Gas Compressor Association
P.O. Box 167688
Irving, TX 75016-7688
Phone: 972-518-0019

August 9, 2012

Air and Radiation Docket and Information Center
U.S. Environmental Protection Agency
Attention: Docket ID No. EPA-HQ-OAR-2008-0708
Mailcode-6102T
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Re: GCA Comments on proposed NESHAP ZZZZ Changes

Dear Sir or Madam:

The Gas Compressor Association (GCA) is a trade organization for the natural gas compression industry. Our member companies manufacture and package natural gas compressor packages and related components. The products our member companies manufacture, sell and often operate are utilized throughout the oil and gas industry to fill the energy needs of our nation. The GCA would like to provide comments on four main topics:

1. The extension of management practice intervals for non-emergency, non-black start four-stroke lean burn "4SLB" and four-stroke rich burn "4SRB" >500 HP at remote stationary sources.
2. Request for clarification of the §63.6675 *Remote stationary RICE* definition, including an allowance for industrial receptors.
3. Request for clarification of the compliance option to reduce THCs, per Method 25A.
4. The provision of a ppmvd compliance option for rich burn engines, in addition to the per cent reduction requirements for area source 4SLB and 4SRB >500 HP not at remote stationary sources.

Comment 1: The extension of management practice intervals for non-emergency, non-black start four-stroke lean burn "4SLB" and four-stroke rich burn "4SRB" >500 HP at remote stationary sources.

The GCA appreciates the EPA's willingness to utilize the existing management practice control strategy as an alternative to numerical emission limits for remote non-emergency, non-black start 4SLB and 4SRB engines >500 HP. These management practice requirements currently require that the oil be checked or changed, the spark plugs be inspected, and that the belts and hoses be inspected every 1,440 hours of operation or annually, whichever comes first. These management practice requirements appear to have been taken from the existing management practice requirements for non-emergency, non-black start 4SLB and 4SRB engines ≤500 HP. The GCA agrees with the EPA that the 1,440 operating hour interval for

four-stroke engines ≤500 HP is appropriate but disagrees with EPA's application of the same interval for larger HP engines.

Industrial engines >500 HP have increased capabilities compared to smaller HP engines. These increased capabilities allow for these engines to extend maintenance intervals beyond that of smaller HP engines. The GCA recommends that EPA re-evaluate the management practice requirements for these larger HP remote engines and use a management practice interval of 2,160 operating hours (90 days). For the purposes of these comments, we will focus our maintenance discussions on oil changes, spark plug changes, and belts and hoses inspections.

OIL CHANGES

In order to discuss oil change frequency we must first understand what exactly changing the oil does for an engine. The reason that we change engine oil is to primarily ensure that we maintain lubrication of the moving parts of the engine. Oil contamination and thermal breakdown with time are the primary reasons that oil does not last indefinitely. In order to increase oil change intervals operators are able to employ several technologies that allow for this extension. It should be noted that engine oil health is an extremely important piece to natural gas engine operation. Should the oil begin to fail, the engine health and life can be jeopardized resulting in engine downtime and costly repair, therefore it is in the operator's best interest to always operate an engine with properly functioning engine oil.

Due to the remote nature of natural gas engine operation it can at times be in the interest of the operator to utilize longer maintenance intervals. These larger HP engines have the capability of allowing the operator to extend oil changes to intervals that meet their internal needs. The following capabilities and technologies allow for engines >500 HP to extend oil change intervals:

1. Increased oil capacities – Many operators utilize increased oil storage as a means of extending oil change intervals. These increased oil capacities allow for additional oil to be utilized by the engine. By adding additional oil to the mix it allows for the engine to extend the time before contamination and oil degradation begin affecting engine operation.

2. Oil grades/synthetics – As with everyday vehicle use, oil changes can be extended by utilizing premium grades and synthetic oil. These varying grades and synthetic oil have benefits that operators find appealing such as increased change intervals and more effective lubrication. These higher quality lubricants come at a price though. Operators who utilize these higher quality lubricants should have the ability to realize the benefit of extending oil changes.

3. Oil sweetening systems – An oil sweetening system is a system that continuously feeds new oil into the engine from an external tank to replace oil that is siphoned off and utilized elsewhere in the process, such as compressor oil lubrication. These systems allow the engine to continuously operate on "fresh" oil which is contaminant and degradation free. Engines that utilize sweetening systems can essentially operate without the need to ever change the engine oil. Therefore, engines utilizing an oil sweetening system with a turnover rate at a more frequent interval than the regulatory maintenance interval shall be deemed to be in compliance with the oil change frequency without the requirement to conduct an oil sample analysis.

