

LEGISLATIVE JOINT COMMITTEE ON ENERGY AND ENVIRONMENTAL POLICY AIR QUALITY BRIEFING



Nov. 19, 2012

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Current Air Quality Issues

- ▣ National Ambient Air Quality Standards (NAAQS)
- ▣ Cross-State Air Pollution Rule (CSAPR)
- ▣ 1-hour SO₂ standard
- ▣ Kansas City and Wichita ozone status
- ▣ April 2011 exceptional events request for ozone
- ▣ Mercury and air toxics rule (MATS)
- ▣ GHG regulation update
- ▣ Oil and gas NSPS and MACT

National Ambient Air Quality Standards

- Clean Air Act (CAA) requires EPA to:
 - Set National Ambient Air Quality Standards for six air pollutants
 - Review standards every 5 years
 - Determine which counties meet the standards
- NAAQS (criteria pollutants) based on health effects
- Cost not taken into consideration
- Pollutants that have NAAQS established
 - Ozone
 - Particulate matter (PM)
 - Nitrogen Oxides (NO_x)
 - Sulfur Dioxide (SO₂)
 - Lead
 - Carbon Monoxide (CO)

Air Acronyms

- NSPS **New Source Performance Standards**
 - For criteria pollutants; applies to new units in one sector
- MACT **Maximum Achievable Control Technology**
 - For Hazardous Air Pollutants; technology driven
 - Affect existing and new units in one sector
- BART **Best Available Retrofit Technology**
 - For criteria pollutants that contribute to Regional Haze - NO_x, SO₂, PM
- BACT **Best Available Control Technology**
 - Affect new and existing units in one sector in nonattainment areas
- SIP **State Implementation Plan**
 - Plans to ensure that NAAQS are met...may include regs or agreements
 - Approved and adopted by EPA

Cross-State Air Pollution Rule Update

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- ❑ Final Rule signed on July 6, 2011.
- ❑ Affected power plant emissions that contribute to ozone and/or fine particle pollution in downwind states.
- ❑ Covers NO_x and SO₂.
- ❑ Modified cap and trade program.
- ❑ Kansas, other states and utilities petitioned for reconsideration.
- ❑ Stay of Rule granted December 2011 pending judicial review.
- ❑ CSAPR vacated and remanded to EPA by DC Appeals Court panel.
- ❑ EPA requested hearing of appeal by full court.
- ❑ Kansas waiting on court decision and on SIP call on "interstate transport" for ozone.

