KANSAS MUNICIPAL UTILITIES

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EPA RICE NESHAP Update

Kansas Joint Committee on Energy and Environmental Policy

October 17, 2011

Municipal Electric Utilities

- Kansas Municipal Utilities (KMU)
- Kansas Municipal Energy Agency (KMEA)
- Kansas Power Pool (KPP)

Background

- Acronyms
  - RICE = Reciprocating Internal Combustion Engines
  - NESHAP = National Emission Standards for Hazardous Air Pollutants
- Complex Matrix of Rules
  - NESHAP – First time to include existing units
  - Regulation: Title 40, Part 63 of Code of Federal Regulations (CFR)
  - EPA Region VII: "Need 3-D Glasses" to read, interpret rules
  - New rules widely unnoticed, overlooked
- Two Classifications
  - Compression Ignition (CI)
    - Diesel, Dual Fuel
    - EPA Final Rule: February 17, 2010
  - Spark Ignition (SI)
    - Natural gas, Gasoline, etc.
    - EPA Final Rule: August 10, 2010
- Compliance
  - Catalytic Converters
  - Startup, Shutdown & Malfunction Requirements
  - Emissions Monitoring & Reporting
  - Retire Units

	Cities	Municipal Units	Municipal Capacity (MW)
Kansas	56	306	603
Iowa	67	287	549
Minnesota	46	192	401
Missouri	44	201	388
Nebraska	34	100	120
Wisconsin	13	47	182
	260	1133	2243

- The Problem
  - Existing transmission system in Kansas reliant on RICE units
  - Units seldom operated, but critical when they do
  - Declining populations in Kansas cities with RICE units
    - 51 of 56 communities have declining populations
    - Median = -8.7%
  - Unrealistic deadline: May 3, 2013
  - Small communities ill-equipped to bear the costs of retrofitting units, particularly for very questionable environmental benefits
  - Uncertainty
- Dual Fuel Units
  - Natural gas: provides primary source of fuel to power engine, generator
  - Diesel: provides ignition source, lubrication
  - Typical operation: 5-8% diesel
  - EPA regulations: > 2% diesel usage = CI engine
- Retrofit
  - Cost estimates: $60,000 to $100,000 per engine
  - Where's the benefit?
    - Hours of operation often less than 50 per year
    - But, need to have <u>option</u> to run continuously
      - Transmission constraints
      - Capacity credits
      - Emergency situations
- Retire units, shutter local power plants
- Examples
  - Attica
    - Operated 4 RICE units for 29 hours total in 2010
    - Estimated cost to retrofit = $240,000+
    - Likely to Close Power Plant
  - Iola
    - Peak load = 24 MW
    - Transmission system can only deliver 17 MW
    - RICE units necessary for voltage support
    - Variability of weather

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Impact of the RICE NESHAP Rule on Municipal Utilities in Kansas

Attica, Kansas *(pop. 626)*
In 2010, Attica operated their RICE engines for a total of twenty-nine hours. The municipal utility was forced to generate with their RICE units once when electricity to their town was cut off due to a maintenance outage at a nearby substation and a second time when a large thunderstorm caused a significant outage. Without the RICE units the city would have been in the dark. To comply with the RICE rule, Attica would be required to spend $240,000 (conservatively estimated). In 2010, Attica's air emissions were so low as to be deemed "non-reportable."

Baldwin City, Kansas *(pop. 4,515)*
"To bring our five Fairbanks-Morse units into compliance using a stack catalyst unit, monitoring devices, and the necessary crankcase vacuum modifications is going to run us $414,389," said Rob Culley, Lead Power Plant Operator for the City of Baldwin City. "The cost of the RICE NESHAP regulations not only impacts our annual operating budget, it severely impacts our reserve fund, and will inevitably trickle down to our customers in the form of a rate increase." Over the past two years, the most any one RICE unit has operated on an annual basis is roughly 200 hours.

Belleville, Kansas *(pop. 1,991)*
The impending compliance date of May 2013 and concern about the ability to find reasonably priced contractors and parts has lead many cities to already implement the needed upgrades. The City of Belleville, Kansas installed catalysts on their four power plant units at a cost to ratepayers of $302,368. Belleville City Manager Robert Knudson noted that cities have the difficult and unreasonable choice to either spend the money to comply right now and assume there will be no relief from the regulation or delay and face potential shortages of labor and equipment and increased costs.

Chanute, Kansas *(pop. 9,119)*
The City of Chanute originally received estimates that totaled over $800,000. Since then, the city also received a quote to bring their seven RICE units into compliance at a cost of $1,250,000. The city has since developed specifications and performance guarantees and will hold a pre-bid meeting on October 13, 2011. Bids will be due October 31, 2011 for work to be completed in 2012. "RICE is just the start for all the EPA regulations affecting Chanute," said Larry Gates, Director of Utilities for the city. "Cross State Air Pollution Rule is another huge concern to us. Then we switch to wastewater and nutrient reduction. In today's dollars, that's maybe $13,000,000. Where will it stop?"

