MARYLAND

Department of the Environment

The Maryland Clean Power Regulation and Proposed Amendments to The Healthy Air Act

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MDE

Topics

- Background on MD-CPR
  - Purpose
  - Affected Sources
  - Requirements
  - Emissions Reductions
  - Flexibility
  - Costs and Timing
- Proposed Amendments to the Healthy Air Act
- Comparing the different programs

The Clean Power Rule

- Addresses the “local” component of Maryland’s air quality problems
- Most sweeping air pollution control measure proposed in Maryland history
- Dramatically reduces local nitrogen oxide (NOx), sulfur dioxide (SO2) and mercury emissions from the 6 largest coal-fired power plants in Maryland.
- Cornerstone of Maryland’s plan to meet the new health-based ozone and fine particle standards.

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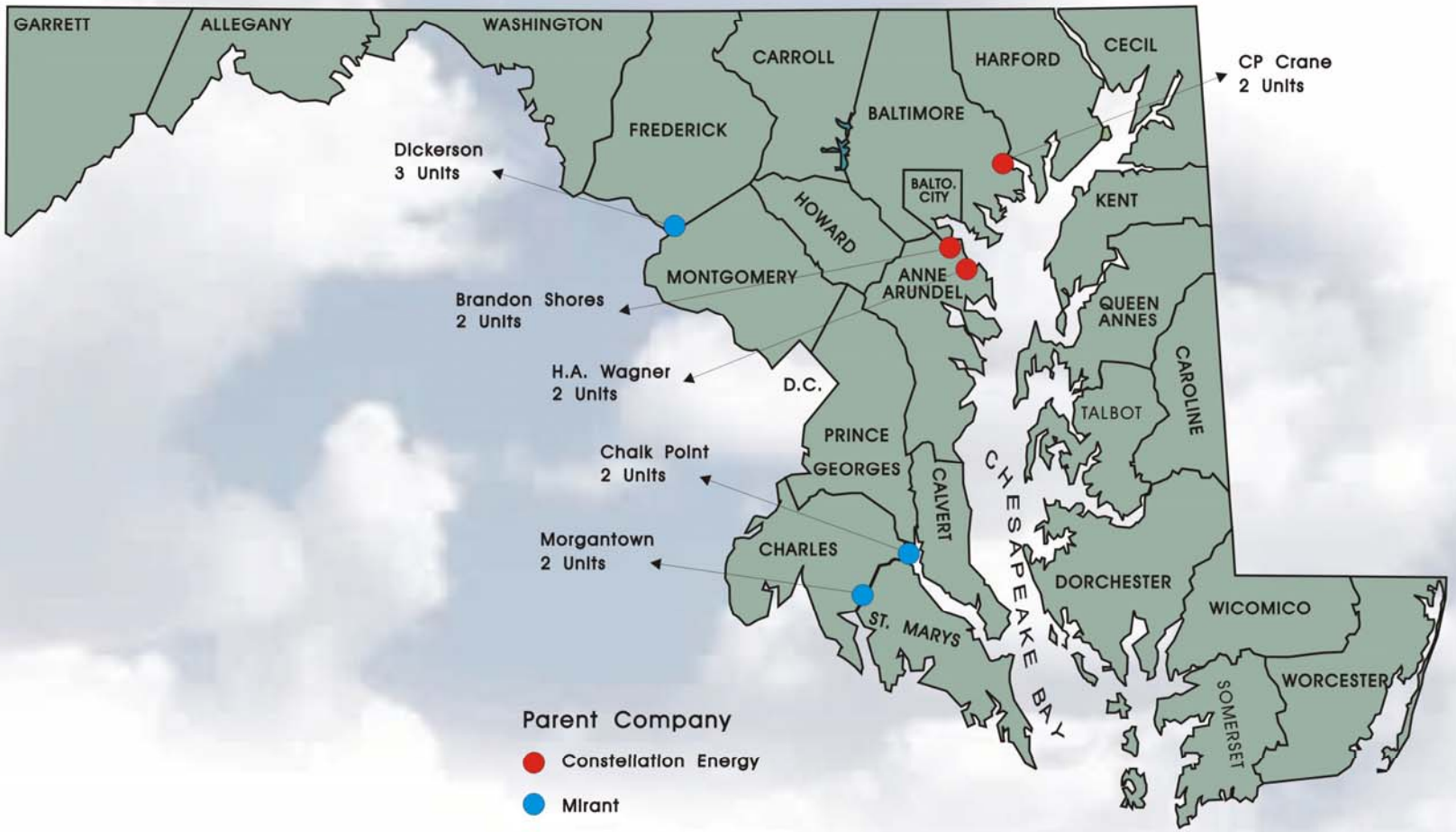
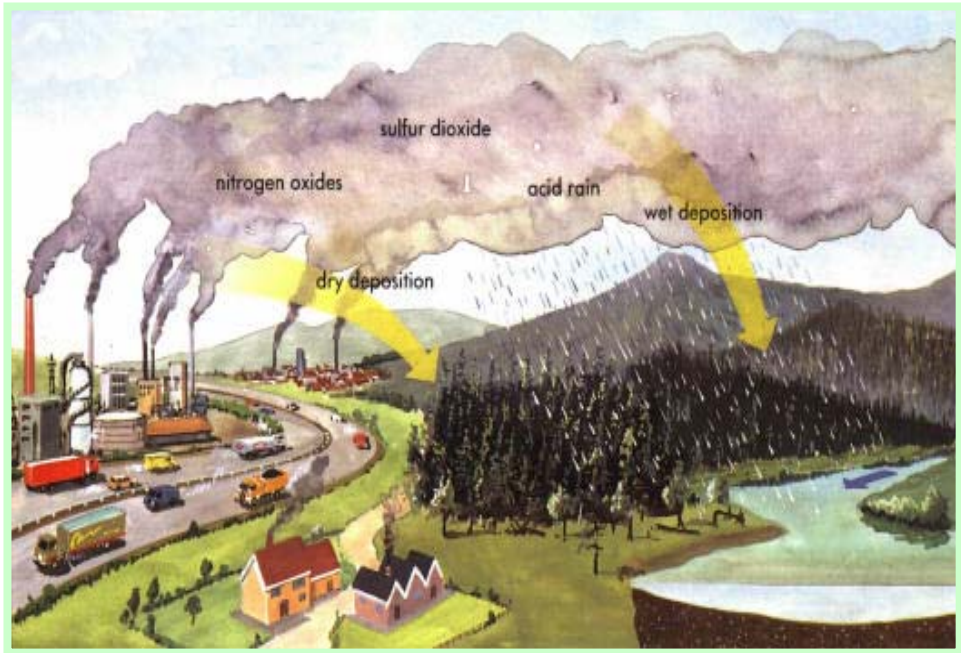
Coal-fired Power Plants Covered by the Clean Power Rule



