Texas Commission on Environmental Quality

Interoffice Memorandum

To: Commissioners **Date:** July 14, 2017

Thru: Bridget C. Bohac, Chief Clerk
Richard A. Hyde, P.E., Executive Director

From: Steve Hagle, P.E., Deputy Director
Office of Air

Subject: Consideration of a Petition for Rulemaking

Docket No.: 2017-0820-PET

Project No.: 2017-029-PET-NR

Who Submitted the Petition:
On June 5, 2017, the Texas Commission on Environmental Quality (TCEQ or commission) received a petition from Ben Dickson, P.E. (petitioner).

What the Petitioner Requests:
The petitioner requests that the commission eliminate the rule provisions under 30 Texas Administrative Code (TAC) §117.310(f) and identical requirements under §117.410(f) that prohibit any person from starting or operating any stationary diesel or dual-fuel engine for testing or maintenance between the hours of 6:00 a.m. and noon in the Houston-Galveston-Brazoria (HGB) and Dallas-Fort Worth Eight-Hour (DFW) ozone nonattainment areas. The petitioner contends the specific provisions in §117.310(f) and §117.410(f) are not protective of the environment but are actively detrimental to human health.

The petitioner states that the Chapter 117 rule provisions are based on the idea that morning nitrogen oxides (NO_x) emissions rise to produce low level ozone in the peak of the afternoon and that no explanation is provided as to why the effect of NO_x emissions from afternoon testing and maintenance does not have similar effects on ozone production. The petitioner asserts that restricting testing and maintenance activities in the morning hours increases afternoon labor and thus the associated safety risks of sunburn, dehydration, and heat-related illnesses; imposes a needless training burden; and leads to rule compliance deviations. The petitioner further asserts the documentation demonstrating compliance is uniquely burdensome and not encountered in any other stationary diesel engine regulations.

The petitioner questioned the validity of the operating requirements for stationary engines when contrasted with the fact that neither mobile sources nor diesel locomotives have such time-of-day requirements regardless of size. The petitioner claims that the arbitrary and inconsistent nature of these rule requirements cause a decrease in the esteem of people required to demonstrate compliance with these rule provisions, further fostering opinions that the compliance demonstrations are unimportant and increasing the difficulty to obtain compliance for those regulations that actually reduce emissions.

Recommended Action and Justification:
The executive director recommends denial of the petition. The petitioner seeks authorization to emit NO_x during early and late morning hours from stationary diesel (and dual-fuel) engines in ozone nonattainment areas. This rule requirement for the NO_x

major source industrial rules (renumbered to §117.310(f) from §117.206(i) in 2007) was adopted as part of the Houston-Galveston attainment demonstration state implementation plan (SIP) revision (26 TexReg 8110) and the DFW attainment demonstration SIP revision (32 TexReg 3206). The petitioner's proposed rule revision would constitute revisions to the HGB SIP and DFW SIP that would be subject to review and approval by the United States Environmental Protection Agency (EPA). Section 110(l) of the Federal Clean Air Act (FCAA) states that the EPA cannot approve a SIP revision if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the FCCA. Revising the Chapter 117 rules in accordance with the petitioner's request could lead to potential backsliding issues since NO_x reductions resulting from controlling stationary engines at minor and major NO_x industrial sources were relied upon to demonstrate attainment with the 1997 ozone National Ambient Air Quality Standard (NAAQS) in the HGB and DFW areas. The TCEQ would be required to demonstrate to the EPA how such rule revisions would not constitute backsliding under §110(l) of the FCCA.

Although the petitioner does not specifically address the same operational time restrictions for stationary diesel or dual-fuel engines located at minor stationary sources of NO_x in the petition, identical provisions for stationary engines exist in the NO_x minor source industrial rules under §117.2030(c) for the HGB area and under §117.2130(c) for the DFW area. The majority of stationary diesel and dual-fuel engines in the DFW and HGB areas that are subject to these operational restrictions are actually subject to the minor source rules. However, retaining these provisions in the NO_x minor source industrial rules but deleting such requirements from the NO_x major source industrial rules would impose more stringent requirements for owners and operators of minor sources.

It is true, as acknowledged by the petitioner, that the current operating restrictions delay the emissions resulting from operation for maintenance or testing of diesel and dual-fuel engines until after noon in the HGB and DFW areas. As discussed in the response to comments section of the rulemaking preamble published on October 12, 2001 (26 TexReg 8110), ozone forms through chemical reactions between natural and human-made volatile organic compounds (VOC) and NO_X emissions in the presence of sunlight. The critical time for the mixing of NO_X and VOC is early in the day, thus higher ozone levels occur most frequently on hot summer afternoons. By delaying the hours of operation of stationary diesel and dual-fuel engines for testing and maintenance, and therefore delaying the release of NO_X emissions until after noon in ozone nonattainment areas, the NO_X emissions are less likely to mix in the atmosphere with other ozone-forming compounds until after the critical mixing time has passed. Therefore, production of ozone is stalled until later in the day when optimum ozone formation conditions no longer exist, ultimately minimizing the peak level of ozone produced. This strategy creates reductions in the amount of NO_X added to the atmosphere by stationary diesel and dual-fuel engines during the time of day when those emissions have been shown to contribute to exceedances of the ozone NAAQS. The use of "time-of-day" restrictions such as this for NAAQS compliance strategies is supported by the EPA in its non-road mobile source rules under 40 Code of Federal Regulations Part 89, Control of Emissions from New and In-Use NonRoad Compression-Ignition Engines, Subpart A, Appendix A, State

Regulation of Nonroad Internal Combustion Engines. The Chapter 117 operating restrictions do not apply to the normal operation of these engines. Instead, these rules simply prohibit operation for maintenance or testing of the engine itself between 6:00 a.m. and noon.

The petitioner is correct that the TCEQ does not apply the time-of-day use restrictions to mobile diesel sources such as locomotives. However, diesel non-road mobile sources are generally used to perform the equipment's normal function throughout the day. Applying time-of-day use restrictions to such non-road mobile sources would significantly impact the business operations of the owners or operators of such sources and, if only applied to maintenance and testing operation between 6:00 a.m. and noon, would not significantly affect the emissions of these sources as a category. In contrast, the primary purpose of most stationary diesel and dual-fuel engines is backup power, firewater, or similar emergency uses. The most common operation during the year of such backup engines is not for the engine's primary operational purpose but actually operation for testing and maintenance purposes. Applying the time-of-day use restriction to the testing and maintenance operation of engines that are predominantly backup engines has significantly less impact on business operations.

Currently, owners and operators of affected units are required to maintain records of the date(s) of operation; start and end times of operation; identification of the engine; and the total hours of operation for each month and for the most recent 12 consecutive months each time the engine is operated for testing and maintenance. The associated recordkeeping requirements are necessary to ensure compliance with the restriction on operating hours for testing and maintenance. However, the rules provide broad flexibility with documenting the start and end times of engine operation for demonstrating compliance with the operating restrictions.

Exceptions to the operational time restrictions are provided in §117.310(f) and §117.410(f), including: a specific manufacturer's recommended testing requiring a run of over 18 consecutive hours; to verify reliability of emergency equipment (e.g., emergency generators or pumps) immediately after unforeseen repairs; and firewater pumps for emergency response training conducted in the months of April through October.

Applicable Law:

- Texas Government Code, §2001.021, which establishes the procedures by which an interested person may petition a state agency for the adoption of a rule; and
- 30 TAC §20.15, which provides such procedures specific to the commission.

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Re: Docket No. 2017-0820-PET

Attachment:
Petition

cc: Chief Clerk, 2 copies
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