



Via email: a-and-r-docket@epa.gov

August 18, 2014

Ms. Janet McCabe  
Office of Air and Radiation  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., NW  
Washington, D.C. 20460

Re: Comments on Engine General Permits in *General Permits and Permits by Rule for the Federal Minor New Source Review Program in Indian Country*, Docket ID No. EPA-HQ-OAR-2011-0151.

Dear Acting Assistant Administrator McCabe:

Western Energy Alliance (the Alliance) submits the following comments on the U.S. EPA *General Permits and Permits by Rule for the Federal Minor New Source Review (NSR) Program in Indian Country*, Docket ID No. EPA-HQ-OAR-2011-0151, proposed in the Federal Register on July 17, 2014. We are providing comment on the proposed general permits (GPs) for spark ignited (SI) engines and compression ignition (CI) engines because such stationary engines are used extensively in the upstream oil and gas industry. While EPA has indicated to us that these proposed engine GPs are not meant to cover engines used in our industry and that future oil and natural gas permits for Indian Country will address engines, we would still like to provide technical feedback on these engine GPs with the hope that EPA will consider our comments as it develops the oil and natural gas permits.

The Alliance represents over 480 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas in the West. We represent independent companies, the majority of which are small businesses with an average of fifteen employees. Many of our members operate in Indian Country, and the proposed engine GPs, if combined with the eventual requirements of oil and natural gas permits proposed in the ANPR, could result in an onerous and conflicting regulatory environment on Indian Lands. We support EPA's goal, stated in the ANPR, of streamlining the permitting process for oil and natural gas sources and suggest that requirements for engines at oil and natural gas sites be limited to the regulatory framework that will come out of the ANPR process.

To provide context to our comments that follow, a brief overview of engine use in the oil and natural gas industry is prudent and would serve to clear up some misconceptions EPA may have, based on language in the preamble and background document, regarding engine use in the industry.

## Industry Overview

Most stationary engines found at oil and natural gas production sites are natural gas fired SI engines used to drive natural gas compressors. SI engines used in industry can be 4 stroke rich burn (4SRB), 4 stroke lean burn (4SLB), or less common 2 stroke lean burn (2SLB). CI engines are far less numerous and are typically used for intermittent and emergency purposes to drive pumps or generators. CI engines are most prevalent as non-road engines (as defined by 40 CFR 89.2), such as those used on drilling and workover rigs or hydraulic fracturing pump engines. Contrary to EPA's characterization in the background document, drilling and workover rig and pump engines are rarely stationary sources since they usually move from one site to another in less than 12 month intervals, fitting the definition of non-road engines.

Natural gas compressors and their associated engines are ubiquitous in oil and natural gas production. The smallest compressor engines are generally found on wellhead compressors at individual well sites to boost the pressure on low pressure gas so that it can flow into the gas gathering system or to pressurize gas for downhole gas lift operations. Compressors are also found at centralized compressor stations where gas from more than one well is collected, dehydrated and/or sweetened, if necessary, and brought up to sales line pressure for transmission to a natural gas processing plant. Engines at compressor stations are usually larger than those found at well sites because the compressor capacity is also larger. Typically, a well site has only one wellhead compressor, while a compressor station will have one or more compressors on site.

Any given compressor may be owned by the operator or leased from a compressor rental vendor. Because production declines over time, existing compressors no longer needed at one site can be moved and installed at another site. Whether new or existing, each time a compressor and its associated engine is constructed at a site as a stationary source, new permitting is required. States with longtime and extensive oil and gas production, such as Texas, Colorado and Louisiana, accommodate oil and natural gas engine permitting through GPs or Permits by Rule in their minor source permitting programs, and EPA could use these programs as a model.

## Applicability of the Proposed SI and CI Engine GPs to Oil and Natural Gas

With the concurrent ANPR for oil and natural gas minor NSR permitting on tribal lands, Alliance members are concerned about EPA's intended applicability of the proposed engine GPs to the oil and natural gas industry. Both the preamble and background documents include discussions that clearly acknowledge the use of engines in the industry, yet the industry is not listed as an example regulated entity in Table 1 of the preamble. Furthermore, we do not understand how GPs for engines might integrate with a Federal Implementation Plan (FIP) or Permit by Rule (PBR) being considered in the ANPR, and they would seem to defeat EPA's stated purpose of streamlining minor NSR for oil and natural gas permits. One streamlining benefit of a PBR or FIP is that no pre-construction approval is required, while it could take 90 days or longer to get approval to use a GP or full NSR permit for engines. Construction and commencement of operations at sites with engines

would be delayed regardless of whether other equipment is authorized by a FIP or PBR since all equipment on site is integral to the site's operation.

Whether the proposed engine GPs are intended for industry or not, the Alliance feels compelled to comment because there are numerous issues with the GPs that, as proposed, make them of limited use to oil and natural gas production. If EPA intends to propose the same engine requirements as those in the proposed engine GPs in a FIP or PBR for oil and natural gas, that would also limit the usefulness of the FIP or PBR. Consequently, our comments should be considered relevant to both the proposed engine GPs, as well as the ANPR for oil and natural gas minor NSR.

