**Texas Commission on Environmental Quality Comments on
Oil and Natural Gas Sector: Emission Standards for New and Modified Sources; Proposed Rule**

**Docket ID Number EPA-HQ-OAR-2010-0505**

The Texas Commission on Environmental Quality (TCEQ) provides the following comments on the U.S. Environmental Protection Agency’s (EPA) proposed rule referenced above. The proposed rule was published in the September 18, 2015, issue of the *Federal Register* (80 *FR* 56593)*.*

**Background**

In this rulemaking, the EPA proposes to amend the 40 Code of Federal Regulations (CFR) Part 60 new source performance standards (NSPS) for the oil and natural gas source category by setting standards for both methane and volatile organic compounds (VOC) for certain equipment, processes and activities across this source category. The EPA states that it is including requirements for methane emissions in this proposal because methane is a greenhouse gas (GHG), and the oil and natural gas category is currently one of the country's largest emitters of methane. In 2009, the EPA found that by causing or contributing to climate change, GHGs endanger the public health and the public welfare of current and future generations. The EPA is proposing new methane and VOC standards for several emission sources not currently covered by the NSPS, and proposing new methane standards for certain emission sources that are currently regulated for VOC. Lastly, the EPA has proposed amendments to address implementation of the current NSPS as a result of the reconsideration of certain issues raised in petitions for reconsideration that were received by the Administrator on the August 16, 2012, final NSPS for the oil and natural gas sector and related amendments. Except for the implementation improvements and the addition of methane as a regulated contaminant, these amendments do not change the requirements for operations already covered by the current standards.

The TCEQ previously submitted comments on the NSPS for the oil and gas sector on November 30, 2011, and May 28, 2013, which generally expressed that the EPA was seriously underestimating the number of sources which would be affected, underestimating the overall fiscal impact and regulatory burden of the rule, and that the compliance schedule established by the EPA would be difficult to meet due to the limited availability of control equipment. Although TCEQ recognizes that EPA has improved certain aspects of the rule, some of our previous comments still stand.

**TCEQ Comments**

I. *General Comments and Impact of Rule*

A. Impact on Regulatory Agencies

The TCEQ appreciates the opportunity to comment on the proposed NSPS Subparts OOOO and OOOOa. These proposed regulations encompass all aspects of oil and gas production, processing, transmission, and storage, and greatly expand the regulatory requirements, the real and perceived need for regulatory review, inspections, and the management effort necessary to implement compliance with NSPS Subparts OOOO and OOOOa as compared to the existing NSPS Subpart OOOO regulations. The TCEQ is the primary administrator and enforcer of environmental rules in Texas, and as the Texas oil and gas industry consists of many thousands of facilities, the implementation and enforcement of the proposed standards represents a substantial administrative and logistical burden. Over the last five years during which the NSPS Subpart OOOO regulations have been implemented in Texas, the number of minor oil and gas permitting actions has risen from approximately 2,000 (prior to NSPS Subpart OOOO) to over 8,000 currently, which accounts for approximately 75 percent of Texas’ overall minor new source review permitting actions. The TCEQ estimates that this oil and gas permitting workload will climb to over 9,000 actions in the coming year in response to this regulation and oil and gas activity in Texas. This federally required, but unfunded or partially-funded regulation would require significant resources and effort by the TCEQ to implement and monitor ongoing compliance.

The EPA is soliciting comments on certain approaches to ensure compliance with NSPS Subparts OOOO and OOOOa which may increase the effort required by TCEQ to ensure compliance with the regulation. These possible approaches include:

1. Independent third party verification that may include professional engineering (PE) certification of the design and installation of closed vent systems and control devices.

The TCEQ is generally supportive of the use of PE evaluation and knowledgeable individuals or firms for certification, completion of tasks, and evaluation of performance in support of permitting and regulatory actions in Texas. However, any use of these assets to supplement and support the compliance effort should be at the discretion of the company concerned, and should not be a mandatory requirement.

In addition, complex tasks such as the certification of closed vent systems, control devices design and installation, and third party testing and/or evaluation of control devices involve an evaluation where there are many possible answers considering the wide variety of equipment and operating conditions. The use of third parties to implement a review and certification program could actually increase the burden on state regulatory agencies such as the TCEQ and would increase the regulatory and economic burden on the oil and gas industry. This regulatory and economic burden will be magnified for small oil and gas companies operating under negative or razor-thin cash flow in the current low prices for oil and gas. Therefore, the TCEQ opposes any additional, mandatory regulatory layer composed of third parties to ensure compliance.

