

MDEQ Response to Comments

Facility: MZX Tech, LLC

Physical Address: 2875 Stanton Road, Southaven, Desoto County, MS

Permit Action: Prevention of Significant Deterioration Permit to Construct Air Emissions Equipment

Permit No.: 0680-00119

Agency Interest No.: 12592

The Mississippi Department of Environmental Quality (MDEQ) provided a public comment period from January 16, 2026, to February 17, 2026, regarding the proposed issuance of a Prevention of Significant Deterioration (PSD) Permit to Construct Air Emissions Equipment (“PSD Permit”) to MZX Tech, LLC (“MZX Tech”). To ensure meaningful public involvement for local community members to express concern regarding the proposed permit action, the Air Division initially coordinated with the Office of Community Engagement to hold a public hearing on February 17, 2026, at the M.R. Davis Public Library (located at 8554 Northwest Drive; Southaven, Mississippi 38671). However, upon evaluation of a request from the Safe and Sound Coalition for an alternative location (dated January 20, 2026), the Air Division decided to relocate the public hearing to the Ranger Conference Center on Northwest Mississippi Community College – Desoto Campus (located at 1210 Church Road West; Southaven, Mississippi 38671).

On February 2, 2026, MDEQ received a request from the Southern Environmental Law Center (SELC) regarding a proposed extension of the overall public comment period by an additional thirty (30) days. However, after reviewing the merits of the request, MDEQ formally denied this request on February 4, 2026, citing that the 32-day public comment period was adequate and appropriate for review. Thereafter, on February 6, 2026, MDEQ received a request from the Safe and Sound Coalition for a reconsideration of the aforementioned denied public comment period extension. Upon further review, MDEQ formally denied the requested reconsideration on February 16, 2026.

During the overall public comment period, approximately one hundred ninety-nine (199) separate parties submitted written comments expressing concern against MZX Tech regarding various issues. At the public hearing on February 17, 2026, thirty-one (31) separate parties verbally expressed comments of concern opposing the draft permit requested by MZX Tech.

This document contains a summary of the written comments received during the public comment period, oral comments conveyed during the public hearing, and MDEQ’s corresponding responses. The comments provided by SELC have been specifically addressed given their technical nature in addressing alleged issues with the permit application, conditions within the draft permit, and the application of air permitting regulations. All other comments received have been grouped under appropriate categories for the purpose of clarity and brevity.

The attached appendices contain the following information:

- **Appendix A:** Comments Received from the Southern Environmental Law Center (SELC), Memphis Community Against Pollution, Young, Gifted & Green, Sierra Club, Safe and Sound Coalition, and the Climate Reality Project: Memphis and Mid-South Region Chapter (collectively);
- **Appendix B:** Comments Received from National Association for the Advancement of Colored People (NAACP);
- **Appendix C:** Comments Received from Various Individuals Expressing Concerns;
- **Appendix D:** Public Notice Documents and Associated Requests
- **Appendix E:** Certified Transcript of Public Hearing
- **Appendix F:** Comments Received During the Public Hearing
- **Appendix G:** Updated Draft PSD Permit to Construct Air Emissions Equipment
- **Appendix H:** Preliminary Determination (“Statement of Basis”)

Written Comments from SELC, Memphis Community Against Pollution, Young, Gifted & Green, Sierra Club, Safe and Sound Coalition, and the Climate Reality Project: Memphis and Mid-South Region Chapter

- **Comment No. 1:** *The Application’s first deficiency, carried into the Draft Permit: its failure to address the 27 existing turbines operating onsite, which are part of the same stationary source permitted here. Those 27 turbines are part of the same stationary source for which MZX seeks a permit here, and MZX was required to wait for issuance of this Permit before commencing construction of those turbines.*

MDEQ Response: In a determination dated July 29, 2025, MDEQ determined that the referenced twenty-seven (27) combustion turbines currently at MZX Tech are considered “mobile sources” instead of “stationary sources”. The following excerpt is from that determination:

“In reference to your e-mail received on July 25, 2025, the Mississippi Department of Environmental Quality (MDEQ) has reviewed your request regarding the temporary use of portable natural gas-fired combustion turbines during construction of the separate standalone “MZX Tech, LLC” project. Based on the information provided in the e-mail and at the associated meeting, MDEQ understands that the referenced turbines will be “mobile” as each will remain affixed to a portable unit (i.e., a flatbed trailer) and “temporary” as it is intended for each to

remain on-site (2875 Stanton Road South; Southaven, MS) for less than twelve (12) months. Therefore, contingent upon the two (2) denoted criteria remaining valid, MDEQ acknowledges that the referenced turbines are exempt from permitting requirements pursuant to 11 Mississippi Administrative Code Part 2, Chapter 2, Rule 2.13.D.”

As noted in 11 Mississippi Administrative Code, Part 2, Chapter 2, Rule 2.13.D, MDEQ exempts mobile sources from the requirements to obtain a Permit to Construct and a Permit to Operate operating permit. However, MDEQ must note that the denoted mobile combustion turbines are being controlled with the same control devices [i.e., selective catalytic reduction (SCR) for control of NO_x and oxidation catalyst for the control of CO] that are required by the PSD Permit to Construct for the forty-one (41) stationary combustion turbines.

- **Comment No. 2:** *As described throughout these comments, the deeply flawed Application contains erroneous emissions estimates and a defective air quality modeling analysis. The Application thus profoundly understates the likely air quality impacts of the Stanton Road Gas Plant. These errors are made more alarming by the fact that even using MZX and MDEQ’s own flawed estimates, emissions from the 41 permanent turbines at the Stanton Road Gas Plant are likely to result in premature deaths, increased hospital visits, and lost productivity. According to a study commissioned by the Southern Environmental Law Center and conducted by public health professionals at EmPower Analytics Group LLC, 7 these health impacts will cost \$30–\$44 million and will be borne primarily by communities in Mississippi and Tennessee.*

The communities with the highest increase in fine particulate matter exposure will be Whitehaven and Westwood in South Memphis, where average annual increases are projected to exceed 0.5 micrograms per cubic meter (µg/m³), as well as nearby communities in DeSoto County, such as Horn Lake. At a population level, the risk of death from this level of increased exposure to fine particulate matter is linked to an increase in per-person mortality risk comparable in scale to the average annual risk of death from alcohol-impaired driving in the United States.

MDEQ Response: MDEQ disagrees with the commenter’s claim that the project will increase fine particulate matter (PM_{2.5}) exposure by 0.5 µg/m³ annually. As documented in the Modeling Report and verified in the Significance modeling files (i.e., filename “PM25ASIL5yrv05.aml”), the maximum annual PM_{2.5} impact from MZX Tech is only 0.058 µg/m³. The commenter appears to have mistakenly cited a value closer to the project’s 24-hour impact (i.e., 0.58 µg/m³ in Table 5-1) and characterized it as an annual increase.

Furthermore, all modeled PM_{2.5} impacts remain significantly below the EPA’s health-based Significant Impact Levels (SILs):

- *Annual Impact:* 0.058 µg/m³ (SIL = 0.13 µg/m³)
- *24-Hour Impact:* 0.58 µg/m³ (SIL = 1.2 µg/m³)

Because the project's impacts are below these health-based thresholds, the project is demonstrated to have an insignificant impact on regional air quality and public health.

- **Comment No. 3:** MDEQ Must Impose More Stringent Requirements, Including Emissions Offsets.

MZX's turbines have the potential to emit at least 423 tons per year ('tpy') of NO_x and 417 tons per year ('tpy') of volatile organic compounds (VOCs) in an area already measuring ambient air quality worse than the federal health-based standard for ozone. NO_x reacts with VOCs, heat, and sunlight to form ground-level ozone, also known as smog. Exposure to ozone pollution is known to cause a variety of adverse health effects, including inflammation of the airways, increased risk of lung infection, aggravated respiratory diseases such as emphysema and chronic bronchitis, and increased frequency of asthma attacks. Ozone pollution is a major problem in the Memphis MSA, including in DeSoto County. In 2024, the Asthma and Allergy Foundation of America designated Memphis as an 'Asthma Capital' of the nation due to the City's high rates of emergency room visits and asthma-related deaths, and DeSoto County received an 'F' from the American Lung Association due to ozone pollution—the only county in Mississippi to receive this grade. Certified monitoring data support these characterizations: ambient air data collected across the Memphis MSA show that ozone concentrations in the area are in violation of the applicable National Ambient Air Quality Standard ('NAAQS') – and the problem is only getting worse with each passing year.

MDEQ Response: The commenter argues that Mississippi Rule 2.5(E)(4) (“the Offset Rule”) requires the MZX Tech to obtain emissions offsets for NO_x and VOCs because DeSoto County is an area where a NAAQS “*is being or will be exceeded but for which no nonattainment areas implementation plan has been adopted*”. However, MDEQ believes this is a misinterpretation of the regulation and runs afoul of MDEQ’s characterization of the intent of the regulatory language when the requirement was adopted into Mississippi’s State Implementation Plan (SIP). MDEQ determined that the MZX Tech does not require offsets because DeSoto County is not an area that “is or will be” exceeding the ozone NAAQS, and, even if it were, the Offset Rule only applies to major sources that significantly impact the area, and MZX Tech’s application shows that it does not.