### Technical Issues

There are a number of technical limitations in the proposed engine GPs that limit the usefulness for the oil and natural gas industry. Among the most limiting are the following:

- limiting use to “true minor sources”
- capacity limitations based on horsepower (hp)
- mandated use of Tier IV CI engines for nonemergency use
- annual emissions limitation of 100 tons/yr to avoid Title V instead of 250 tons/yr to avoid PSD

Qualifying the engine GPs by limiting their use to true minor sources is confusing, particularly for SI engines. The Alliance understands this limitation to mean the engine GPs would only be applicable to either 1)uncontrolled engines or 2)engines already subject to enforceable emission limits and controls in other rules, such as NSPS Subpart IIII, Subpart JJJJ, or non-remote area source engines under NESHAP Subpart ZZZZ. Synthetic minor sources are those which have enforceable emission limits in a permit, rather than in a rule, to limit emissions to less than major source thresholds. Yet, by requiring all SI engines  $\geq 100$  hp to comply with the specified emission limits in Table 1 of Subpart JJJJ, the issue of “true minor sources” is irrelevant because exhaust emissions are controlled with catalysts and permits require stack testing to monitor compliance with the emission limits.

The effect of manufacture date on emissions limits is the most confusing aspect of the reference to Subpart JJJJ Table 1 in the compliance requirement in the SI engine GP. It is unclear if EPA is limiting use of engines  $\geq 100$  hp to only those manufactured after the dates incorporated from Table 1 (e.g.  $<500$  hp manufactured after January 1, 2011,  $\geq 500$  hp manufactured after July 1, 2010) or if the specified emission limits from Table 1 must be met regardless of engine manufacture date. If EPA is limiting the manufacturing date to only two dates from Table 1 and excluding other dates in the table, then numerous newer engines still in use in the industry could not be authorized by this engine GP. Furthermore, this would make the SI engine GP requirements even more restrictive than NSPS Subpart JJJJ because the permit does not allow for use of the other emission limits in Table 1 for engines  $\geq 100$  hp manufactured before 2010. These requirements would put oil and natural gas development in Indian Country at a competitive disadvantage to nontribal areas that can obtain state minor source permits for older existing engines. There is still a sizable fleet of older existing engines that get moved around as discussed earlier, and as

they are moved to different sites, minor source permitting should be equally available to these engines as it is to new engines.

While the SI engine GP emission limits from Table 1 are appropriate for new, modified, or reconstructed engines after July 1, 2010 or January 1, 2011, they aren't necessarily appropriate for older existing engines not subject to NSPS Subpart JJJJ or NSPS after 2007 but before the 2010 or 2011 dates listed in Table 1. For NSPS engines, all emission limits and dates in Table 1 should apply to engines  $\geq 100$  hp. Since minor NSR applicability in general is based on annual emissions, not short-term emissions, imposed emission rates requiring emission controls more stringent than those required in NESHAP Subpart ZZZZ for existing engines not subject to NSPS should be cost effective and appropriate for the age and design of the engine. The imposed emission rates should not simply be the most restrictive limits of Table 1 applied to all engines. Total annual emissions would then dictate the size and number of engines that could be used at any given site. We suggest that EPA look at the Texas Commission on Environmental Quality's Permit by Rule for engines found in 30 TAC §106.512 as a workable model for setting emission limits in minor source permitting of engines.

As currently written, the SI engine GP has an engine site capacity limit of 1750 hp based on the AP-42 CO emission factor for lean burn engines as outlined in the background document. In setting this limit, EPA has ignored using its own emission limits set in the SI engine GP by reference to Table 1 of Subpart JJJJ. Table 1 limits CO emissions for engines  $> 500$  hp to 2.0 g/hp-hr. Using EPA's potential to emit (PTE) spreadsheet and a single 1000 hp 4SLB engine as an example, this enforceable limit correctly yields a total annual CO emission PTE of just under 20 tons/yr. Based on this PTE, up to 5000 total horsepower could be installed at a site if 100 tpy is the upper limit to avoid Title V. The upper limit should actually be 250 tons/yr to avoid PSD in attainment areas. In our view, this simple calculation argues well for emission limits in a minor source permit, rather than capacity limits, as currently proposed. It would not be uncommon in upstream oil and natural gas to require total compressor horsepower  $> 1750$  at a compressor station. It would also not be uncommon to need a single engine with a horsepower rating greater than 1750 hp. Emission limits provide the needed flexibility for the operator to best determine how to configure its engines and to meet minor source permitting limitations.

