

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2014 JOINT INTEGRATED RESOURCE PLAN) CASE NO.
OF LOUISVILLE GAS AND ELECTRIC COMPANY) 2014-00131
AND KENTUCKY UTILITIES COMPANY)

COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION TO
LOUISVILLE GAS AND ELECTRIC COMPANY AND
KENTUCKY UTILITIES COMPANY

Louisville Gas and Electric Company and Kentucky Utilities Company (collectively "LG&E/KU" or "the Companies"), pursuant to 807 KAR 5:001, Section 8, are to file with the Commission the original in paper medium and an electronic version of the following information. The information requested herein is due no later than February 18, 2015. Responses to requests for information in paper medium shall be appropriately bound, tabbed and indexed. Each response shall include the name of the witness responsible for responding to the questions related to the information provided.

Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

LG&E/KU shall make timely amendment to any prior response if they obtain information which indicates that the response was incorrect when made or, though

correct when made, is now incorrect in any material respect. For any request to which LG&E/KU fail or refuse to furnish all or part of the requested information, they shall provide a written explanation of the specific grounds for their failure to completely and precisely respond.

Careful attention should be given to copied material to ensure its legibility. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When filing a paper containing personal information, LG&E/KU shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Refer to the response to Item 7 of Commission Staff's Second Request for Information ("Staff's Second Request").

a. The first sentence of the response states, "The purpose of the chemical additive testing conducted at E.W. Brown Station was to identify alternatives for the E.W. Brown Units 1 and 2 to comply with mercury emissions standards and any operational limitations required to maintain compliance." Explain whether the testing was also indicative of the units' being compliant with limits other than for mercury that are prescribed by the Mercury and Air Toxic Standards ("MATS").

b. The second sentence of the response states, "The completed test results...indicate the ability to attain mercury compliance...with some operational limitations during peak summer conditions." Specifically identify the type of peak summer conditions referenced in the response and describe the "operational limitations" to which the response refers.

c. The last sentence of the response states, "The Companies do not plan to retire the units as a result of the Mercury and Air Toxic Standards." Based on compliance being attained using chemical additives, provide the current expectations for the number of years Brown Units 1 and 2 should continue to operate.

2. Refer to the January 8, 2015 Platts Megawatt Daily article ("Platts article"), attached as the Appendix to this request for information.

a. Refer to the last paragraph on page 1, which states that recent test results show the two units can reduce mercury emissions sufficiently to meet MATS.

(1) Describe in detail the testing procedures used to measure the reduction in mercury emissions for Brown Units 1 and 2.

(2) For Brown Units 1 and 2, provide the mercury emissions levels: (a) prior to testing the chemical additives; (b) during the testing of the chemical additives; and (c) expected after installation of the permanent injection system.

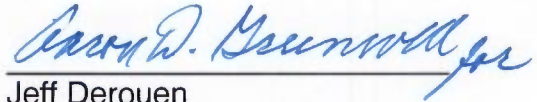
b. The paragraph beginning at the bottom of the left column on page 16 of the Platt's article and continuing to the top of the right column indicates that two chemical additives were tested at Brown Units 1 and 2. Identify the two additives and indicate which is "applied before the coal-burning process."

c. The first paragraph under the heading, "Installing injection systems is 'less expensive,'" states, "The companies currently are installing a permanent injection system at Brown to control the use of both additives."

(1) Provide the expected cost of the injection system and the estimated completion date of its installation.

(2) Provide the estimated monthly or annual cost of operating the injection system, including the costs of the chemical additives.

(3) Explain whether the Companies believe a Certificate of Public Convenience and Necessity is required for the injection system.



Jeff Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED FEB 03 2015

cc: Parties of Record

APPENDIX

APPENDIX TO A REQUEST FOR INFORMATION FROM THE KENTUCKY
PUBLIC SERVICE COMMISSION IN CASE NO. 2014-00131 DATED **FEB 03 2015**



MEGAWATT DAILY

Offshore wind PPAs cancelled; Cape Wind objects

RENEWABLES

What has long been assumed would be the US's first offshore wind project has taken a blow from what were planned to be its two major electricity off-takers.

National Grid and NStar, standing on what they say are the terms of two 15-year power purchase agreements with Cape Wind Associates, have cancelled the PPAs, saying that the project was to have had financing in place and ready for construction no later than December 31, 2014.

The projected \$2.6 billion, 468 MW offshore wind farm planned for Nantucket Sound off the coast of Massachusetts, has been struggling for several years to secure financing. The two PPA's, which were drawn up in 2012, assured the sale of 75% of the offshore wind farm's power at the high starting price of just over 18 cents per kilowatt hour.

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Florida initiative to end monopoly on power sales

MARKETS

Florida utilities for now are withholding public judgment on a proposed state constitutional amendment that would allow businesses and residents that install up to 2 MW of solar capacity each to sell the output directly to others—bypassing utilities in the process.

Under current Florida law, only utilities can sell power to others. But under a ballot initiative being advanced by an unlikely alliance of conservative and environmental interests, voters in November 2016 will consider whether to end the utilities' existing monopoly.

