UNITED STATED ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE ADMINISTRATOR

IN THE MATTER OF	*	PETITION FOR OBJECTION
Clean Air Act Title V Permit No. 2560-00295-V1	*	
for Yuhuang Chemical Inc., YCI Methanol Plant	*	Permit No. 2560-00295-V1
Issued by the Louisiana Department of Environmental Quality	*	

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO THE ISSUANCE OF THE PROPOSED TITLE V AIR PERMIT MODIFICATION NO. 2560-00295-V1 ISSUED BY LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY TO YUHUANG CHEMICAL INC. FOR THE YCI METHANOL PLANT

Pursuant to Clean Air Act § 505(b)(2), 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), Sierra Club and Louisiana Environmental Action Network ("Petitioners") petition the Administrator of the United States Environmental Protection Agency to object to the proposed Title V air permit modification no. 2560-00295-V1 ("proposed permit") issued to Yuhuang Chemical Inc. for the YCI Methanol Plant in St. James, Louisiana ("plant" or "facility").

I. INTRODUCTION

The proposed permit is a modification of the initial permit that LDEQ issued on May 5, 2015 and EPA objected to on August 31, 2016.[1] EPA bases its objections on the petition that Petitioners submitted to the agency on May 19, 2015.[2] LDEQ claims that it modified the initial

[1] *In the Matter of Yuhuang Chemical Inc.*, Order on Petition No. VI-2015-03, Aug. 31, 2016, (Yuhuang Order), https://www.epa.gov/sites/production/files/2016-09/documents/yuhuang_response2015_0.pdf

[2] *Id*.

permit in an attempt to resolve EPA's objections.[3] But as detailed in the tables in Section V below, the proposed permit fails to resolve the bulk of EPA's objection. Petitioners submit this second petition requesting that the Administrator object to the proposed permit because it remains deficient and does not comply with the requirements of the Act.

The Clean Air Act mandates that the Administrator "shall issue an objection . . . if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of the . . . [Clean Air Act]." 42 U.S.C. § 7661d(b)(2); *see also* 40 C.F.R. § 70.8(c)(1). The Administrator must grant or deny a petition to object within 60 days of its filing. 42 U.S.C. § 7661d(b)(2). Because the permit at issue fails to comply with the Clean Air Act's requirements, EPA has a "duty to object to [the] non-compliant." *See New York Public Interest Group v. Whitman*, 321 F.3d 316, 332-34, nl2 (2nd Cir. 2003)

II. STATUTORY & REGULATORY FRAMEWORK

Section 502(d)(1) of the Clean Air Act, 42 U.S C. § 7661a(d)(l), requires each state to develop and submit to EPA an operating permit program to meet the requirements of Title V of the Act. Louisiana's approved Title V program is in the Louisiana Administrative Code at LAC 33:III.507.

Any person wishing to construct a new major stationary source of air pollutants must

[3] Proposed Permit, Briefing Sheet, p. 6 ("LDEQ has amended the proposed permit as directed by EPA). Petitioners would like to point out that the Briefing Sheet asserts that "[a]dditional justification for the methods selected can be found in Section XI of the accompanying Statement of Basis (SOB)." This section lists additional monitoring and testing, but it does not provide any justifications for the changes, explain how they address EPA's order, nor identify specifically where they may be found, e.g., it fails to identify the Specific Requirement(s) that have been added or modified or provide a redline-strikeout of the modified permit conditions. Furthermore, while the Statement of Basis contains a section captioned "Determining Compliance with Permit Limits," it likewise does not explain how the proposed permit modification addresses EPA's Order or provide any justification for the changes made between the March 16, 2015 initial permit or the August 18, 2016 proposed permit and the December 15, 2016 permit. A reviewer must compare the March 16, 2015 initial permit and the August 18, 2016 draft permit with the December 15, 2016 permit line by line, effectively limiting the ability of the public to review the permit.

apply for and obtain a Title V permit before commencing construction. 42 U.S.C. § 7661b(c); *see also* LAC 33:III.507.C.2.1. The Title V permit must "include enforceable emission limitations and standards . . . and such other conditions as are necessary to assure compliance with *applicable requirements* of [the Clean Air Act and applicable State Implementation Plan ("SIP")]." 42 U.S.C. § 7661c(a) (emphasis added).

