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David L. Armstrong  
Chairman

James W. Gardner  
Vice Chairman

Charles R. Borders  
Commissioner

November 2, 2011

## PARTIES OF RECORD

Re: Case No. 2011-00375

Attached is a copy of a memorandum which is being filed in the record of the above-referenced case. If you have any comments you would like to make regarding the contents of the informal conference memorandum, please do so within five days of receipt of this letter. If you have any questions, please contact Faith Burns of the Commission staff at 502/564-3940, Extension 235.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Derouen".

Jeff Derouen  
Executive Director

Attachments

cc: Parties of record

## INTRA-AGENCY MEMORANDUM

### KENTUCKY PUBLIC SERVICE COMMISSION

**TO:** Case File – Case No. 2011-00375  
**FROM:** Faith B. Burns, Staff Attorney *F.B.B. 11-2-11*  
**DATE:** November 2, 2011  
**RE:** Informal Conference of October 11, 2011

Pursuant to a Notice of Informal Conference issued September 29, 2011, an Informal Conference was conducted at the Commission's offices in Frankfort, Kentucky on October 11, 2011 at 11:00 a.m. A list of attendees is attached.

Kentucky Utilities Company and Louisville Gas and Electric Company (collectively "the Companies") presented an overview of their September 15, 2011 application which requests Certificates of Public Convenience and Necessity from the Commission in order to add new generating capacity to their systems. A copy of the Companies' presentation is attached.

The Companies state that as a result of new environmental regulations, existing coal-fired units at three generating stations – Cane Run, Green River, and Tyrone – (totaling 797 MWs) should be retired. They state that the retirement of these stations will result in an 877 MW capacity shortfall on a combined system basis beginning in 2016. As a result of that anticipated capacity shortfall, the Companies propose to construct a 640 MW Natural Gas Combined Cycle unit ("NGCC") along with an associated natural gas pipeline at the Cane Run station and acquire three natural gas Simple Cycle Combustion Turbines ("SCCT") (485 MW) located in Oldham County, Kentucky, from Bluegrass Generation Company, LLC.

The Companies discussed various permits and logistical matters to be addressed as a result of their proposal. They stated that, pending necessary regulatory approvals, they expect to complete construction of the NGCC project, and have it in service, by the spring of 2015. Under their fully executed contract with Bluegrass Generation Company, LLC, the Companies expect to close on the acquisition of the SCCT units by June 2012. Commission Staff and representatives of the intervenors asked several questions concerning the Companies' presentation to which the Companies provided responses.

There being no additional matters to discuss, the conference was adjourned.

Attachments

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

JOINT APPLICATION OF LOUISVILLE GAS	)	
AND ELECTRIC COMPANY AND KENTUCKY	)	
UTILITIES COMPANY FOR A CERTIFICATE OF	)	
PUBLIC CONVENIENCE AND NECESSITY AND	)	
SITE COMPATIBILITY CERTIFICATE FOR THE	)	
CONSTRUCTION OF A COMBINED CYCLE	)	CASE NO.
COMBUSTION TURBINE AT THE CANE RUN	)	2011-00375
GENERATING STATION AND THE PURCHASE	)	
OF EXISTING SIMPLE CYCLE COMBUSTION	)	
TURBINE FACILITIES FROM BLUEGRASS	)	
GENERATION COMPANY, LLC IN LAGRANGE,	)	
KENTUCKY	)	

October 11, 2011

Please sign in:

NAME	REPRESENTING
<u>Quincy D. Nguyen</u>	<u>PSC</u>
<u>Mike Kurtz</u>	<u>KIUC</u>
<u>Allyson Sturgeon</u>	<u>LG&amp;E/KU</u>
<u>Lonnie Bellar</u>	<u>LG&amp;E/KU</u>
<u>Robert Watt</u>	<u>LG&amp;E/KU - SKO</u>
<u>Paul Thompson</u>	<u>LG&amp;E/KU</u>
<u>John Hayes</u>	<u>LG&amp;E/KU</u>
<u>Larry Cook</u>	<u>OAG</u>
<u>Lindsey Ingram</u>	<u>LG&amp;E/KU SKO</u>

