

Clean Power Plan Overview for KCC

January 12, 2016

Thomas Gross

Bureau of Air

Kansas Department Health and Environment



THE CLEAN POWER PLAN

- Three actions by EPA on August 3, 2015
 - Final emission guideline rules for existing electrical generating units (EGU) -- (111d)
 - Final CO2 performance standards for new, modified and reconstructed EGUs
 - Proposed Federal Plan and model rule for existing EGUs
- Goals for existing units based on state's mix of power generation in 2012
- Kansas goal dropped significantly from proposal
- State goals in either mass or rate form
 - Mass - Caps total annual tons of carbon EGUs can emit
 - Rate - Caps carbon per unit of power produced

CPP STRUCTURE

- EPA develops a statewide goal for each state to meet
- State develops a plan for submittal to EPA
 - List of affected units
 - Method of complying with the CO₂ goal set for the State
 - Means of ensuring that utilities comply with the goal
- Plans are subject to EPA approval
- Federal Plan (FIP) imposed only if state fails to submit plan or plan does not meet federal requirements
- EPA proposed model trading rules to streamline process for states that choose to trade

KANSAS AFFECTED UNITS

- Coffeyville Mun. Power Plant Unit 4
- ***Empire District - Riverton Unit 12***
- Kansas City BPU - Nearman Unit 1
- Kansas City BPU - Quindaro Units 1 and 2
- KCP&L - La Cygne Units 1 and 2
- Mid-Kansas Electric - Cimarron River Unit 1
- Mid-Kansas Electric - Fort Dodge Unit 4
- Mid-Kansas Electric - Great Bend Unit 3
- Sunflower Electric - Garden City Unit S2
- Sunflower Electric - Holcomb Unit 1
- Westar Energy - Gordon Evans Units 1 and 2
- Westar Energy - Hutchinson Unit 4
- Westar Energy - Jeffrey Unit 1, 2 and 3
- Westar Energy - Lawrence Units 3, 4 and 5
- Westar Energy - Murray Gill Units 1, 2, 3 and 4
- Westar Energy - Tecumseh Units 7/9 and 8/10
- Winfield Mun. Power Plant #2, Unit 4

Does not include 3 closed units and 3 cold-standby units

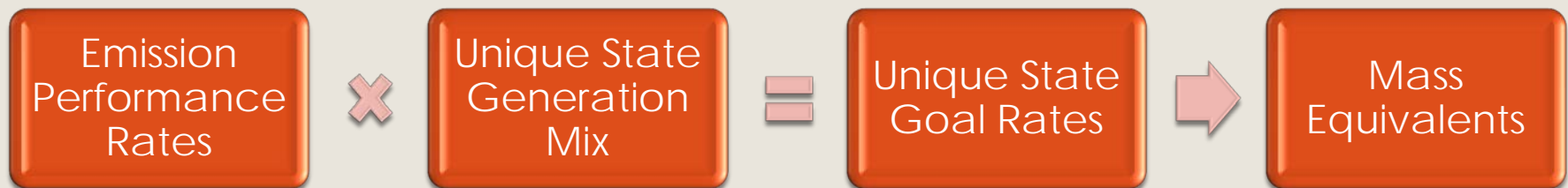
KEY CLEAN POWER PLAN DATES

Date	Action
August 3, 2015	Final Clean Power Plan rule issued
September 6, 2016	States submit final plan or initial submittal with extension request
September 6, 2017	Progress update to EPA for states with extensions
September 6, 2018	State final plans due to EPA
January 1, 2022	First of three interim compliance periods begins
January 1, 2030	Final compliance date

BEST SYSTEM OF EMISSIONS REDUCTION

Building Block	Strategy Used to Calculate Goal
1. Improved efficiency at power plants	Increase efficiency of existing coal-fired steam EGUs.....based on interconnect potential
2. Shift from steam EGUs to NGCC turbines	Substituting increased generation from existing gas units for reduced generation at existing steam EGUsbased on 75% summer capacity
3. Shifting generation to renewables	Substituting increased generation from new zero-emitting generation for reduced generation at existing fossil fuel EGUs.....based on state renewable potential

