



The Basics of New Source Review and Recent Reforms

*Pre-construction permitting of new or
modified sources*

**CHP Partners' Meeting
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Clean Air Basics

- Clean Air Act Mandates National Ambient Air Quality Standards (NAAQS)
 - Maximum permissible concentration of a harmful pollutant in ambient air
 - sulfur oxides, nitrogen dioxide, carbon monoxide, particulate matter, ozone, others
 - Parts of the country achieve these standards, others do not
- New Source Review
 - preserve, or restore, air quality

Almost Every CHP Project Needs Some Form of NSR Permit

- Major Source NSR Permit
 - Prevention of Significant Deterioration (PSD) (Attainment Areas)
 - Nonattainment NSR
- Minor Source Permit
- None for very small sources
 - Check local jurisdictions

Steps to Minimize Permitting Pitfalls

1. Define the source
2. Determine total new or net emissions change
3. Complete new source review determination
4. Explore options to BACT/LAER analysis
5. Meet with permitting authority
6. Obtain Permits

Step 1. Define Source

- Is CHP its own source or part of another source?
- Is CHP a new source or a modification to an existing source?

Step 2. Calculate Emissions

- For a new source
 - Estimate potential to emit (PTE)
 - based on design operational capability but can account for operational limits, fuels, emissions controls
- For modifications to existing source
 - Determine net emissions increase (if any)
 - source-wide creditable contemporaneous increases - source-wide creditable contemporaneous decreases + modification increases

Step 3. Determine NSR Applicability

A CHP project will trigger BACT or LAER if it is:

- A new major source
- A major modification of an existing major source

What Is a Major Source?

PSD (attainment area)	250 tpy for all others 100 tpy for 28 source categories
NA-NSR (non- attainment area)	100 tpy, but can be as low as 10 tpy in some areas

What Is a Major Modification?

Pollutant	PSD	NA-NSR
PM ₁₀	15 tpy	15 tpy
SO ₂	40 tpy	40 tpy
CO	100 tpy	50 – 100* tpy
NO _x	40 tpy	40 tpy
VOC	40 tpy	>0 – 40* tpy

*Depends on severity of nonattainment in local area.

Step 4. Explore Options to BACT/LAER Analysis

- Exemptions in rule (e.g. some fuel switching is exempt)
- Reduce emissions below threshold levels
 - Install pollution controls
 - Take operating limits
- Emission netting
- Trade cost vs. emissions

Step 5. Meet with Permitting Officials

- Meet early in the process
- Present your proposal
 - Ensure that source definition, emissions factors, calculations are approved by the authority
 - Ensure both agree if BACT/LAER is triggered
- Ask about other applicable requirements (water regulations, NSPS, HAPs)
- Negotiate permit terms and conditions
 - Fuels, controls, hours, monitoring & reporting

Permitting authorities have interpretative latitude for NSR

Step 6. Permits

- For both Major and Minor Sources
 - Submit permit application
 - Obtain permit to construct
 - Obtain permit to operate

NSR Reform and CHP

...to provide flexibility to respond to rapidly changing markets...

- Published December 31, 2002 (67 FR 80186)
- Reforms took effect March 3, 2003 in some areas
- The “old” rule still applies in most of the U.S. until January 2006

NSR Reform

- A final rule and a proposed rule affecting different elements of NSR
- All reforms affect the applicability of NSR to modified sources
- Not applicable to new sources
- Reforms are NOT retroactive

The Four Elements of NSR Reform

- **Effective Now**
 - New applicability test
 - Plantwide Applicability Limitations (PAL)
 - Clean Unit Exemption
 - Pollution Control Project Exemption
- **Additional Proposed Changes**
 - Routine Maintenance, Repair, and Replacement

1. New Applicability Test

Projected Actual – Baseline Actual =
Emissions Increase

- Projected actual = Maximum projected annual emissions in next 5 years
- Baseline actual = Look back 10 years and pick highest 24-month emissions (exception: 5-year lookback for utilities)

2. Plantwide Applicability Limitation (PAL)

- Optional Approach for Determining NSR Applicability
 - Sets a plantwide emissions cap (tons/year, 12-month rolling average)
 - NSR not triggered if emissions < PAL
 - Requires monitoring and semi-annual reporting of emissions
- A PAL is pollutant specific and has 10-year term

3. Clean Unit Exemption

- Purpose: To avoid re-permitting units with state-of-the art controls
- “Clean units” are exempt from NSR unless a change:
 - Exceeds permitted emission limitations
 - Fundamentally changes the process
- Clean unit status lasts 10 years
- Applies in nonattainment areas only if allowable emissions were offset

4. Pollution Control Project (PCP) Exclusion

- Exempts a PCP from major NSR, even if a significant emission increase occurs
- The rule lists 20 technologies that “presumptively” qualify
 - Examples:
 - Sorbent injection
 - Fuel switching
 - Selective catalytic reduction
- Modification must pass air quality tests and permitting authority approval

The Reforms Might Help CHP in the Following Circumstances:

- Netting out using 10-year lookback (e.g., if CHP replaces an existing boiler)
- Upgrading equipment to incorporate CHP technology
- Refurbishing an existing CHP unit
- Implementing CHP at a facility with a PAL

For new CHP sources, the reforms do not change current requirements because NSR emission increase = PTE

For Additional Information

- EPA's Draft New Source Review Workshop Manual (October 1990)
- EPA's New Source Review Website:
<http://www.epa.gov/ttn/nsr/welcome.html>
- Region VII NSR/PSD Policy and Guidance Database:
<http://www.epa.gov/region07/programs/artd/air/policy/search.html>
- New Source Review Reforms Published December 31, 2002 (see 67 FR 80186 and 67 FR 80290)
- Call or e-mail us

Current Efforts to Facilitate Permitting and Promote Efficiency

- Procedural
 - Permitting guidebooks and data bases
 - States of Iowa, NY, CA are developing CHP permitting guidebooks
 - Illinois published their guidebook Jan 2003
 - DOE Developing permitting primer for 8 Southeastern States; expanding data base of state-specific permit requirements
 - EPA CHPP to develop Comprehensive Permit Handbook

Current Efforts to Facilitate Permitting and Promote Efficiency

- Regulatory
 - EPA CHPP promoting output-based emissions standards as incentive for efficiency and CHP
 - Future NSR reforms may consider CHP source definition and output-based mechanisms