1. Independent third-party verification of fugitive emissions monitoring program.

The TCEQ is not opposed to the EPA allowing voluntary independent third-party verification of fugitive emissions monitoring programs as an additional resource to support compliance. However, this voluntary use of third parties should be a decision of the company involved. The TCEQ does not support an additional, mandatory regulatory layer of third parties to support compliance in this context. The TCEQ provides comments below on optical gas imaging (OGI) instrument use, operator training and skill, and OGI emission quantification. TCEQ also requests that the EPA provide further guidance as outlined below. The EPA should establish and maintain a register of qualified individuals or companies available to perform third-party verification for fugitive monitoring compliance. The TCEQ opposes any imposition of complex audits or rules for audits with which companies will have to comply.

3. Third party reporting.

Similar to our comments above relating to third party verification, TCEQ is not opposed to the EPA allowing voluntary, independent third-party reporting programs as an additional resource to support compliance. This voluntary use of third-party reporting should be a decision of the companies involved. TCEQ does not support an additional, mandatory regulatory layer of third parties to support compliance reporting.

4. Electronic reporting and transparency.

The TCEQ fully supports electronic reporting and transparency. The TCEQ recommends that electronic reporting should be required or at least listed as the primary method of reporting for the proposed rules. The use of electronic reporting would tend to reduce the administrative burden of the rules on regulatory agencies responsible for implementing the rules.

B. Impact on Oil and Gas Industry

The TCEQ believes that the EPA has substantially underestimated both the number of potentially affected sources and the cost of compliance with the regulations. The proposed regulations refer to 20,000 active well sites. In the state of Texas alone, there are over 100,000 gas and 190,000 oil wells currently producing[[1]](#footnote-1), with at least 10,000 new wells drilled annually, plus thousands of existing wells that are re-worked or re-completed. In addition, the EPA’s economic evaluation is based on a gas price of $4.00 per thousand standard cubic feet, and in the current volatile energy market, there is a great deal of uncertainty associated with future gas prices. If the present gas well drilling and fracking rate continues, gas prices may average closer to less than $3.00 per thousand standard cubic feet, instead of $4.00 (data from U.S. Energy Information Administration). Considering the difficulty with control equipment availability and the severe price slump of natural gas and crude oil, the TCEQ recommends that some of the proposed time lines and compliance dates should provide more flexibility, with priority assigned to the largest emissions sources.

In order to reduce the impact of these regulations while still providing for protection of the environment, the TCEQ supports the EPA’s proposed exemptions for low production well sites, and encourages EPA to provide additional exemptions for other scenarios where possible. The TCEQ supports the proposed exemptions for low production well sites of less than 15 barrels of oil equivalent or less per day (BOEPD) and sites with less than 300 SCF/bbl gas-to-oil (GOR) ratio. The TCEQ also encourages the EPA to establish other exemptions from the regulations for small oil and gas sites based upon reasonable limited emissions and/or equipment with any tank or vent limited to less than 6 tpy on an uncontrolled basis. An example of an exemption for a site based upon low emissions would be a case where any vent or tank would have to have an uncontrolled emission rate of less than 6 tpy, and total site emissions of less than 8 tpy. Exempting sites with a small number of fugitive components (such as fewer than 100 fugitive components and fewer than 50 components when any other tank or vent emission rate is less than 6 tpy total) is another example of a limitation based upon equipment which the EPA could include. An additional approach would be to exempt sites with 3 or fewer pieces of equipment, with any vent or tank emissions limited to less than 6 tpy total. This would be a site with only a well head, a separator, and a heater treater or a tank. Loading trucks would count as one piece of equipment. The TCEQ emphasizes that even small sites exempted by these NSPS would still be required to obtain authorization from the TCEQ for their production emissions and maintenance, startup, and shutdown emissions.

*II. Leak Detection and Repair (LDAR) Program*

A. Use of Optical Gas Imaging (OGI) Technology

The EPA has proposed to require the use of OGI technology to detect leaks at oil and gas sites. The TCEQ supports the use of OGI technology, but has reservations supporting OGI as the sole compliance tool for the proposed leak detection and repair (LDAR) program. TCEQ’s reservations include the limited availability and high cost of OGI instruments, and the inability to quantify leaks detected with OGI technology. In addition to the use of OGI, Method 21 should be recommended as an alternate compliance option to detect leaking components. The EPA’s preamble states that OGI is generally capable of detecting fugitive emissions at a concentration of 10,000 ppmv, provided favorable wind and temperature conditions are present, and that work is ongoing to determine the lowest concentration that can be reliably detected with OGI (80 *FR* 56635). The EPA’s proposed rule would allow companies to use OGI or Method 21 using a 500 ppmv leak definition, for resurvey and repairs of leaking components. This apparent difference in the leak detection and measurement capability of OGI, compared to the leak detection and measurement capability of Method 21, is a substantial disparity. The TCEQ has commented that the effectiveness of OGI instruments is highly dependent on the training and expertise of the operator (see enclosed Attachment 1, which contains excerpts from comments submitted on the EPA’s 2011 proposal for Subpart OOOO). The EPA should gather more measurement data, further define what OGI can measure in everyday service, and provide guidance. The TCEQ has suggested requiring a Method 21 test for resurveying leaks detected by an OGI instrument rather than require an annual Method 21 on all components screened with the Alternate Work Practice. Another option the EPA could consider is leak-skip options for the annual Method 21 monitoring.