EGU PERFORMANCE RATES

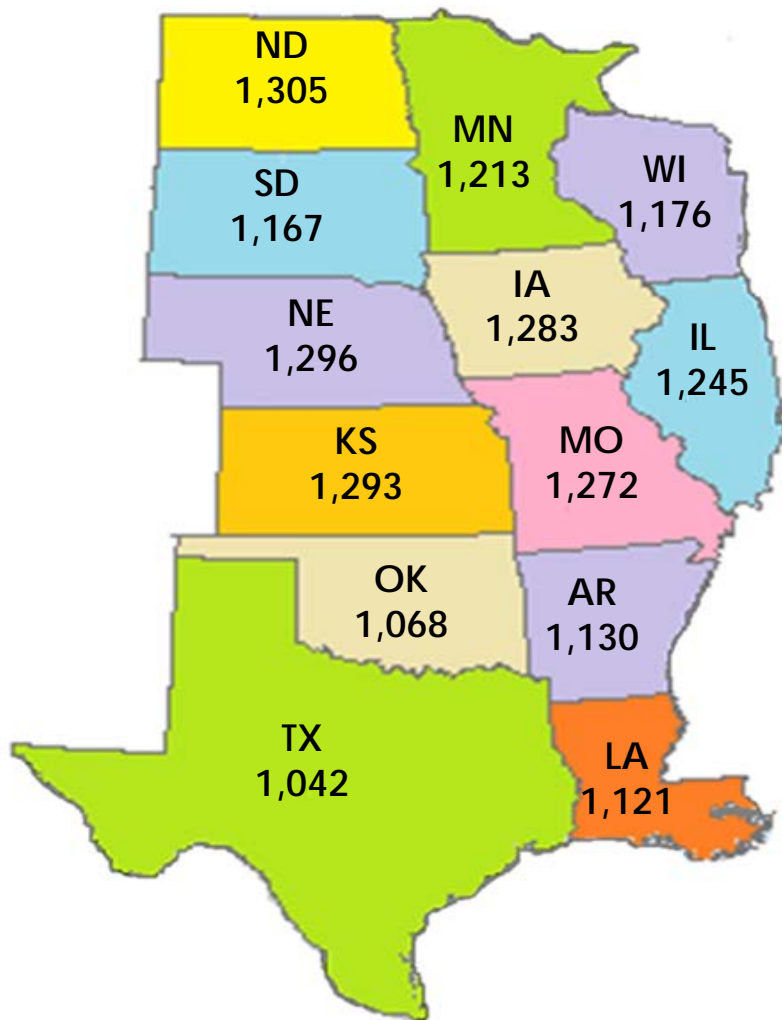


- Rates established for two categories of existing EGUs
 - Fossil fuel-fired EGUs – **1,305 lbs/MWh**
 - Natural gas combined cycle units – **771 lbs/MWh**
- Rule sets state goals in three forms:
 - Rate-based in lbs/MWh
 - Mass-based in tons of CO₂
 - Mass-based with new source complement in tons of CO₂

KANSAS INTERIM AND FINAL GOALS

	CO ₂ Rate (lbs/net MWh)	CO ₂ Emissions (short tons)	
2012 Historic	2,319	34,353,105	
	Rate-Based (lbs/net MWh)	Mass-Based (annual avg. CO ₂ emissions in short tons)	Mass-Based existing + new source complement
CPP interim period (2022–2029)	1,519	24,859,333	25,120,015
Interim period 2022–2024	1,654	26,763,719	26,870,692
Interim period 2025–2027	1,485	24,295,773	24,656,647
Interim period 2028–2029	1,366	22,848,095	23,189,053
Final goal (2030 and beyond)	1,293	21,990,826	22,220,822

NEARBY STATES' FINAL GOALS



Final Rule Range: (1,042 – 1,305)

Note: All goals are listed in units of lbs CO₂/MWh

COMPLIANCE PATHS

Rate-based Compliance (lbs/MWh)

Subcategorized CO₂ emission performance rates

State CO₂ emission goal rate for existing units

Varied CO₂ emission rates

Mass-based Compliance (tons CO₂)

CO₂ Mass goal for existing units

CO₂ Mass goal for existing units w/ new unit complement

State measures: CO₂ Mass Goal for existing and new units

REQUIREMENTS FOR INITIAL PLAN SUBMITTAL

- Identification of plan approach under consideration
- Description of progress to date on plan components
- Explanation of why additional time is needed
- Demonstration of engagement with stakeholders and public comment process
 - Must include vulnerable communities
- Plans for stakeholder engagement during development of the final plan
- Initial plan submittal with extension request deemed approved if no negative EPA comments in 90 days

HOW DOES THE RULE ADDRESS RELIABILITY?

- **State Reliability Demonstration**
 - States required to demonstrate reliability issues considered in developing plan
- **Plan Revisions due to Reliability Issues**
 - States may propose plan revisions to deal with reliability threats
 - Emission performance must be maintained
 - Revision must include analysis from ISO/RTO regarding risk
- **Reliability Safety Valve**
 - To address unanticipated events that would prevent utility from meeting regulation
 - Provides 90-day period during which an EGU is not required to meet its emission standard

