

Statement of Work, Stack Testing of New Generators

General Intent: Contractor shall furnish all, services, materials, labor, supervision, management, management support, transportation, supplies, and equipment required to provide stack testing on a Cummins Model # QSK60-66 NR2 diesel fired engine generator set located at the Coatesville VA Medical Center. Sample collection and testing must be performed in accordance with various EPA test methodologies. All test results will be reported to the Pennsylvania Department of Environmental Protection (PADEP). The sampling is intended to fulfill the Coatesville VAMC's obligation with its General Permit BAQ-GPA/GP-9 issued on May 17, 2012 and expires May 17, 2017.

Based on anticipated installation completion by September 2014 and per condition 8(b) of the General Permit, stack testing is required within 180 days of receiving authority to construct for new internal combustion engines with a rated capacity greater than 500 brake horsepower.

Scope: The contractor will be expected to perform the following:

- Coordinate and respond to questions concerning testing requirements and site information with selected firm;
- Coordinate the preparation at the site to accommodate the emissions testing project (e.g., ensuring that the necessary electrical sources are available and that testing ports are accessible);
- Prepare and submit the required emissions testing protocol to the PADEP;
- Review the PADEP's protocol review and determination letter and respond to the PADEP to obtain an acceptable protocol determination;
- Coordinate testing schedule with selected stack testing firm;
- Notify the PADEP Source Testing Group and Regional Air Quality Program Manager of the test date and anticipated start time;
- Perform Set-up and preliminary testing prior to the Compliance Test to ensure that emissions from the engine are in compliance with the General Permit emission limits;
- Provide on-site assistance during the Compliance Test that consists of communicating with the PADEP, coordinating the emissions testing with the operation of the engine, and obtaining load, fuel throughput and the power output data of the engine during all emissions testing runs;
- Notify PADEP of test completion within 15 days of completing the testing;
- Once the emissions testing report is prepared or received from the selected vendor, contractor will review and prepare any necessary comments on the report prior to submittal to the PADEP;
- Contractor will be required to provide their own power via an emergency generator capable of producing a minimum 240 volts and a 50 amp service. Minimum size generator required will be a 15 KW

- Contractor will be required to run stack testing at 90% of the load capacity of the generator. Contractor will provide a load bank for the duration of the testing capable of applying 90% load on a 1.8 megawatt generator.
- Provide four paper copies of the final report for distribution to PADEP. One paper copy and one electronic PDF copy of the final report that is submitted to PADEP will be provided to VAMC Coatesville

Per discussion with the PADEP, since the two engines are the same make, model and install date, stack testing is only required on one of the engines. The emission source to be evaluated is a Cummins Model # QSK60-66 NR2 diesel fired engine generator set. The objective of this stack test will be to perform a compliance evaluation to confirm permitted filterable particulate matter, nitrogen oxides (NO_x), carbon monoxide (CO) and total hydrocarbons (THC) concentration and emission rate limits. Methane and Ethane can be measured for subtraction from the THC value. Additionally, the opacity of stack emissions will be determined to satisfy visible emissions limitations. Test results are intended for Pennsylvania Department of Environmental Protection (PADEP) regulatory submittal.

Coatesville VA responsibilities:

It is the responsibility of VAMC Coatesville to provide the following with respect to the sampling location:

- Engine venting to the stack located in the center of the roof is the preferred location;
- Provide stack extension and appropriate sampling ports that meet PADEP Source Testing Manual and/or EPA Reference Test Method requirements. Recommend pre-fabricating 48" sheet metal extension and predrilling at 32" into extension two (2) 3" holes perpendicular to each other for the sampling ports. Remove rain cap and fasten the extension;
- Access for the sampling trailer within 200 feet of the sampling location;