit on the SMR, it is not evident how compliance with the limit would be determined. *See, e.g.*, *Hu Honua Order* at 10. Finally, as discussed above relative to CO emissions from the auxiliary boiler, the Final Permit and permit record are unclear as to whether all actual emissions, including emissions during startup, shutdown, and malfunction, are included when determining compliance with the annual CO emission limit for the SMR. *See, e.g.*, *Hu Honua Order* at 10–11.

VOC: In response to comments regarding VOC emissions from the SMR, LDEQ added VOC to the permit condition requiring a single stack test, repeated every five years, for purposes of demonstrating compliance with the permit limits for the SMR. *See* RTC at 30; Final Permit SR 39. However, LDEQ did not explain further why this permit term, or any other permit terms relevant to VOC from the SMR, are adequate to ensure that the annual 28.34 TPY VOC emission limit is enforceable. *See* RTC at 21, 30. The problems related to the inadequacy of the permit record with respect to this infrequent stack testing requirement for VOC from the SMR mirror those discussed above relative to CO emissions from the auxiliary boiler and CO emissions from the SMR. Moreover, as for both of those CO limits, neither the Final Permit nor the permit record contains any compliance demonstration method for the 28.34 TPY limit on VOC emissions from the SMR. *See, e.g.*, *Hu Honua Order* at 10. In addition, as discussed above relative to both of those CO limits, the Final Permit and permit record are unclear as to whether all actual emissions, including emissions during startup, shutdown, and malfunction, are included when determining compliance with the annual VOC emission limit for the SMR. *See, e.g.*, *Hu Honua Order* at 10–11. Accordingly, the EPA finds that the Final Permit and permit record are inadequate to ensure that the 28.34 TPY VOC limit on the SMR is enforceable as a practical matter.

Flare

The Final Permit includes annual emission limits on the flare, intended to restrict NOx emissions to 7.25 TPY and CO emissions to 1.98 TPY. Final Permit at pdf 25-26. During the public comment period and in the Petition, the Petitioners asserted, among other things, that the Final Permit does not contain any monitoring or reporting of NOx or CO emissions that occur from the flare during upset events. Petition at 10, 19; Petition Exhibit A at 4, 8. In responding to these comments, LDEQ indicated, "The permit does not authorize emissions associated with upsets. Per LAC 33:III.501.B.1.e, the requirement to obtain a permit does not apply to upsets as defined in LAC 33:III507.J.1. [sic]" RTC at 17. LDEQ also noted that "the permit requires continuous

monitoring of the volume of vent gas routed to the flare," and that "unauthorized discharges (i.e., upsets and malfunctions) must be reported in accordance with LAC 33:I.Chapter 39 (Notification Regulations and Procedures for Unauthorized Discharges) and LAC 33:III.919 (Emissions Inventory)." *Id.*

As noted above, all actual emissions at all times—including emissions during startups, shutdowns, maintenance, upsets, *and* malfunctions—must be accounted for when determining compliance with emission limits intended to restrict a facility's PTE. *See, e.g.*, *Hu Honua Order* at 10–11. Based on the permit record, it does not appear that all actual emissions, including emissions from upsets, are included when determining compliance with Yuhuang's annual NOx and CO limits. Moreover, the Final Permit and permit record are unclear regarding whether and how these emissions are monitored. The permit record is unclear as to whether and how the regulatory provisions cited by LDEQ, which require reporting of unauthorized discharges, ensure that NOx and CO emissions during upsets are included in determining compliance with the annual NOx and CO emission limits for the flare. Further, neither the Final Permit nor LDEQ's RTC, which references continuous monitoring the volume of vent gas, indicate how such monitoring, which is required by Final Permit SR 89, would result in emissions information sufficient to demonstrate compliance with the 7.25 TPY NOx and 1.98 TPY CO emission limits on the flare. Additionally, the Final Permit does not specify a compliance demonstration method for these annual limits on the flare. Overall, the EPA finds that the Final Permit and permit record are inadequate to ensure that these two emission limits on the flare are enforceable as a practical matter.