NAME

REPRESENTING

ELIE RUSSELL

PSC

JEFF JOHNSON

PSC

Daryl Newby

PSC E/A

Gary Revlett

LG&E - KU

David Sinclair

LG&E - KU

Talina Mathews

Ky PSC

Steven Barclay

PSC

Janet B. Brunel

PSC - Legal

Giff Shaw

PSC - FA

Errol K. Wagner

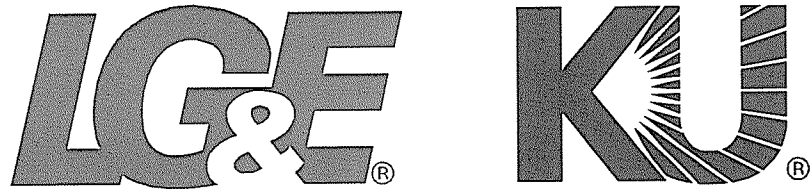
PSC - FA

RICK LOEKAMP

LG&E/KU

RICHARD RAFF

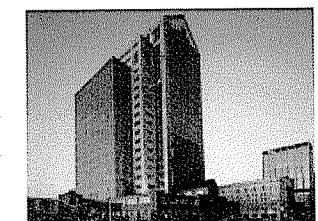
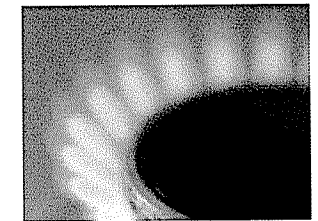
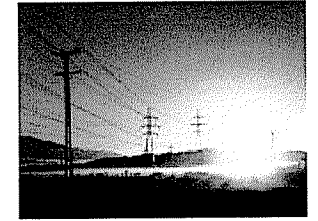
PSC - LEGAL



**PPL companies**

**Joint Application of LG&E and KU for  
Construction of a NGCC unit and Purchase  
of SCCT – Case No. 2011-00375**

*Kentucky Public Service Commission  
Informal Conference  
October 11, 2011*



# Application Overview

- *Construct 2x1 Natural Gas Combined Cycle unit (NGCC) (640 MW) at Cane Run site and associated natural gas pipeline*
  - *Ownership Percentage*
    - *LG&E - 22%*
    - *KU - 78%*
- *Acquire 3 natural gas Simple Cycle Combustion Turbines (SCCT) (485 MW) from Bluegrass Generation Company, LLC*
  - *Ownership Percentage*
    - *LG&E - 69%*
    - *KU - 31%*

# EPA Regulations force Retirement Decision

- *New EPA Regulations*
  - *National Ambient Air Quality Standards (NAAQS)*
  - *Hazardous Air Pollutants Rule (HAPs)*
  - *Cross-State Air Pollution Rule (CSAPR)*
- *Economic analysis of generating units*
  - *Cost of controls from Black and Veatch study*
  - *Technology costs for replacement capacity from Companies' 2011 IRP*
- *Cane Run, Green River, and Tyrone (total 797 MWs) should be retired*
  - *Provided 4,153 GWh of energy in 2010*

# Unit Retirements create need for Additional Capacity

- *LG&E and KU have an 877 MW capacity shortfall beginning in 2016<sup>1</sup>*
  - *DSM/EE and CSR reduce peak demand 585 MW by 2016*
- *Issued RFP to over 100 parties in December 2010*
- *Companies received 50 offers from 18 respondents*
- *Evaluated offers in multiple screening phases*
- *Combinations of offers considered coal, nuclear, natural gas, wind, solar, and biomass*
- *Self-build options evaluated with RFP responses in later phases*
  - *Companies developed estimates for several 2x1 NGCC unit configurations at Cane Run site*