Colby, Kansas *(pop. 5,387)*
"The City of Colby has received a quote for $633,835.64 to install the necessary catalytic converters to bring our six engines into compliance with RICE/NESHAP regulations," said Carolyn Armstrong, City Manager of Colby, Kansas. "This is for engines that have averaged a total of 88 hours of annual operation in each of the last seven years. As you can well imagine, running the engines for an average of 88 hours per year does not add substantial contamination to the air in Colby. For a community of 5,300, this is an exorbitant cost to fix a problem that doesn't exist."

Garnett, Kansas *(pop. 3,415)*
"The City of Garnett received one quote in the amount of $604,000," said Joyce Martin, City Manager in Garnett. "If we are forced to abide by the RICE regulation, I don't know where we will come up with these funds. We are totally opposed to this rule as our engines are only used for peaking and in emergency purposes."

Hoisington, Kansas *(pop. 2,706)*
"The cost for our four engines is between $550,000 and $600,000. That is a major cost that will take many years to repay. This is all for a power plant that only ran 204 hours so far this year," said Dave Wondra, Power Plant Superintendent in Hoisington, Kansas.

Larned, Kansas *(pop. 4,054)*
"Larned has received one quote of about $700,000 to comply with the RICE rule," said Ralph Streit, Electric Production Superintendent for the City of Larned, Kansas. "I'm frustrated that this whole mess with the RICE rule is going to cost our citizens a bunch of money that doesn't need to be spent. We do not run our engines enough to cause damage to anything. All this regulation is doing is taking money that could be better used in another way to benefit our community."

Lincoln Center, Kansas *(pop. 1,297)*
Rose Gourley, City Clerk for Lincoln Center, noted that, "a report from our engineering consultant just last month indicated that Lincoln's cost for compliance would be almost $400,000." The large expenditure is overwhelming for a city with a population of just under 1,300 citizens. "This all comes along just as we are trying to do complete a multi-year overhaul of the engines at the plant. A large part of our reserves has already been depleted as a result of that project."

Norton, Kansas *(pop. 2,928)*
In 2011, the City of Norton was reviewing an investment of $2.5 million for improving the cooling system for its generating units at the power plant. With the city facing the additional investment to comply with the regulatory aspects of the RICE/NESHAP regulations by adding catalysts to 4 of its 5 generating units, the governing body made the decision to close the power plant as of August 14 and the city dropped its air permits. The RICE/NESHAP regulatory requirement was the "final nail in the coffin for the Norton power plant" according to Rob Lawson, Norton City Administrator.

Pratt, Kansas *(pop. 6,835)*
The City of Pratt has received a quote indicating that the cost of compliance with the RICE NESHAP rule would be $443,575. This is only for two RICE engines. In addition to the cost of oxidation catalysts, the city will be forced to purchase data loggers, a demist system to filter crankcase ventilation, and new silencer tailpipe sections. In addition, Pratt estimates another $74,000 will be required to building alteration costs to modify the existing power plant so that the new equipment will fit in the building. The project will be drawn from electric capital reserve funds, dollars that would otherwise be used for other important generation and distribution upgrades.

Sterling, Kansas *(pop. 2,328)*
The City of Sterling has received bids in the amount of $450,035 to place catalytic convertors on seven engines that normally generate only 2% of the city's electrical use in a year. Ninety-eight percent of the city's power is purchased from the Kansas Power Pool. Sterling has received bids as high as $110,000 per engine for a total of $770,000. The population of Sterling is 2,328 citizens (or 1,227 electric meters). The $450,035 bids plus 10% contingencies at $45,003 totals $495,038 for the RICE requirements. This equates to $212.64 per capita, $403.45 per meter customer, or $6.72 per meter monthly on a five-year life expectancy of catalytic convertors.

Stockton, Kansas *(pop. 1,329)*
"For Stockton, the cost of complying with the RICE rule is $320,000. It takes several years to save up that much money in a utility of our size and will kill my budget for repairing the more important things that need to be addressed, like substation work and replacing reclosers. All of that will get pushed back by three years, minimum," said Jeff Scott, Electric Production Superintendent for the City of Stockton.

KANSAS MUNICIPAL UTILITIES

KEC KANSAS ELECTRIC COOPERATIVES, INC
A Touchstone Energy® Cooperative

October 13, 2011

The Honorable Jerry Moran
The United States Senate
354 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Moran,

Kansas Municipal Utilities (KMU) and Kansas Electric Cooperatives (KEC) wish to thank you for your considerable support and assistance in bringing attention to new EPA rules that jeopardize our members' ability to provide reliable and lower-cost electricity to the citizens of Kansas. In addition, we strongly support legislation that would alleviate the extremely harmful effect of the new EPA RICE NESHAP rule.

As you know, EPA published a final National Emission Standards for Hazardous Air Pollutants (NESHAP) for compression ignition stationary Reciprocating Internal Combustion Engines (RICE) last March. This "RICE" rule impacts thousands of diesel and natural gas engines across the Midwest and the United States. The agency followed that move last August by issuing a NESHAP for spark ignition RICE that impact thousands of additional gasoline and spark-ignited natural gas units.

