STATUS OF OZONE STANDARD...
FLINT HILLS UPDATE...
CROSS-STATE AIR POLLUTION RULE...
ONE HOUR SO2 RULE

Joint Energy and Environment Committee Briefing

Kansas Department of Health and Environment

Sept 9, 2011

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Ozone Standard

- EPA set standard at 84 ppb in 1997
- EPA set standard at 75 ppb in 2008
- EPA announced reconsideration of standard in September of 2009...concluded that it:
  - Failed to protect public health,
  - Failed to follow the scientific community's recommendations
  - Was legally indefensible
- EPA proposed a standard in the range of 60 to 70 ppb in January 6, 2010
- Obama asked EPA to stop reconsideration on Sept 2, 2011
- Next statutory review of standard due in 2013
- What is the ozone standard today.....

Ozone Exceedances June thru Sept of 2011...

assuming a 75 ppb ozone standard

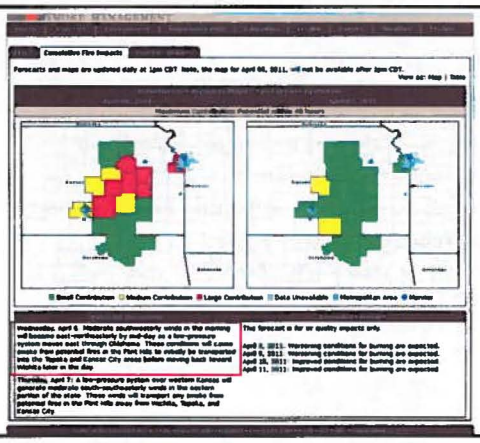
Monitoring Site	Design Value	No. of exceedances
Wichita - Peck	75	6
Wichita - Sedgwick	73	8
Wichita – Health Department	75	5
Johnson County – Heritage Pk	69	3
Leavenworth	69	3
KCMO - Liberty	73	8
KCMO - Trimble	76	6
KCMO – Watkins Mill	75	7
KCMO – Rocky Creek	75	7
KCMO – Richards Gebauer	67	2

Smoke Management Plan History

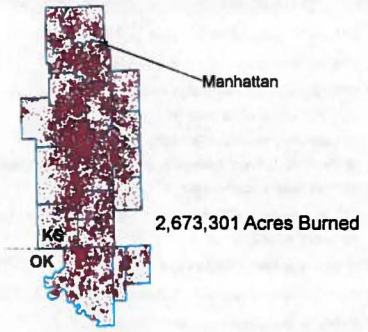
- Flint Hills ecosystem covers 13 Kansas counties
- Prairie burned in April to improve cattle weight gain and control invasive trees, shrubs and plants
- Safety conditions limit number of days that are suitable
- Burning caused ozone exceedances in 2003, 2009, 2010 & 2011
- EPA denied KDHE's request to flag 2009 data due to lack of Smoke Management Plan
- Commitment to develop Smoke Management Plan in 2010
- Committee formed and multiple meetings in 2010 on developing SMP
- Plan adopted by KDHE in December 2010

About the Smoke Management Plan

- Describes the Flint Hills ecosystem and the agricultural economy it supports
- Is voluntary for prescribed burns of rangeland
- Includes tools to assist land managers and local fire officials in making burn decisions
- Has a web site (ksfire.org) with a tool to predict smoke plume movement and other burn resources
- Includes restrictions on certain burns in April
- Outlines a major outreach effort to ranchers, the public and government officials



