



# AIR/COMPLIANCE NEWS

## THE USEPA DESIGNATES NEW OZONE NON-ATTAINMENT AREAS

KIMBERLY D. COY, SENIOR ENGINEER, ACCI

On April 15, 2004, USEPA designated parts or all of 474 counties nationwide as ozone non-attainment areas for not meeting or contributing to exceedances of the 8-hour ozone National Ambient Air Quality Standard (NAAQS). Many of these areas have been designated as "basic" non-attainment areas, requiring the area to meet only general requirements, while other areas are classified as either marginal, moderate, serious, severe, or extreme non-attainment with more stringent requirements. Many communities signed innovative agreements with the USEPA to reduce ground level ozone sooner than the CAA requires (by December 7, 2007). These areas, known as Early Action Compacts (EAC), will be designated as non-attainment for 8-hour ozone; however, the impact of the non-attainment designations will be deferred and certain requirements, such as controls on new sources, will not apply.

All areas in Pennsylvania, Ohio, and West Virginia have been designated as "basic" non-attainment requiring compliance with the NAAQS by June 2009, except for:

- Lancaster, PA (marginal non-attainment, but received bump down in reclassification, compliance by June 2007);
- Philadelphia, PA (moderate non-attainment, compliance by 2010);
- Cleveland-Akron-Lorain, OH (moderate non-attainment, compliance by June 2010).

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## INTERSTATE AIR AND MERCURY RULES FOR POWER PLANTS

JILL W. MERRILL, PRESIDENT, ACCI

The USEPA has set a deadline of March 15, 2005 for finalizing the Interstate Air Rule for reducing emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from power plants. The proposed rule was published in the January 30, 2004 Federal Register. Over 540,000 total comments were received on the proposed rule. The focus of the Interstate Air Quality Rule is to limit emissions of 29 upwind states that are significantly contributing to fine particle (PM<sub>2.5</sub>) and ozone non-attainment problems in downwind states in the eastern United States. The rule will require the upwind states to revise their State Implementation Plans to include control measures to reduce emissions of SO<sub>2</sub>, a precursor to PM<sub>2.5</sub>, and NO<sub>x</sub>, a precursor to ozone. Reducing upwind precursor emissions will assist the downwind PM<sub>2.5</sub> and 8-hour ozone non-attainment areas in achieving the National Ambient Air Quality Standards (NAAQS). The USEPA is proposing that the emission reductions be implemented in two phases. The first phase will commence in 2010 and the second phase in 2015. Rule implementation would result in 65% and 70% reductions in NO<sub>x</sub> and SO<sub>2</sub> emissions, respectively. Reductions are based on a multi-state cap and trade program.

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## FINAL NESHAP STANDARD FOR BOILERS AND PROCESS HEATERS

MARK C. SCHOOLEY, SENIOR ENVIRONMENTAL PROJECT MANAGER, ACCI



A new NESHAP Standard 40 CFR 63, Subpart DDDDD applicable to all boilers and process heaters at major HAP sources will become effective on November 12, 2004. Following is a summary of this new regulation that is expected to affect nearly 60,000 existing units. It should be noted, however, that a majority of the existing units are gas-fired boilers and process heaters, which are subject only to an initial notification requirement.

### Applicable Dates

Publication date: September 13, 2004  
 Effective date: November 12, 2004  
 Initial notice due: March 12, 2005  
 Compliance date: November 12, 2007

### Subcategories

Subpart DDDDD separates boilers and process heaters into the following subcategories based on heat input capacity:

- **Large units** – greater than 10 MMBtu/hour and greater than 10% annual capacity factor.
- **Limited use units** – greater than 10 MMBtu/hour, but less than or equal to 10% annual capacity factor.
- **Small units** – less than or equal to 10 MMBtu/hour.

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## NESHAP for Boilers and Process Heaters

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### Exemptions

The following sources are exempt from Subpart DDDDD provisions, including the initial notification requirement.

- Existing and new small gas-fired units;
- Existing small liquid fuel-fired units;
- Existing small solid fuel-fired units;
- Hot water heaters (closed vessels with capacity of no more than 120 gallons, in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel); and
- All boilers and process heaters that are already regulated, or will be subject to regulation, under another NESHAP.



### Emission Limits

The standard contains emission limits for particulate matter, hydrogen chloride, mercury, and carbon monoxide. The emission limits vary depending on the unit's size category and the type of fuel burned. Particulate matter is a surrogate for non-mercury metallic HAP emissions. Hydrogen chloride is a surrogate for inorganic HAPs, and the carbon monoxide limits represent organic HAPs.

An optional emission limit for "total selected metals" can be used in lieu of the particulate matter limit. Total selected metals are defined as the sum of arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium emissions.

