

Emission Monitoring & Quantification Protocol General Guidance

Quantification Protocols

An integral concept of the Emission Trading Program is the “quantification protocol.” The methodology used to quantify emissions and emissions rates for the purpose of determining the emission baseline, emission reduction credits (ERCs) to be generated, and ERCs to be used must meet certain criteria, including the use of the most representative, accurate, and reliable process and emission data available for the source, process, or process equipment. Where required by an applicable requirement, or where such measurement is practicable and reasonable, continuous emissions monitoring, or other direct measurement, parametric monitoring, or other surrogates for the measurement of emissions must be used.

All emission monitoring and quantification protocols used per 45CSR28 must have been federally approved for the purpose of ERC trading, where such a protocol exists for the source category. Modifications to an existing federally approved emission monitoring and quantification protocol for the purpose of ERC trading must be approved both by the Director, and federally approved as a revision to West Virginia’s (WV’s) State Implementation Plan (SIP). The United States Environmental Protection Agency (EPA) plans to establish two documents containing several specific emission monitoring and quantification protocols to aid in emissions trading programs. For stationary sources a *Stationary Source Technical Guidance Document (SSTGD)* is planned; and for mobile sources a *Mobile Source Protocol Guidance Document (MSPGD)* is planned.

Currently, EPA has published no federally approved emission monitoring and quantification protocols for the purpose of ERC trading for any source category. Until these documents are available, DAQ is requiring the emission monitoring and quantification protocols submitted with each ERC Generation and ERC Use/Retirement form, to follow the procedures of 45CSR28.8.2.b. for new or alternate emission monitoring and quantification protocols, including the prior notice requirements to both DAQ and EPA.

All methods, procedures, and calculations used to quantify emissions and emissions reductions in the emission monitoring and quantification protocol must ensure that conservative results are obtained. DAQ understands that EPA’s economic incentive programs (EIP) policy requires that if indirect means and/or methods with uncertainty are used, then the emissions estimates must be biased conservatively. For example, if an emission factor is used, then the emission factor should be *divided* by a factor of two when estimating the amount of ERCs generated for banking, but *multiplied* by a factor of two when estimating the amount of ERCs needed to purchase to cover a use.

If a source is already subject to monitoring requirements, the provisions of 45CSR28 cannot exempt the source from those requirements.

Hierarchy

Site-specific data is nearly always a more reliable indicator of emissions than emission factors; sources should use site-specific information whenever available or feasible. The following hierarchy for the various approaches to emission monitoring and quantification protocols is recommended:

- continuous emissions monitoring, parametric monitoring, recent stack testing, sampling of fuels and materials, or other direct and indirect measurement methods;
- calculations using equations that are a function of process and control equipment design and operation;
- mass-balance calculations;
- emission factors (where allowed), emission calculation methods, or emission quantification protocols approved for use at the time of emission reduction generation by the Director and the Administrator of EPA.

Applicable Requirements

A source must always demonstrate that baseline and emission monitoring protocols, as well as quantification protocols for determining ERC generation are in compliance with all underlying applicable requirements.

Emission Factors

Emission measurement protocols that cover nonattainment areas that are NALD (Needing and Lacking (an approved attainment) Demonstration) are prohibited from using emission factors. For a list of nonattainment areas in WV that are currently considered to be NALD, please contact the Air Monitoring Section of DAQ.

While emission factors may be acceptable in certain geographic areas in certain instances, caution must be exercised when using them. *Improving Air Quality with Economic Incentive Programs* (EPA-452/R-01-001) contains EPA's final January 2001 procedure for conducting such programs; for emission factors it states:

"If you use emission factors to quantify emissions...you must first review the factor to see if is appropriate and representative for the intended use. EPA's emission factors are rated either A, B, C, D, E, or U. The emission factor rating associated with a particular factor is useful as a rough indicator of that factor's viability relative to other factors. For example, an A-rated factor in AP-42 is supported by more data and may generally be considered more representative of a particular source category than a C-rated factor. However, the "A" rating does not mean that you should assume a high degree of certainty in the emissions estimate for a particular facility."

Therefore, the approach illustrated in the table below is to be used to address the uncertainty inherent in using non-site specific emission factors in an open-market emission trading program.

EPA's AP-42 Emission Factor Rating	Emission Trading Program Factor to Address Uncertainty	
	ERC Generation - <i>Discount</i> Emission Reductions By at Least Before Admitting to Registry	ERC Use - <i>Increase</i> ERCs Needed to Obtain from Registry by at Least
A	50%	50%
B	60%	60%
C	70%	70%
D	80%	80%
E	90%	90%
U	95%	95%

FURTHER INFORMATION

In addition to 45CSR28, further information on DAQ's Emission Trading Program may be found in the various forms and flowcharts developed for implementation, and by contacting DAQ at (304) 926-3647.