Acres Burned in Flint Hills - 2011

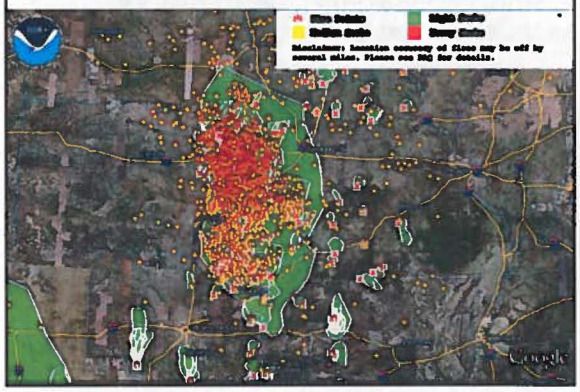


April 2011 Monitoring Results

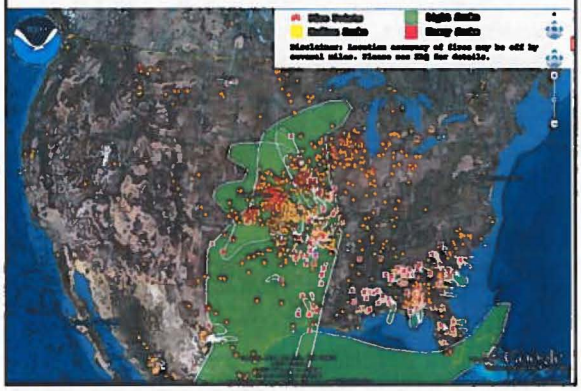
Date	Location	Pollutant	Concentration
April 6, 2011	Mine Creek	Ozone	76 ppb
April 6, 2011	Wichita - HD	Ozone	79 ppb
April 6, 2011	Wichita - Peck	Ozone	82 ppb
April 12, 2011	Konza Prairie	Ozone	78 ppb*
April 12, 2011	Topeka - KNI	Ozone	84 ppb
April 13, 2011	KC, Mo	Ozone	76 ppb
April 13, 2011	Konza Prairie	Ozone	79 ppb*
April 29, 2011	Wichita - Sedgwick	Ozone	82 ppb
April 29, 2011	Wichita - Peck	Ozone	77 ppb

*- CASTNET site that is not run by KDHE BOA

April 12, 2011 Satellite Fire and Smoke Plume



April 13, 2011 Satellite Fire and Smoke Plume



What next?

- Review monitoring and meteorological data
- Improve forecasting model
- Prepare request for exceptional event data flag
- Expand and continue outreach
  - Revise/update website/pamphlet
  - Expand number of counties informed
  - Expand organizations informed
- Finalize April burn restriction rule

Interstate Transport History

- Acid Rain Program
- Regional Haze
- NOx State Implementation Plan Program
- Clean Air Interstate Rule
- Clean Air Mercury Rule
- Clean Air Transport Rule
- Cross State Air Pollution Rule

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Cross-State Air Pollution Final Rule

- Affects power plant emissions that contribute to ozone and/or fine particle pollution in down-wind states
- Covers Nitrogen oxide and Sulfur dioxide
- Final Rule signed on July 6, 2011
- Pursuant to section 110(a)(2)(D)(i)(I) of Clean Air Act
- Addresses the December 2008 court decision that kept Clean Air Interstate Rule (CAIR) in place and ordered EPA to fix it
- Upwind state's obligations to reduce pollution based on:
  - the magnitude of a state's contribution....1% threshold
  - the cost of controlling pollution, and
  - the air quality impacts of reductions.

Why Is EPA Doing This?

Counties Projected to Have Ozone and/or $PM_{2.5}$ Problems in 2012 Without CSAPR

Counties with Violating PM and/or Ozone Monitors (17)

Counties with PM and/or Ozone Maintenance Problems (10)

States covered by the Cross-State Air Pollution Rule (28)*

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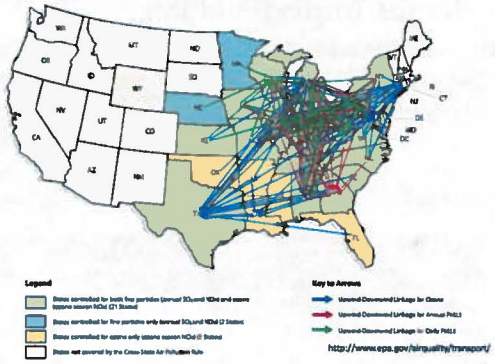
Ozone Season Supplemental Proposal

- Published July 11, 2011
- Limits emissions during 5 month ozone season period
- To be finalized by October 31, 2011
  - 26 states will be required to reduce ozone season NO_x emissions
  - 21 states will be covered for the $PM_{2.5}$ NAAQS (annual SO_2 and NO_x)
- Proposes inclusion of six states in ozone season program: Iowa, Kansas, Michigan, Missouri, Oklahoma, and Wisconsin
  - Modeling identified two new counties with ozone problems
  - Modeling shows that IA, KS, MO, OK, and WI contribute to Allegan County Michigan

Upwind-Downwind Linkages



Legend

Key to Arrows

http://www.epa.gov/airquality/transport/

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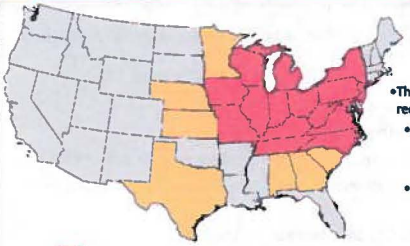
Trading Program Implementation

- Federal implementation Plan (FIP) for each state covered by rule
- States may replace FIPs with State Implementation Plans (SIPs) for 2013 and beyond
- January 1, 2012 – Phase 1 SO_2 and annual NO_x trading programs begin
- May 1, 2012 – Ozone season NO_x trading program begins
- January 1, 2014 – Phase 2 SO_2 and annual NO_x trading programs begin
- May 1, 2014 – Phase 2 ozone season NO_x trading program begins
- Kansas is included in Annual NO_x, proposed Ozone Season NO_x, and SO_2 Group 2 trading progams

SO_2 Control Group 1 and Group 2 States



Group 1 States (16 States)

Group 2 States (7 States)