Existing large solid fuel-fired facilities can average their emissions over all units to demonstrate compliance, but new units must comply individually.

The standard also includes two risk-based alternatives for demonstrating compliance. The alternatives apply to hydrogen chloride and manganese emissions, and both can be demonstrated using look-up tables found in Appendix A of Subpart DDDDD.

### Work Practice Standards

Carbon monoxide (CO) monitoring has been instituted as a work practice standard for certain new boilers and process heaters, as follows:

- New large and limited use units must meet a 400 ppm, CO limit;
- New units greater than 100 MMBtu/hr have to monitor CO emissions on a 30-day rolling average basis, and are required to install CEMS to show ongoing compliance; and
- New large and limited use units that are under 100 MMBtu/hr will have to conduct annual performance tests to show compliance.

### Performance Testing

Boiler and process heater units subject to an emission limit are required to conduct initial and annual performance tests. The annual requirement can be reduced to once-per-three-years if the three preceding years of test data demonstrate compliance with all limits.

It should be noted that annual tests are not required for hydrogen chloride, mercury, and total selected metals if compliance with the emission limits is demonstrated via fuel analysis. Also, new units burning liquid fuel can avoid testing by submitting a signed statement that no residual oil will be burned. This statement would be submitted with the notice of compliance statement (NOCS).

### Monitoring

Continuous compliance can be determined directly via CEMS, or indirectly with continuous parameter monitoring systems (CPMS). If using a CPMS, the facility must establish the appropriate operating parameters during the initial and annual performance tests.

A site-specific monitoring plan for each CPMS must include the following:

- A requirement that measurement devices be installed in the most appropriate locations for obtaining representative readings;
- Performance and equipment specifications for the sample interface, the pollutant concentration or the parametric signal analyzer, and the data collection and reduction systems;
- Procedures for evaluating performance and acceptance criteria;
- Operation and maintenance procedures;
- Procedures for data quality assurance; and
- Recordkeeping and reporting procedures.

Sources that are subject to an emission limit or work practice standard are also required to develop a start-up, shut-down, and malfunction plan (SSMP).

### Recordkeeping

In addition to copies of all required reports, notices, test results, and permits, sources are required to keep records of:

- Monthly hours of operation per unit;
- Monthly fuel usage for each affected boiler and process heater; and
- Chlorine, mercury, and total selected metals fuel input calculations and supporting documentation, if applicable.

### Notices and Reports

For sources that are not exempt from this regulation, an initial notification must be submitted to EPA no later than March 12, 2005 (120 days after the publication date). Other required notices and reports include:

- Notice of intent to conduct a test or compliance demonstration, to be submitted at least 30 days prior to the test date;
- Compliance status report (NOCS) due within 60 days of conducting the performance test or compliance demonstration;
- If demonstrating compliance by emission averaging, submit a notice of intent to do at least 180 days before beginning emission averaging;
- If a source is going to demonstrate compliance by using the risk-based alternatives, an advance notice of intent must be submitted (no timeframe provided); and
- Semiannual compliance reports.

ACCI is ready to prepare an applicability analysis for your facility or assist in implementing your compliance plan.

## SPCC EXTENSION

The United States Environmental Protection Agency (USEPA) has extended the deadline for compliance with the Spill Prevention, Control and Countermeasure (SPCC) regulations found in the USEPA Title 40, Code of Federal Regulations (CFR), Part 112 (Oil Pollution Prevention). Facilities now have until February 17, 2006 to amend their existing SPCC plans and until August 18, 2006, to implement the amended plans. For more information on the SPCC regulations go to: <http://www.epa.gov/oilspill/spcc.html>

## The USEPA Designates New Areas as Ozone . . . Cont'd from Page 1

Owners of plants residing in the newly designated non-attainment areas will now have to undergo non-attainment New Source Review (NSR) for new or modified NO<sub>x</sub>/VOC sources, require the owners to install the Lowest Achievable Emission Rate (LAER) controls and undergo more extensive modeling. In addition, states must now develop State Implementation Plans (SIP's) to show how these non-attainment areas will obtain compliance with the 8-hr ozone NAAQS. This could mean new regulations for further control of NO<sub>x</sub> and VOC industrial sources.

For more information, call Kim Coy at 412-826-3636  
<http://www.epa.gov/ozonedesignations/index.htm>

## Interstate Air and Mercury Rules for Power Plants. . . Cont'd from Page 1

### Utility Mercury Reductions Rule

Concurrent with the Interstate Air Rule, the USEPA offered two approaches for reducing the estimated 48 tons of mercury currently emitted each year by coal-burning power plants. Option one is to permanently cap and reduce mercury emissions from power plants to take advantage of the concurrent reductions of mercury that occur with low-NO<sub>x</sub> burners, SCR, SNCR and other control scenarios. The second option requires utilities to install the "maximum achievable control technology" (MACT).