The regulations make clear that the term "applicable requirement" is broad and includes, among other things, "[a]ny term or condition of any preconstruction permit" or "[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." 40 C.F.R. § 70.2; *see also* LAC 33:III.507.A.3 ("Any permit issued under the requirements of this Section shall incorporate all federally applicable requirements for each emissions unit at the source."). Indeed, "applicable requirements" includes the duty to obtain a construction permit that meets the requirements of the Act's Prevention of Significant Deterioration ("PSD") program. *See* 42 U.S.C. § 7475.

Clean Air Act regulations command that "each applicable State Implementation Plan . . . shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality." 40 C.F.R. § 51.166. Louisiana SIP provisions that incorporate the Clean Air Act's PSD requirements are in LAC 33:III.509. 40 C.F.R. § 52.970 (identifying EPA approved regulations in the Louisiana SIP). The Louisiana PSD regulations apply to the construction of a "major stationary source," which include certain listed sources, such as a chemical process plant like Yuhuang's methanol plant, that "ha[ve] the potential to emit[] 100 tons per year or more" of any PSD regulated pollutant (except greenhouse gases). LAC 33:III.509.B. PSD regulated pollutants include, among others, nitrogen oxides ("NOx"),

sulfur dioxide ("SO2"), particulate matter ("PM"), volatile organic compounds ("VOC"), carbon monoxide ("CO"), and greenhouse gases. *Id.* "Potential to emit" is "the maximum capacity of a stationary source to emit a pollutant under its physical and operational design." 33 LAC Pt III, § 509. "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." *Id.*

Major stationary sources, as defined under LAC 33:III.509.B, must meet the state's PSD requirements under LAC 33:III.509.J-R. LAC 33:III.509 (A)(2). These requirements include *(1)* an analysis of whether the source will cause a violation of any national ambient air quality standard ("NAAQS"); *(2)* application of the best available control technology ("BACT") *for each PSD regulated pollutant emitted from the facility*; and *(3)* and opportunity for the public to participate in the process. 40 U.S.C. § 7475(a)(2)-(8); *see also Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, (2004). The purposes of requiring PSD review are, among other things, "(1) to protect public health and welfare from any actual or potential adverse effect which ... may reasonably be anticipated to occur from air pollution, notwithstanding attainment and maintenance of all national ambient air quality standards; ... (3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources; ... and (5) to assure that any decision to permit increased air pollution is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process." 42 U.S.C. § 7470.

Louisiana PSD regulations command: "No new major stationary source . . . to which the requirements of Subsection J-Paragraph R.5 of this Section apply shall begin actual construction

without a permit that states the major stationary source . . . will meet those requirements." LAC 33:III.509(A)(3). Title V permits must incorporate the terms and conditions of the PSD permit where a PSD permit is required. If the Title V permit does not incorporate the terms and conditions of a required PSD permit, the Title V permit is not in compliance with the Clean Air Act.

The Title V operating permit program does not generally impose new substantive air quality control requirements, but does require permits to contain monitoring, recordkeeping, reporting, and other requirements to assure compliance by sources with existing applicable emission control requirements. 57 Fed. Reg. 32250, 32251 (July 21, 1992) (EPA final action promulgating the Part 70 rule). U.S. EPA policy requires Title V permits to be "enforceable as a practical matter."[4] To be enforceable, the permit must create mandatory obligations (standards, time periods, methods). Specifically, a permit condition must: (1) provide a clear explanation of how the actual limitation or requirement applies to the facility; and (2) make it possible for the state agency, the U.S. EPA, and citizens to determine whether the facility is complying with the condition.[5]

III. PETITIONERS' INTEREST IN THE PROPOSED PERMIT.

Sierra Club is the oldest and largest grassroots environmental group in the United States, with more than 621,000 members throughout the United States, including Louisiana. Sierra Club's mission is to protect and enhance the quality of the natural and human environment. Its

[4] *See U.S. Environmental Protection Agency, Region 9, Title V Permit Review Guidelines: Practical Enforceability*, September 9, 1999, (hereafter "Region 9 Guidelines") ; Available at: http://webcache.googleusercontent.com/search?q=cache:P7YnEX6ssOkJ:itepsrv1.itep.nau.edu/itep_course_downloads/TitleV_Resources/R9TitleVPermitReviewGuidelines_FULL.pdf+&cd=1&hl=en&ct=clnk&gl=us.