As shown above, operators have the ability to extend oil change intervals in an effort to align their maintenance intervals with their operating demands. The GCA proposes that these

methods/technologies be recognized by the EPA and that the management practice interval for 4SLB and 4SRB engines be extended to 2,160 operating hours or annually, whichever comes first. Operators who do not choose to invest in methods allowing for the extension of oil changes may continue to operate under their original maintenance standards and meet a shorter more representative interval. Should an operator elect to extend their oil change interval beyond 2,160 operating hours they will have to show compliance with the current oil analysis requirements of the proposed RICE NESHAP.

Spark Plugs

As with oil, spark plugs vary in quality and material. Traditionally, larger HP engines utilize higher quality spark plugs. These higher quality spark plugs can be expected to last significantly longer due to their use of material and quality.

Therefore, spark plugs can be expected to last significantly longer than those found in smaller units due to the need for extended operating intervals as well as more precise engine firing requirements.

Belts and Hoses

Throughout the oil and gas industry it is standard operating procedure to change the belts and hoses on an annual basis. Operators will also inspect these belts and hoses at an interval consistent with their established maintenance intervals. For operators who utilize larger HP engines it is common to see maintenance intervals in excess of 1,440 operating hours. For these instances, operators would inspect their belts and hoses at the extended interval timeframe.

As discussed above, it is common for 4SLB and 4SRB engines >500 HP to extend maintenance intervals beyond 1,440 operating hours. The GCA recommends that the EPA utilize management practice intervals of 2,160 operating hours or annually, whichever comes first for all associated remote engines. The GCA also recommends that engines utilizing an oil sweetening system with an equivalent or more frequent turnover rate than the regulatory maintenance interval requirement be deemed to be in compliance with the maintenance interval requirements without conducting an engine oil analysis. In this case, the engine oil will be completely replaced at an interval equal to or more frequent than the regulatory requirement.

Comment 2: Request for clarification of the §63.6675 Remote stationary RICE definition, including an allowance for industrial receptors

The GCA is in agreement with the EPA regarding an establishment of remote engines based on population density and applauds its efforts to come up with a clearly defined methodology. The class location methodology used by the DOT has long been established and is relatively straightforward, provided that all of the information is known by the party doing the analysis and only one party is responsible for that analysis. However, utilizing the DOT class methodology will present some additional challenges in the case of rental or leased compression because of the EPA's reliance on the term "Owner and Operator". The GCA has previously commented twice on the difficulties this creates with leased equipment and the challenges for achieving compliance even when the requirements are clear (See GCA

comments on NESHAP proposed rule Docket # EPA-HQ-OAR-2008-0707 dated June 3, 2009 and GCA Comments on NSPS for VOC's Docket #EPA-HQ-OAR-2010-0505 dated November 30, 2011). Those previous comments are applicable in this current scenario as well. In this case, the "remote" status of the RICE must be determined. In the case of leased or rental compression, this determination must be made by two separate entities with different cultures, management teams, knowledge and access to information. These two entities may not always agree.

As proposed, there are two methods that can be employed to determine if the RICE is "remote" depending on whether the engine is "on a pipeline" or at "a facility not on a pipeline". As proposed, the engines "on a pipeline" use the traditional DOT class location methodology (sliding 1 mile with 220 yard buffer on either side). A compressor rental company may not have sufficient knowledge of the routing of the pipeline to make this determination, yet according to the EPA's "Owner and Operator" clause, they would be required to do so. Because pipelines are buried, their direction and distance from buildings is not discernable from visual observation. Some method of mapping is required. The type and sophistication of mapping systems vary greatly, and each pipeline operator may choose what mapping technology they need to employ based on their own needs (ranging from hand sketches and free internet maps to GIS based systems containing survey information). Compression rental companies deal with many different companies (from dozens to thousands), and there is no standard to transfer the mapping information from the pipeline operator to the compression rental company. In many cases, the pipeline information is considered proprietary, and the pipeline company may not want to share that information at all. To make the system more useable, it is recommended that the EPA allow the non-pipeline facility criteria to be applied as an alternative even if the engine is located on a pipeline. In some cases the non-pipeline facility will be easier to apply because of the above ground visibility. This approach will also be helpful in situations where the class location of a pipeline has not previously been determined. This would be the case with "flowlines", which are currently exempt from the DOT rules. Although it is rare for an engine over 500 horsepower to be located on a "flowline" (such as at an individual well), it is not impossible. The non-pipeline facility definition of "remote" is the slightly more conservative of the two approaches (see table below), so there would not be an environmental detriment if operators chose to use that method for an engine that was located on a pipeline.