The use of OGI instruments for leak detection and possible quantification is a new technology. The TCEQ recommends that the EPA evaluate the frequency of monitoring (quarterly, semi-annually, or annually) after three or four years of data and make adjustments as necessary. The EPA should also consider a monitoring frequency of every two years, instead of yearly, for some sites if the data supports the monitoring time extension.

In addition, TCEQ recommends that the EPA allow alternate methods of monitoring rather than limiting it to the OGI technology that is currently proposed. Requiring the use of OGI technology as the sole compliance tool for the proposed LDAR program not only precludes the use of other comparable, and sometimes more accurate, leak detection equipment and methods, but also discourages the research of other new technologies and mechanisms to aid in detecting leaks from oil and gas sites.

Furthermore, the vast majority of oil and gas sites in the state of Texas are authorized under permits by rule (PBRs) or standard permits (SPs) and many of these authorizations already contain fugitive monitoring requirements as a condition of the permit. TCEQ believes that requiring sites to follow the proposed LDAR program when there is already an existing and comparable detection program in place at the site would only result in increased costs and complexity of overlapping fugitive monitoring requirements without any net benefit in emissions reduction. Therefore, TCEQ recommends that the EPA allow oil and gas sites to opt out of the fugitive monitoring requirements if there is a comparable LDAR program in place that has been established through a permit authorization.

B. Repair time for leaking components

The TCEQ generally supports the proposed 15 day repair time. The time period should be sufficient for most repairs. However, the 15 day repair time will probably not be long enough for some circumstances when multiple trips are required to obtain all of the materials necessary for the repair, when there are long lead times for any unique or special parts that must be ordered, or when weather or transportation difficulties are encountered, etc. The TCEQ recommends that for sites not located in an ozone nonattainment area, and where the total uncontrolled potential to emit from all components[[2]](#footnote-2) is less than 10 tons per year, the allowed time period for repair should be extended to 30 days after the leak is detected for manned sites, and 60 days after the leak is detected for unmanned sites.

*III. Sonic Flares and Control Technology*

1. Pressure-Assisted (Sonic) Flares

The TCEQ supports allowing the use of pressure-assisted flares (sonic flares) as a substitute for the conventional flares regulated by 40 CFR §60.18 in certain circumstances. State and federal regulations restrict the use of flares during routine operations to steam-assisted, air-assisted, or non-assisted flares by referencing the requirements of 40 CFR §60.18. A key regulatory issue in 40 CFR §60.18 is the maximum allowable flare gas velocity at the burner exit. The maximum gas exit velocity allowed for a gas stream with a heating value greater than 1,000 Btu/scf (37.23 MJ/scm) is 400 ft/sec (122 m/s). Pressure-assisted flares utilize the waste gas pressure to create a condition where air is drawn into contact with the gas and mixed to achieve effective and smokeless combustion. This results in pressure-assisted flares operating at sonic exit velocities greater than 400 ft/sec.

For some sites in Texas, the oil and gas industry relies on sonic flares to effectively control VOC (and methane) emissions during planned maintenance, startup, and shutdown (MSS) activities. The use of these flares is necessary because conventional flares which meet 40 CFR §60.18 cannot operate at higher pressures, such as those within pipelines or process vessels. Multiple observations have occurred with these flares in operation, and numerous regulated entities have provided technical operational and control information which demonstrates that sonic flares can achieve 99 percent destruction or removal efficiency (DRE).

However, pressure-assisted flares must be designed and operated such that: 1) the combustion zone gas net heating value will achieve maximum flare destruction efficiency (greater than 98 percent); or 2) that the combustion zone gas lower flammability limit is less than or equal to a set design limit for maximum flare destruction efficiency. Since the design of the pressure-assisted flares must operate within set parameters, the flare operator should install and operate pressure monitors to ensure that the sonic flare operates within the range of testing conditions or within the range of the manufacturer’s specifications.

1. Manufacturer-certified sonic flares and control devices

In addition, TCEQ recommends that the EPA apply the current NSPS Subpart OOOO regulatory framework for the use of specific models of sonic flares. Specifically, an owner or operator that purchases a specific model of control device that the manufacturer has demonstrated to achieve the combustion control device performance requirements in NSPS OOOO (a “listed device”) should be exempt from conducting its own performance test and submitting test results.