[5] *See, e.g., Sierra Club v. Ga. Power Co.*, 365 F. Supp. 2d 1297, 1308 (D. Ga. 2004) (citing *Sierra Club v. Public Serv. Co.*, 894 F. Supp. 1455, 1460 (D. Colo. 1995)).

activities include public education, advocacy, and litigation to enforce environmental laws. Sierra Club and its members are concerned about the effects of air pollution on human health and the environment and have a long history of involvement in activities related to air quality. One way Sierra Club works to protect the environment and human health is to comment on and challenge air permits that do not conform to the law.

LEAN is a non-profit corporation organized under the laws of the State of Louisiana. Its purpose is to preserve and protect the state's land, air, water, and other natural resources, and to protect its members and other residents of the state from threats of pollution. One way LEAN works to protect the environment and the health of state residents is to comment on and challenge air permits issued by LDEQ that do not conform to the law.

The plant is located within the community of St. James. St. James is approximately 95 percent African-American and it is already inundated with air pollution from area facilities that operate pursuant to LDEQ permits. The air pollution that LDEQ would authorize under the modified permit would add to the overwhelming air pollution that already inundates the community and would disproportionately affect African-Americans.

Petitioners have members who reside, work, and recreate in these residential areas and in other areas where they will be exposed to excess pollutants allowed by the proposed permit against the Clean Air Act.

IV. PETITIONERS MEET THE PROCEDURAL REQUIREMENTS FOR THIS TITLE V PETITION.

Yuhuang Chemical Inc. submitted an application to LDEQ requesting a modification to its initial permit (no. 2560-00295-V0) on June 15, 2016, along with supplemental application

materials on June 24, October 3, November 1 & 2, and November 11, 2016.[6, 7] LDEQ issued proposed modification permit Title V permit no. 2560-00295-V1 (i.e., the permit at issue in this petition) for public comment on December 15, 2016.[8] The public comment period for the proposed permit ended on January 30, 2017.[9] Phyllis Fox, Ph.D., PE submitted timely public comments with LDEQ on behalf of Petitioners regarding the proposed permit on January 30, 2017. January 30, 2017 Affidavit of J. Phyllis Fox, Ph.D., PE, Attachment A, attaching January 30, 2017 Comments as Exhibit 2 and resubmitting October 3, 2016 Comments as Exhibit 3.[10]

Section 505(a) of the Act, 42 U.S.C. § 7661d(a), and 40 C.F.R. § 70.8(a) requires states to submit each proposed Title V operating permit to EPA for review. LDEQ submitted the proposed permit to EPA Region 6 on December 16, 2016.[11] EPA had 45 days from receipt of the proposed permit to object to the final issuance of the permit if it had determined that the proposed permit is not in compliance with applicable requirements of the Act. EPA did not object to the proposed permit within its 45-day review period, which ended on January 29,

[6] Proposed Permit, Briefing Sheet, p. 1.

[7] On August 18, 2016, LDEQ issued a modified proposed permit for public comment based on Yuhuang's June 2016 application for a permit modification. Petitioners submitted comments on this proposed permit modification. After EPA issued its Order objecting to the initial permit, Yuhuang submitted an additional permit modification application, purportedly to address EPA's objections. On December 15, 2016, the LDEQ issued the proposed permit modification at issue here with the same permit number as the August 18, 2016 proposal. The December 15, 2016 proposed modification (the permit at issue here) replaces the earlier proposed modification.

[8] *See* Public Notice, http://www.deq.louisiana.gov/apps/pubNotice/show.asp?qPostID=9092&SearchText=yuhuang&startDate=1/1/2016&endDate=3/29/2017&category=

[9] *Id.*

[10] *See also* LDEQ Electronic Document Management System ("EDMS), Doc. # 10490729, http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10490729&ob=yes&child=yes

[11] *See* EPA Region 6 database of Louisiana Title V submissions, https://yosemite.epa.gov/r6/Apermit.nsf/AirLA?OpenView&Start=1&Count=4000&Expand=1#main-content

2017.[12]

Section 505(b)(2) of the Act, 42 U.S.C. § 7661d(b)(2), provides that, if EPA does not object to a permit, any person may petition the Administrator to object to the permit within 60 days of the expiration of EPA's 45-day review period. *See also* 40 C.F.R. § 70.8(d). Petitioners file this petition within 60 days after the expiration of the Administrator's 45-day review period. Petitioners base this petition on the comments that it submitted to LDEQ during the public comment period. *See* Attachment 1, Exhibits 2 & 3.