<sup>1</sup> See Appendix for details



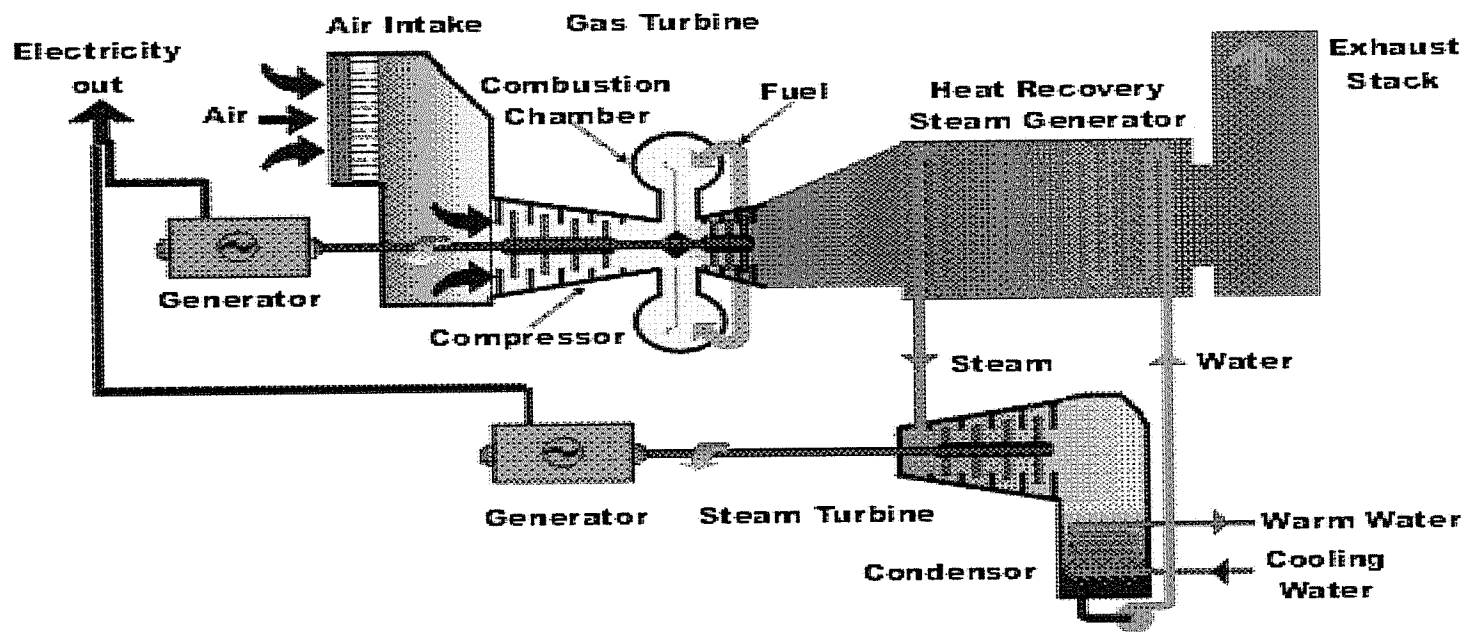
# Cane Run NGCC Project (CR7)

- *640 MW net summer rated natural gas combined cycle generating units comprised of:*
  - *Two F-class combustion turbines*
  - *Two heat recovery steam generators*
  - *Steam turbine*
  - *Mechanical draft cooling tower*
  - *Electrical interconnection switch yard*
- *Estimated cost of \$583 million including natural gas pipeline*
  - *Excludes transmission system upgrade cost (\$34m)*

# Combined Cycle Plant Illustration

- Exhaust heat from simple cycle peaking units used in a heat recovery boiler to produce steam which drives turbine and generator.*

