

# Illinois Air Issues - Update

Law Seminars International  
Air Quality  
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Chicago, Illinois

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## Overview

- Illinois Problem Areas
- SIP Status
- Regional/State O<sub>3</sub> & PM<sub>2.5</sub> Control Plans
- Redesignation Policy
- Big Reductions Coming in Illinois - Beyond CAIR
- Hot Topics

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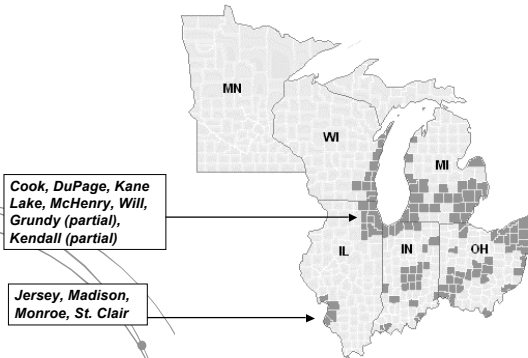
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## 8-Hour Ozone Nonattainment Areas



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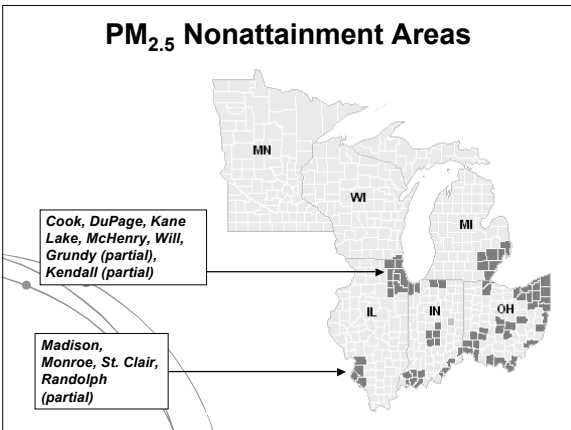
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### Key Regulatory Dates

	Ozone	PM <sub>2.5</sub>	Haze
Nonattainment Designations	Jun 15, '04	Apr 5, '05	-----
SIPs due	Jun '07	Apr '08	Dec '07
Attainment Dates	2010	2010	2018 (2064)

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- ### SIP Status: 8-Hour OZONE
- **Chicago Nonattainment Area (NAA)**
    - Switch to 2005 base year from 2002 caused delays
    - Did not submit on time
    - Sent letter to USEPA on June 29, 2007 – contained schedule and commitment to complete
      - Working with LADCO and member states
    - New modeling results show attainment by 2010 (except Holland, MI)
    - Will submit SIP attainment demonstration to USEPA by January 2008
    - Must adopt NOx RACT
  - **Metro-East NAA**
    - Submitted attainment demonstration to USEPA on time - June 2007
    - Results show attainment by 2010
    - Must adopt NOx RACT

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## SIP Status: **PM2.5**

### Chicago NAA

- Will submit SIP to USEPA by April 2008 (on schedule)
- Will show attainment by 2010

### • Metro-East NAA

- Will submit SIP to USEPA by April 2008 (on schedule)
- New modeling shows will not attain by 2010
- Request attainment date extension until 2012
- Work with Illinois major sources in NAA and Missouri DNR to get additional controls
- Doing local scale modeling to better understand emissions picture – where to focus our attention (problem sources)

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## “Previous” Control Strategy based on 2002 Modeling

2002 modeling showed:

- PM2.5:
  - “On the books” controls plus CAIR are not enough to attain by 2010
  - Nonattainment problems remain in Chicago and Metro-East
  - A combination of local and regional controls are needed to provide for PM2.5 attainment
- 8-Hour Ozone:
  - “On the books” controls plus CAIR are not enough to attain in the Lake Michigan region by 2010
  - Attainment expected in Metro-East by 2010

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## Implications of moving to a 2005 Base Year...