Fugitives

The Final Permit contains a limit on fugitive CO emissions of 0.14 TPY. Final Permit at pdf 26. However, the permit record is inadequate to indicate whether this 0.14 TPY emission limit was intended to restrict the facility's PTE.[18] The Final Permit does not clearly state whether or how fugitive emissions would be monitored or determined for purposes of demonstrating compliance with the 0.14 TPY CO limit. The permit record is also not clear as to whether this 0.14 TPY limit properly accounts for all potential fugitive CO emissions, including fugitive emissions from the non-fuel gas system. Therefore, the EPA finds that the Final Permit and permit record are inadequate to ensure that this limit is enforceable as a practical matter.

MTSCAP

The MTSCAP is intended to limit cumulative annual VOC emissions from truck and railcar loading operations, marine loading operations, the crude methanol tank, and the five methanol product tanks to 19.8 tons per consecutive 12-month period. Statement of Basis at 11; Final Permit at pdf 26, 49. In response to comments alleging that the MTSCAP is not enforceable,

[18] As previously stated, the permit record is not entirely clear whether the facility is relying on this particular unit-specific emission limit to restrict the facility's PTE from fugitives, or whether LDEQ intended for the restriction on fugitives to be included in a source-wide emission limit to restrict the facility's PTE for CO below the 100 TPY PSD major stationary source threshold amount.

LDEQ explained that the Final Permit requires that emissions from all units under the cap to be calculated monthly. RTC at 24; Final Permit SR 218. Further, LDEQ explained that the permit requires Yuhuang to "monitor and record the throughput of each tank during each calendar month." RTC at 24; Final Permit SR 264. In addition, LDEQ added a condition to the Final Permit that requires emissions from the storage tanks to be ca'culated using either Tanks 4.09 or AP-42 Section 7.1. RTC at 24.

The Final Permit does not impose individual annual emission limits for any of these units; rather, the MTSCAP appears designed to restrict the facility's PTE from all of these units by establishing one limit that applies to all of them. Therefore, in order to effectively restrict the PTE of these units, the MTSCAP must be enforceable relative to all of the units and all of their emissions. In other words, for the MTSCAP emission limit to be enforceable as a practical matter, the permit must ensure that all actual emissions from every emission unit under the MTSCAP are adequately measured and counted towards determining compliance with the 19.8 tons per consecutive 12-month limit. For the reasons presented below regarding the loading operations and storage tanks, the EPA finds that the Final Permit and permit record are inadequate to ensure that the MTSCAP is enforceable as a practical matter.

Loading Operations

As noted above, emissions from truck and railcar loading as well as marine loading operations are intended to be included under the 19.8 tons per consecutive 12-month MTSCAP limit. Final Permit SR 218. Thus, emissions from loading operations are relevant to the enforceability of the MTSCAP as a whole.

In responding to comments on the MTSCAP, LDEQ added a permit term specifying the calculation methodology for purposes of demonstrating compliance with the MTSCAP for emissions from the storage tanks; however, LDEQ did not add any similar condition specifying the compliance demonstration methodology for the loading portion of the MTSCAP. *See* Final Permit SR 217. Instead, LDEQ indicated that for truck and railcar loading, the permit requires "'an organic monitoring device equipped with a continuous recorder' per 40 CFR 63.127(b)." RTC at 25; Final Permit SR 122. LDEQ also noted, "Detailed monitoring, recordkeeping, and reporting requirements (as well as control technology requirements) are prescribed by 40 CFR 63 Subpart G and set forth in Specific Requirements 112 – 131 [Final Permit SR 115–138]." RTC at 29. Thus, LDEQ concluded that "the permit is not silent as to how compliance must be demonstrated," and that "compliance with permit limits can be verified without using AP-42 equations." RTC at 29, 25. In responding to another comment, LDEQ additionally claimed: "Annual emissions are limited by the volume of methanol loaded into trucks, railcars, and marine vessels. Because the permit limits throughput to 308,639,340 gallons per year, potential VOC emissions [from loading operations] can be no more than 6.66 tons per year." RTC at 27.