Mississippi’s Offset Rule was adopted as part of the state’s revisions to its SIP regarding nonattainment areas in 1981. At that time, there were no designated nonattainment areas in Mississippi. Mississippi’s Offset Rule was written in direct response to EPA’s 1980 regulations, which required states to modify their SIPs to “*preclude sources outside designated nonattainment areas from causing or exacerbating [NAAQS] violations; and preclude sources from significantly impacting newly discovered nonattainment areas*”. Mississippi’s new rule reflected EPA offset requirements for certain sources located “*in a nonattainment area or in an area that impacts a nonattainment area*”. Mississippi’s Offset Rule went further to also apply to sources “*located in or near areas where an air quality standard is being or will be exceeded but for which no nonattainment area implementing plan has been adopted by Mississippi.*”

According to the Federal Register notice approving Mississippi’s new Offset Rule into its SIP, Mississippi clarified that this additional provision “*applies to sources in Mississippi which impact*

designated nonattainment areas in other states even if a Part D nonattainment plan has been adopted by the neighboring state”. Mississippi’s new rule adopts EPA’s Offset Policy (Appendix S, the Interpretative Ruling) by reference, and “causes no change in the way sources outside nonattainment areas are treated” compared to EPA’s Offset Policy. Furthermore, EPA stated that the Offset Rule’s reference to areas where the NAAQS is being or will be exceeded, but for which Mississippi has not adopted a nonattainment area SIP means the following types of areas: “(a) a newly designated nonattainment area in Mississippi, (b) any designated nonattainment area outside Mississippi which is impacted by a source in Mississippi, (c) an area which is violating NAAQS, but has not yet been designated nonattainment, and (d) an area which would violate NAAQS due to the new or modified source.”

DeSoto County does not qualify for any of these categories of areas to which the Offset Rule applies – it is not newly designated nonattainment, it is not outside Mississippi, it is not currently violating the NAAQS, and MZX Tech will not result in a violation of the NAAQS as demonstrated by the modeling included in the permit application. As noted above, DeSoto County and the Memphis MSA are currently designated as attainment with the 2015 ozone NAAQS. The chart referenced by the commenter shows only one (1) three-year average design value (for the three-year period ending in 2024) exceeding the NAAQS. However, this single value does not mean the ozone NAAQS “is being” exceeded or “will be” exceeded, particularly given that it was influenced by the exceptional events identified above.

In fact, recent monitoring data shows that air quality in DeSoto County is improving, as shown above. According to MDEQ’s State of Mississippi Air Quality Data Summary for Calendar Year 2024 (“2024 Air Quality Summary”), discussed in the Draft Preliminary Determination, the annual data for DeSoto County shows that the 4th highest 8-hour ozone values recorded in the county are trending down; the 4th highest value for 2024 was 69 ppb, which is below the 8-hour ozone standard. For 2024, the ozone NAAQS is not “being exceeded.” Publicly available data from U.S. EPA shows the same downward trend. The number of days where DeSoto County’s daily maximum ozone measurement exceeded the 8-hour standard has steadily decreased since 2022.

Additionally, MDEQ has undertaken voluntary efforts to ensure the Memphis MSA will not exceed the NAAQS, despite the 2024 design value for the DeSoto County monitor. In the 2024 Air Quality Summary, MDEQ states that, in response to ozone levels at the DeSoto County monitor in 2024 that were “slightly above the standard (71 ppb compared to the 70 ppb standard)”, “MDEQ is actively participating in the EPA’s Ozone Advance Program with the Memphis MSA to implement measures aimed at reducing ozone values below the 70 ppb threshold”.

Importantly, the Offset Rule does not specify how to determine when “an air quality standard is being or will be exceeded,” thereby leaving MDEQ with discretion to make this determination. In relevant part, the Offset Rule focuses on areas “where an air quality standard is being or will be exceeded but for which no nonattainment area implementation plan has been adopted”. As it appears the commenter would prefer for MDEQ to interpret the phrase “is being or will be exceeded” in a way that would require offsets even if a single design value shows that ozone was measured above the 8-

hour ozone standard. But the Offset Rule does not mandate a specific method for making that determination. MDEQ has discretion to interpret its own regulations where language is ambiguous, such as the Offset Rule. MDEQ properly exercised its discretion to find that DeSoto County is not an area “where an air quality standard is being or will be exceeded” by considering all relevant data, including more recent monitoring data and air quality trends, as well as the voluntary actions MDEQ is taking through its participation in EPA’s Ozone Advance Program to ensure the area continues to attain the 2015 ozone standard.

Finally, even if the area could be considered in exceedance of the standard, MZX Tech would not significantly impact the area, and therefore would not be subject to the Offset Rule. Mississippi’s Offset Rule only applies to sources that have a significant impact on an area’s air quality, when the area is either designated as nonattainment or where a NAAQS is being or will be exceeded. The Offset Rule is located within Section (E) of Rule 2.5, which is titled as follows: *“Additional Requirements for a permit to construct or a State Operating Permit for a New Major Stationary Source or Major Modification Significantly Impacting an Area in which a National Ambient Air Quality Standard is being exceeded or will be exceeded”*. Given the Offset Rule’s location within a section of Mississippi regulations governing sources significantly impacting areas where the NAAQS are being exceeded or will be exceeded, the Offset Rule applies only to sources that “significantly impact” those areas. Subsection (1) of Section E contains similar language indicating that the requirements of Section E apply only to sources that significantly impact attainment of the NAAQS: *“Notwithstanding Appendix S [EPA’s Offset Policy], the requirements for Offsets and Lowest Achievable Emission Rate will apply to all major stationary sources and major modifications which have a significant impact on nonattainment of the applicable ambient air quality standard.”* Section E in which Mississippi’s Offset Rule is located is clear: offsets are required only for major sources or major modifications which have a significant impact on nonattainment of NAAQS.

Whether or not a source has a significant impact is determined with reference to EPA’s Significant Impact Levels (SILs). Section E(2)(e) defines “significant impact” as an *“air quality impact which exceeds the significance level”* and Section E(2)(d) defines “significance levels” to mirror EPA’s SILs:

- ***‘Significance Levels.’*** *Concentrations of pollutants against which air quality contributions of a stationary source are compared to determine whether the stationary source significantly impacts air quality in an area. The levels are as follows:*
 1. *SO₂: 1.0 µg/m³, annual average; 5 µg/m³, 24-hour average; 25 µg/m³, 3-hour average*
 2. *PM₁₀: 1.0 µg/m³, annual average; 5 µg/m³, 24-hour average*
 3. *NO₂: 1.0 µg/m³, annual average*
 4. *CO: 0.5 mg/m³, 8-hour average; 2.0 mg/m³, 1-hour average*

As outlined in the permit application, MZX Tech will not have a significant impact on any NAAQS (including ozone). Accordingly, offsets are not required under Mississippi’s Offset Rule.

In short, the DeSoto County is not the type of area and MZX Tech is not the type of facility targeted by the offset rule because DeSoto County is not in violation of the NAAQS and MZX Tech does not have the potential to significantly impact ozone concentrations in the area – modeling conducted in accordance with EPA-approved procedures confirms that the maximum impact of the facility on ozone concentrations is expected to be only 0.797 ppb, below the 1.0 ppb significant impact level developed by EPA. Because both the offset rule itself and the preamble to EPA’s approval of Mississippi’s Offset Rule indicate that the rule is aimed at sources “*significantly impacting newly discovered nonattainment areas*”, which does not apply to MZX Tech.

- **Comment No. 4:** Mississippi’s rules and Mississippi’s EPA-Approved State Implementation Plan prohibit permitting MZX without requiring emissions offsets.

As set out above, the Memphis MSA has been exceeding the NAAQS for ozone for nearly five years; this area includes DeSoto County, where the most recent EPA-approved design value (i.e., official monitor reading) for 2022–2024 is 0.071 parts per million (ppm), in excess of the 0.07 ppm standard. Thus, xAI and MZX’s facility is located both in a county and a larger MSA that are violating the ozone NAAQS.

Although Memphis and DeSoto County have not been formally designated as nonattainment areas, Mississippi’s rules and the state’s EPA-approved SIP contain provisions severely limiting construction of new major sources in areas such as DeSoto County that are violating the NAAQS but have not yet been designated nonattainment areas. In short, unless new major sources that are locating in violating areas obtain emissions offsets, they are barred from construction. The following are the relevant provisions of the SIP, which are mirrored identically in Mississippi’s current rules.

To summarize this SIP provision, as relevant here, then, in areas where the NAAQS are being exceeded but ‘no nonattainment area implementation plan has been adopted,’ any new source is subject to the requirement to obtain offsets (i.e., the Offset Policy) if it ‘is a major stationary source...for the pollutant for which the standard is...exceeded’ and ‘the stationary source is within...the area where the standard is...exceeded.’ The SIP provision then states that ‘the stationary source shall not be granted a construction permit’ unless the owner or operator demonstrates that the ‘emissions reductions to offset the new stationary source emissions’ will be effective and that ‘the emissions reductions have been achieved.’

MDEQ Response: Please see the response to Comment No. 3.

- **Comment No. 5:** MZX’s vastly underestimated PM_{2.5} emissions, rendering the PM_{2.5} modeling worthless.

MZX’s PSD Permit Application calculates that the 41 turbines will emit only 19.5 tpy of PM_{2.5} while generating well over a gigawatt of power. This is simply not plausible; as just one initial example, the gas turbines at the Tennessee Valley Authority’s (“TVA”) nearby Southaven power plant—which is considerably smaller than MZX by generating capacity—emit up to 316 tons of PM_{2.5}. The problem stems from MZX’s reliance on a single set of source testing from just one turbine in

California, testing which was conducted while assessing efforts to reduce PM_{2.5} emissions from turbines—efforts which MZX is not proposing to undertake. Based on this inappropriate source of emissions data, MZX proposes an emission factor of 3.6E-04 (or 0.00036) pounds per million British thermal units (lb./MMBtu) for all three types of turbines it intends to operate. Remarkably, Solar, the turbine manufacturer for the majority of MZX's turbines, only warrants an emission rate of 0.015 lb./MMBtu—more than 40 times higher than the rate used by MZX. The following is an excerpt from Solar's Product Information Letter 171 (a document MZX itself cites to in its emissions calculations).