- **2002 Modeling Not Obsolete – SIP Quality - differences in meteorology between the base years**
- **Have 2 sets of modeling data to base policy on – weight of evidence**
- **The 2 sets provide differing results – present a degree of uncertainty**
- **Flexible Policy based on science and measured air quality trends – new modeling must be considered**

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**Revised** Control Strategy in consideration of 2005 base year modeling

2005 modeling shows:

- “On the books” controls plus CAIR and NOx RACT are enough to Attain:
  - **Chicago:** Ozone and PM2.5
  - **Metro-East:** attains for Ozone however *PM2.5 still a problem*
- Focus on Nonattainment area regulations
- Evaluate need for SO2 and PM RACT in Metro-East NAA
- Address uncertainty of modeling results from 2 base years showing different results = Contingency Regs

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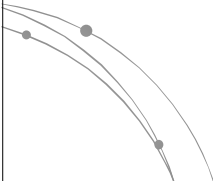
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**Illinois' Revised Regulatory Approach...**



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**NOx RACT** (revised)

- **Geographic applicability:** Chicago and Metro-East nonattainment areas (*no longer statewide*)
- **Source categories:**
  - Stationary IC engines and turbines
  - EGUs (assume MPS/CPS equals RACT)
  - Non-EGU boilers
  - Process heaters
  - Cement kilns
  - Lime kilns
  - Glass melting furnaces
  - Iron and Steel furnaces
  - Aluminum melting furnaces
- **Compliance date:** 2009 ???

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## **NOx SIP Call (non-EGU's)**

- Add sunset provision in Subpart U (withdraw pending Subpart U revision)
- Establish non-EGU source-wide emission caps to meet NOx SIP call budget
  - 10% set-aside for new sources
  - CAIR NOx allowances as temporary compliance option

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## **SO2 and PM RACT**

- Assume SO2 and PM RACT are met in Chicago
- IEPA will evaluate if SO2 and PM RACT is necessary for attainment in Metro-East
- May be needed for attainment of new 24-hour PM2.5 standard or for Contingency Measures

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## **Consumer Products, AIM, Aerosol Coatings**

- State rulemaking unless USEPA promulgates federal rules in a timely manner

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## Addressing Modeling Uncertainty

- **Contingency Measures:** Illinois EPA considering:
  - Statewide NOx RACT
  - SO2 and PM RACT in NAAs (if not already needed and implemented for attainment)
  - Implementation triggered by measured violations after 2009

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## BART/Regional Haze

- Illinois EPA is continuing to work with affected sources
- Smoke Management Plan (MOUs with IDNR, IDOT, USFS, Forest Preserve Districts in northern Illinois, other land managers) including revised language in open burning permits
- Evaluate "ASK" from MANEVU and Minnesota (MPS/CPS should be adequate to address requested emission reductions.)

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## PM2.5 Recommended NAA's under new 24 hour standard

\*Due to USEPA Dec. 2007

\*Monitoring data indicates violations in Chicago and Metro-East

\*Recommend same boundaries that currently exist for annual standard

\*Public meetings on recommendations in November

Potential Nonattainment Areas based on 2004-2006 24-hour PM2.5 Design Values



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## Implications of New PM2.5 and Anticipated Ozone Standards on Current Planning/Strategies

- 24-hour PM-2.5 revised in 2006
- Ozone NAAQS revision expected in 2008
- Attainment dates further off (e.g., PM2.5 SIP due = 2012-13, Attainment date = 2014-20)
- Air Quality improvements expected due to both “on the books” and “on the way” regulations
- “Current” modeling shows additional reductions are needed: will pursue local and statewide reductions, if necessary (e.g., statewide NOx and SO2 RACT)

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## Redesignation Policy

- Evolving, flexible policy based on air quality – data driven, weight of evidence, risk analysis
- Regional approach is desired - neighbors and partners in combating pollution
- Need combination of local and regional controls
- VOC/OC controls effective locally, SO2 & NOx controls effective regionally
- IEPA is pursuing a regional, multi-pollutant, multi-sector planning approach
- Where culpability exists for persistent problems – states should consult and work together for solutions
- Oppose other states moving toward redesignation prematurely
- Illinois must consider other state’s actions when contemplating whether to seek redesignations

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(Redesignation Policy cont.)