Louisiana law requires LDEQ to provide notification of a final permit decision to anyone who submits comments on the proposed permit. Petitioners have not received notification that LDEQ has issued a final permit to Yuhuang Chemical Inc., nor is there a record of a final permit decision on LDEQ's Electronic Document Management System ("EDMS").

V. THE DECEMBER 15, 2016 PROPOSED PERMIT DOES NOT RESOLVE EPA'S OBJECTIONS AND THEREFORE DOES NOT MEET CLEAN AIR ACT REQUIREMENTS.

As shown in the tables below, the proposed permit does not (with very few exceptions) resolve the objections in EPA's August 31, 2016 Order.

EPA's Objections – CO & VOC Emissions from SMR & Aux Boiler	Did LDEQ Resolve the Objections?
Stack Test - CO	
1. The 5 year stack testing frequency for the auxiliary boiler is inadequate to ensure compliance with the auxiliary boiler CO emission limit of 49.67 TYP and the permit record lacks any justification for the frequency of this stack testing condition. EPA Order at 18.	No. Specific Requirement (SR) 117 requires annual stack testing for CO emissions from the auxiliary boiler. The permit record lacks any justification for this choice. The permit record should be modified to demonstrate that annual testing is sufficient to accurately estimate annual emissions or the permit must be modified to require a CEMS to continuously measure CO as used for NOx. This is critically important because CO emissions are close to the major source threshold and the

[12] *Id.*

	proposed modification lowered the boiler CO concentration from 30 ppm to 10 ppm, which is very aggressive.
2. LDEQ also did not explain and the permit does not specify how the stack test information for the auxiliary boiler 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. EPA Order at 18.	No. SR 116 explains that performance tests will be used to calculate operating-specific emission factors in lb./MMBtu and used to calculate monthly emissions based on actual operating rates. The proposed permit fails to require that the emission factor(s) be reviewed and updated after each annual stack test. It further fails to require that monthly emissions be summed to calculate annual emissions and compared to the revised annual CO emission limit for the auxiliary boiler of 16.87 ton/yr. Finally, it remains unclear 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.
3. 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. 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. EPA Order at 18.	No. The permit does not require the use of a continuous oxygen trim system on the auxiliary boiler. SR 113 states "Equip with an oxygen trim system" but the permit fails to require its use to assure compliance with CO and VOC limits. SR 100, for example, asserts "If an oxygen trim system is utilized," which is not a mandate and allows Yuhuang to not use the oxygen trim system. Thus, LDEQ cannot rely on an oxygen trim system to assure compliance with CO and VOC limits. Further, the permit does not explain how data from such a system would be used to demonstrate compliance with the annual CO and VOC limits on the boiler.
Stack Test – VOC	
5. LDEQ did not identify any permit terms or conditions related to the enforceability of the VOC TYP limit on the auxiliary boiler or otherwise specifically address the enforceability of the annual boiler VOC emission limit. EPA Order at 19. The Final Permit does not appear to require any stack	No. The Statement of Basis at 16 and SR 115 indicate that VOC emissions would be calculated using an emission factor from AP-42 of 5.5 lb./MMscf. The introduction to AP-42 clearly states that "Use of these factors as source-specific permit limits and/or as emission regulation compliance

testing for VOC from the boiler and the permit record does not identify other requirements. The Final Permit does not appear to specify a compliance demonstration methodology for the limit, so it is not clear how compliance with the limit will be determined. EPA Order at 20.	determinations is not recommended by EPA…As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance."[13] The proposed permit does not require any testing at all for VOC emissions from the auxiliary boiler. Further, SR 115 fails to require that monthly VOC emissions be summed to estimate annual emissions, which must be less than 12.45 ton/yr.[14]
6. 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. 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. Among other things, 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. EPA Order at 20.	No. The permit increases VOC emissions from the SMR from 28.34 TPY to 32.89 TPY. SR 75 only requires a stack test every 5 years. The record does not contain any demonstration that a stack test every five years is adequate to assure continuous compliance with the 28.34 TPY limit.
Emission Factor - CO	
7. To the extent that LDEQ intended for Yuhuang to demonstrate compliance with the annual CO emission limit for the boiler/SMR (i.e., daily fuel combustion for the SMR) 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. EPA Order 19.	No. SR 74, 115, and 116 require calculation of monthly emissions, but fails to require summing of monthly totals to estimate annual emissions and comparison of the annual totals with the annual permit limits.
8. 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 for the Aux Boiler or 10 ppm CO for the SMR 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	No. New SR 74 and 116 explain how monthly CO emissions will be determined, but fail to require calculation of annual emissions.

