



MEMO TO : Interested Parties  
  
FROM : Terry L. O'Clair, P.E. *T.L.O.*  
Director *for*  
Division of Air Quality *TLO*  
  
RE : Air Dispersion Modeling  
Emergency Engines / Flares  
  
DATE : October 6, 2014

The National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63 Subpart ZZZZ) defines an emergency stationary engine as one that operates a maximum of 100 hours per calendar year in non-emergency operation. This language is echoed in the two stationary reciprocating engine New Source Performance Standards (40 CFR 60 Subparts IIII and JJJJ). Many of the facilities that are permitted in North Dakota have engines used for emergency generators and fire pumps that fit under the above definition of an "emergency engine".

Additionally, facilities in North Dakota may operate flares that are intended to address an emergency as defined in NDAC 33-15-14-06.1(i) as a "...situation (that) requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation..."

Engines and flares have the potential to be significant contributors of Nitrogen Oxides emissions which could have an impact on compliance with the 1-hour nitrogen dioxide (NO<sub>2</sub>) National Ambient Air Quality Standard (NAAQS). However, because of the very limited hours of operation of emergency units in non-emergency situations, it can be difficult to model these units in a representative manner. Assuming continual operation can present total emissions impacts that are overly conservative and do not represent real world operations.

In the March 1, 2011 EPA memorandum "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard", EPA addresses modeling of intermittent emission units for demonstrating compliance:

"...we are concerned that assuming continuous operations for intermittent emissions would effectively impose an additional level of stringency beyond that intended by the level of the standard itself.

...EPA believes the most appropriate data to use for compliance demonstrations for the 1-hour NAAQS are those based on emissions scenarios that are continuous enough or frequent enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations.”

The Department believes that these arguments are equally valid for criteria pollutants other than NO<sub>2</sub> that are emitted from emergency engines and flares. Based on the above guidance and experience with emergency sources commonly found in North Dakota, the Department has determined that emergency engines (including fire pump engines) and emergency flares need not be modeled as part of an NAAQS compliance demonstration, unless specifically requested by the Department.

**This policy does not include emergency engines and emergency flares that combust gas containing more than 100 ppm of sulfur. These sources will be handled on a case-by-case basis. Please contact the Department for guidance on these sources.**

TLO/CRH:csc