Benefits from the Clean Power Rule

- Largest emission reducing regulation ever adopted in Maryland
- The key to bringing Maryland into compliance with new ozone and fine particulate standards by 2010
- Significantly reduces mercury emissions and nitrogen deposition to the Chesapeake Bay
- Complements, but strengthens federal rules

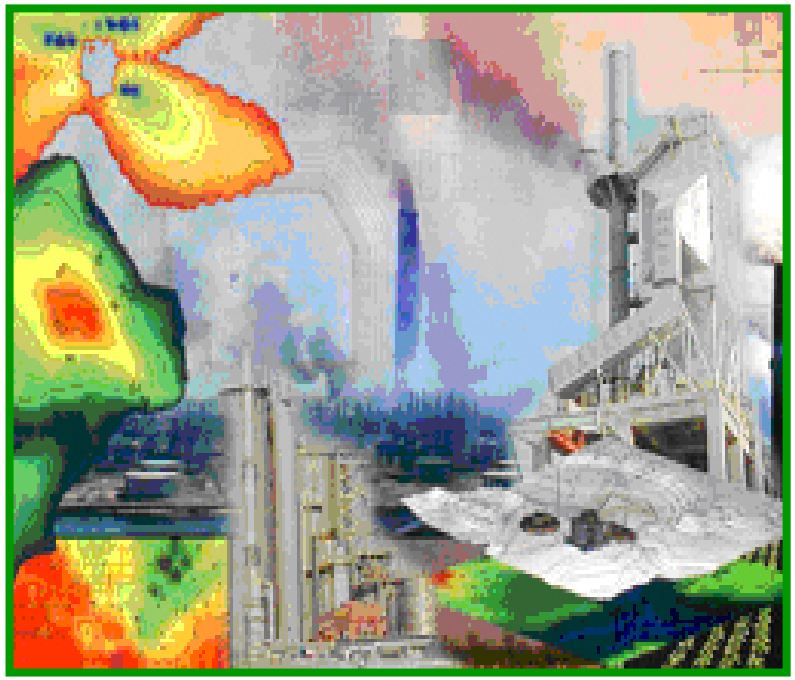


What's Required

- Reduce emissions of NOx, SO2 and Mercury from in-State units within the companies "system"
- Meet a system-wide rate or percent reduction
- Reductions must be in Maryland
- SO2 and NOx compliance measured with Continuous Emission Monitors (CEMS)
  - Provides tremendous certainty

Emission Reductions

- Nitrogen oxide emissions
  - Additional 69% reduction by 2010
  - Additional 75% reduction by 2012
  - When added to earlier control efforts – About 80% to 85% reduction since 1990
  - Critical to Maryland's plan to meeting the ozone standard by 2009/2010
  - Also contributes to fine particulate nonattainment
  - Significant benefit to the Chesapeake Bay



Emission Reductions

- Sulfur dioxide (SO2) emissions
  - Approximate 85% reduction by 2010
  - Absolutely critical to Maryland's plan for meeting the fine particulate standard by 2010
    - Sulfates are the largest contributor to fine particulate air pollution in Maryland
  - Will also help improve visibility and help Maryland meet "Regional Haze" requirements

Emission Reductions

- Mercury emissions
  - 80% reduction by 2010
  - 90% reduction by 2015
  - First phase to be driven primarily by co-benefits from NOx and SO2 controls
  - Second phase most likely to drive other controls like activated carbon injection systems

Flexibility for Small SO2 Sources

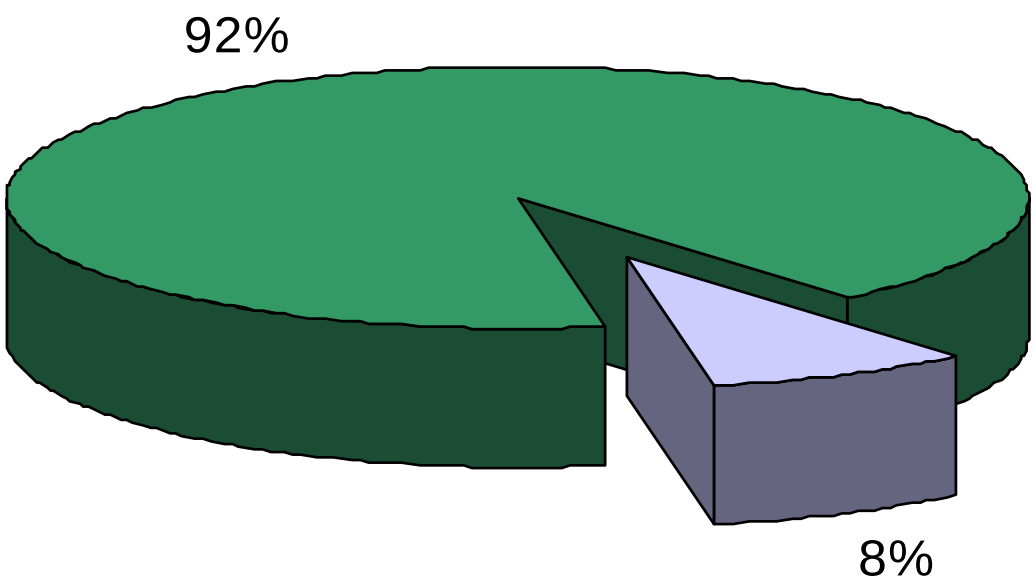
- Scrubbers are huge
- The “footprint” of some smaller plants makes it difficult and costly to install scrubbers
- Units with a capacity less than 250 MW may opt out of meeting the system-wide rate if they are well controlled with “Best Available Control Measures” or BACM