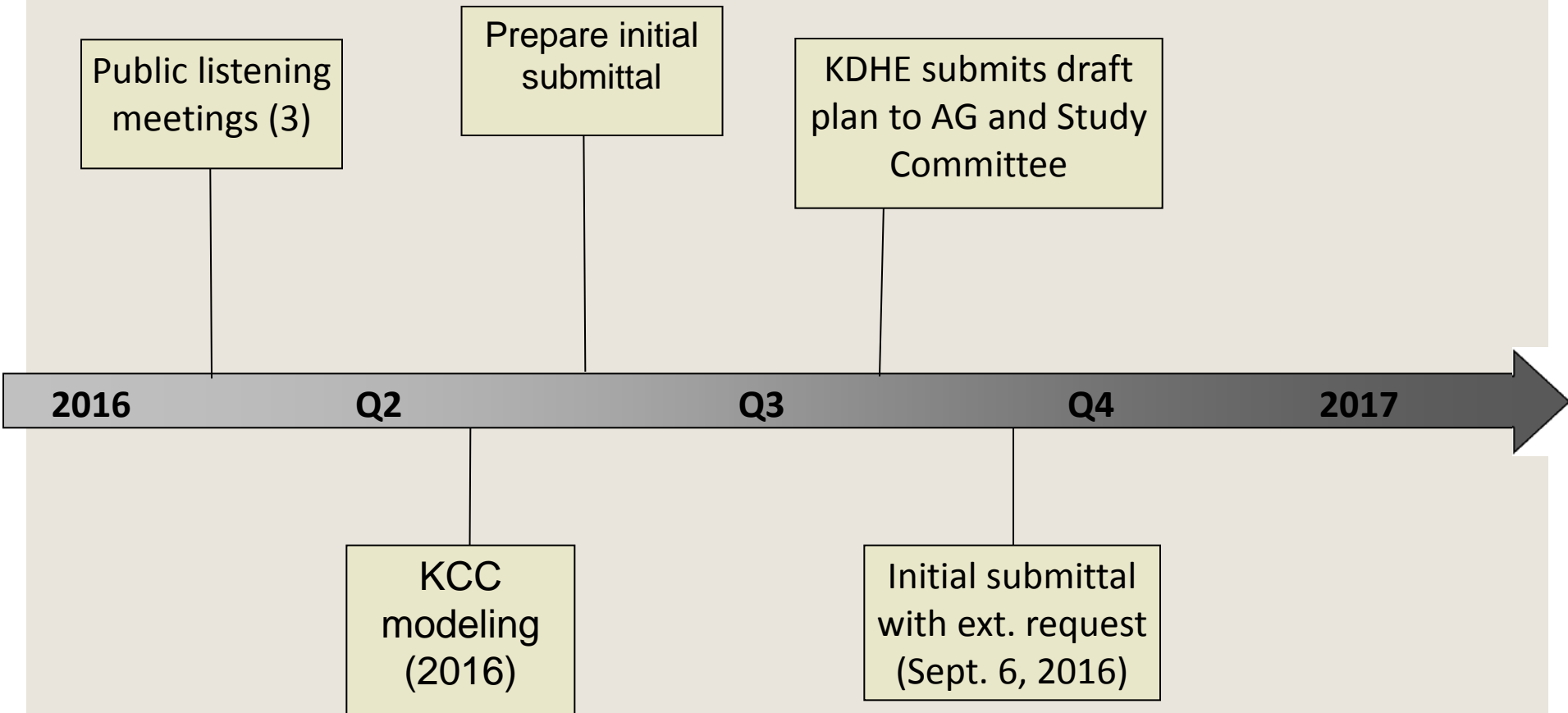
FEDERAL PLAN AND MODEL RULE

- Model Rule has proposals for both mass and rate goals
 - “Trading ready” options for states and utilities
 - EPA will support trading with EPA tracking systems
 - Clean Energy Incentive Program
- Federal Plan occurs if state does not submit approvable plan
 - Would apply to all affected EGUs
 - Proposed Federal Plan is trading-ready
 - Affected states can implement parts of the Plan
 - States can exit federal plan upon approval of a state plan
 - No reliability safety valve

KDHE EFFORTS TO DATE

- MOU with KCC
- Review of voluminous EPA materials
- Petition for reconsideration and request for stay (Dec. 17, 2015)
- Surveying nearby states' efforts and plans
- Webpage and e-mail established
- Stakeholder meetings
- Preliminary evaluation of compliance options

SHORT-TERM TIMELINE



ON THE HORIZON

- Submit comment letter to EPA on the proposed Federal Plan and Model Rules
- Determine whether rate or mass is best approach
- Coordinate with KCC on their modeling effort
- Public listening sessions (Feb-March 2016)
- Review types of plans and their requirements
- Prepare initial submittal with request for a time extension
- Continue coordination with KCC, utilities and stakeholders

FINAL THOUGHTS

- Much uncertainty still remains
 - Potential lawsuits...possible stay
 - Final version of the proposed rule will have significant impact on state plans
 - EPA's interpretations of the preamble and the final rule
- How to deal with stranded electrical generating assets
- Addressing cost and grid reliability
- Distribution of allowances and set-asides if a mass plan is chosen

Questions?

Thomas Gross
Bureau of Air
Kansas Department of Health and Environment
Tgross@kdheks.gov
(785) 296-1692



**Our vision is 'healthy Kansans living in safe and sustainable environments'.
The state belongs to all of us - "Kansas Don't Spoil It"**