## How a Combined Cycle Plant works



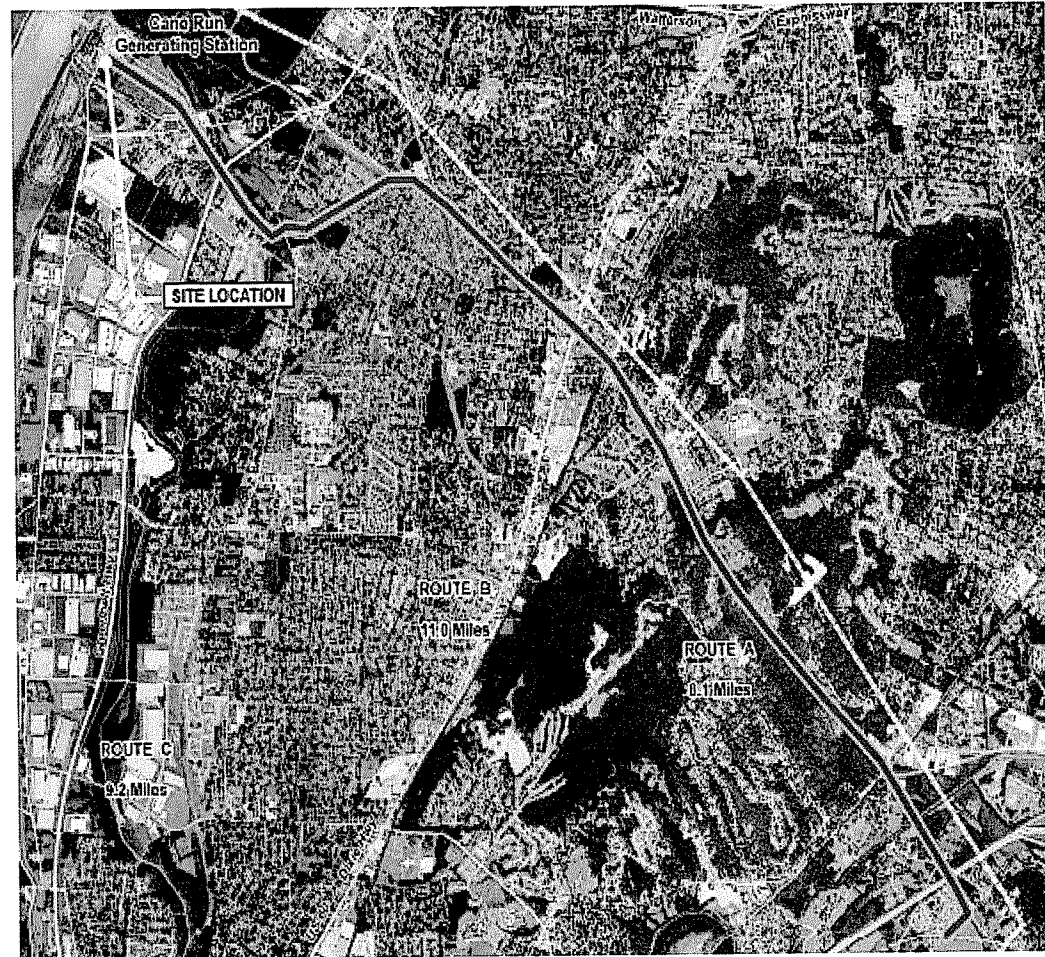
# Cane Run Site Orientation

- *Located just east of the existing coal plant structures*
- *Requires existing transmission line relocation*
- *Current approved new landfill project development only as necessary until unit retirement*
- *Requires air construction permit from Louisville Metro Air Pollution Control District (LMAPCD)*
- *Requires construction of 20" high pressure natural gas transmission pipeline*