As discussed above, the MTSCAP requires the facility to record VOC emissions from all units under the MTSCAP, including both loading operations, monthly. Final Permit SR 218. However, the Final Permit does not specify how emissions from loading operations will be determined for

purposes of recording emissions monthly or demonstrating compliance with the MTSCAP.[19] For example, regarding truck and railcar loading, although LDEQ specifically references the organic monitoring device equipped with a continuous recorder, and generally references other 40 C.F.R. part 63 subpart G controls, monitoring, recordkeeping and reporting requirements, neither LDEQ's RTC nor the Final Permit explains how these conditions—which are designed to ensure compliance with a particular NESHAP—would be used to calculate the actual emissions from loading for purposes of demonstrating compliance with the MTSCAP. *See* RTC at 25, 29; Final Permit SR 122. Further, LDEQ's RTC did not address *any* permit conditions relevant to monitoring emissions from the marine loading emissions and it is unclear in the Final Permit whether and how these emissions would be accounted for in MTSCAP compliance demonstrations. Thus, the permit record is unclear as to how the facility will demonstrate compliance with the MTSCAP, relative to emissions from loading operations.

Finally, it is unclear from the Final Permit and permit record whether LDEQ intended to include an enforceable throughput limit in the Final Permit as an enforceable means of restricting of the facility's PTE from loading, and whether it intended for such a throughput limit to be related to compliance with the MTSCAP. Although LDEQ claims that "the permit limits throughput to 308,639,340 gallons per year," RTC at 27, the Final Permit does not appear to actually establish a legally enforceable limit on throughput. The figure cited by LDEQ is contained in the "Inventories" section of the Final Permit as the "Max. Operating Rate" for both truck and railcar as well as marine loading operations. Final Permit at pdf 23.[20] Moreover, because this figure of 308,639,340 gallons per year is listed twice, it is unclear whether it is intended to apply to all loading operations combined, or independently to both the truck and railcar operations as well as the marine loading operations (which would effectively double the gallons per year that could be legally processed).

Overall, the permit record is not clear as to how Yuhuang will determine VOC emissions from both types of loading operations for purposes of demonstrating compliance with the MTSCAP. Moreover, neither the Final Permit nor the permit record contains a specific compliance demonstration method for the MTSCAP relative to the loading operations. *See, e.g.*, *Hu Honua Order* at 10. In addition, the Final Permit and permit record are unclear as to whether all actual emissions from the loading operations are included when determining compliance with the MTSCAP. *See, e.g.*, *Hu Honua Order* at 10–11. Therefore, the EPA finds that the Final Permit and permit record are inadequate to ensure that the MTSCAP is an enforceable limitation on the facility's VOC emissions from loading operations.

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[19] Although LDEQ indicated that "compliance with permit limits can be verified without using AP-42 equations," RTC at 25, the permit itself is unclear whether VOC emissions from both loading operations would be directly monitored or whether VOC emissions would be based on a particular emission calculation methodology, such as through the use of emission factors and throughput data.

[20] Unlike the "Emission Rates" table and "Specific Requirements" section of the Final Permit, it is not clear that the "Inventories" section of the permit establishes legally binding limitations on the source. *See* General Condition III of LAC 33:III.537.

Storage Tanks

Together with emissions from loading operations, VOC emissions from the facility's crude methanol tank and five methanol product tanks are also intended to be limited under the MTSCAP to 19.8 tons per 12-consecutive month period. Fina' Permit SR 218.

As noted above, based on public comments, LDEQ modified the Final Permit to require that, "For purposes of demonstrating compliance with the Methanol Transfer and Storage Cap, the permittee shall calculate emissions from the crude methanol and methanol product tanks using either Tanks 4.09 (or subsequent revision) or Section 7.1 (Organic Liquid Storage Tanks) of AP-42." Final Permit SR 217; *see* RTC at 24. LDEQ noted that the MTSCAP emission limit was revised in the Final Permit to incorporate emissions estimates from roof landings and tank cleanings, and that LDEQ added a condition requiring the permittee to record the number and duration of roof landings and roof cleanings. RTC at 33; Final Permit SR 263. LDEQ also reproduced a permit term requiring work practice standards for internal floating roof tanks, without further explanation. RTC at 33; Final Permit SR 239. LDEQ also claimed that no monitoring of temperature or vapor pressure from the tanks was warranted because the initial emissions calculations were "conservatively based on a constant 'worst-case' temperature"—135 °F for the crude methanol tank and 104 °F for the methanol product tanks—and because "the actual storage temperature of the liquid will decline over time." RTC at 31, 32.