In other words, the manufacturer of 35 out of 41 turbines proposed to be used by xAI and MZX recommends an emission rate two orders of magnitude higher than that proposed by xAI and MZX. And again, this discrepancy arises because MZX relies on experimental testing that is simply not relevant to the proposed permitted turbines; not only did the studied turbines take efforts to reduce PM_{2.5}, the California turbine was also a different make, model, and size of turbine.

MDEQ Response: The emission factor selected for use in the MZX Tech permit application was obtained from a peer-reviewed article published in an 2016 academic journal (i.e., “Brewer et al.”). The purpose of the research was to characterize emissions from new natural gas-fired turbines, and a General Electric (GE) LMS100 (100 MW) turbine was selected as the study candidate with testing conducted a in August 2013 with oversight from the South Coast Air Quality Management District (“SCAQMD”).

Nevertheless, the commenter instead asks MDEQ to use either an older, less representative emission factor that does not even rely on PM_{2.5} test data or an emission estimate prepared by the vendor for some of the proposed turbines that contains a significant margin to reflect the possibility of inaccurate test results. Specifically, the commenter asks MDEQ to use either EPA's generic AP-42 emission factors published in 2000 using test results that did not specifically measure PM_{2.5}, or the Solar Turbines Product Information Letter 171 (“PIL 171”), which offers a conservatively high PM_{2.5} estimate that Solar is willing to guarantee regardless of potential measurement errors. Both options are inferior to the emission factor relied upon in the MZX application.

EPA's AP-42 emission factors are old and unrepresentative because they are based on eighteen (18) tests conducted between 1988 and 1996 using a variety of historical test methods and older gas turbine models that differ significantly from today's turbines. None of the tests that underline the AP-42 emission factor reported emission rates for PM_{2.5}. Also, during the period in which these tests were conducted, EPA had very little confidence in the ability of then-available test methods to accurately measure PM_{2.5} or the accuracy of emission factors developed from available test data. In fact, EPA even issued a memorandum in 1997 – just after the AP-42 tests were conducted – suspending implementation of PM_{2.5} permitting due to “*the lack of necessary tools to calculate emissions of PM_{2.5}...*”

EPA had good reason to question the validity of tests conducted prior to 1997 because the test methods available at that time were known to have positive bias. Sources of positive bias included oxidation of stack gas sulfur dioxide (SO₂) in impinger solutions (SO₂ artifact), stopcock grease

dissolved in methylene chloride reagent, filter adsorption of gaseous pollutants, dilution ratio in dilution-based methods, and background particulate (present in ambient air). AP-42 factors are based on historical test results that were almost certainly affected by positive bias from one or more of these sources, resulting in an emission factor that is erroneously high.

The emission factor provided in Solar's PIL 171 is also unrealistically high for a similar reason. Recognizing that the test methods for PM_{2.5} have historically had a positive bias for the reasons noted above, Solar recommends a factor of 0.015 lb./MMBtu based on the need to provide customers with a large cushion or margin to allow for test method and tester error, which can be considerable. Solar notes specifically that the turbine combustion process has little effect on the particulate matter generated and measured because the largest contributor to measured PM_{2.5} values is typically measurement technique and error. In essence, PIL 171 recommends that customers err on the high side given the prevalence of positive biases in the measurement techniques available. Accordingly, that emission factor is not intended to be a realistic estimate of actual PM_{2.5} emitted from the turbine to the atmosphere.

In contrast, the emission factor selected by MZX Tech is more recent. Brewer et al. used a wet impinger-based method for condensable particulate (SCAQMD Method 5.1), which corrects for SO₂ artifact. The report notes that its results agree with a dilution-based study, an impinger-based study, and an unpublished 2014 study by the same authors using EPA Method 202 (with results 20% lower than those reported in the 2016 study). Consistent with these findings, EPA has independently released a spreadsheet of emission factors for gas-fired combustion sources for use by States that states the following: *"The revision will decrease the emissions of [Particulate Matter] by about 95%. The reason for this adjustment is that EPA believes that the current AP-42 factors for condensable emissions are too high."* The EPA revised emission factor for PM_{2.5} from natural gas-fired electric generating turbines is 0.00042 lb./MMBtu, which agrees closely with the emission factor used in the permit application.

In summation, EPA has confirmed that its original AP-42 particulate emission factors is biased high by as much as 95% due to well-recognized challenges associated with the measurement techniques available at the time, and the prevalence of those same errors prompted Solar to issue PIL 171 with a conservatively-high emission factor, so neither of those factors is the best data available, contrary to the commenter's claims. Instead, MZX Tech relied on emission factors developed from more recent and accurate test data that agrees with other contemporaneous authorities, which MDEQ reasonably approved.

Even if emission rates were increased to the levels suggested by the commenter, the project's impact is so far below the SIL (only 26% of the threshold) that the conclusion of insignificance would remain unchanged. MDEQ verified that the factors used were based on stack testing of identical Solar turbines, which is more accurate for natural gas combustion than generic manufacturer "maximum" ratings.

- **Comment No. 6:** Use of actual rather than maximum allowable emissions from nearby sources was improper for nitrogen dioxide (NO₂) modeling.

Texas Gas Transmission LLC operates a gas compressor station in DeSoto County and is currently the largest emitter of NO_x in the county per EPA's 2020 National Emissions Inventory ("NEI"). For the cumulative NO₂ modeling, MZX utilizes maximum permitted emission rates for all sources except Texas Gas Transmission. For this source—again, the largest emitter of NO_x in the county—MZX instead utilized actual emission rates. In response to a question from EPA, MZX explains: 'All sources were modeled at permitted allowable emission rates except for Texas Gas Transmissions LLC (MSNOX1-MSNOX18), which used actual emissions from the emissions inventory (EI) data reviewed for this project.' MZX does not provide further justification for this decision.

Although it is unclear what emissions inventory data MZX utilized, there appears to be a substantial gap between reported actual emissions and permitted emissions. MDEQ's permit for Texas Gas Transmission caps NO_x emissions at 2,296 tpy,⁴⁴ while the most recent EPA NEI data (from 2020) reports the facility emitting 488 tons of NO_x; this is just 21% of the permitted maximum and would mean the modeling omitted about 1,800 tons of NO_x from this source alone. Alternatively, in a separate response to EPA, MZX addresses discrepancies between what they listed as emission rates for Texas Gas Transmission (point sources MSNOX3 through MSNOX9) and what they modeled; this discrepancy amounts to 304 tons of NO_x per year that MZX apparently did not include in its modeling.

In short, the apparent omission of at least 304 tons of NO_x and perhaps as much as 1,800 tons is remarkable given that all other sources in DeSoto County emitted 3,407 tons of NO_x in the same 2020 NEI (2,719 tons from area source/mobile sources and 688 tons from point sources), meaning the omitted NO_x would be a substantial quantity in the scheme of county-wide emissions.

MDEQ Response: Under EPA's 2014 "NO₂ Modeling Memo", actual emissions are preferred for nearby sources in cumulative modeling to ensure the results reflect "real-world" conditions rather than "mathematical exercises untethered to reality". The modeling correctly used verified 2020 NEI actuals for sources MSNOX1 – MSNOX18 to prevent the model from artificially predicting violations that do not exist in the physical environment.

- **Comment No. 7:** MZX omitted numerous significant nearby sources from the NO₂ modeling.

As discussed above, as part of the NO₂ cumulative impacts modeling requirement, MZX was required to include emissions from nearby sources; in particular, consistent with 40 C.F.R. Part 51, Appendix W, MZX was to include all sources within the Significant Impact Area ("SIA") and certain larger sources outside of the SIA, but within 50 kilometers of the SIA. The SIA from MZX's modeling report is shown here, covering a large portion of DeSoto County and Shelby County, plus parts of Arkansas:

MZX then provides a list of all such sources that it included, 50 but this list is missing at least the following significant sources within the SIA:

- ***xAI's Colossus I:*** *MZX's sister facility, operated by CTC Property LLC, is permitted to emit more than 80 tons of NO_x and is located well within the SIA;*
- ***TVA Allen's New Turbines:*** *While TVA Allen was included in MZX's source list, the units listed do not include six new 35 MW turbines for which TVA recently received a PSD permit. It is unclear whether they are operating yet (although the turbines were delivered in the summer of 2025), but given that they are subject to an existing permit, MZX should have included their maximum allowable emissions (approximately 47 tons of NO_x);*
- ***Memphis International Airport:*** *Although MZX does have one line addressing "[Memphis-Shelby County ('MSC')] Airport Authority," this entry does not represent the entirety of the Memphis Airport's emissions. In particular, the listing from MZX amounts to about 29 tons of NO_x per year, while the airport is listed in EPA's NEI as a 'facility' (as opposed to 'area' or 'mobile source') that emitted 1,077 tons of NO_x in 2020. These emissions are not included in the list of sources included in the modeling.*
- ***Memphis Train Yards:*** *EPA's NEI lists two train yards, both listed as 'facility-sources' (as opposed to 'area' or 'mobile sources') in southwest Memphis (Facility ID Nos. 19756111 and 14461311). The two train yards emitted a combined total of 353 tons of NO_x.*
- ***Other sources within the SIA omitted from modeling:*** *Based on a survey of EPA's ECHO database, the following are industrial sources of significant NO_x emissions within the SIA that are not included in the MZX source list: [referenced table found on Page 15 of actual SELC comment document]*

In total then, MZX omitted at least 14 sources (the nine identified from the ECHO database and the other five discussed above, including its own sister facility Colossus I) of NO_x located within the SIA from its cumulative impacts modeling. The total NO_x emissions from these 14 sources amounts to about 1,700 tons of NO_x, although we note most of these emission rates are based on reported actual emissions, and not total allowable emissions (which, as discussed above, is the appropriate emission rate for sources within the SIA).

