



## EPA Regulations: Status and Impacts

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Before House Energy and Utilities Committee

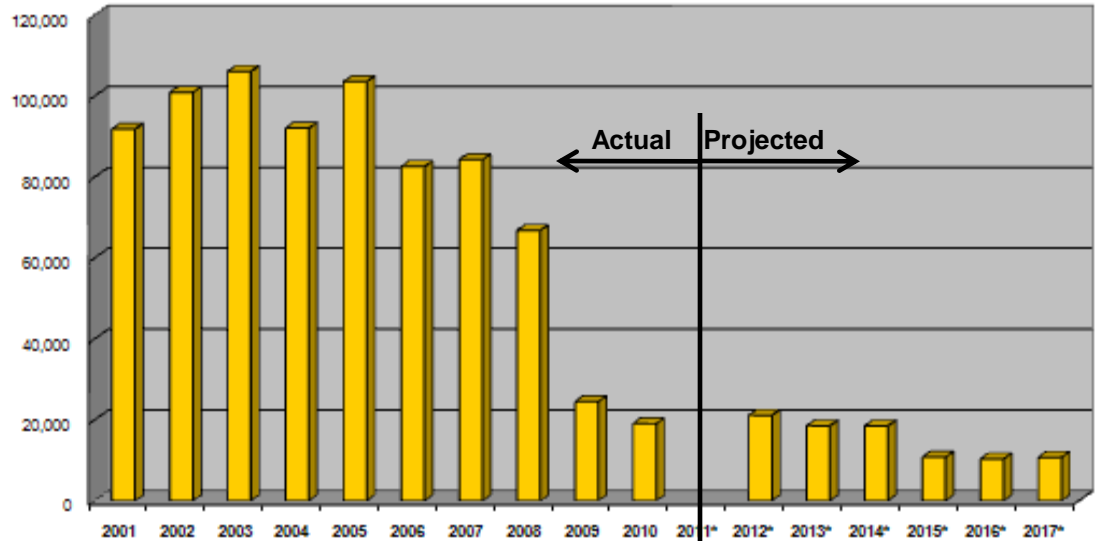
January 12, 2012

# Regulatory Summary

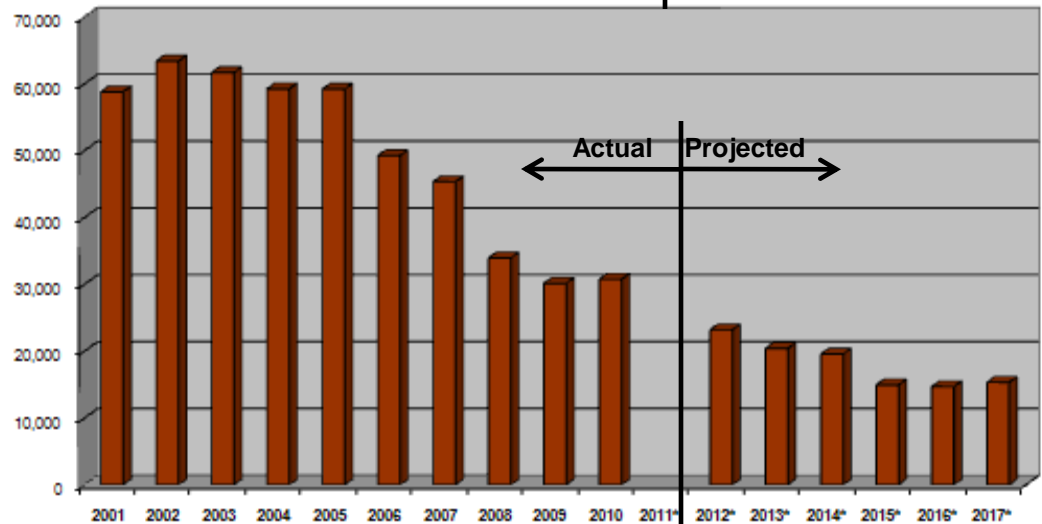
	Cross States Air Pollution Rule	Utility MATS	316(b)	Coal Combustion Waste
Status	Stayed Dec. 30, 2011	Final Dec. 21, 2011	Proposed	Proposed
Effective	TBD	March, 2012	July, 2012	Mid-2013
Emissions/Areas covered	NOx, SO <sub>2</sub>	Mercury, Acid Gases	Water Intakes	Fly ash Bottom ash Gypsum
Energy Centers impacted	Coal, Gas	Coal, Oil	Coal, Nuclear	Coal
Issue(s)	Cost, reliability, allowances, timeline	Cost, timeline	Cost	Cost, hazardous/non-hazardous

# Westar's Emission Reductions

**Sulfur Dioxide ↓ 82% to date  
(tons)**



**Nitrogen Oxide ↓ 48% to date  
(tons)**



# Current Status under CSAPR

- ✓ **SO<sub>2</sub> – OK pending finalization of October 6 proposed amendments**
- ✓ **Seasonal NO<sub>x</sub> – OK through 2013/2014 considering December 16th supplemental notice**
- ✓ **Annual NO<sub>x</sub> – remains a significant concern**
  - **Acquired some allowances**
  - **Results of technical corrections pending with EPA**