"We're fighting to open up the energy market," Tory Perfetti, director of Conservatives for Energy Freedom and the primary force behind the initiative, said in a Wednesday interview.

(continued on page 15)

LG&E/KU to keep Brown coal units operating

GENERATION

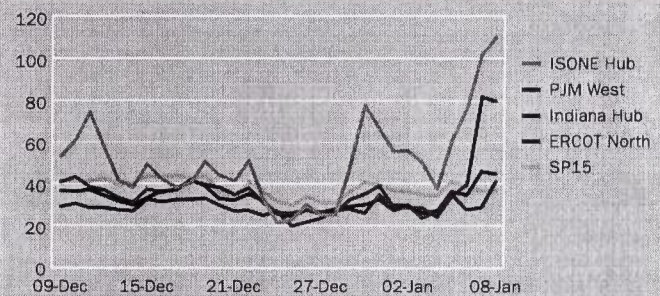
Louisville Gas & Electric and Kentucky Utilities have decided not to retire two coal-fired generating units totaling nearly 300 MW at the 749-MW E.W. Brown baseload power plant and, instead, will join a growing number of Midwest utilities using controls such as chemical additives to lower mercury emissions to comply with the Environmental Protection Agency's new Mercury and Air Toxics Standards rule.

LG&E and KU, PPL Corp. subsidiaries and Kentucky's two largest electric utilities with more than a million customers, told the Public Service Commission in a new filing they have changed their minds about shuttering Brown Units 1 and 2 in the wake of the MATS rule, which takes effect in April.

Recent test results at the plant on Lake Herrington near Harrodsburg show the two units can reduce mercury emissions

(continued on page 15)

Price trends at key trading points (\$/MWh)



Source: Average on-peak prices from various ISOs

Low and high average day-ahead LMP for Jan 8 (\$/MWh)

	On-peak low	On-peak high	Off-peak low	Off-peak high
ISONE	102.34	110.70	103.97	111.71
NYISO	83.00	171.67	58.49	124.01
PJM	38.61	114.22	25.34	102.19
MISO	28.45	44.74	22.85	34.37
ERCOT	39.20	55.03	24.66	28.66
SPP	21.67	28.25	18.87	30.31
CAISO	34.69	36.33	28.79	29.36

Note: Lows and highs for each ISO are for various hubs and zones. A full listing of average LMPs are available for the hubs and zones inside this issue.

Day-ahead bilateral indexes and spark spreads for Jan 8

	Index	Marginal heat rate	Spark spreads			
			@7k	@8k	@10k	@12k @15k
Southeast						
Southern, Into	77.50	25122	55.91	52.82	46.65	40.48 31.23
Florida	75.50	21571	51.00	47.50	40.50	33.50 23.00
Northwest						
Mid-C	23.75	7983	2.93	-0.05	-6.00	-11.95 -20.88
COB	28.55	9454	7.41	4.39	-1.65	-7.69 -16.75
Southwest						
Palo Verde	27.00	8831	5.60	2.54	-3.58	-9.69 -18.86
Mead	29.00	9355	7.30	4.20	-2.00	-8.20 -17.50

Note: All indexes are on-peak. Spark spreads are reported in (\$) and Marginal heat rates in (Btu/kWh). A full listing of bilateral indexes and marginal heat rates are inside this issue.

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'National Grid continues pursuit of renewable projects'

Navarro added, "We still believe the solution to New England's energy challenge is a diversity of energy sources, which is why we support renewable projects consistent with our goal of reducing emissions while minimizing the cost impact on our customers. We will continue to pursue other renewable options, including solar, competitively priced on- and off-shore wind and other technologies as they become available."

Cape Wind's Rodgers said that Cape Wind President James Gordon sent letters to National Grid and NSTAR on December 31 that explained why force majeure applied in this case, and that told the utilities that the projects financing and construction-start milestones would be met in 2015.

Gordon told the utilities that force majeure is defined in the PPAs as "an unusual, unexpected and significant event that was not within the control of the party claiming its occurrence; that could not have been prevented or avoided by such party through the exercise of reasonable diligence; and that directly prohibits or prevents such party from performing its obligations under this agreement."

Gordon said that the force majeure in this case is that Cape Wind "has been the subject of extended, unprecedented and relentless litigation by the Alliance to Protect Nantucket Sound that prevents Cape Wind from achieving the remaining critical milestones under the PPA as of this date."

— Jeffrey Ryser and Housley Carr

Florida initiative to end monopoly...from page 1

Perfetti said that if the initiative is approved by voters, scores of rooftop and ground-mounted solar projects could be developed and their owners could sell power to others, including other tenants in office buildings, strip malls and apartment complexes.

The constitutional amendment, if enacted, also would appear to open the door to third-party leasing of solar facilities, a practice pioneered by SolarCity and other companies in other states.

Perfetti emphasized that he is not opposed to utilities, and that utilities themselves could develop programs to partner with business and residential customers interested in installing rooftop solar capacity.