1-hour SO₂ ...how we got here

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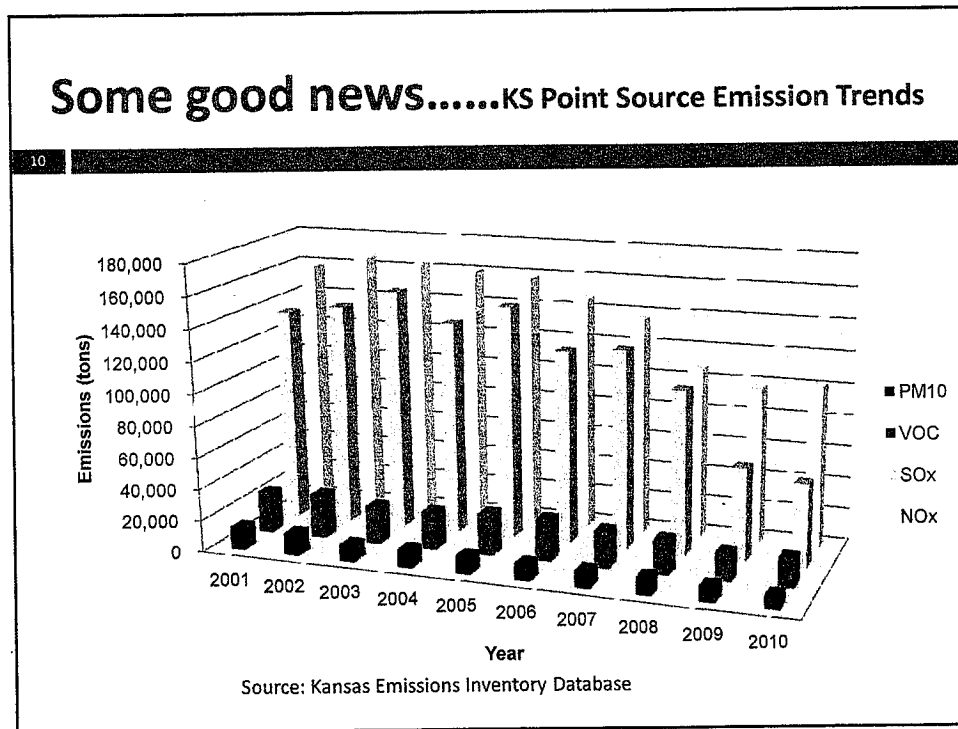
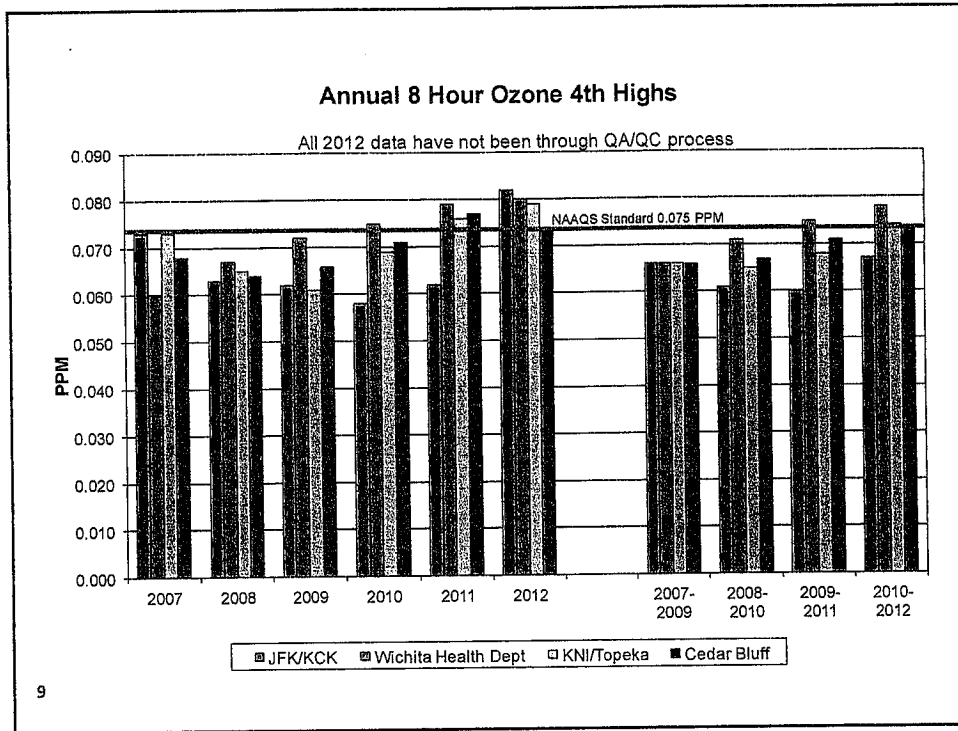
- ❑ EPA first set NAAQS for SO₂ in 1971:
 - ❑ 24-hour primary and 3-hour secondary standards.
- ❑ EPA set 1-hour standard of 75 ppb released in June 2010
 - ❑ 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations.
- ❑ Introduced use of modeling for determining attainment.
- ❑ June 2011 – States submit initial designation recommendations
 - ❑ All Kansas counties designated unclassifiable.
- ❑ EPA announced new stakeholder process in response to massive pushback over use of modeling for designations.
- ❑ 2017 – Compliance year....requires 3 years of clean data.