# Construction Status

## ◆ Jeffrey Energy Center

- Installed low NO<sub>x</sub> burner systems (completed)
- Installing Selective Catalytic Reduction (2014)
- Installing Selective Non-Catalytic Reduction (2012)
- Already meet SO<sub>2</sub> limits (completed)

## ◆ Lawrence Energy Center

- Upgrading scrubbers (2012)
- Installing fabric filters/baghouses (2012)

## ◆ LaCygne

- Upgrading and installing scrubbers
- Installing fabric filers/baghouses
- Installing Selective Catalytic Reduction (SCR)

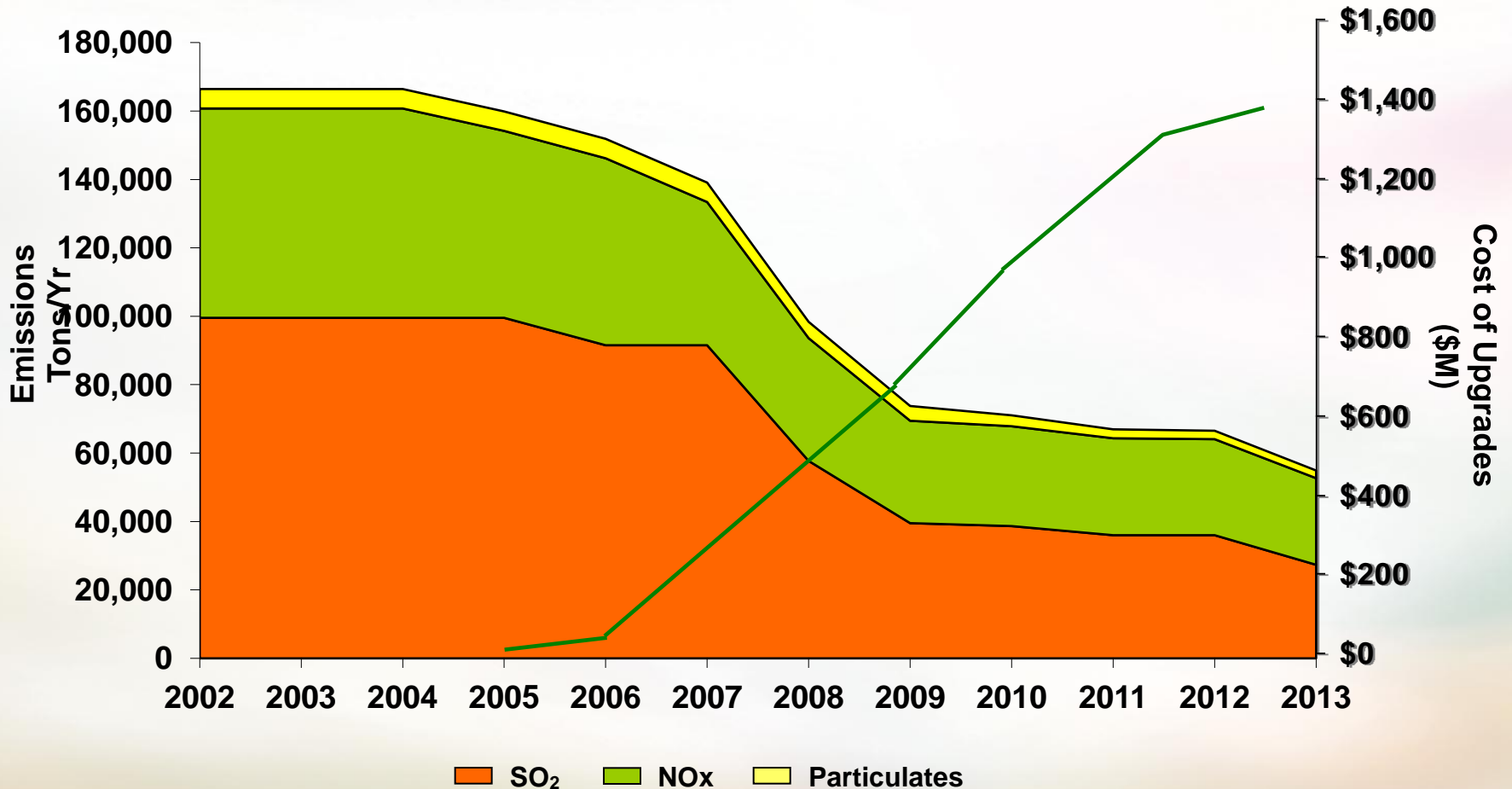
# Mercury and Air Toxics Standards (MATS)

- Rule issued December 21, 2011
- 3-year implementation (4<sup>th</sup> year “maybe”)
- Industry rec’d limited relief
  - Particulate
  - Mercury emission rate
  - Emissions averaging
  - Start-up & shutdown exclusion?
  - Co-benefits of existing projects
- Mature technologies but will still have challenges

# Technology

- Low NOx burner systems, SCR, SNCR – reduce/remove NOx
- Scrubbers – remove SO<sub>2</sub>, acid gases and some level of mercury
- Baghouses – particulate matter and small amount of mercury
- Precipitators – particulate matter
- Dry Sorbent Injection
  - Activated Carbon – absorbs mercury
  - Trona – absorbs SO<sub>2</sub> and acid gases

# Emission Reductions vs. Costs





Questions?