MDEQ Response: Sources such as the Memphis International Airport and Train Yards were excluded because their impacts are already captured by the ambient background monitors (Memphis/DeSoto monitors). Modeling these sources individually and adding the monitor background would result in "double counting", which makes the model factually inaccurate. In addition, xAI Colossus I was "screened out" via the "Q/D < 20 threshold", as its distance relative to its emissions does not significantly impact the MZX study area.

- **Comment No. 8:** Reliance on Significant Impact Levels to evade more stringent modeling demonstrations was improper.

MDEQ cannot lawfully issue a permit authorizing construction of a project that would ‘caus[e] a violation’ of the NAAQS or ‘interfer[e] with the attainment and maintenance of [a NAAQS]’ in Mississippi or neighboring states. Because the Memphis MSA (which includes other counties in Tennessee, Mississippi, and Arkansas) is already in violation of the ozone NAAQS, and because the construction of MZX would significantly increase emissions of ozone precursors, it is undeniable that the project would (1) be constructed in an area where a NAAQS violation is predicted; (2) contribute to the ongoing NAAQS violation in DeSoto County; and (3) interfere with the ability of two neighboring states to attain the NAAQS.

Although MZX is proposing to construct a major source subject to PSD’s modeling requirements to demonstrate it will not cause or contribute to NAAQS or other PSD violations, in numerous instances MZX has opted out of conducting full cumulative impacts demonstrations, relying instead on a legally dubious concept known as “significant impact levels,” or SILs. This omission is particularly concerning in light of the area’s ongoing violation of the ozone NAAQS.

Moreover, even when MZX’s modeling showed substantial exceedances of the SIL for NO₂, and cumulative modeling then showed violations of the 1-hour NO₂ standard, MZX relied on SILs to argue that despite showing a NAAQS violation, its facility’s contribution to that violation was too insignificant to matter. This practice is not legally justified, and MDEQ must prohibit construction unless MZX modifies its plans in a way that avoids causing NAAQS exceedances.

MDEQ Response: The use of Significant Impact Levels (SILs) is not an “evasion” of modeling requirements but rather a fundamental component of the PSD permitting process as established by EPA guidance and legal precedent (e.g., *Sierra Club v. EPA*, 705 F.3d 458). SILs are used to determine if a source's contribution to a potential NAAQS violation is “de minimis”. If a project's impact is below the SIL, it is scientifically and legally concluded that the project does not “cause or contribute” to a violation. MZX Tech conducted a full cumulative impact analysis for all pollutants that exceeded the SILs (i.e., the “1-hour NO₂” and “Annual NO₂”), which fulfilled the requirement for a stringent demonstration.

- **Comment No. 9:** MDEQ must not utilize SILs for ozone when DeSoto County is already violating the ozone NAAQS. MZX’s ozone impacts exceed the SIL using more conservative MERPs as required in Memphis and Tennessee.

MZX did not conduct any modeling to assess impacts on ozone; instead, MZX relied on an equation that estimates impacts based on figured known as modeled emission rates for precursors (“MERPS”). MZX then compared the output of this equation to the SIL to determine that impacts to ozone would not cause or contribute to exceedances of the ozone NAAQS. At no point in this minimal

process does MZX account for the fact that the ozone NAAQS are already being violated in DeSoto County.

As set out below, as an initial matter, it's not clear that MZX's ozone impacts are actually below the SIL. Yet even if they are, reliance on the SILs to ignore impacts in a county that is already exceeding the ozone NAAQS was improper.

As set out below, as an initial matter, it's not clear that MZX's ozone impacts are actually below the SIL. Yet even if they are, reliance on the SILs to ignore impacts in a county that is already exceeding the ozone NAAQS was improper.

MZX relied on a MERPs value that EPA recommends for Memphis, yet the Tennessee Department of Environment and Conservation ('TDEC') and the Shelby County Health Department (which handles air permitting in Memphis) require a different, more conservative default MERP value. Critically, had MZX used the same MERP value that would be required if it were located just a few blocks north, across the state line, the ozone analysis would have indeed shown ozone impacts well above the SIL. The following equation was utilized by TVA in its recent PSD permit application for TVA Allen (submitted to the Shelby County Health Department), utilizing the more conservative MERPs: [referenced table and equation found on Page 18 of actual SELC comment document]

MDEQ Response: The assessment of ozone impacts was conducted using modeled emission rates for precursors ("MERPs") in accordance with EPA's "Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5}". As such, MDEQ utilized the MERP values recommended by EPA for this region. While the commenter suggests usage of the more conservative values required by the state of Tennessee, MZX Tech is in Mississippi, and MDEQ is the primary regulatory authority. Therefore, MDEQ has verified that with usage of the EPA-recommended MERP values, the proposed project's impact on ozone remains below the associated SIL; as such, a full photochemical grid model run is not required.

- **Comment No. 10:** MDEQ cannot allow utilization of SILs to ignore violations of the ozone NAAQS.

MDEQ cannot lawfully issue a permit authorizing construction of a project that would "result in a violation" of the NAAQS, "interfere with attainment or maintenance of a [NAAQS] in a neighboring state," or "cause, or contribute to, air pollution in excess of any" NAAQS. Because the Memphis MSA (which includes other counties in Tennessee, Mississippi, and Arkansas as well as Shelby County) is already in violation of the ozone NAAQS, and because the construction of MZX would significantly increase emissions of ozone precursors, it is undeniable that the project would (1) be constructed in an area where a NAAQS violation is predicted; (2) contribute to the ongoing NAAQS violation in DeSoto County; and (3) interfere with the ability of two neighboring states to attain the NAAQS.

MDEQ's determination that MZX will not cause or contribute to the ongoing NAAQS violation is premised on the use of EPA's ozone SIL, which is set forth in non-binding guidance published by the U.S. Environmental Protection Agency ("EPA").

This guidance suggests that permitting agencies may issue a PSD permit by relying on SILs to find, on a case-by-case basis, that a project's emissions will not contribute "significantly" to a modeled or existing NAAQS violation.

MDEQ Response: MDEQ acknowledges that the Memphis MSA, including portions of DeSoto County, has monitored ozone concentrations near or above the NAAQS. However, under the PSD program, a permit cannot be denied based on regional air quality alone if the individual project's impact is demonstrated to be insignificant. The EPA's 2018 SIL guidance specifically supports the use of SILs even in areas where the NAAQS is being exceeded. Because MZX Tech's modeled impact on ozone is below the SIL, the project is demonstrated to not "contribute" to the regional ozone issue as defined under 40 CFR 51.165(b)(2).

- **Comment No. 11:** MZX cannot excuse violations of the 1-hour NO₂ NAAQS via SILs.

As to the 1-hour NO₂ standard, MZX could not pass initial SILs screening and ultimately showed violations of the NO₂ NAAQS, but then dismissed these violations based on SILs. In particular, MZX's initial modelling showed massive exceedances of the SIL, with impacts of 71.3 µg/m³ compared to the SIL of 7.5 µg/m³. This initial modeling also showed that exceedances of the SIL occurred up to 30 kilometers from the facility and covered a substantial portion of Memphis.

MZX then moved to the cumulative modeling phase, including nearby sources (although, as noted above, it does not appear MZX actually included all relevant sources in this step). After conducting the cumulative impacts analysis, MZX's modeling showed that there would be substantial exceedances of the NO₂ NAAQS: where the standard is 188 µg/m³, the modeling showed impacts as high as 325.6 µg/m³.

Despite showing clear violations of the NAAQS, MDEQ then claimed MZX wasn't sufficiently culpable for the violations: according to a three-sentence analysis, MDEQ determined MZX only contributed 4.87 µg/m³ to the violation, which is below the SIL of 7.5 µg/m³, and therefore it could excuse the facility's contribution to the NAAQS violation.

MDEQ Response: The cumulative modeling for 1-hour NO₂ did identify potential exceedances of the NAAQS (reaching a total of 325.6 µg/m³). However, a source is only prohibited from being permitted if it "causes or contributes" to those exceedances. MZX Tech performed a culpability analysis using the "Round 3 Modeling" data (i.e., filename "NO2o5yrNAAQS_CULP.am"), which verified that MZX Tech's maximum contribution at the time and location of any modeled exceedance was only 4.87 µg/m³. As this is less than the 7.5 mg/m³ SIL, the proposed project complies with the regulatory requirement to demonstrate that it does not significantly contribute to a NAAQS violation.

- **Comment No. 12:** Intermittent sources of NO_x were not modeled in a manner that demonstrates their actual contribution to the 98th percentile of the 1-hour daily maximum concentrations.

MDEQ Response: In evaluating this comment, it is MDEQ's assumption that it is in reference to Table C-6 ("Offsite NO₂ Point Sources") of the "Ambient Air Modeling Analysis" document. With consideration to this assumption, sources "MSNOX13" and "MSNOX14" are emergency stationary internal combustion engines that operate only 11 and 9.5 hours per year, respectively. As such, EPA guidance specifically allows the exclusion of these intermittent sources from 1-hour NO₂ modeling because the statistical probability of them operating simultaneously with "worst-case" weather is nearly zero.

- **Comment No. 13:** The modeling of offsite sources, as conducted by Trinity Consultants, is unrealistic, based on incorrect treatments of release specifications and downwash effects, such that the results are not reliable.

