



**CIBO
Power Plant
New Source Review & Permitting
Technical Workshop**

Overview of Federal Permitting Requirements

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DUKE/FLUOR DANIEL

Duke/Fluor Daniel



- Company Created in 1989 through a 50/50 Partnership Between Duke Energy and Fluor Daniel
- Over 60,000 MW of Gas / Oil Fired Combustion Turbine based Combined Cycle / Cogeneration Plant Experience
- Over 40,000 MW of Solid Fuel Fired Power Plant Experience
- Full EPC and Operating Plant Services
- ISO 9001 Certified

Federal Permitting Requirements



- New Source Review (Pre-construction Permits)
 - Prevention of Significant Deterioration (PSD)
 - Non-Attainment Area New Source Review (NSR)
 - Draft Permit Review

PSD Applicability

- PSD Applies to Major Stationary Sources/Modifications
 - Any of 28 specific types of sources with potential to emit 100 tpy of a regulated pollutant
 - Any source with potential to emit 250 tpy of a regulated pollutant
- Significant emission rates
 - CO 100 tpy PM/PM₁₀ 25/15 tpy
 - NO_x 40 tpy O₃ (as VOC) 40 tpy
 - SO₂ 40 tpy Lead 0.6 tpy

PSD Permitting Requirements

- Ambient Air Quality Analysis (Pre-construction Monitoring)
- Best Available Control Technology Review (BACT Determination)
- Source Impact Analysis (Modeling to verify no violation of NAAQS and no exceedence of PSD increment)

PSD Permitting Requirements (Cont.)



- Source Information
- Additional Impacts Analysis
- Class I Area air quality impacts (including visibility)

Non-Attainment Area New Source Review

- Non-Attainment Area NSR applies to a source located in areas designated non-attainment for a pollutant for which the source is major
 - Any source with potential to emit 100 tpy of a regulated pollutant
- For Serious, Severe, and Extreme Non-Attainment Areas, the threshold for major source and major modifications becomes more stringent

Non-Attainment Area New Source Review (Cont.)

- Non-Attainment NSR is different than PSD permitting
 - Lowest Achievable Emission Rate (LAER) rather than BACT
 - Source must obtain offsets
 - Applicant must certify that all other sources owned by the applicant in the state are complying with all applicable requirements of the CAA
 - Sources impacting visibility in mandatory Class I areas must undergo more stringent review

Non-Attainment Area New Source Review (Cont.)

- Application of LAER technology
 - Most stringent emission limitation in any SIP
 - The most stringent emission limitation achieved in practice
- LAER is generally an emission rate or limit, not a specific technology
- LAER does not consider economic, energy, or other environmental factors

Non-Attainment Area New Source Review (Cont.)

- Emission Reduction Offsets
 - Must offset the increase from the new source
 - Must provide net air quality benefit
- Must be real, quantifiable, federally enforceable, and permanent
- Specific ratios established for VOC and NO_x in Ozone Non-Attainment Area, ranging from 1.1-1.5:1

Draft Permit Review



- Ensure permit clearly addresses startup, shutdown, and malfunctions
- Seek to avoid limits and testing requirements on pollutants with negligible emissions
- Verify that emission rates and emission limits are calculated correctly
- Ensure that permit requires Reference Method tests or equivalents that you are confident will accurately measure your emissions

Draft Permit Review (Cont.)



- If Part 75 CEMS are required, request Part 60 requirements be superceded
- Ensure permit allows time for report preparation after testing and CEMS certification
- Ensure timely, appropriate notifications and submittals to state and federal agencies are made