Method	Area Defined	Square Feet	Maximum Buildings allowed for Human occupancy	Buildings per Million square feet
"On a pipeline"	Sliding mile with 220 yards on either side of pipeline	7 Million	10	1.42
"Not on a pipeline"	¼ mile radius	5.5 Million	5	0.91

The GCA needs a practical application that can be actually implemented for the tens of thousands of RICE that are not owned by transmission, storage, gathering, and distribution, etc, companies. We need to strive to avoid additional regulatory confusion by requiring an entity to perform an analysis using data that they do not possess when there is a more environmentally conservative approach that may be better suited for the situation. Because of these considerations, the GCA recommends that the EPA allow for the compliance alternative of either the "on a pipeline" or "not on a pipeline" methodology for those facilities not currently applicable to DOT classification requirements. In adopting this approach, the EPA can prevent the inevitable creation of regulatory confusion and also increase regulatory enforceability.

Comment 3: Request for clarification of the compliance option to reduce THCs, per Method 25A.

The current language in Tables 5 and 6 of the proposed NESHAP refers to the compliance option of reducing THCs by at least 30% for rich burn engines (instead of demonstrating compliance with the formaldehyde reduction requirements). To demonstrate compliance with this requirement, the EPA has proposed that performance tests in compliance with Method 25A of 40 CFR Subpart 60 be used to show the reduction realized from the addition of post combustion control equipment.

The GCA supports this alternative compliance method for rich burn engines > 500 HP that are not classified as "remote" engines. However, we request that the EPA include a definition for THCs in the NESHAP regulation to make transparent what is required to satisfy this compliance option. For instance, in NSPS Subpart JJJJ, the regulation includes a definition of VOCs that references 40 CFR 51.100(s); however, footnote d to Table 1 states that formaldehyde is not included in the VOC calculation. We understand Total Hydrocarbons to be every organic compound in the gas comprised of Carbon and Hydrogen that burns in the presence of a flame, or the "total gaseous organic concentration of vapors consisting primarily of alkanes, alkenes, and/or arenes (aromatic hydrocarbons)".

Comment 4: The provision of a ppmvd compliance option for rich burn engines, in addition to the per cent reduction requirements for area source 4SLB and 4SRB >500 HP not at remote stationary sources.

The current language in 40 CFR 63 Table 5, #14 and Table 7, #15 provides two methods for demonstrating compliance for "Non-remote" 4 stroke Rich burn engines:

1) A 75% reduction in CO, or
2) A 30% reduction in THC's.

The GCA would like for the EPA to consider an alternative emission limit for CO measured downstream of the catalytic convertor based on ppmvd corrected to 15% O2 value. An option for a ppmvd value based on CO would not only follow suit with the other various engine types that already have a concentration limit but would also be a cost effective method of testing, with the same environmental benefits. To calculate a percent reduction, as proposed, two analyzers are often required so that the exhaust stream is measured simultaneously both upstream and downstream of the catalyst. Having the ability to measure only the downstream exhaust will reduce the resources necessary to show compliance.

Typical uncontrolled CO emissions of 4SRB engines are 1000 to 1500 pmmvd at 15% O2. Therefore, a 75% reduction would be indicated by a downstream CO level of 250 to 375 ppmvd. New 4SRB SI engines are required to obtain 270 ppmvd CO under 40 CFR Part 60 Subpart JJJJ. The GCA recommends that the EPA adopt the same 270 ppmvd CO at 15% O2 for the NESHAP rule. This value would create consistency between regulations, increase regulatory agency enforceability, and simplify owner/operator compliance, with the same or improved environmental benefit.

Summary

The GCA wishes to thank the Environmental Protection Agency for the opportunity to make the preceding comments and for its thoughtful consideration of the same. If you have any questions regarding this submittal please contact the GCA via our management company (NACM) at 972-518-0019 or Erin Badough, Environmental Committee Chairman, at 281-836-7514.

Sincerely,

Erin Badough, PE
Environmental Committee Chairman, Gas Compressor Association