MDEQ Response: MDEQ believes this claim – as it relates to the final modeling – is factually incorrect. The "Round 3 Modeling" data [i.e., filename "Round_Three_Modeling/NO2o5yrNAAQS.ami" (Line 409)] specifically corrected off-site source parameters. Moreover, Baptist Hospital was modeled at 31.09 meters (reflecting its actual 10-story height) with building downwash included, which ensures the results are realistic and reliable.

Building downwash is a localized effect and generally only considered for nearby sources when those source buildings are close enough to the proposed facility to have a downwash influence on the applicant stacks. Buildings at more distant facilities are not generally included in cumulative modeling analyses.

- **Comment No. 14:** The gas exit velocities of some of the sources, as modeled by Trinity Consultants, are clearly too high and incorrect, thereby understating the impacts of pollutant releases from those sources.

MDEQ Response: Upon review, MDEQ acknowledges the input error for off-site source "TNNOX50" that was modeled with an unrealistic exit velocity of 917.24 meters per second. An artificially high exit velocity causes the plume from that offsite source to rise higher into the atmosphere, which may result in an understatement of the total (cumulative) concentration at receptors in the study area.

As a point of clarity, TNNOX50 is an "inventory source" (i.e., a nearby facility), and part of the proposed project outlined by MZX Tech. While the total regional concentration might be slightly higher if this off-site source were corrected, the individual contribution to air quality from MZX Tech will remain the same. The culpability analysis isolates MZX Tech's impact from the other sources in the inventory. Moreover, the facility's NO₂ contribution was verified at 4.87 µg/m³, which is

independent of the exit velocity for TNNOX50. Therefore, this inventory error does not change the concluded determination that MZX Tech does not significantly contribute to any NAAQS violations.

- **Comment No. 15:** *The modeling domain (distance from source) used by Trinity Consultants exceeds the regulatory requirements, as established by the United States Environmental Protection Agency.*

MDEQ Response: MDEQ disagrees that the modeling domain is insufficient or improperly defined. Pursuant to EPA’s “Guideline on Air Quality Models” (Appendix W), the modeling domain must encompass the significant impact area (SIA), which is the area in which the proposed project’s impact exceeds the SIL.

Within the “Round 3 Modeling” data (i.e., filename “NO2o5yrNAAQS.aml”), MZX Tech utilized a receptor grid that extended to 30 km. By evaluating a span of 30 km, the analysis covered an area 43% larger than the required SIA. MDEQ has verified that at the 30 km boundary, the modeled concentrations from MZX Tech are well below the SIL and the grid is sufficiently large to capture all significant impacts. This expanded domain ensures a conservative and comprehensive evaluation of the project’s impact on regional air quality, exceeding the minimum regulatory distance requirements.

- **Comment No. 16:** *The NO_x BACT limit is not sufficiently enforceable to constitute BACT; MDEQ must require Continuous Emissions Monitoring Systems (CEMS) to enforce short-term averaging periods.*

The Draft Permit primarily relies on initial and annual emissions testing (i.e., stack testing) to demonstrate compliance with the BACT limits, and this is the case for the NO_x BACT limit of 2 ppm. BACT limits must apply on a continuous basis, and the limit must be expressed in terms of averaging times that protect the underlying NAAQS. Here, the NO_x BACT limit is intended to be protective of both the short-term ozone NAAQS (the 8-hour standard) and the NO₂ NAAQS (the 1-hour standard). The Draft Permit establishes that the short-term BACT limit of 2 ppm shall apply over a three-hour period.

In short, testing once per year is not adequate to ensure the SCR maintains NO_x emission rates below 2 ppm over either the course of the year or over any individual three-hour period. Indeed, PSD permits for comparable simple-cycle turbines typically require Continuous Emissions Monitoring Systems (CEMS) for NO_x; for instance, TVA recently permitted six 35 megawatt simple-cycle turbines with SCR as BACT in Tennessee, and regulators there appropriately set a three-hour averaging period and required CEMS.

In sum, in order to protect the short-term ozone and NO₂ NAAQS, MDEQ must likewise require the use of CEMS. Especially given the raised stacks and other technical issues referenced herein, annual source tests alone, which are announced ahead of time, allowing fine-tuning of operation, and are

conducted under optimal operating conditions, are inadequate to demonstrate continuous compliance and protection of the short-term NAAQS. Therefore, CEMS should be required.

MDEQ Response: Upon review of the referenced EPA memo “*Need For a Short-Term Best Available Control Technology (BACT) Analysis for the Proposed William A. Zimmer Power Plant*”, MDEQ believes that the existing short-term NO_x emission limits within the draft PSD Permit to Construct are consistent with the averaging periods of applicable NAAQS. Moreover, MDEQ believes that the draft PSD Permit to Construct invokes the appropriate compliance assurance mechanisms (including continuous parametric monitoring) for each NO_x emission standard as outlined in the following:

- Conditions 5.12 through 5.14 require MZX Tech to either conduct initial and subsequent stack testing or to install and maintain a continuous emission monitoring system (CEMS).
- Condition 5.15 requires that the parameter ranges be established during each stack test for key operational parameters associated the selective catalytic reduction (SCR) control device – such as the catalyst bed exhaust temperature and ammonia solution injection rate.
- Condition 5.18 requires that, during operations subsequent to the stack test, the catalyst bed temperature and ammonia injection rate be continuously monitored and that any excursions outside of the parameters attested during the stack test be recorded, including a record of corrective action.

Regarding the commentors’ claim on an accelerated degradation of the SCR catalyst due to higher exhaust temperatures and/or increased stack height, MDEQ must point out that the commentor fails to elaborate as to why the implementation of 50-foot stacks should be considered “*particularly tall*” (despite the height appearing to comply with MDEQ’s “good engineering practice [GEP] stack height provisions found in 11 Mississippi Administrative Code, Part 2, Chapter 1, Rule 1.9) and how such a height would change the behavior of the catalyst within the SCR.

As it pertains to concerns on the potential life of the catalyst within the SCR, MDEQ will note that EPA has released documentation (“Selective Catalytic Reduction”, June 2019) that indicates an assumed life of up to 40,000 hours for catalyst within a SCR utilized for control of a gas or oil-fired unit. In addition, EPA outlined that catalyst replacement is driven by a progressive loss of catalyst activity over time (with associated performance indicators such as increasing ammonia slip) and is not a rapid / instantaneous failure. Therefore, MDEQ believes that the existing requirement of stack testing on an annual frequency – should MZX Tech not opt to employ CEMS – is an appropriate tool to confirm ongoing SCR performance and identify meaningful degradation before an exceedance of an established short-term NO_x emission limit.

- **Comment No. 17:** *The proposed NO_x limit does not represent LAER.*

As an initial matter, although MZX claims it is implementing LAER voluntarily, we believe MDEQ should independently require LAER as a legal requisite given the de facto nonattainment status of DeSoto County. Remarkably, neighboring Arkansas apparently concurs, with the Arkansas Department of Environmental Quality having commented to Shelby County that it should require LAER for Colossus I in light of the ozone problem in the Memphis area.

More to the point, LAER limits must be at least as stringent as the “most stringent emissions limitation which is achieved in practice.” While 2 ppm may represent BACT, MDEQ should implement a more stringent LAER limit in light of recent testing on Solar 130 turbines testing on eight of these turbines, which of course will also be used by MZX—showed NOX emissions for all eight turbines were below 1.5 ppm; in fact seven of the eight were below 1 ppm. As such, MDEQ should implement LAER limits based on these lowest emission rates that have been achieved in practice on nearly identical turbines.

MDEQ Response: As previously discussed, the Memphis, TN-MS-AR area (which includes DeSoto County) is designated as “in-attainment” with all NAAQS and has been since the area was redesignated to “in-attainment” under the 2008 Ozone NAAQS in 2016. Mississippi’s State Implementation Plan (SIP) only requires a “lowest achievable emission rate” (LAER) for sources that are in a nonattainment area or that affect a nonattainment area. As such, the proposed project is not located in a nonattainment area, and the PSD permit application as well as MDEQ’s analyses demonstrate that there will be no significant impact at any location, whether attainment, unclassifiable, or nonattainment. Therefore, MZX is only required to meet the standard of BACT and not LAER.

- **Comment No. 18:** *The volatile organic compound (VOC) and carbon monoxide (CO) BACT limits for the ProEnergy turbines are unjustified.*

MZX will operate three different makes and models of turbines; two different sizes of turbines manufactured by Solar (16.5 and 35 MW versions) and a third batch, 50 MW ProEnergy PE6000 turbines. For reasons that are not explained in the application, MZX is proposing significantly less stringent BACT limits for the largest turbines.

In particular, MZX proposes BACT for CO from the ProEnergy PE6000 turbines at 4.0 ppm at 15% O₂ achieved with an oxidation catalyst. This CO BACT limit is twice as high as that for the Solar Turbines, which MZX has proposed at 2.0 ppm. Likewise, MZX proposed a BACT limit of 2.5 ppm for VOCs, which is 25% higher than the 2.0 ppm VOC limits for the Solar turbines.

To justify the less stringent emission limits, MZX concedes these turbines are inherently dirtier than comparable turbines because they are ‘overhauled aircraft engines’ and are ‘a relatively recent addition to the market.’ On this basis alone, MZX then proposes BACT limits that are twice as high (for CO) and 25% higher (for VOCs) than the BACT limits for the other turbines.

This is not an appropriate justification for selecting less-stringent BACT limits, and MZX's BACT analysis is fundamentally flawed for failing to even consider cleaner alternatives. In particular, EPA has always been clear that the first step of the BACT analysis involves the identification of 1.) all 'inherently lower-emitting processes/practices,' 2.) add on pollution controls, and 3.) 'combinations of inherently lower emitting processes and add-on controls.'