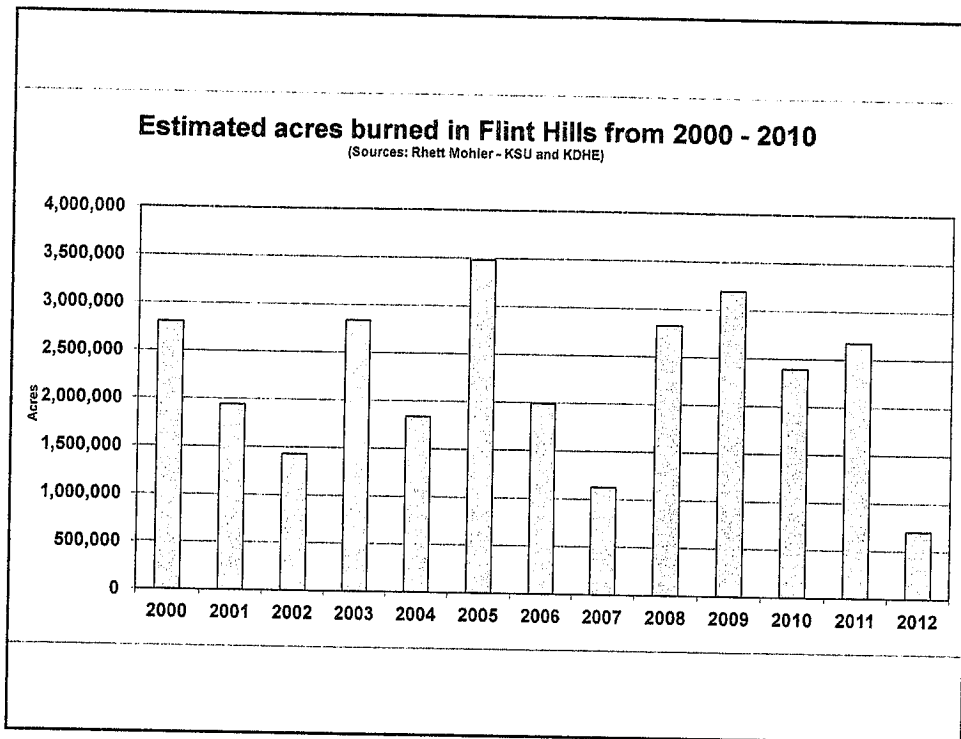
SO₂ Next Steps....

- EPA final decision on use of modeling versus monitoring in attainment process.
- Sources or KDHE conduct refined modeling or perform monitoring.
- Determine which sources need additional controls.
- Develop agreements or regulations.
- Develop State Implementation Plan.
- SIP approval by EPA.
- Attain new standard.

Ozone Standard Update

- EPA lowered standard to 75 ppb in 2008.
- KC and Wichita met the 75 ppb standard based on older data.
- EPA proposed standard of 60 to 70 ppb in January 2010.
- Obama directed EPA to stop reconsideration on Sept 2, 2011.
- Next statutory review of standard due in 2013.
- KC and Wichita do not meet the 75 ppb standard now.
- EPA has said they will not re-designate until after review.
- Wait for new standard and designation.
- KDHE working with KC and Wichita on voluntary steps to reduce ozone.





Exceptional Events Request

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- Flint Hills burning in April of 2011 impacted ozone values.
- KDHE contracted with Sonoma Technologies for assistance.
- Key components of request:
 - Description of ecosystem and the role fire plays;
 - Show the event was not reasonably preventable;
 - Show a clear causal relationship between burning and high values;
 - Show the values were higher than normal;
- Request is in final draft form.....responding to comments.
- Submit to EPA this week.

Mercury and Air Toxics Standards

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- December 21, 2011 – EPA sets limits for mercury, acid gases and other toxics from new and existing coal and oil-fired EGUs.
- EPA also revised NSPS to limit PM, SO₂ and NO_x for:
 - Fossil fuel fired Electric Utility; and
 - Industrial, commercial, institutional boilers.
- Sources get 3 years to comply, State may grant 1 additional year
 - Potential for 1 more year if needed for reliability at critical units.
 - KDHE has received 3 requests, granted 2, reviewing 3rd
- Kansas has 16 coal-fired units subject to rule.
- EPA reconsideration happened last Friday
 - Proposed changes for periods of startup and shutdown.

Proposed GHG NSPS for New EGUs

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- March 27, 2012 - EPA proposed CO₂ standard for new fossil-fuel fired power plants.
- Output-based emission standard of 1,000 pounds of CO₂ per megawatt-hour (lb CO₂/MWh gross) .
- Applies to **new units**:
 - Fossil fuel-fired boilers, IGCC and Gas combined cycle units.
- Combined cycle natural gas power plants could meet the standard without add-on controls.
- New coal or petcoke power plants would need carbon capture and storage technology (CCS).
 - The proposal includes alternative 30-year compliance period to allow these new plants to incorporate CCS later.