As LDEQ asserts, the Final Permit does currently specify the general emission calculation methodology for the tanks for purposes of demonstrating compliance with the MTSCAP. However, the Final Permit and permit record are inadequate to ensure that the MTSCAP is enforceable as a practical matter with respect to tank emissions for two primary reasons. First, the Final Permit and permit record are unclear as to whether the required emission calculation methods properly account for all actual emissions that may be emitted from the tanks. For example, while the Tanks 4.09 program can account for emissions from tank roof landings when used according to the EPA's guidance,[21] the equations in AP-42 Section 7.1.3.2.2 explicitly provide a method for calculating roof landing emissions. The Final Permit currently allows for either of these methods to be used to demonstrate compliance with the MTSCAP without requiring or specifying how roof landing emissions would be calculated. Moreover, the permit record contains no explanation for how the permit term requiring Yuhuang to record the number and duration of roof landings and the number of tank cleanings would be used to assure compliance with the MTSCAP. *See* Final Permit SR 263.

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[21] As the EPA's website explains: "In November 2006, Section 7.1 of AP42 was updated with subsection 7.1.3.2.2 Roof Landings. The TANKS program has not been updated with these new algorithms for internal floating roof tanks. It is based on the 1997 version of section 7.1. It is possible to estimate these losses in TANKS by using a portion of the guidance developed for degassing and cleaning a tank by modeling the vapor space under the roof as a fixed roof tank and calculating the emissions from one turnover. This is less accurate than using section 7.1.3.2.2 of AP42." *https://www3.epa.gov/ttnchie1/faq/tanksfaq.html* (last accessed July 18, 2016).

Second, the Final Permit does not contain any provisions to assure that the MTSCAP compliance demonstration calculations accurately reflect the site-specific storage temperature and pressure conditions at the facility, and thereby that the emissions calculations represent the facility's actual emissions. For example, nothing in the permit requires any testing or monitoring to confirm that the emissions calculations are based on the actual temperature or pressure values at the source, nor does the permit require the facility to use any specific temperature values initially relied upon to estimate the facility's emissions in its compliance demonstrations. Moreover, to the extent that the latter approach was intended, the permit record does not provide any substantive justification for why the temperature and pressure values in the permit application in fact represent the "highest possible temperature[s] at which methanol can be delivered" to the crude methanol and methanol product tanks. RTC at 31, 32.[22]

Overall, because of these deficiencies in the Final Permit and permit record involving the storage tanks, together with the issues discussed above relative to VOC emissions from loading operations, the EPA finds that the Final Permit and permit record are inadequate to ensure that the MTSCAP is sufficiently enforceable as a practical matter to limit the PTE of the covered emissions units together to below 19.8 tons per consecutive 12-month period.

For the foregoing reasons, considering Claim IV as a whole and in light of the specific deficiencies discussed above related to the PTE limits on the auxiliary boiler, the SMR, the flare, fugitive emissions, loading operations, and the storage tanks, the EPA grants the Petitioners' request for an objection on this claim.

EPA's Direction to LDEQ

LDEQ can respond to this objection by revising the Final Permit to ensure that all limitations on CO, VOC, and NOx in the permit that are intended to ensure that the facility's emissions remain below the relevant 100 TPY major stationary source threshold are legally enforceable and enforceable as a practical matter and meet all other requirements under the SIP for limitations used to restrict PTE. If these limits are made adequately enforceable, such as by following the suggestions outlined in the following paragraphs, they may be used to restrict the facility's PTE for purposes of determining whether the facility is considered a major stationary source for PSD purposes. Alternatively, LDEQ may utilize another approach, consistent with Louisiana's PSD program, to ensure that Yuhuang is not subject to PSD, or it could respond to this objection by treating Yuhuang as a major source for PSD purposes and requiring it to satisfy PSD requirements.

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[22] The EPA notes that these temperature and pressure values were revised two times after Yuhuang submitted its initial permit application, including once after the public comment period. *See* RTC at 30–31. Further, because the permit record does not explain why the temperature and pressure values in the permit application reflect the highest possible temperature and pressure values, the EPA cannot make a determination regarding the Petitioners' and LDEQ's contentions regarding the applicability of 40 C.F.R. § 63.119(a)(2) and LAC 33:III.2103.F.