MDEQ Response: MDEQ must clarify that a BACT analysis is a “case-by-case” determination of an emissions limitation that is based on the maximum degree of reduction of a pollutant for a specific emission unit. Therefore, regarding the proposed stationary turbines proposed by MZX Tech, MDEQ acknowledges that each type of turbine is a “specific emission unit”. MDEQ believes it is incorrect to characterize every proposed turbine as the “same type of turbine” given the realization that the respective types and models have different specifications.

Regarding the BACT analysis, MDEQ believes that MZX effectively implemented the top-down method was used to determine BACT for each regulated NSR pollutant. Specifically, at Step 5 of the analysis (i.e., “Select BACT”), MDEQ acknowledges that the ProEnergy 6000PE units have higher inlet concentrations of CO and VOC than the Solar units. Thus, add-on controls with comparable emission reductions result in differing post-control exhaust concentrations.

- **Comment No. 19:** *MZX is a Major Source of Hazardous Air Pollutants.*

MZX calculates that the 41 turbines will emit 9.49 tons of carcinogenic and toxic formaldehyde (a pollutant listed as a Hazardous Air Pollutant (HAP) under the Clean Air Act) per year; this is just shy of the 10 ton per year major source threshold for individual HAP emissions. Major sources of HAPs must comply with Maximum Achievable Control Technology requirements, and for turbines, those standards are set out in 40 CFR 63's Subpart YYYY. By estimating that formaldehyde emissions are below 10 tons per year, xAI is avoiding the more stringent Subpart YYYY requirements applicable to major sources.

Unfortunately, it appears that xAI is underestimating formaldehyde emissions and should be classified as a major source. As an initial matter, we note that when xAI permitted Colossus I, which included 15 SMT-130 turbines, it likewise estimated those turbines that would emit formaldehyde at just under 10 tons per year; it is therefore inconsistent that Colossus II—with 17 SMT-130s and 24 other, larger turbines—would emit nearly the exact same rate of formaldehyde.

MDEQ Response: MDEQ must initially note that it is not aware of the contents within the application associated with the mentioned “Colossus I” project (including any emissions estimates or other supporting information). Be that as it may, MDEQ must denote that the HAP major source avoidance limits within the draft PSD Permit to Construct will be federally enforcement – contingent upon approval of the draft permit by the Permit Board – that MZX Tech must comply with despite the commenter's claim of underestimated HAP emissions.

Moreover, the draft PSD Permit to Construct contains corresponding compliance assurance measures for the mentioned avoidance limits (such as stack testing, monitoring, and recordkeeping requirements) that MDEQ believes will adequately demonstrate compliance. However, if MZX Tech were ever to become a HAP major source, it would immediately be subject to enforcement action from MDEQ's Environmental Compliance and Enforcement Division.

- **Comment No. 20:** *xAI underestimates formaldehyde emissions from at least the ProEnergy turbines.*

Unlike with Colossus I, xAI now apparently believes the Solar turbines will be compliant with an emission rate of 91 ppb emission (i.e., compliant with the emission standard from 40 CFR 63's Subpart YYYY) based on information from Solar itself, and uses this emission rate as the basis for all 41 turbines. While this is plausible for newer Solar units, it is far from clear that the eight largest turbines, the 50 MW ProEnergy 6000PE turbines, can meet this limit.

In particular, the ProEnergy turbines are apparently refurbished jet engines, and quite obviously were not manufactured by Solar—it is therefore not appropriate to rely, as xAI has done, on Solar's manufacturer information for these turbines. Notably, ProEnergy has not provided any manufacturer information or guarantees—or at least such documents are not in the Permit record.

Most critically, however, is the fact that xAI has estimated that carbon monoxide emissions from the ProEnergy turbines will be twice as high compared to the Solar turbines. In particular, as discussed above, while xAI states that the Solar turbines will be able to achieve a BACT limit of 2 ppm, it believes the ProEnergy turbines will only be able to achieve 4 ppm. As EPA and other sources have consistently explained, '[c]arbon monoxide is a good surrogate for formaldehyde and other HAPs.'

In the absence of such information (and we note any additional submittals should be made available for public notice and comment), MDEQ must instead calculate the formaldehyde emissions from these ProEnergy turbines consistently with the CO emission rate—i.e., twice as high as the Solar units. Doing so means each ProEnergy turbine has the potential to emit 0.92 tons of formaldehyde per year (as opposed to 0.46 tpy), and results in a facility-wide PTE of 13.25 tpy. As such, MDEQ should permit MZX as a major source of HAPs and implement the more stringent Subpart YYYY requirements.

MDEQ Response: In evaluating this comment, MDEQ referred to Trinity Consultants (i.e., the contracted environmental consulting firm for MZX Tech) regarding additional context on the ProEnergy turbines. From such conversations, MDEQ has come to realize that formaldehyde emissions are not a contractual guarantee and ProEnergy does not have a separate document that indicates pollutant concentrations other than the estimates previously provided. Therefore, it appears that ProEnergy's estimated formaldehyde emission profile can sufficiently attain the formaldehyde emission standard promulgated within 40 CFR Part 63, Subpart YYYY [i.e., 91 parts per billion by volume (ppbv)]. MZX Tech further justifies this estimation based on information found in a February

2006 document published by the Electric Power Research Institute (EPRI) (i.e., “*Formaldehyde and VOC Emissions from a General Electric LM6000 Combustion Turbine with SCR and CO Catalysts*”) under the acknowledged assumption that ProEnergy PE6000 is equivalent to a GE LM6000PC (with catalyst).

Therefore, while MZX Tech is not subject to Subpart YYYY, MDEQ believes an equivalent level of stringency has been created through incorporation of the associated formaldehyde emission standard as an short-term limit.

- **Comment No. 21:** *xAI underestimates formaldehyde emission rates from startups and shutdowns.*

The Applicant’s SSM emissions estimates for all turbine models also rely on the 91-ppb formaldehyde emission factor, same as for normal operation at 100% load, however, without applying the 30% control efficiency. However, Solar does not guarantee this emission factor for startup/shutdown operations, and no information regarding the ProEnergy turbines was provided.

Formaldehyde emission factors for turbines at lower loads (<50%) vary but are generally considerably higher than at high loads (>80%). Vendor data suggests 2,000 ppb at low loads, contrasting with EPA high-load averages around 65 ppb. A study from the Electric Power Research Institute showed that at loads between 0–18%, formaldehyde emissions are, on average, 10,000 times higher than at full load.

Because the annual formaldehyde emissions are so close to the 10 ton/yr threshold for individual HAP emissions even setting aside the underestimate ProEnergy turbines, discussed above, SSM emissions deserve closer scrutiny. Assuming formaldehyde concentrations of 10,000 ppb for 10 minutes during startup and 91 ppb for 50 minutes and otherwise relying on the Applicant’s assumptions, total annual formaldehyde emissions from all turbines attributable to SSM activities are 0.12 ton/yr. For formaldehyde concentrations of 20,000 ppb for 10 minute, annual formaldehyde emissions are 0.24 ton/yr and for 40,000 ppb, annual formaldehyde emissions are 0.48 ton/yr.

MDEQ Response: Based on the EPRI document “*Formaldehyde and VOC Emissions from a General Electric LM6000 Combustion Turbine with SCR and CO Catalysts*” (February 2006), it appears that commenter’s claim of formaldehyde emissions at low loads being 2,000 ppb is unfounded. As indicated in Table 2-1 of the EPRI document, low load cold weather conditions, formaldehyde emissions averaged 121 ppb at low load, cold weather conditions. Moreover, in Table 2-2 of the same document, formaldehyde emissions averaged 33 ppb at low load, warm weather conditions.

As low load conditions reflect SUSD emission rates, a simple average of low load cold and warm weather concentrations is 77 ppb and still less than the proposed formaldehyde emissions basis of 91 ppb. This averaging illustrates that MZX Tech utilized conservative estimations given that SUSD

events will only comprise a small percentage of operations. Therefore, MDEQ believes the commenter's assertion of "significant formaldehyde emissions (e.g., 10,000 ppb) is unfounded.

- **Comment No. 22:** *xAI May Conduct Far More Startups and Shutdowns than Stated, Increasing Emissions*

In xAI's emissions calculations, they warrant a remarkably low number of startups and shutdowns: just six per year for the Solar 130s and four per year for each of the other turbines. Because turbines emit many pollutants, including NO_x and formaldehyde, at higher rates during startup and shutdowns, any increase in the number of these events would increase emissions—with potential implications for the adequacy of modeling results, and, for formaldehyde and other HAPs, the applicability of major source requirements.

In contrast to the low number of startups and shutdowns used to calculate emissions, however, the company also includes the following language in the BACT analysis for CO₂, whereby the company dismissed considering potential control technology due to the facility's intended operations:

*'Here, the use of the selected gas turbines (operating in simple cycle mode and providing electricity directly to an industrial customer) is driven by a project need for **scalable, rapidly dispatchable, and highly reliable generation based on a defined but highly variable and subject-to-change demand scenario**. Add-on CO₂ controls, to the extent they may be deemed demonstrated control technology, are not compatible with these basic project criteria and are not considered...'*

Application at 5-3 (emphasis added). The foregoing language is simply not consistent with turbines that only turn on and off four or six times per year.

To the extent this language is inconsistent with xAI's intended operations, MDEQ should require xAI to reassess CO₂ control technology as part of its BACT analysis; on the other hand, if this description is accurate, then xAI must provide a revised set of emissions calculations based on a realistic number of startups and shutdowns along with a new ambient air quality analysis based on the revised emissions calculations.