[13] AP-42, Introduction, p. 2; Available at: https://www3.epa.gov/ttnchie1/ap42/c00s00.pdf.

[14] Compliance Demonstration Methodologies, p. 31.

the facility's PTE from the boiler. EPA Order at 21.	
SSM – CO & VOC	
9. It is unclear as to whether all actual emissions, including emissions during SSM are included when determining compliance with the annual VOC emission limit for the boiler. EPA Order at 19-22.	No. The permit does not require that all emissions from the boiler, including during startup, shutdown, and maintenance be summed on an annual basis and compared to permitted VOC emissions of 12.45 ton/yr.

EPA's Objections – NOx and CO Emissions from the Flare	**Did LDEQ Resolve the Objections?**
10. 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. EPA Order at 22.	The permit does not include any compliance demonstration for VOC or PM emissions from the flare. The permit should be revised to require that VOC be continuously monitored in the vent gases at the flare manifold and VOC emissions calculated from the volume of vent gas, VOC concentration, and vendor guaranteed flare combustion efficiency.
11. 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. EPA Order at 22.	The permit does not include any compliance demonstration for VOC or PM emissions from the flare. The permit should be revised to require that VOC be continuously monitored in the vent gases at the flare manifold and VOC emissions calculated from the volume of vent gas, VOC concentration, and vendor guaranteed flare combustion efficiency.
12. Neither the Final Permit nor LDEQ's RTC, which references continuous monitoring of 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 l.98 TPY CO emission limits on the flare. EPA Order at 22.	The permit does not include any compliance demonstration for VOC or PM emissions from the flare.
13. The Final Permit does not specify a compliance demonstration method for these annual limits on the flare. EPA Order at 22.	The permit does not include any compliance demonstration for VOC or PM emissions from the flare.

EPA's Objections –Fugitive CO Emissions	Did LDEQ Resolve the Objections?
14. The Final Permit does not clearly state whether or how fugitive CO emissions would be monitored or determined for purposes of demonstrating compliance with the 0.14 TPY CO limit. EPA Order at 22.	No. The 12/15/16 permit includes SR 246, which requires CO emissions to be calculated using EPA protocols assuming CO gas stream composition based only on "process engineering knowledge" or 52%. This is not adequate because it does not require any measurements of CO in the gas streams. Further, there is no basis for or public disclose of either. Presumably, the "engineering knowledge" is currently knowable and should be in the record.
15. 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. EPA Order at 22.	No. No changes were made in response to this objection.

VOCs - Methanol Transfer & Storage Cap (MTSCAP)	Did LDEQ Resolve the Objections?
Loading Operations	
16. 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. 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. EPA Order at 23-24.	No. SR 253-255 were added to the 12/15/16 permit. However, the subject calculations require both a collection efficiency and a control efficiency, which can vary from 50% to 99%, depending upon system design and maintenance. The record is silent on how these inputs would be determined.
17. LDEQ's RTC did not address any permit conditions relevant to monitoring emissions from the marine loading emissions and it is unclear in	No. RTC 253 was added to the 12/15/16 permit. However, the subject calculations require both a collection

the Final Permit whether and how these emissions would be accounted for in MTSCAP compliance demonstrations. EPA Order at 24.	efficiency and a control efficiency, which can vary from 50% to 99%, depending upon system design and maintenance. The record is silent on how these inputs would be determined.
18. 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 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 rail car as well as marine loading operations. Final Permit at pdf 23. EPA Order at 24.	No. The 12/15/16 permit does not include any enforceable throughput limits. Further, the 12/15/16 permit does not require any limits, monitoring, calculation, or reporting of VOC, CO, NOx, or PM emissions from marine, railcar, and tank truck loading operations.
19. 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). EPA Order at 24.	No. The proposed permit does not include any enforceable throughput limits. Further, the proposed permit does not require any limits, monitoring, calculation, or reporting of VOC, CO, NOx, or PM emissions from marine, railcar, and tank truck loading operations.
Storage Tanks	
20. 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, 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. EPA Order at 25.	No. SR 252 and 255 in the 12/15/16 permit address tank VOC emission calculations, including roof landings and tank cleaning. However, these and other conditions fail to require that tank temperature, vapor pressure, and vapor molecular weight be monitored and used in these calculations. Further, these conditions are silent on whether HAP emissions would be included. The permit must be revised to require that tank temperature, vapor pressure, and vapor molecular weight be monitored and used in these calculations. The permit must also