Surveyed Floridians support solar initiatives

He said proponents of the proposed constitutional amendment expect to secure at least 700,000 signatures to ensure that the initiative is placed on the ballot. The initiative's language, already approved by the Florida Supreme Court, said that "it shall be the policy of the state to encourage and promote local small-scale solar-generated electricity production and to enhance the availability of solar power to customers."

The ballot measure then says that no utility "shall impair any customer's purchase or consumption of solar electricity from a local solar electricity supplier." As noted, the proposed constitutional amendment would limit to 2 MW the amount of solar capacity that could be installed at any one site.

Perfetti said that a recent survey of Florida voters found that 54% believe their electric rates are too high, 71% favor net metering, and 74% support the proposed solar power initiative. Support was high among voters in all parties, he said, including 79% of Democrats and 71% of Republicans and independents.

Asked for comment on the solar initiative, Cherie Jacobs, spokeswoman for Tampa Electric said it "is likely the first of many energy policy proposals that will emerge over the next few months." She said the utility will evaluate the proposals and support the ones that are fair and beneficial to all customers."

Jacobs said that in Tampa Electric's view, utility-scale solar "is more efficient and less costly than small rooftop systems." She also said that utility regulators "should encourage utilities to integrate utility-scale solar into their systems in the most cost-effective manner possible."

Cost recovery measures hinder utility-scale projects

Only a limited amount of utility solar power has been developed in Florida, in part because – with only one exception – neither the Florida Legislature nor the state's Public Service Commission has approved cost recovery of solar and other renewable projects whose power costs are higher than a utility's avoided costs.

The only exception was a 2008 state law backed by Florida Power & Light that allowed cost recovery for up to 110 MW of solar capacity. After the law was enacted, FPL proposed and built two solar photovoltaic facilities totaling 35 MW and a 75-MW concentrating solar power facility at a total cost of more than \$600 million.

In 2010, the PSC rejected Tampa Electric's plan to enter into a 25-year power purchase agreement for the output of a 25-MW solar project planned by Energy 5.0; the commission said it rejected the plan because solar power costs under the PPA would be higher than the utility's avoided costs.

"We believe our best opportunity to promote solar in Florida is to work with state leaders to help create a policy to incorporate solar over the long-term, and that is fair to all consumers and solar energy power generators," Duke Energy Florida spokesman Sterling Ivey said Wednesday.

He added, "We look forward to exploring how we can better incorporate solar energy into our fuel mix during public workshops sponsored by the PSC this year."

DEF did not provide a comment on the proposed constitutional amendment by press time. Sarah Gatewood, spokeswoman for FPL, said, "We're not familiar with the proposal so we can't provide a comment at this time."

— Housley Carr

LG&E/KU to keep coal units operating...from page 1

sufficiently to meet MATS by using chemical additives, the companies told the commission.

"The purpose of the chemical additive testing conducted at E.W. Brown station was to identify alternatives available for the E.W. Brown Units 1 and 2 to comply with mercury emissions standards and any operational limitations required to maintain compliance," they said.

Test results "indicate the ability to attain mercury compliance across a rolling 30-day average on E.W. Brown Units 1 and 2 with some operational limitations during peak summer conditions," they added.

Units 1 and 2 will be MATS compliant

In summary, "the companies do not plan to retire the units as a result of the Mercury and Air Toxics Standards," they said.

Unit 3, Brown's largest coal unit, was never considered a potential candidate for retirement. The plant's three units went into commercial operation in 1957, 1963 and 1971.

Natasha Collins, a LG&E/KU spokeswoman, on Tuesday confirmed the companies intend to operate Brown Units 1 and 2 "beyond" the April 16 compliance deadline for MATS, although she did not say how long that might be.

In the companies' latest integrated resource plan filed with the commission last year, LG&E/KU suggested Brown Units 1 and 2 could be retired in 2020, at which time new generation, likely in the form of a natural gas-fired plant, would be needed.

According to Collins, the companies have tested two different liquid additives at Brown, both of which aid in the capture of mercury resulting from the coal-combustion process.

"One of the additives promotes mercury oxidation and is

applied before the coal-burning process," she noted. "The second additive is injected into the scrubber and reduces the potential of mercury re-emission."

Installing injection systems is 'less expensive'

The companies currently are installing a permanent injection system at Brown to control the use of both additives.

Regional utilities ranging from Indiana Michigan Power to Duke Energy Indiana, among others, are turning to controls such as activated carbon injection and dry-sorbent injection systems to reduce mercury emissions at baseload coal plants.

I&M, an American Electric Power subsidiary, is implementing the controls at its 2,600-MW Rockport generating station in Spencer County, Indiana. DEI, a subsidiary of Charlotte, North Carolina-based Duke Energy, is doing the same at its 3,145-MW Gibson station, the largest fossil-fueled power plant in the Midwest.

Such controls generally are considerably less expensive than installing selective catalytic reduction (SCR) equipment to reduce mercury emissions.

The Brown plant primarily burns Illinois Basin thermal coal as well as "refined coal" from eastern Kentucky, Collins said. The plant burns approximately 2 million short tons of coal annually.

— Bob Matyj



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