



Emissions and Permitting Hurdles for CHP Projects: A Federal Perspective

Joe Bryson
CHP Partnership
U.S. Environmental Protection Agency

Combined Heat and Power in New York

June 20 & 21, 2002

Presentation Overview

- Briefly: EPA's Interest in Promoting CHP
- Air Permitting Overview
- Recommendations for Permitting CHP Projects
- Potential Improvements in the Permitting "System" for CHP
- How CHP Partnership Can Help

Federal Interest in Promoting New Combined Heat and Power Projects

- Long-term DOE commitment to CHP technologies and applications (e.g. ATS)
- DOE/EPA CHP Challenge 1999
 - “**Double CHP Capacity (46 to 92 GW) by 2010**”
- June 2001 Bush’s National Energy Plan
 - “CHP is environmentally preferred, cost effective, efficient, and reliable.”
 - Four specific recommendations (three to EPA)
- EPA’s CHP Partnership (later)



Air Permitting Overview

- Large Sources: NSR/PSD (federal requirement implemented by states)
 - New Source Review (NSR) in Non-Attainment Areas
 - Potential for Significant Deterioration (PSD)
- Minor Sources (state discretion as necessary for “SIP”)
- Trading Programs: Acid Rain, OTC and EPA “SIP Call” (Not covering)

NSR/PSD Permitting Thresholds

- “Major Source” if
 - AA: 100 or 250 tons per year, f(SIC code)
 - NAA/Extreme: 10 tons per year
- NO_x “Major Modification” (net increases)
 - AA: 40 tons per year
 - NAA/Extreme:
0 tons per year and offsets at 1.5.1
 - Net increase calculation is complex

NSR/PSD Requirements

- NSR (i.e., Non-Attainment Area)
 - Lowest Achievable Emissions Rate (LAER)
 - Offsets (from 1.5:1 to 1.1:1)
 - Statewide compliance certification
 - Alternate site analysis
- PSD (i.e., Attainment Area)
 - Best Available Control Technology (BACT)
 - Dispersion modeling (PSD increments, NAAQS, Class I impacts)
 - Additional impacts analysis

NSR: Latest EPA Activity

- CHP-Specific
 - Draft guidance re source determinations
 - Bush NEP recommendations follow-up
- General NSR/June 13th Announcement
 - Will go final w/ previously proposed rules
 - Pollution Control and Prevention Projects
 - Clean Unit Provision
 - Plant-wide Applicability Limits (PALs)
 - Net Increase Calculation (past actual to future potential)
 - Will go through comment and rulemaking on three other earlier proposals

Minor Source Review

- At Discretion of State
- NY DEC Re-Evaluating Distributed Generation
 - Potential models include
 - Regulatory Assistance Project model rule
 - Texas and/or California rules
 - Key issues include
 - Pollutants included
 - Emissions rates
 - Approach for crediting CHP

Permitting Strategy Recommendations*

- Start Early
 - Seek pre-application meeting w/ regulators
- Know/Learn Requirements
- Seek Expertise/Support Early, As Needed

*Leslie Witherspoon, Environmental Program
Manager, Solar Turbines

Opportunities to Enhance Permitting System

- Improve Recognition of CHP Benefits
 - Efficiency
 - Displaced boiler emissions
- Key Strategies
 - Output-based approaches
 - Standards
 - Allocations for emissions trading programs
 - Appropriate approaches for crediting CHP
 - Emission trading programs
 - Allocations: output-based, updating,
 - New source allocations for emissions trading programs
 - Nationally consistent approach for DG

CHP Partnership Overview

- **Voluntary program to foster accelerated development of CHP projects**
- **Key part of national energy, climate strategies**
- **Partners include:**
 - industrial, commercial and institutional end-users
 - project developers and equipment suppliers
 - state and local governments

Partner Commitments

- **Partners agree to:**
 - support development of new projects
 - report data on CHP project development
 - provide input on EPA's tools/services
 - recruit other Partners
 - host workshops/other events (states)
- **In return, EPA agrees to:**
 - promote recognition of CHP benefits
 - develop tools/services
 - recognize Partners' good deeds
 - provide project-level assistance

Partner Status

- **18 Founding Partners**
 - > 5,800 megawatts of installed CHP
 - > 10% of U.S. CHP capacity
 - Annual environmental/energy benefits:
 - > 8 million tons CO₂
 - > 29,000 tons of NO_x
 - > 19 million barrels of oil
- **12 Partners have joined since launch**

Partnership Tools/Services

- **Regulatory/policy support**
- **Public recognition**
- **Market development in key regions**
- **Project-specific assistance:**
 - **permitting**
 - **feasibility assessment**
 - **environmental benefits calculations**
 - **networking**

Regional Strategy

- **Building on Midwest, Northeast CHP initiatives**
- **Working with DOE, EPA regions, regional stakeholders, and States**
- **State CHP Partners include:**
 - Illinois EPA
 - Illinois Department of Commerce
 - City of Chicago
 - NYSERDA
 - San Diego Regional Energy Office
 - Iowa DNR

EPA/NYSERDA CHP Partnership

- **EPA's Role:**
 - Providing environmental expertise to NYSERDA's DG/CHP program
 - Co-sponsoring NYSERDA's CHP Conference, June 20-21, New York City
 - Promoting NYSERDA's CHP program to CHP Partners
 - Assisting with CHP Permitting Handbook
 - Coordinating project-specific outreach efforts
 - Developing calculator of CHP emissions impacts

Contact Info

- EPA's CHP Partnership
www.epa.gov/chp
- Joe Bryson
bryson.joe@epa.gov
(202) 564-9631