In Kansas, these RICE engines play a critical role in providing reliable and lower-cost electricity to cities, towns and rural areas from Hugoton and Goodland in the west to Sabetha and Girard in the east. Just within the KMU membership alone, 56 Kansas cities with municipal power plants would be adversely affected. In these cities, 306 RICE units are currently operated and provide a total generating capacity of over 600 megawatts (MW). The generating units are distributed geographically all across Kansas, providing a backbone of power resources that make the state's electric grid significantly more reliable.

Numerous electric cooperatives would also be impacted, either through the operation of their own RICE units for emergency or peaking situations or through their contractual relationship with municipal utility wholesale customers. Beyond Kansas, the rule will have a detrimental impact on hundreds of municipal utilities, rural electric cooperatives, rural irrigators and other companies and industries all across the United States.

For larger power plant RICE units, compliance with the new EPA rule requires that every affected engine, at a minimum, would need to install a new catalytic converter and implement emission monitoring systems. KMU and its members conservatively estimate the cost of compliance will be from $60,000 to $100,000 per engine.

Meanwhile, the environmental benefit to our communities is negligible. The cost of operating RICE units under normal conditions is uncompetitive compared to the cost of other power supplies. Because of this, municipal utilities and rural electric cooperatives have little or no economic incentive to operate the units except in emergency or peaking situations. Most municipal RICE units in Kansas operate fewer than 100 to 200 hours per year. With such limited operation, many of these utilities already have "non-reportable" levels of hazardous air pollutants emitted by RICE units annually. Essentially, this EPA rule may force some utilities to invest hundreds of thousands of ratepayer dollars to reduce the level of emissions from a point that EPA already deems too low to report.

In addition, the vast majority of engines that will be regulated under the RICE rule utilize natural gas as their primary fuel. These units are often referred to as "dual fuel" engines because they are able to operate using either diesel fuel or a combination of diesel fuel and natural gas. Due to basic economics and standard operating conditions, the engines normally use 85-95% natural gas and diesel fuel is used only to provide the source of ignition. One unintended and ironic result of the RICE rule may very well be to force the early retirement of many of these natural gas engines, forcing utilities to replace that power with electricity generated by coal-fired power plants.

In addition to requiring rate increases to electricity consumers, the RICE rule is likely to deplete utility reserve funds needed for other critical infrastructure needs. Smaller systems save for years to be able to upgrade their systems in a way that will actually benefit their customers. Improvements to important distribution, transmission and generation equipment will be delayed for many years as these systems struggle to find the funds to make the RICE improvements.

Without regulatory relief, we believe there will be community-owned systems forced to close their generating facilities. In these cases, the burden of regulatory emissions compliance will outweigh the benefit and investment these communities have historically made to provide reliable power to the customer-owners of these systems. The shuttering of these power plants, in turn, will result in the loss of numerous local jobs.

Again, both KMU and KEC are extremely grateful for your assistance and attention to this matter and are strongly supportive of your efforts to gain relief through legislation.

Sincerely,

Colin Hansen
Kansas Municipal Utilities

David Holthaus
Kansas Electric Cooperatives

112TH CONGRESS
1ST SESSION

S. _____

To provide that the rules of the Environmental Protection Agency entitled "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" have no force or effect with respect to existing stationary compression and spark ignition reciprocating internal combustion engines operated by certain persons and entities for the purpose of generating electricity or operating a water pump.

IN THE SENATE OF THE UNITED STATES

_____

_____ introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To provide that the rules of the Environmental Protection Agency entitled "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" have no force or effect with respect to existing stationary compression and spark ignition reciprocating internal combustion engines operated by certain persons and entities for the purpose of generating electricity or operating a water pump.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. EXISTING STATIONARY COMPRESSION IGNITION RECIPROCATING INTERNAL COMBUSTION ENGINES.

The final rule published by the Environmental Protection Agency on March 3, 2010, entitled "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" (75 Fed. Reg. 9648), and any subsequent regulation that is substantially the same shall have no force or effect with respect to existing stationary compression ignition reciprocating internal combustion engines (as that term is used in the rule) operated for the purpose of generating electricity or operating a water pump by—

(1) a State or local government, political subdivision, or agency;

(2) a public or cooperative utility; or

(3) persons or entities engaged in the production of agricultural commodities, including livestock.

SEC. 2. EXISTING STATIONARY SPARK IGNITION RECIPROCATING INTERNAL COMBUSTION ENGINES.

The final rule published by the Environmental Protection Agency on August 20, 2010, entitled "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" (75 Fed. Reg. 51570), the direct final action published by the Environmental Protection Agency on March 9, 2011, entitled

"National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" (76 Fed. Reg. 12863), and any subsequent regulation that is substantially the same shall have no force or effect with respect to existing stationary spark ignition reciprocating internal combustion engines (as that term is used in the rules) operated for the purpose of generating electricity or operating a water pump—

(1) by a State or local government, political subdivision, or agency;

(2) a public or cooperative utility; or

(3) persons or entities engaged in the production of agricultural commodities, including livestock.