In the proposed CI engine GP, EPA stipulates a horsepower capacity limit and requires non-emergency engines to be model year 2014 or later. These limitations on engine selection and certification are inappropriate, and like the problem with the SI engine GP, create a competitive disadvantage in Indian Country. No states that we are aware of prohibit the relocation of existing engines from one site to another near-by site, as this provision is essentially doing. Mandating use of new engines only in a GP is inappropriate as it prohibits use of existing engines that could also meet minor source emissions limitations.

If EPA keeps the capacity limitations of the proposed engine GPs, then it would seem pointless to also include emission limits and emissions monitoring, as well, since inherent to the purpose of using a capacity limit surrogate is to make certain that total annual emissions are below the major source threshold. Capacity limits would be most appropriate for small engines to simplify exclusion from minor NSR based on inherently

low emissions due to engine size and limited use. As proposed, neither engine GP addresses exclusion of inherently low emitting small engines.

It is quite confusing to include compliance requirements for emergency SI engines in a CI engine permit and emergency CI engines in a SI engine permit. Additionally, emergency engines should not have to undergo stack testing requirements as is required in both GPs for emergency SI engines. Instead, it is more appropriate to include maximum non-emergency run time hour limits for maintenance and functional testing to remain qualified as emergency engines. From the background document, the state programs referenced appear to take this approach, as does NSPS and NESHAP. Stack testing of emergency engines results in unnecessary non-emergency run time that creates additional emissions, and stack testing during emergency use is not feasible.

The stack testing requirements in each of the engine GPs are also problematic. While the Alliance argues against emergency engine testing in the above paragraph, the testing procedure outlined in the permits are inappropriate for emergency engines and do not reflect the limited runtimes associated with these engines. Additionally, the outlined procedure for stack testing has contradictory requirement with regard to engine load for testing. Line 24(a)(iv) of the SI engine GP, as well as the equivalent line in the CI engine GP, requires testing under typical operating conditions. However, line (vi) then says that testing must occur within 10% peak load which isn't necessarily representative of typical operating conditions. Additionally, testing with portable analyzers should be allowed, using equivalent procedures referenced in NSPS and NESHAP.

Finally, EPA addresses minor maintenance requirements for engines consistent with NSPS. While this would seem appropriate, our industry also needs clear permitting authorization for in-kind replacement of engines. Modern natural gas compressors are modular and the engine is replaceable without replacing the entire compressor. With this capability, engines requiring major maintenance, such as an overhaul, are usually swapped out with an in-kind engine to minimize compressor downtime. Maintenance like an overhaul, which can take a considerable amount of time, is then done at a maintenance shop. In-kind replacements have the same or less emissions than the engine being replaced.

#### Recordkeeping and Reporting

The proposed GPs have reporting requirements equivalent to those for major sources subject to Title V. Title V requirements are not appropriate for minor or area sources. The burden of deviation reporting and compliance certifications coupled with signatures by a Title V equivalent "responsible official" is overly burdensome and unnecessary. The burden on EPA to review such reports will also continue to grow as operators continue development of new wells and production under tribal minor NSR permitting.

EPA has expressed a desire to streamline and simplify permitting these sources partially due to the limited resources EPA has to review and process permit applications. The burden on EPA will be even greater if operators have a continually increasing number of sites with these annual reporting requirements. If EPA resources are not available to review an ever increasing number of these reports, there seems no point to require them.

EPA should not be more stringent than state minor source programs by having such extensive reporting requirements. Instead, EPA should rely on reporting already required by NSPS and NESHAP as well as periodic site inspections to ensure compliance, as is done by state agencies, rather than inserting duplicative and more burdensome requirements. The Alliance is not aware of any state minor source program with such stringent Title V equivalent reporting requirements.

#### Preamble Questions

In the preamble, EPA requests comments on four issues. The first question on capacity limits has been addressed in our comments above.

Regarding setback requirements, EPA has made no demonstration of the need for a 1000-foot setback requirement from residences. EPA needs to demonstrate why this is needed since no current NSPS or NESHAP rule for engines has such a requirement. Specific setback requirements are already included in Indian mineral leases and the regulations implementing and governing the same. EPA should not promulgate rules or regulations that conflict with the setback requirements that are already present in these federal pronouncements. Also, setting distances to property boundaries is counter to and conflicts with USFS, US and State P&W, BLM and Wildlife Preserve requirements to minimize surface disturbance and encroachment on endangered species areas.

The third and fourth questions ask about setting nonattainment requirements now. The Alliance believes that nonattainment minor source permitting should be regionally specific and based on emissions inventory evaluation and modeling to determine the appropriate requirements after a designation is made. Since no nonattainment designation has been made in any tribal land areas, it would seem premature to specify minor source permitting requirements at this point in time.

Thank you for the opportunity to comment on the engine GPs proposed for Indian Country. We recognize the very technical nature of our comments. If you would like to discuss them, please contact me at [urick@westernenergyalliance.org](mailto:urick@westernenergyalliance.org).

Sincerely,



Ursula Rick  
Manager of Regulatory Affairs

Cc: Greg Green, Director, EPA Outreach and Information Division  
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