If LDEQ intends to limit Yuhuang's PTE below the relevant major stationary source threshold, the permit record should clearly state all of the emission limits intended to so restrict the facility's PTE. As noted above, the permit record indicates that LDEQ intended for the unit-specific TPY emission limits to at least be part of the requirements that would restrict the facility's PTE. *See* RTC at 21. Thus, most of the direction below relates to these unit-specific emission limits.[23] However, it is unclear whether other permit terms, including the maximum throughput value[24] that LDEQ refers to in its RTC, as well as the maximum hourly and average emission rates included in the Emission Rates table,[25] were also intended to establish binding limits that would be part of the requirements intended to restrict the facility's PTE. *See* RTC at 27; Final Permit at pdf 23, 25–26. It is also unclear whether the summary table of source-wide permitted emissions contained in the Air Permit Briefing Sheet is intended to establish independently binding source-wide emission limits. *See* Final Permit at pdf 5. If LDEQ intends for any of these other provisions to be part of the requirements that restrict the facility's PTE, the permit record should clearly reflect this intention and the permit must be amended to ensure that these limits are adequately enforceable to serve that purpose (including both legally enforceable and enforceable as a practical matter).

In order to ensure that the unit-specific annual emission limits intended to restrict PTE are enforceable as a practical matter, those limits must be "rolled" (meaning recalculated periodically with updated data) on a more frequent basis (e.g., daily or monthly) such that compliance can be readily determined. *See* 2002 *Pencor-Masada Order* at 6. Therefore, if Yuhuang intends to rely on annual limits to restrict PTE, the Final Permit must be modified to require that the annual emissions be calculated and compliance with these limits be demonstrated on a more frequent basis (e.g., on a rolling 365-day or rolling 12-month basis), and the permit record should include a justification for why this frequency is appropriate. This applies for all of the annual emission limitations in the Final Permit intended to restrict the facility's PTE.

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[23] As discussed above in the EPA's Analysis section, these emission limits include, but are not limited to: the 49.67 TPY CO limit on the boiler, the 12.48 TPY VOC limit on the boiler, the 34.78 TPY CO limit on the SMR, the 28.34 TPY VOC limit on the SMR, the 7.25 TPY NOx limit on the flare, the 1.98 TPY CO limit on the flare, the 0.14 TPY CO limit from fugitives, and the 19.80 TPY VOC limit under the MTSCAP, covering all VOC emissions from loading and tanks.

[24] If LDEQ intended this maximum throughput value to be an enforceable operational limit, the permit should be amended to include this "limit" as a Specific Requirement pursuant to General Condition III of LAC 33:III.537, and the permit should clearly state whether this limit applies to the truck and railcar and marine loading operations collectively or individually. Additionally, if this throughput value is intended to restrict the facility's PTE, the permit record should include an explanation for how this throughput value effectively restricts the facility's PTE, as well as the terms and conditions that ensure the practical enforceability of the limit. The permit record should also clarify the relationship between this throughput value and the MTSCAP.

[25] Although the "Max lb/hr" and "Avg lb/hr" rates are included in the Emission Rates table, which pursuant to General Condition III of LAC 33:III.537 establishes emission limitations, it is not clear whether these values were intended for use in the compliance demonstrations. In responding to this objection, LDEQ should clarify the intended purpose, if any, of these values and whether they are intended to relate to the restrictions on PTE in this permit.

Further, in order to ensure that these unit-specific emission limits intended to restrict PTE are enforceable as a practical matter, LDEQ must ensure that the Final Permit clearly states how the source will calculate actual emissions and demonstrate compliance with each of these emission limits for each emission unit. LDEQ must also ensure that the Final Permit contains adequate monitoring, recordkeeping, and reporting to ensure compliance with each of these specific emission limits for each emission unit, and the permit record should explain why the monitoring included in the permit is sufficient to demonstrate compliance with each of these limits. LDEQ may consider whether any of the monitoring, recordkeeping, and reporting conditions used to assure compliance with applicable NSPS and NESHAP provisions may also be appropriate for ensuring that the permit's annual CO, VOC, and NOx emissions limits are enforceable as a practical matter. If LDEQ determines that they are, the permit record should clearly state how any such monitoring, recordkeeping, and reporting requirements in the applicable NSPS and NESHAP requirements will also be used to assure compliance with the unit-specific emission limits. To the extent that the Final Permit depends on emission factors for calculating emissions to demonstrate compliance with the unit-specific emission limits, the permit must specify this in the compliance demonstration methodology, including the value of the emission factor to be used when calculating the facility's emissions. *See USS Granite City II Order* at 12. Further, the Final Permit must contain sufficient testing or monitoring to confirm that these emission factors, as well as all other parameters upon which the emission calculations rely (*e.g.*, fuel combustion, throughput, temperature, pressure), accurately reflect the site-specific conditions, and thereby the actual emissions, of the Yuhuang facility.[26] The direction in this paragraph regarding compliance demonstration methodology applies to all of the emission limits and emission units discussed in the EPA's analysis above.