	specify whether HAP emissions would be included.
21. 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. EPA Order at 25.	The proposed permit added SR 252 and 255, which specifically require that roof landing and tank cleaning VOC emissions be calculated and included in tank emission calculations, using standard methods. However, these conditions are silent on whether HAP emissions would be included. The permit must be revised to specify whether HAP emissions would be included.
22. 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. EPA Order at 26. 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. l 19(a)(2) and LAC 33:111.2103.F.	No. The proposed permit added SR 302 requiring daily monitoring and recording of the temperature of the methanol stored in each tank. However, monitoring is not required for vapor pressure and vapor molecular weight, which are key inputs for tank VOC and HAP emission calculations. This is especially important for "raw methanol" or "crude methanol" as it contains impurities, unconverted reactants, and traces of dissolved gases that would affect vapor pressure and hence VOC emissions. Thus, the permit must be revised to require monitoring of vapor pressure and vapor molecular weight from all tanks containing any methanol product except pure methanol.

EPA Order at n. 22.	

VI. THE PROPOSED PERMIT DOES NOT MEET THE REQUIREMENTS OF THE CLEAN AIR ACT BECAUSE IT DOES NOT COMPLY WITH PSD REQUIREMENTS.

As shown in the tables above, Yuhuang cannot prove that the potential to emit CO and VOCs does not exceed the PSD threshold for major sources because the emission limits remain unenforceable as a practical matter. The plant, therefore, is a major source of criteria pollutants subject to all PSD requirements under the Clean Air Act and the Louisiana SIP. Because the proposed permit does not meet PSD requirements.

LDEQ claims that "the YCI Methanol Plant does not have the potential to emit more than 100 tons per year of carbon monoxide (CO)."[15] But as explained in Section II.A-B of Dr. Fox's October 3, 2016 comments, the plant has the potential to emit more than 100 tons per year of CO. Jan. 30, 2017 Affidavit of J. Phyllis Fox, Ph.D., PE, Attachment A, attaching as Exhibit 3 Dr. Fox's October 3, 2016 Comments on the withdrawn proposed permit issued August 18, 2016. Because Dr. Fox resubmitted her October 3, 2016 comments during the public comment period on the proposed permit at issue, those comments were submitted during the relevant public comment period. Petitioners repeat those comments below and make them part of this petition.

A. CO Emissions from Steam Methane Reformer

The Application estimated the annual CO emissions from the Steam Methane Reformer (SMR) as 38.15 ton/yr,[16] based on an unsupported "average" emission rate of 8.69 lb./hr, which

[15] Statement of Basis, p. 6.
[16] Annual CO emissions from SMR = 8.69 lb./hr x 8784 hr/yr/2000 lb./ton = 38.17 ton/yr.

includes an unspecified number of hours operating under various unidentified load conditions.[17] The Application admits this unit does not operate at steady state. The maximum CO emissions, 78.80 lb./hr, are nine times higher than the average, 8.69 lb./hr.[18] How many "maximum" hours are in the average and how was this average determined? The Application is silent on how this "average", used to estimate potential to emit, was calculated. The potential to emit is based on the maximum emission rate, not the average, unless specifically limited.[19]

If the maximum were used to calculate CO emissions from the SMR, the emissions from this unit alone would equal 346 ton/yr,[20] triggering PSD review for the facility. This is plausible, as the proposed permit does not contain any limit on the number of hours the facility may operate at the maximum rate.

Alternatively, if one accepts the unsupported argument of the applicant that the SMR would not operate all of the time at the maximum, CO emissions could still exceed 100 ton/yr. For example, if the SMR operated only 326 more hours per year at the maximum rate[21] than assumed in estimating the "average" CO emission rate of 8.69 lb./hr, or about an hour per day longer at the maximum rate, total facility CO emissions would equal or exceed 100 ton/yr, classifying the facility as a major source.[22]

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[17] SMR Emission Calculations, EDMS No. 10310896, pdf. 211, http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10310896&ob=yes&child=yes

[18] Proposed Permit, Emission Calculations for Criteria Pollutants – Table.