Opponents to the "Cap and Trade" Rule believe that the action directly opposes CAA Section 112 (Air Toxics) requirements. EPA favors the approach and believes the "cap and trade" approach will achieve higher mercury reductions.  
[www.epa.gov/air/mercuryrule](http://www.epa.gov/air/mercuryrule)

## ARE SNCR AND SCR NO<sub>x</sub> CONTROLS THE FUTURE AT CEMENT PLANTS?

A shortfall in cement supply has prompted increased production and new kiln installations across the country which have, in turn, lead to a number of BACT and LAER assessments in the Cement industry under New Source Review Requirements. Of the 118 cement kilns operating in the United States, no kilns are currently operating with Selective Catalytic Reduction (SCR) or Selective Non-catalytic Reduction (SNCR) to control NO<sub>x</sub> emissions. However, a St Lawrence Cement plant in a non-attainment region of New York and a Lehigh Cement plant in an attainment area in Iowa will most likely be installing SNCR on new kilns as early as next year to meet BACT/LAER requirements. SNCR can reduce NO<sub>x</sub> emissions typically by 40 to 50% to a limit of about 2.4-2.8 lb/ton. The more expensive and more efficient SCR can achieve up to about 85% removal. Some environmental groups are calling for SCR at the St Lawrence plant. A German cement plant has been using SCR for the past 3-years on a dry kiln and has limited NO<sub>x</sub> emissions to a rate of about 1 lb/ton Clinker. The plant employs a titanium-based catalyst and cleaning system developed by KWH Catalysts.

Reference: Argus Media, Clean Air Compliance, Volume 16/17, September 2004.

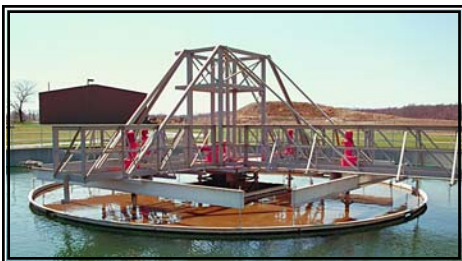


## NEW WATER9 VERSION 2 SOFTWARE

SHARON S. DIDAY, PROJECT ENGINEER, ACCI

On July 1, 2004 the United States Environmental Protection Agency (USEPA) issued Version 2.0 of the wastewater treatment model, WATER9. This program supersedes WATER8, Chem9, Chemdat8, and WATER9 Version 1.0.

WATER9, a wastewater treatment model, is a Windows based computer program and consists of analytical expressions for estimating the air emissions of individual waste constituents in wastewater collection, storage, treatment, and disposal facilities; a database listing many of the organic compounds; and procedures for obtaining reports of constituent fates, including air emission and treatment effectiveness.



ACCI can upgrade your emissions estimates from wastewater treatment using the new EPA software. See [www.air-comp.com](http://www.air-comp.com) for a summary of the changes to the model.

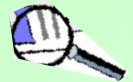
## ACHD CHANGES FOR 2004 AEI

SHARON S. DIDAY, PROJECT ENGINEER, ACCI

Beginning with the 2004 Annual Emissions Inventory (AEI), the Allegheny County Health Department (ACHD) is requesting that exact geographic coordinates be provided for all major process exhaust stacks and vents within Allegheny County. Major process units are those that have the potential to emit 100 tons of a criteria pollutant, 50 tons of VOCs, or 10 tons of a single HAP, or 25 tons combined HAPs. ACCI can obtain the exact coordinates of the exhaust stack or vent with a Global Positioning System (GPS) instrument. If you are interested in this process, you can call Sharon Diday of ACCI at 412-826-3636 or go to [www.air-comp.com](http://www.air-comp.com) to learn more.

## EPA PROPOSES STANDARD AAI PRACTICES FOR DUE DILIGENCE

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On August 26, 2004 (69 FR 52541), the EPA proposed federal standards and practices for conducting all appropriate inquiries (AAI) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a.k.a. Superfund. The proposed rule establishes standards for conducting AAI into the previous ownership, uses, and environmental conditions of a property in order to qualify for certain landowner liability protections under CERCLA. This is the first federal standard proposed for AAI. Professionals performing these site assessments for commercial real estate transfers are guided by ASTM E1527-00, Standard Practice for Phase I Environmental Site Assessments. The proposed rule brings a wider range of properties under the CERCLA defense. EPA has extended the comment period until November 30, 2004. Please call Nancy Hirko at 412-826-3636 or see additional details on our ACCI web site.

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- ◆ NESHAP Planning (SSM Plans)



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