Not Subject to Proposed GHG Rule

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- ❑ Existing units, including modifications such as changes needed to meet other air pollution standards
- ❑ New simple cycle turbines
- ❑ "Transitional" units
 - ❑ Sources with construction permits not covered by this standard if they begin construction within 1 year of proposal publication.
 - ❑ Certain sources that are part of a DOE demonstration project.
- ❑ New units located in non-continental areas...Hawaii and the territories
- ❑ New units that burn biomass only
- ❑ Comment period on proposed rule closed. Final rule still at EPA. EPA sued on proposed rule.

Reciprocating Internal Combustion Engines

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- ❑ RICE MACT
 - ❑ Applies to existing, new, and reconstructed stationary engines (both CI and SI);
 - ❑ Hazardous air pollutants (HAPs) – formaldehyde, acrolein;
 - ❑ Established under CAA section 112.
- ❑ Compression Ignition/Spark Ignition Engines (NSPS)
 - ❑ Applies to new, modified, and reconstructed stationary CI/SI engines;
 - ❑ Criteria pollutants – PM, CO, NO_x;
 - ❑ Established under CAA section 111.
- ❑ Applies to agricultural, industrial, municipal and commercial engines.

RICE MACT and NSPS Requirements

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- Requirements based on: engine horsepower, ignition type, fuel type, air/fuel ratio, 2- stroke or 4-stroke, and how engines are used.
- Requirements may include:
 - Notification and reporting
 - Best Management Practices;
 - Limits on hours of operation;
 - Performance testing;
 - Retrofitting existing units with catalysts;
 - New engine standards.

2012 RICE MACT Update

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- EPA Settlement Agreement:
 - Allows substitution of testing for VOCs instead of formaldehyde.
 - Emergency demand response program from 15 to 60 hours per year or the minimum hours required by Independent System Operator tariff, whichever is less.
- RICE MACT reconsideration projected final by Dec 2012.
 - Would allow emergency engines to operate 100 hours per year without meeting emission limits for:
 - maintenance and readiness checks,
 - emergency demand response, and
 - responding to five percent change in voltage.

KDHE RICE Implementation Process

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- Continuing compliance assistance and outreach.
- State RICE engine rule package for MACT and NSPS will be proposed together.
- Working on policy and regulation changes to reduce burden on area sources such as agricultural engines.
- Developing streamlined notification.
- Developing web-based approval process to speed up permitting.

Natural Gas NSPS Affected Units

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- Final rule in August 2012, applies to:
 - Hydraulically fractured gas wells
 - Compressors
 - Pneumatic controllers
 - Tanks
 - Process unit equipment
 - Sweetening units at natural gas processing plants

Natural Gas NSPS Requirements

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- Requirements based on piece of equipment
- Notification
- Green completions
- Maintenance requirements
- Control equipment – flares
- Performance testing
- Reporting
- Recordkeeping

On the Horizon

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- Proposed revision of PM_{2.5} standard -- Dec 2012
 - Primary standard of 12 to 13 $\mu\text{g}/\text{m}^3$
 - Secondary visibility standard
- Start-up, shut-down and malfunction changes expected in MACT rules..... possibly a SIP call in Dec 2012
- Possible revisions to Oil and Gas MACT standard to address oil well completions
- Boiler MACT rule re-proposed in December 2011.
 - Reduced the number of boilers covered by emission limits
 - Final rule at OMB, expected out late 2012

KDHE Comments on EPA Regulations

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- ❑ Factual errors
 - ❑ Emission inventory with CAIR, CATR and CSAPR
- ❑ Procedural issues
 - ❑ FIP issues with GHG tailoring rule and CSAPR
 - ❑ Allocation shortages with CSAPR
- ❑ Technical or Policy disagreements
 - ❑ Secondary visibility portion of the proposed PM 2.5 standard
 - ❑ Unfunded mandates
 - ❑ Time for compliance with standards (CSAPR)
- ❑ Contact regulated community for input
- ❑ **We pick our spots where we can effect change**

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Our Vision -- Healthy Kansans living in safe and sustainable environments.