[19] *See*, e.g., NSR Manual at A.1 (The "potential to emit"…"is its capability at maximum design capacity to emit a pollutant, except as constrained by federally-enforceable conditions (which include the effect of installed air pollution control equipment and restrictions on the hours of operation, or the type or amount of material combusted, stored or processed.")

[20] Maximum emissions of CO from SMR = (78.80 lb./hr)(8784 hr/yr)/2000 lb./ton = 346.1 ton/yr.

[21] Number of hours of SMR at maximum rate to equal 100 ton/yr: (100 ton/yr – 87.17 ton/yr)(2000 lb./ton)/78.80 lb./hr = 325.63 hrs.

[22] Total revised facility CO emissions = 87.17 ton/yr + (78.80 lb./hr)(326 hr/yr)/2000 = 100.01 ton/yr.

The proposed draft permit does not include sufficient monitoring to discover this and other similar situations that could increase CO emissions above 100 ton/yr. Continuous monitoring of CO from the SMR and auxiliary boiler is required to assure the source remains minor for CO. This situation would never be discovered with the proposed once every five year stack test at no more than 80% of maximum load.

B. CO Emissions from Flare

The Application estimated annual CO emissions from the flare of 28.72 ton/yr, comprising 33% of the total CO emissions. Hourly CO emissions were estimated to range from an average of 6.56 lb./hr up to a maximum of 739.6 lb./hr for various flared sources.[23] If the flare operated only 35 hours at its maximum rate, a scenario that is highly probable during upset conditions, total facility CO emissions would equal or exceed 100 ton/yr.[24] Consider the following.

The flare emissions in tons/year were calculated in the Application as the sum of emissions from: (1) the flare pilot (Pilot); (2) venting of once through nitrogen heating from the reformer (Nitrogen Heating); (3) startup of the methanol unit (MeOH Unit Startup); (4) methanol catalyst reduction (MeOH Catalyst); (5) methanol purge stream (MeOH Purge); and (6) venting of the slop oil tank (Slop Oil Tank). Table 2.

[23] Proposed Permit, Emission Calculations for Criteria Pollutants – Table.

[24] Number of hours flare at maximum rate to equal 100 ton/yr: (100 ton/yr – 87.17 ton/yr)(2000 lb./ton)/739.6 lb./hr = 34.69 hrs. Total revised facility CO emissions = 87.17 ton/yr + (739.60)(35 hr/yr)/2000 = 100.1 ton/yr.

Table 2:
Summary of Flare CO Emissions.[25]

Flared Source	CO (lb/hr)	CO (ton/yr)	Hours	Frequency
Pilot	0.04	0.17	8784	Per year
Nitrogen Heating	5.21	0.12	48	Per year
MeOH Unit Startup	739.60	17.75	48	Per year
MeOH Catalyst	443.76	10.65	48	Every 4 years
MeOH Purge	0.23	0.02	168	Per year
Slop Oil Tank	0.001	0.004	8760	Per year
TOTAL		28.71	17,856	
AVERAGE	3.22			

This table shows that the maximum hourly CO emission rate, 739.6 lb./hr, occurs during startup of the methanol unit. The design basis of the methanol unit and the basis of the methanol unit startup emissions are two startups per year, each lasting 24 hours for a total of 48 hours of startup.[26] The draft permit does not limit the number of, nor the duration of, startups of the methanol unit or any other unit that is vented to the flare. Thus, if four startups were required in a year, due to, for example, equipment failure, the total Project CO emissions would increase to 104.9 ton/yr,[27] exceeding the major source threshold.

VII. CONCLUSION

For the foregoing reasons, EPA should object to the proposed Title V permit modification No. 2560-00295-V1 for the YCI Methanol Plant.

[25] Flare Emission Calculations EDMS No. 10310896, pdf 221 – 226, http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10310896&ob=yes&child=yes

[26] Flare SUSD Emission Calculations, EDMS No. 10310896, pdf. 222, http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=10310896&ob=yes&child=yes

[27] Flare CO emissions, if four startups of the methanol unit occurred in one year: 87.18 ton/yr + 2x17.75 = 122.68 ton/yr.

Respectfully submitted on March 30, 2017 via EPA's Central Data Exchange by,

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