States not covered by the annual Cross-State Air Pollution Rule

- The rule includes separate requirements for:
  - Annual SO_2 reductions
    - Phase I (2012) and Phase II (2014)
  - Two Control Groups
    - Group 1 – 2012 cap lower in 2014
    - Group 2 – 2012 cap only

Elements of CSAPR Trading Programs

- States receive budget based on modeling
- Limited interstate trading for SO_2,
- Full interstate trading for NOx
- Owners of multiple facilities can trade across facilities in their trading region
- State budgets = Existing Unit Allocations + New Unit Set-Asides
- States also receive 18% variability limit
- EGUs required to hold one SO_2 or NO_x allowance for every ton of SO_2 or NO_x emitted
- Banking of allowances for use or trading in future years allowed

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Electrical Generating Unit Allocations

- Unit allocations based on historic heat input
- Existing unit allocations for 2012 made pursuant to FIPs
- Kansas received 2% of our budget for new units
- New unit – commences operation after January 1, 2010
- Unallocated new unit set-asides will be distributed to existing units in the state
- Variability Limit added to allocations for each state
  - State Assurance Level = State Budget + Variability Limit
- Exceedance of state assurance level leads to allowance surrender requirement, possible SIP call

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Kansas Trading Budgets

2012 Trading Period - tons	2010 Actual Emissions	2012 State Allocation Budget	2012 New Unit Set Aside	2012 Variability Limit	2012 State Assurance Level
Annual NOx	48,938	30,100	614	5,529	36,243
Ozone Season NOx	22,315	13,265	271	2,843	16,379
SO2 Group 2	45,251	40,697	831	7,475	49,003

2014 Trading Period - tons	2010 Actual Emissions	2014 State Allocation Budget	2014 New Unit Set Aside	2014 Variability Limit	2014 State Assurance Level
Annual NOx	48,938	25,049	511	4,601	30,161
Ozone Season NOx	22,315	10,778	220	2,310	13,308
SO2 Group 2	45,251	40,697	831	7,475	49,003

Utility Options

- Buying allowances….if available
- Trading allowances internally…where legal
- Fuel switching to natural gas to reduce SO_2 emissions
- Dispatching units not subject to the rule
- Idling more polluting units and buying cleaner power from the grid
- Moving forward pollution control projects to earlier completion

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Kansas Concerns with CSAPR

- 2012 compliance period is too soon to complete projects underway or planned
  - CAIR compliance period – May 2005 to 2009
  - CSAPR compliance period – July 2011 to 2012
- Can Kansas meet its state budget?
- State has no control over 2012 existing unit allocations
- Stranded SO_2 allocations for WESTAR due to settlement with EPA
- Supplemental Ozone Season Proposal?
  - Time constraints
  - Technical issues
  - Dispatch of smaller dirtier units to meet demand

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CSAPR Next Steps…..

- Letter of Intent to submit SIP for adjustments to 2013 existing unit allocations by ~ September 29, 2011
- Submit comment letter on the Supplemental Proposal by August 22, 2011…..DONE
- Governor's letter to EPA Administrator….DONE
- Continued discussions with EPA and regulated community
- Submit SIP to adjust 2013 and future year allocations
  - SIP due to EPA no later than April 1, 2012
- Potential for legal intervention

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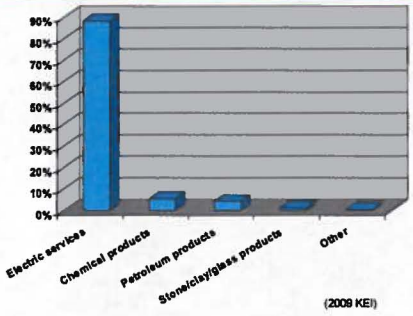
SO_2 Standards NAAQS – History

- EPA first set NAAQS for SO_2 in 1971:
  - 140 parts per billion (ppb) 24-hour primary standard
  - 30 ppb annual average primary standard
  - 500 ppb 3-hour average secondary standard
- Last review completed in 1996 – EPA did not revise
- New 1-hour primary standard of 75 ppb (196.5 $\mu g/m^3$)
- 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations"

Name	Mine Creek	Peck	Cedar Bluff	JFK
County	Linn	Sumner	Trego	Wyandotte
Design Value (ppb)	11.3	7.0	3.0	45.0

Kansas SO_2 Emissions by Source



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SO_2 Standard Attainment Timeline

- Jun 2010 - New standard promulgated
- Jun 2011 – States submit designation recommendations (KS: unclassifiable)
- Jun 2012 – EPA finalizes designations
- Jun 2014 – States send attainment Implementation Plans for nonattainment areas
- Aug 2017 – Initial attainment date for all areas

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SO_2 Next Steps....

- KDHE conducts screening modeling to screen out sources
- Sources or KDHE conducts refined modeling
- Determine which sources need additional controls
- Develop agreements or regulations
- Develop Maintenance State Implementation Plan
- Approval by EPA
- Attain new standard

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Kansas Department of Health and Environment

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

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