LDEQ must also ensure that all actual emissions from all emission units are included when demonstrating compliance with the emission limits intended to restrict the facility's PTE. *See Hu Honua* Order at 10. This includes all emissions associated with startups, shutdowns, maintenance, upsets and malfunctions, all sources of fugitive emissions, leaks and spills, and tank roof landings and cleanings.[27]

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[26] For example, requiring testing or monitoring of the temperature or pressure of methanol at the loading operations and storage tanks would help ensure that any emission calculations used to demonstrate compliance with the MTSCAP would accurately reflect actual emissions from these emission units. To the extent that emissions from loading operations would be determined using emission calculations and emission factors, the permit must ensure that the appropriate site-specific emission factor (including the appropriate saturation factor) is used for each different type of loading operation.

[27] To properly account for emissions from roof landings, the Final Permit could, for example, be amended to specify that the facility must calculate such emissions using AP-42 Section 7.1.3.2.2 or by estimating emissions in the TANKS program by modeling the vapor space under the roof as a fixed roof tank and calculating the emissions from one turnover.

Claim V: "EPA must object to the permit because the tank design is hazardous and there are additional uncounted for emissions."

Petitioners' Claim: The Petitioners' third claim, titled Claim V, alleges that the permit does not require the safe design and operation of the methanol tanks at the facility. Specifically, Petitioners claim that the hazards of methanol vapors include flammability, toxicity, and the potential for unstable roofs and higher emissions. Petition at 35–36. Petitioners claim that these hazards of methanol vapors are typically controlled in methanol tanks by "excluding air from methanol tank vapor spaces by inerting or gas blanketing." *Id.* at 36. Petitioners claim that the permit is silent on whether these measures are required for the methanol tanks. *Id.* Petitioners point to a recent methanol plant that uses inert gas blankets for its methanol tanks. *Id.* Petitioners argue that while LDEQ has an "understanding" that nitrogen blankets will be used at the facility, this is not an enforceable condition. *Id.*

EPA's Response: For the reasons stated below, the EPA denies the Petitioners' request for an objection on this claim.

The Petitioners cite to no applicable requirement that would require use of inert gas blankets for tanks with internal floating roofs and argue exclusively that the tanks present a danger and that other sources employ such techniques. As explained above in Section II.B, the Petitioners must demonstrate that the permit fails to meet the requirements of the CAA; the EPA is not required to conduct an extensive fact-finding or investigation to analyze petition claims. The Petitioners must provide the relevant analysis and citations and have not done so for this claim. By not identifying an applicable requirement under the CAA that would require the use of inert gas blankets for tanks with internal floating roofs, the Petitioners have not demonstrated that the title V permit is not in compliance with the Act.

For the foregoing reasons, the EPA denies the Petitioners' request for an objection on this claim.

Claim VI: "EPA must object to the permit because LDEQ failed to adequately respond to EPA's comments."

Petitioners' Claim: The Petitioners' fourth claim, titled Claim VI, alleges in its caption that the EPA must object because LDEQ did not adequately respond to comments made by the EPA on the proposed permit. The Petitioners reproduce EPA Region 6's comment requesting that LDEQ "clarify why 40 CFR 60.18 is not an applicable requirement for the source since it would appear that the flare may to be used to control emissions from affected facilities at the site." Petition at 37. The Petitioners disagree with LDEQ's response "that 40 C.F.R. § 60.18 is not applicable because the flare will not be used to control emissions from distillation operations under 40 C.F.R. § Subpart NNN and reactor processes under 40 C.F.R. § Subpart RRR 'during normal operation,'" because it is only used during periods of startup, shutdown, and malfunction. *Id.* The Petitioners challenge LDEQ's reasoning that, because emissions during startup, shutdown, and malfunction periods are not considered violations, 40 C.F.R. § 60.18 is not applicable. *Id.* The Petitioners respond that "subparts [NNN and RRR] admit that the flare is used to control emissions," and that "declassification of an event as a 'violation' . . . does not mute the fact that these subparts require the use of a flare to control emissions." *Id.*

EPA's Response: For the reasons stated below, the EPA denies the Petitioners' request for an objection on this claim.