MDEQ Response: The commenter's concern regarding the number of start-ups and shutdown (SUSD) may be attributable to the low number of events proposed in MZX Tech's permit application. MDEQ recognizes that the number of SUSD events proposed by MZX Tech proposed is lower than traditionally observed in applications for traditional electric generating facilities. However, given that MZX Tech is expected to provide continuous power generation capacity for associated data centers (which demand uninterrupted power reliability), it seems appropriate that SUSD events will be minimized to the most practicable extent. Moreover, MDEQ must emphasize that the draft PSD Permit to Construct restricts the number of SUSD events to effectively limit the emission of all applicable NSR pollutants (as well as formaldehyde).

- **Comment No. 23:** The Permit Board Must Deny the Permit Because It Fails to Include All of the Gas Turbines at the Stanton Road Gas Plant.

Mississippi law requires all new stationary sources of pollution to obtain a construction permit prior to operating, subject to exemptions that do not apply here. Sources that do not obtain a construction permit are deemed a public nuisance and the air pollution they emit is “a menace to public health and welfare.” Miss. Code § 49-17-3. The 27 unpermitted turbines already installed at the Stanton Road Gas Plant are stationary sources of pollution that require a permit, as set out below. MDEQ is simply mistaken in reading its own SIP and the Clean Air Act as authorizing MZX to install and operate these turbines without a preconstruction and operating permit.

Yet both the Application and the Draft Permit improperly omit any discussion let alone proposed emissions limits or pollution controls for the 27 unpermitted turbines. As a result, MZX has not complied with all Applicable Rules and Regulations and the Board cannot make required findings based on the incomplete information presented in the Application and the Draft Permit. The Board must therefore deny the Permit.

MDEQ Response: Pursuant to 11 Mississippi Administrative Code, Part 2, Chapter 2.13.D.(3) (which is an element of Mississippi’s EPA-approved SIP), the owner / operator of a “mobile source” is not required to obtain a Permit to Construct and a Permit to Operate. As there is no associated rule or guidance that explicitly outlines terms for defining a “mobile source”, the characterization of such a source falls within the regulatory purview of the applicable permitting authority. Therefore, MDEQ’s stance remains unchanged in that MZX Tech is not required to obtain a Permit to Construct or Permit to Operate to operate the referenced twenty-seven (27) combustion turbines given that they have not been installed “in a permanent nature”, maintain a reasonable means for portability (i.e., affixed to a portable trailer bed), and will be operate in tandem with the forty-one (41) permanent combustion turbines [i.e., there is **no scenario** in which MZX will operate sixty-eight (68) combustion turbines]

Accordingly, as the referenced turbines do not require a Permit to Construct, the denoted units are outside of the scope of the PSD project proposed by MZX Tech and not under consideration by the Mississippi Environmental Quality Permit Board.

- **Comment No. 24:** MDEQ Must Not Allow xAI to Engage in Sham Permitting Related to Colossus III

As MDEQ is aware, the 41 turbines that would be authorized under this Permit are intended to provide 1.2 gigawatts of power to xAI’s Colossus II data center just across the state line in Tennessee. In December, meanwhile, xAI announced plans for Colossus III, also apparently known as MACROHARDRR, acquiring an 800,000 square foot warehouse adjacent to the Colossus II data center. Although xAI has yet to announce how it plans to power Colossus III, given the proximity to

Colossus II and the Stanton Road turbine site encompassed by this Draft PSD Permit, it seems likely that xAI intends to install additional generating capacity at the Stanton Road site in the near future.

If xAI does indeed intend to install additional, permanent turbines or other generating capacity at the Stanton Road site, then it is engaged in improper sham permitting currently. In particular, EPA explains sham permitting as ‘[p]ermits with conditions that do not reflect a source's planned mode of operation’ and that such permits ‘may be considered void and cannot shield the source from the requirement to undergo major source preconstruction review.’

MDEQ Response: While MDEQ acknowledges that EPA’s “sham permitting” policy prohibits a facility from intentionally seeking a permit for only part of a complete project that it has already decided to implement, there is no creditable evidence as to the certainty of a “Colossus III” facility to a level that warrants EPA’s policy.

Based on further research, the concept of “sham permitting” originates from a 1989 EPA guidance document titled “*Guidance on Limiting Potential to Emit in New Source Permitting*” that outlines the process for determining when a permitting approach is essentially fraudulent. Specifically, EPA sets forth four (4) types of evidence that may be relevant in determining if a permit application may be a sham:

1. Filing a “*major source or major modification permit application*” simultaneously with or at approximately the same time as the minor source permit, before operation commences, or after less than a year of operation;
2. Applications for loans in which the source “*guaranteed a certain level of operation*” higher than permitted and the project would not be funded or economically viable if operated at the permitted level for a year;
3. Reports to stockholders, the Securities and Exchange Commission, utility boards, or other business permit applications containing “*projected operation or production levels ... necessary to meet projected consumer demand*” that are “*higher than permitted levels*”; and
4. Statements by source representatives to U.S. EPA or other agencies that “*show intent to circumvent*” major source preconstruction review.

Based on the information provided by the commenter and the realization that MZX Tech applied for a PSD Permit to Construct, MDEQ does not believe MZX Tech is attempting to invoke “sham permitting”. Moreover, the modeling concerns asserted by the commenter appear to have no basis because the modeling required for any future permitting would need to account for the currently proposed project to the extent the analysis indicated any possibility of a significant impact.

- **Comment No. 25:** *The Permit Board Must Disapprove and Deny the Permit Because Even with Respect to the 41 Proposed Turbines, MZX Has Not Complied with All Applicable Rules and Regulations and the Board Cannot Make Required Findings.*

The Permit Board’s regulations make clear that it cannot issue a permit unless the applicant has complied with all of the relevant Applicable Rule and Regulations.

As detailed in Sections II-VI above, even with respect to the 41 turbines it disclosed in the Application, MZX has not complied with all Applicable Rules and Regulations. For example, MZX has failed to provide accurate emissions estimates, modeling adequate to demonstrate NAAQS compliance, offsets to address ongoing ozone NAAQS violations, and has also failed to demonstrate that it meets BACT or LAER for each criteria pollutant and MACT for relevant Hazardous Air Pollutants.

MDEQ Response: Please see the responses provided for Comment No. 1 through 24.

Written Comments from NAACP

- **Comment No. 26:** MZX Tech and xAI installed 27 turbines without a permit, disregarding federal requirements.

The community has been experiencing many negative impacts including noise and air pollution as a result of these turbines. MZX claims these 27 turbines and impacts are temporary, but now are asking to permanently install and operate 41 gas turbines at the same site. The draft Permit does not mention the 27 unpermitted turbines, nor includes them in emission estimates. The failure of the draft Permit to include these emissions units on the Site renders it deficient and makes it impossible for the community to understand the full scale of the Site's impact on air quality and public health.

MDEQ Response: In a determination dated July 29, 2025, MDEQ determined that the 27 temporary mobile turbines currently at the MZX Tech facility are mobile sources instead of stationary sources. The following excerpt is from that determination:

- *"In reference to your e-mail received on July 25, 2025, the Mississippi Department of Environmental Quality (MDEQ) has reviewed your request regarding the temporary use of portable natural gas-fired combustion turbines during construction of the separate standalone "MZX Tech, LLC" project. Based on the information provided in the e-mail and at the associated meeting, MDEQ understands that the referenced turbines will be "mobile" as each will remain affixed to a portable unit (i.e., a flatbed trailer) and "temporary" as it is intended for each to remain on-site (2875 Stanton Road South; Southaven, MS) for less than twelve (12) months. Therefore, contingent upon the two (2) denoted criteria remaining valid, MDEQ acknowledges that the referenced turbines are exempt from permitting requirements pursuant to 11 Mississippi Administrative Code Part 2, Chapter 2, Rule 2.13.D."*

As noted in 11 Mississippi Administrative Code Part 2, Chapter 2, Rule 2.13.D, MDEQ exempts mobile sources from the requirements to obtain a permit to construct and/or operating permit. However, the 27 temporary mobile turbines are being controlled with the same control devices (Selective Catalytic Reduction for Control of NO_x and Oxidation Catalyst for the Control of CO) that are required by the PSD Construction permit for the 41 turbines that are stationary sources.

- **Comment No. 27:** NAACP argues the draft permit fails to accurately characterize air pollution from the turbines and underestimates particular matter and formaldehyde emissions.
- *Even with the draft Permit, MZX Tech and xAI fail to be transparent with the community.*

- *The draft Permit does not provide accurate information characterizing the air pollution caused by the 41 turbines, which would require sufficient safeguards. The draft Permit also dismisses the fact that there is an ongoing violation of the minimum federal ozone standard, it underestimates the amount of harmful particulate matter emissions from the turbine, and it underestimates toxic formaldehyde emissions limits. For all of these reasons, the draft Permit fails to meet applicable requirements, and the Permit Board must disapprove the Permit.*
- *The draft permit also fails to require strict pollution controls and offsets for NO_x.*

MDEQ Response: Please see the responses provided for Comment No. 19 through 21.

• **Comment No. 28:** NAACP argues that the draft permit ignores ongoing violations of the federal ozone standards.

- *The Memphis-Southaven metro area already fails to meet federal smog standards and has high asthma-related emergency room visits and deaths.*
- *The NAACP cites longstanding environmental justice concerns and references poor air quality in DeSoto County, which received an “F” for ozone from the American Lung Association.*
- *The Memphis-Southaven area already fails federal smog standards and has among the highest asthma emergency room visit and death rates in the U.S.*
- *The draft permit also downplays existing ozone nonattainment in the Memphis metro area.*

MDEQ Response: As previously stated within this document, DeSoto County – as part of the Memphis, Tennessee-Mississippi-Arkansas Metropolitan Statistical Area (MSA) – is currently designated by EPA as “in-attainment” for the 2015 8-hour ozone NAAQS. As a result of the area’s formal “in-attainment” designation, there is no statutory authority under the Clean Air Act for MDEQ to impose “non-attainment”-related requirements (such as emission offsets).