Costs and Timing

- EPA conducted detailed analysis of costs and timing to support CAIR
  - Directly relates to Clean Power Rule
- EPA analysis indicates that the installation of scrubbers and SCR driven by proposed rule is achievable by 2009/2010
- Real world experience with the 2004 NOx SIP Call was positive
- Industry comment on EPA analysis is generally positive

Attaining the New Standards

Local Emission Reductions Needed in Maryland to Comply with 2010 Ozone and Fine Particulate Standards

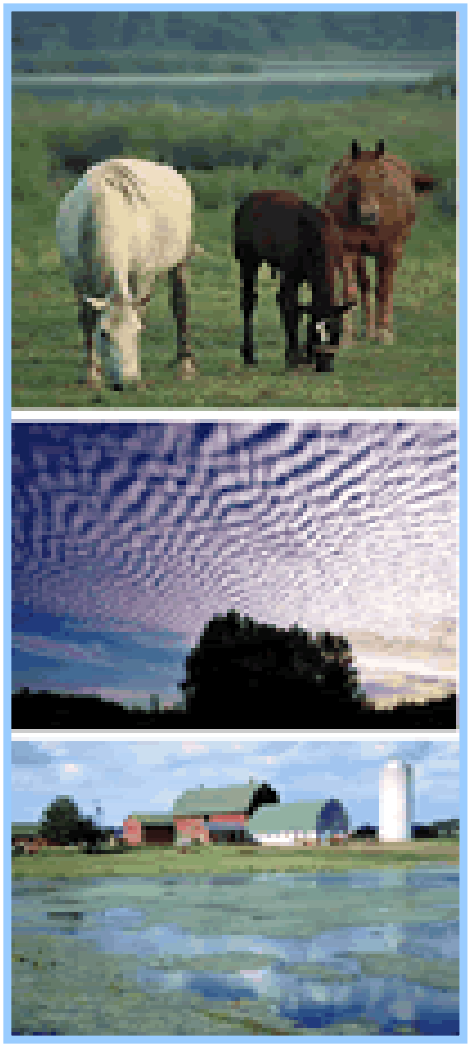


Maryland Clean Power Rule

Other Control Measures Identified by the MDE or the Ozone Transport Commission

* Assumes an appropriate level of control in upwind states to reduce air pollution transport into Maryland as estimated by EPA

The Healthy Air Act



- MDE supported the Healthy Air Act with amendments
- MDE amendments would modify the Healthy Air Act to be consistent with the Maryland Clean Power Rule
  - Strengthens NOx requirements
  - Strengthens SO2 requirements
  - Addresses mercury in 2 phases
  - Eliminates CO2
  - Includes provisions to address concerns with small sources and timing
  - Eliminates R. Paul Smith Units

A Quick Comparison

- The Maryland Clean Power Rule
  - Quickest
  - Toughest on NOx and SO2
  - Addresses small sources and timing
  - Driven by Maryland attainment needs
- The Healthy Air Act
  - Addresses CO2
  - Toughest on mercury
- The Clean Air Interstate Rule
  - Designed to reduce transport
    - Not intended to address local reductions
  - Allows trading – Does not guarantee reductions in Maryland

Questions?