- **Ozone**
  - Entire state is monitored attainment for Ozone
  - Cannot seek redesignation until have NOx RACT
  - Chicago Area
    - Nearby, downwind monitors where Illinois has significant impact are still showing non-attainment - Holland, MI monitor beyond 2009 – regional planning approach preferred
  - Metro-East
    - St. Louis is nonattainment for ozone, Illinois contribution unclear
    - Must consider regional planning approach and look to have modeling that shows St. Louis in attainment – good neighbor
- **PM2.5**
  - Continued monitored nonattainment in both NAAs therefore cannot seek redesignation
  - Modeling shows Metro-East Granite City area problem persistent out to 2018 – other Illinois areas attainment in 2009

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## Significant Reductions coming in Illinois



- Coal-Fired Power Plants
- CAIR – Illinois way
- Multi-Pollutant Reduction Agreements with Power Plants

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## CAIR in Illinois

- SO<sub>2</sub> – precursor to PM2.5
  - Follow USEPA's "Model Rule"
  - Cap & Trade based on Acid Rain Program
- NO<sub>x</sub> – precursor to both Ozone & PM2.5
  - USEPA allows more flexibility
  - Cap & Trade based on NO<sub>x</sub> SIP Call
  - Seasonal & Annual Caps
  - Flexibility:
    - Allocation Methodology
    - Set-asides



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CAIR in Illinois (cont.)

## Use of NO<sub>x</sub> Flexibility

- **Output based allocations** *(instead of using heat input)*
- **Allocations occur 3 years in advance of date to be used** *(instead of 6 years in advance)*
- **Update allocation annually** *(instead of establishing single, continuing baseline)*
- **Set-aside 5% of allowances for New Sources in both phases** *(instead of reducing to 3% in phase 2)*
- **Set-aside 25% of allowances for Clean Air Set-Asides (CASA)**

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CAIR in Illinois (cont.)

## CASA breakdown - NOx

**Purpose: Encourage Energy Efficiency, Renewable Energy, Clean Coal Technology, and Early Reductions**

- **12%** - EE/RE (Energy Efficiency/Renewable Energy) set-aside
- **6%** - Clean Coal Technology (IGCC)
- **5%** - Installation of Pollution Controls
- **2%** - Early Reductions (Early Adopters): above Clean Coal & Pollution Control projects that commence operation before 2012

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## MPS and CPS Agreements - the Deals w/ Coal-fired Power Plants



- **Hg rule flexibility in exchange for significant NOx and SO2 reductions – Hg rule was the driver**
- **Negotiated Emission Standards case-by-case**
- **Reversed Industry positions: strong opposition of proposed rules became support for Hg rule and to lesser extent, Illinois CAIR**
- **MPS & CPS are optional, however, if companies don't opt-in, further regulation is certain**

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## SO<sub>2</sub> Agreed to Reductions

	SO2 Rate (lbs/mmbtu)	By Year	SO2 reduced (tons/yr)	SO2 Reduced (%)
Ameren	0.25	2015	127,145	76.3
Dynegy	0.19	2015	38,745	65
Midwest Generation	0.28	2015	35,343	45
	0.11	2019	67,710	80
Total Under CAIR			233,600	
			125,000	

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## NOx Agreed to Reductions

	NOx Lbs/mmbtu	By Year	NOx eliminated (tons/yr)	NOx % reduced
Ameren	0.11	2012	18,799	52.2
Dynegy	0.10	2012	9,980	48
Midwest Generation	0.11	2012	32,655	68
Total			<u>61,434</u>	
CAIR Reduction			<u>55%</u>	

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## Illinois Stats cont.

- **2 nonattainment areas (NAA) - Chicago area, Metro-East St. Louis area**
  - PM-2.5
  - Ozone (moderate)
- **Over 6,500 permitted sources of air pollution**
- **673 Major Sources of air pollution**
- **325 sources (5%) emit 92% of the emissions**

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## Other Hot Topics

- **Renewable Energy Standard (RES) and Energy Efficiency Portfolio Standard (EPS)**
  - RES will require Illinois utilities to supply 2% of their power from renewable energy source 2008, 10% by 2015, and 25% by 2025.
  - EPS will require Illinois utilities to reduce overall electric usage by 0.2% of demand in 2008 and increasing to 2.0% by 2015.
  - RES seen as boon to wind power in Illinois
- **Climate Change:**
  - Illinois Climate Change Advisory Group – recommendations to Gov soon, include CO2 cap and trade.
  - Green House Gas Registry
  - Chicago Climate Exchange
  - Voluntary reporting of GHG emissions beginning in 2008

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