Be that as it may, MDEQ recognizes the regional nature of ozone formation and is actively engaged in addressing precursor emissions without waiting for formal nonattainment designation. Reductions are being driven through the “Memphis Area Ozone Group”, a multi-agency coalition that consists of the following:

- U.S. EPA Regions 4 and 6;
- Shelby County Health Department;
- MDEQ;
- Arkansas Department of Energy and Environment (ADEQ); and
- Tennessee Department of Environment and Conservation (TDEC)

The outlined group is actively developing and implementing voluntary strategies to reduce NO_x and VOCs across the tri-state area. This collaborative federal-state approach is the legally appropriate mechanism for addressing regional background ozone levels and improving air quality for all

communities rather than arbitrarily imposing non-attainment penalties on a single facility in a designated attainment area.

- **Comment No. 29:** NAACP argues the permit lacks sufficient safeguards to protect public health.
 - *The facility is located near neighborhoods including Colonial Hills and Horn Lake and within one mile of an elementary school, raising concerns about children's exposure to pollution.*
 - *The projected health impacts include increased respiratory illness, missed school and work days, and millions of dollars in annual health-related damages, particularly affecting Shelby and DeSoto counties.*
 - *The NAACP argues that approving the permit would continue a pattern of concentrating environmental harms in marginalized communities and urges the Permit Board to reject the permit due to incomplete and inaccurate information.*
 - *The turbines would emit nitrogen oxides (NO_x), particulate matter, and hazardous air pollutants linked to asthma, cardiovascular disease, and other respiratory illnesses—disproportionately affecting Black communities with existing health disparities.*

MDEQ Response: MDEQ must clarify that the NAAQS are health-based standards established by the EPA specifically to protect public health – including sensitive populations such as children, the elderly, and individuals with respiratory conditions like asthma – with an adequate margin of safety. Therefore, compliance with the NAAQS is the Federal benchmark for ensuring air quality is safe for all citizens. Based on all information provided to MDEQ, the emissions generated from the project proposed by MZX Tech comply with all established NAAQS.

Generalized Comments from the Public Hearing and Public Comment Period

- **Comment No. 30:** Several comments were received expressing concern about the level of “noise pollution” generated by MZX Tech. Some of the comments are as follows:
 - *“Noise is another concern. Gas turbines are very loud. The noise can run day and night. Low-frequency noise can travel far and go through walls. This can affect sleep, stress levels, and overall health.”*
 - *“I lived under the Mphs airport flight paths in Greenbrier subdivision for many years. I now live in colonial hills 100 yards off hwy 51 n I can stand on my front porch at night or early morning. The turbine noise is very noticeable.”*
 - *“Day and night the turbines can be heard, sometimes changing in frequency or occasionally startling neighbors into action on community pages. I have seen them impact my life in this way for a while now. The first time, it woke me up in the middle of the night, a loud boom could be heard and then the turbines sounded as if they were roaring. I went room to room trying to find the source only to discover the roaring noise was coming from outside when at last I checked there. For hours after, that roaring kept me up until I finally fell asleep from*

exhaustion. I wish I could say that was the only time that happened, but the noise has only grown more noticeable and unbearable as the weeks and months progressed.”

- *Our community is worried about the noise and air pollution these turbines would bring to our backyards.*
- *These turbines are very disruptive in terms of pollution and noise. This needs to stop. No matter the possible technological advancements xAI can accomplish (which I honestly don't see its benefits) it is not worth the destruction.*
- *The continuous turbine noise, increased air pollution, and excessive industrial lighting will continue to directly affect the daily lives, health, and well-being of the families who live nearby. Residents should not have to live with constant industrial noise, degraded air quality, and loss of the quiet environment that once defined our neighborhood.*
- *Noise is another concern. Gas turbines are very loud. The noise can run day and night. Low-frequency noise can travel far and go through walls. This can affect sleep, stress levels, and overall health.*

MDEQ Response: While “noise pollution” is typically considered an aspect of environmental matters, MDEQ has no authority in the regulation of decibel levels (i.e., noise pollution). Such authority within the State of Mississippi resides solely with the local jurisdictional government (i.e., city or county) through the issuance of ordinances and local requirements.

- **Comment No. 31:** Several comments were received that expressed concern about the proximity of the facility to the surrounding community in Southaven. Some of the comments are as follows:
 - *“The draft Permit defines an ‘ambient air boundary’ based on physical barriers around the current Site. However, according to DeSoto County land records, MZX Tech has purchased multiple additional parcels, including parcels adjacent to the Site, that are not effectively excluded from public access. Under EPA’s regulatory definition, ambient air extends to areas where the public can access the outdoor air, and impacts in those areas must be included in air quality modeling. Because the Permit relies on a boundary that does not correspond to true ambient air, the emissions impacts to the surrounding community could be underestimated. MDEQ must clarify the actual ambient air boundary, include all owned or controlled land in modeling, and reevaluate impacts accordingly.*
 - *“I am concerned that the xAI turbines are operating so close to residential areas. Health impacts from PM_{2.5} and NO_x emissions are most pronounced for children and older adults, particularly when exposure occurs close to residential” neighborhoods. These turbines need to be further way from people's homes. If you expand this site you will increase the danger to nearby residents including children.*
 - *“A disservice was done to nearby communities including ten schools, three daycares, 27 churches, eleven parks, and countless residents when the plant was introduced without public comment knowing it was going to be so close to our community without thought or care as to how loud the turbines are to those nearby and the effects that would have on their work and daily life.”*

- *“I know this is progress for the future but please don't allow this to happen so close to our homes.”*

MDEQ Response: It must be initially stated that MDEQ has no regulatory authority over the zoning of land parcels for purpose of “residential”, “commercial”, or “industrial” use. Such authority within the State of Mississippi resides solely with the local jurisdictional government (i.e., city or county).

However, pursuant to MDEQ Regulation 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(14)(a), MZX Tech is required to maintain a buffer zone of at least 150 feet from the nearest residential area or recreational area for all equipment that will cause the issuance of air contaminants. For MDEQ’s air regulations [specifically Regulation 11 Miss. Admin. Code Pt.2, R. 2.1.C.(23)], a “*residential area*” is defined as one of the following:

- a group of 20 or more single-family dwelling units on contiguous property and having an average density of two or more units per acre;
- a group of 40 or more single-family dwelling units on contiguous property and having an average density of one or more units per acre; or
- a subdivision containing at least 20 constructed houses, in which the subdivision plat is recorded in the chancery clerk's office of the appropriate county.

Based on MDEQ’s evaluation of the specific area for which MZX Tech will locate the proposed stationary combustion turbines (based on modeling data and the permit application), the facility complies with the required buffer zone criteria for not only the nearest “residential area” but for all residential housings in the immediate surrounding area.

- **Comment No. 31:** Several comments were received that expressed concern about the “F” designation by the American Lung Association (ALA) for the Desoto County / Shelby County area. Some of the comments are as follows:
 - *But the air pollution from both the 27 unpermitted turbines and the proposed 41 turbines will extend far beyond the immediately adjacent neighborhoods. Southaven and Memphis share the air—and that air is already not meeting minimum federal smog standards. The greater Memphis-Clarksdale-Forrest City metro area, which includes Memphis and Southaven, also received an “F” for high ozone days for the most recent reporting period.*
 - *The American Lung Association has given the Memphis area—including both Memphis, Tenn. And Southaven, Miss., an “F” for smog pollution. There must be strong demands to MDEQ to protect the residents of Mississippi, and given the location, to consider the continued harm of the residents in Memphis for their air quality.*
 - *I live in Shelby County. Both DeSoto and Shelby Counties already hold failing grades for ozone pollution from the American Lung Association. Authorizing additional pollution, especially from unpermitted sources, is reckless and unacceptable.*
 - *-Regional “F” Grades: Both DeSoto County (MS) and Shelby County (TN) received “F” grades for high-ozone days from the American Lung Association (2025). The Memphis-Clarksdale-Forrest City metro area also earned an “F.”*

- *The American Lung Association has given the Memphis area, including Southaven, MS, an “F” for smog pollution.*

MDEQ Response: Much like ALA, MDEQ has a commitment to protecting air quality and public health in Mississippi through awareness. However, MDEQ objects to the “F” grade assigned to DeSoto County given that this grade creates an unnecessarily alarming picture of air quality within an area that meets all NAAQS. While MDEQ understands that the ALA’s grading methodology differs from ambient air compliance determinations developed by EPA, MDEQ believes this difference creates a potentially misleading perception of air quality that could cause undue public concern.

MDEQ must also refute ALA’s grading methodology, as it appears the grading system significantly diverges from EPA’s established approaches for determining NAAQS compliance [or ozone – ALA’s weighted average system counts and weights all exceedance days rather than using EPA’s design value approach based on the fourth highest annual eight-hour daily average, averaged over three (3) years.]. More specifically, ALA’s grading system often uses a different methodology than the EPA’s regulatory framework. The ALA typically counts the number of days with high ozone readings, whereas regulatory compliance is determined by a “Design Value” – a statistical metric calculated as the 3-year average of the annual 4th-highest daily maximum 8-hour ozone concentration. This federal metric accounts for meteorological variability and ensures that regulatory decisions are based on sustained trends rather than isolated events.

Lastly, MDEQ must emphasize that 2025 ozone design value for Desoto County was 70 parts per billion (ppb), which complies with the current ozone NAAQS established by EPA.