The requirements of 40 C.F.R. § 60.18 apply to control devices, including flares, that are "*used to comply with* applicable" NSPS standards. 40 C.F.R. § 60.18(a)(1) (emphasis added). Additionally, "The requirements are placed [in § 60.18] for administrative convenience and apply only to facilities covered by subparts referring to this section." *Id.*

In response to the EPA's initial comment, LDEQ explained, "The flare will be used to control emissions from distillation operations and/or reactor processes during periods of startup, shutdown, and malfunction; however, during such periods, the flare would not function as a control device 'used comply with applicable subparts of 40 CFR parts 60 and 61.'" RTC at 4 (quoting 40 C.F.R. § 60.18(a)(1)). In support of this assertion, LDEQ cites to a provision in 40 C.F.R. § 60.8(c), which provides that excess emissions during startup, shutdown, and malfunction shall not be considered a violation of applicable NSPS emission limits, unless otherwise specified in the applicable NSPS.

The Petitioners did not demonstrate that Yuhuang's title V permit is not in compliance with the Act because it does not include the requirements of 40 C.F.R. § 60.18 pertaining to the operation of the flare as "applicable requirements." First, the Petitioners have not demonstrated that LDEQ's explanation regarding the applicability of 40 C.F.R. § 60.18 was unreasonable. The Petitioners merely alleged that "declassification of an event as a 'violation' . . . does not mute the fact that these subparts [NNN and RRR] require the use of a flare to control emissions." Petition at 37. This statement does not address LDEQ's explanation that the flare will not function as a control device "used to comply with applicable subparts of 40 CFR parts 60 and 61." 40 C.F.R. § 60.18(a)(1). Moreover, the Petitioners do not provide any analysis or citations to permit terms or regulations that would demonstrate that the flare is a control device "used to comply" with applicable NSPS subparts.

Instead, the Petitioners simply alleged that "these subparts [NNN and RRR] require the use of a flare to control emissions." Petition at 37. However, the provisions of 40 C.F.R. § 60.18 "apply only to the facilities covered by subparts referring to the section." 40 C.F.R. § 60.18(a)(1). The Petitioners did not identify any specific provisions in the applicable regulations that "require the use of a flare to control emissions." Petition at 37. Therefore, the Petitioners' conclusion, "Thus, 40 C.F.R. § 60.18 is applicable," is unsupported by the Petition. As explained above, the Petitioners have the burden to provide more than a general allegations; they must provide the relevant analysis and citations in support of their claims. The Petitioners' general allegations do not demonstrate that the applicable subparts require the use of the flare, that the flare is "a control device used to comply with applicable subparts," or any other grounds for finding that 40 C.F.R. § 60.18 is an applicable requirement. Therefore, the Petitioners have not met their burden of demonstrating that Yuhuang's title V permit is not in compliance with the Act.

For the foregoing reasons, the EPA denies the Petitioners' request for an objection on this claim.[28]

V. CONCLUSION

For the reasons set forth above and pursuant to CAA § 505(b)(2), and 40 C.F.R. § 70.8(d), I hereby grant in part and deny in part the Petition as to the claims described herein.

Dated: Aug 31, 2016

Gina McCarthy
Administrator

[28] It is unclear the extent to which Petitioners intended to claim that the response to comments, as opposed to the substantive decision by LDEQ, was inadequate. *See* Petition at 36 (title of the claim arguing that LDEQ had not "adequately respond[ed] to EPA's comments"). Title V permit programs must "offer[] an opportunity for public comment," 40 C.F.R. § 70.7(h), and it is a general principle of administrative law that this must include a response by the regulatory authority to significant comments, *Home Box Office v. FCC*, 567 F.2d 9, 35 (D.C. Cir. 1977). However, Petitioners do not allege that LDEQ neglected to respond to the comment or that the response did not address a key issue or element of the comment. While the Petitioners may disagree with the content of the response by LDEQ, that alone is not sufficient to demonstrate that the public participation process was not in compliance with the Act. To the extent that the Petitioners are arguing that LDEQ response to comments is inadequate, the claim is also denied.