*IV. Consolidation of Oil and Gas Regulations*

Considering the complex oil and gas regulations adopted over the past decade, and the proposed amendments, the TCEQ recommends that the EPA establish a workgroup with EPA, environmental, and industry representatives to simplify, reduce, and consolidate all the reports and submittals needed to comply with federal regulations for most regulated oil and gas sites. This should encompass revisions and voiding some duplicate federal regulations as needed for all the equipment commonly found at oil and gas sites. The EPA should also publish implementation documents and support materials which are straightforward and simple, to help this industry understand and successfully comply with the applicable requirements.

**Attachment 1**

### Optical Gas Imaging Technology

*(Text is from TCEQ comments submitted for August 23, 2011, NSPS Subpart OOOO proposal)*

The EPA requested comment regarding the use of optical gas imaging as a sole compliance tool for the proposed leak detection and repair (LDAR) requirements. The TCEQ has serious concerns about the inconsistency basing compliance solely on the use of optical gas imaging would create compared to TCEQ and other states current enforcement practices for LDAR. This technology has both quantification and speciation limitations. The TCEQ is concerned that the inability of optical gas imaging technology to quantify leaks makes this method impractical for permitting applicability determinations and compliance demonstrations. The TCEQ supports the use of optical gas imaging instruments as an effective means of detecting leaks when the technology is used appropriately. However, the TCEQ has concerns with enforcement of the proposed LDAR requirements if based solely on optical gas imaging. Additionally, the EPA has not provided guidance on quantification of emissions when detected using only optical gas imaging.

Optical gas imaging instruments provide an effective tool for detecting leaks as part of traditional and non-traditional LDAR programs. However, as the TCEQ has indicated in comments submitted to the EPA when the federal Alternative Work Practice was proposed for 40 Code of Federal Regulations (CFR) Part 60, §60.18 and Part 63, §63.11, the effectiveness of an optical gas imaging instrument is highly dependent on the training and expertise of the operator. The EPA should adopt minimum training requirements for operators of optical gas imaging instruments that will be using the technology for compliance purposes. The TCEQ has adopted an alternative work practice, similar to the EPA’s federal Alternative Work Practice, for using optical gas imaging as a compliance option for the LDAR rules in 30 Texas Administrative Code (TAC) Chapter 115 rules that are part of the Texas’ state implementation plan. The TCEQ incorporated minimum initial and on-going training requirements for operators of optical gas imaging instruments in 30 TAC §115.358. Other requirements were included in the TCEQ’s Chapter 115 Alternative Work Practice to help ensure proper operation and enforcement of the LDAR programs when optical gas imaging instruments were used to conduct LDAR screening, such as requiring each operator to conduct the daily instrument check. Additional discussion regarding the TCEQ’s training requirements and other enhancements for the use of optical gas imaging instruments may be found in the final rules and the preamble of the Chapter 115 rulemaking in the June 18, 2010, publication of the *Texas Register* (35 TexReg 5293)[[3]](#footnote-3).

As noted above, an LDAR program based solely on optical gas imaging also creates a problem with quantification of emissions. A key limitation of optical gas imaging is that the currently available technology is not capable of quantifying emissions. The TCEQ and others commented on this issue when the EPA proposed the federal Alternative Work Practice. In response to these comments (73 FR 78207) in the December 22, 2008, *Federal Register* publication of the final rule, the EPA acknowledged this limitation and the need for new quantification approaches. The EPA also indicated that they would work with stakeholders to develop the necessary tools for quantification. However, the EPA has not issued any guidance for how to quantify emissions detected with optical gas imaging. If the EPA decides to allow optical gas imaging as the sole demonstration of compliance for the proposed LDAR requirements, the EPA must provide guidance on estimating emissions when optical gas imaging is used to detect leaks.

If the EPA is considering different options to provide greater incentives for companies to use optical gas imaging, the TCEQ suggests that the EPA consider different options for a combination approach of optical gas-imaging and Method 21 rather than relying solely on optical gas imaging. A possible approach would be to require Method 21 on leaks detected with the camera rather than require an annual Method 21 on all components screened with the Alternative Work Practice. This approach would address the issue of quantification of leaks detected with optical gas imaging. Another option is that the EPA could consider leak-skip options for the annual Method 21.

1. Railroad Commission of Texas records indicate that as of September 2015, there are 193,117 regular producing oil wells and 104,515 regular producing gas wells for a total of 297,632 wells. [↑](#footnote-ref-1)
2. 10 tpy criteria based on sitewide fugitive emissions potential to emit. [↑](#footnote-ref-2)
3. Attached as separate file “TCEQ\_OGI\_Attachment2.PDF” [↑](#footnote-ref-3)