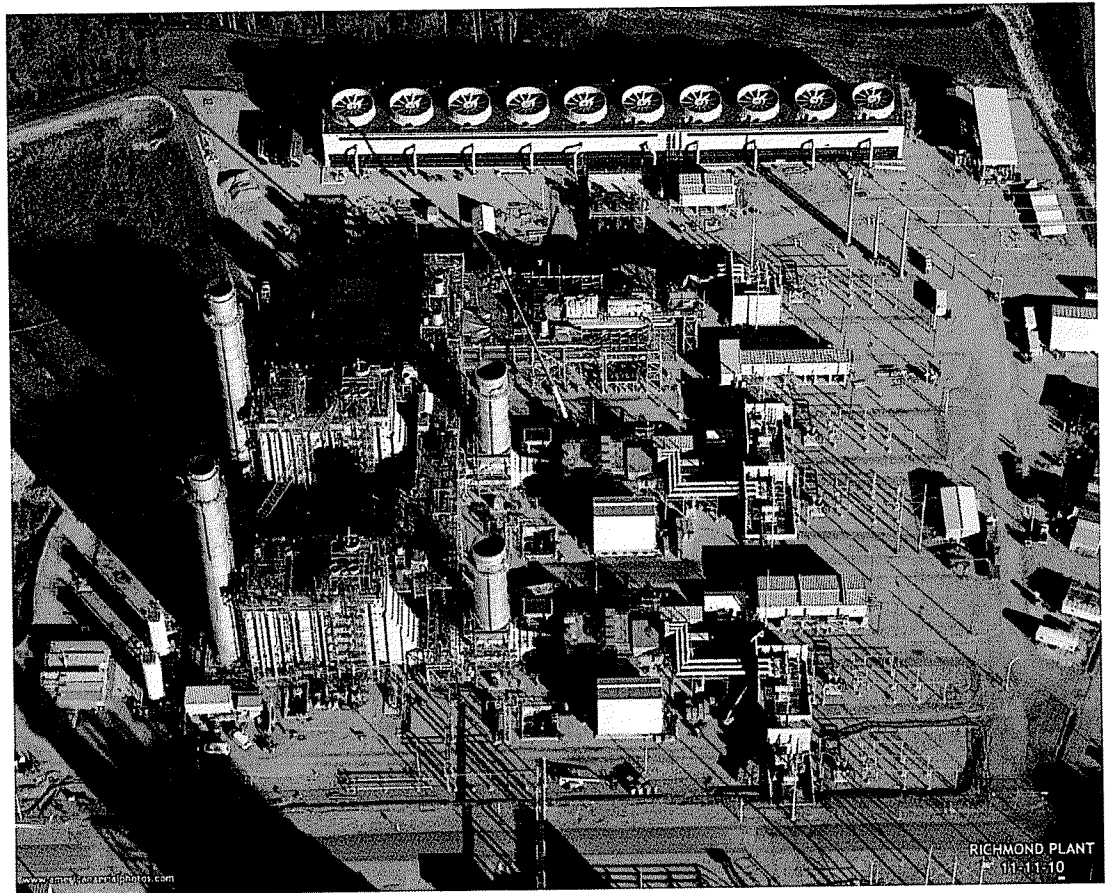
# Gas Transmission Pipeline

- *ROW study complete*
- *Approximately 8 miles of 20" high pressure pipe*
- *All but 900' on existing LG&E electric and or gas ROW*
- *Gas easements needed from 28 property owners (18 under option)*
  - *2 miles within electric ROW*
  - *900' new ROW*
- *Pipeline engineering underway*



# Cane Run 7 Development Schedule

- *Air permit application filed June 13, 2011*
- *Issuing vendor pre-qualification packages (Sept - Oct '11)*
- *Developing specifications for major equipment and EPC bidders (Nov - Dec '11)*
- *Engineering transmission line relocation (Sept '11 - Mar '12)*
- *Finalize equipment bid negotiations (Jan - Jun '12)*
- *Finalize EPC negotiations (May - Jul '12)*
- *Construction schedule requires approx. 32 months from Limited Notice To Proceed (LNTP) to COD.*



# Cane Run 7 – Environmental Permitting

- **Air Permit**

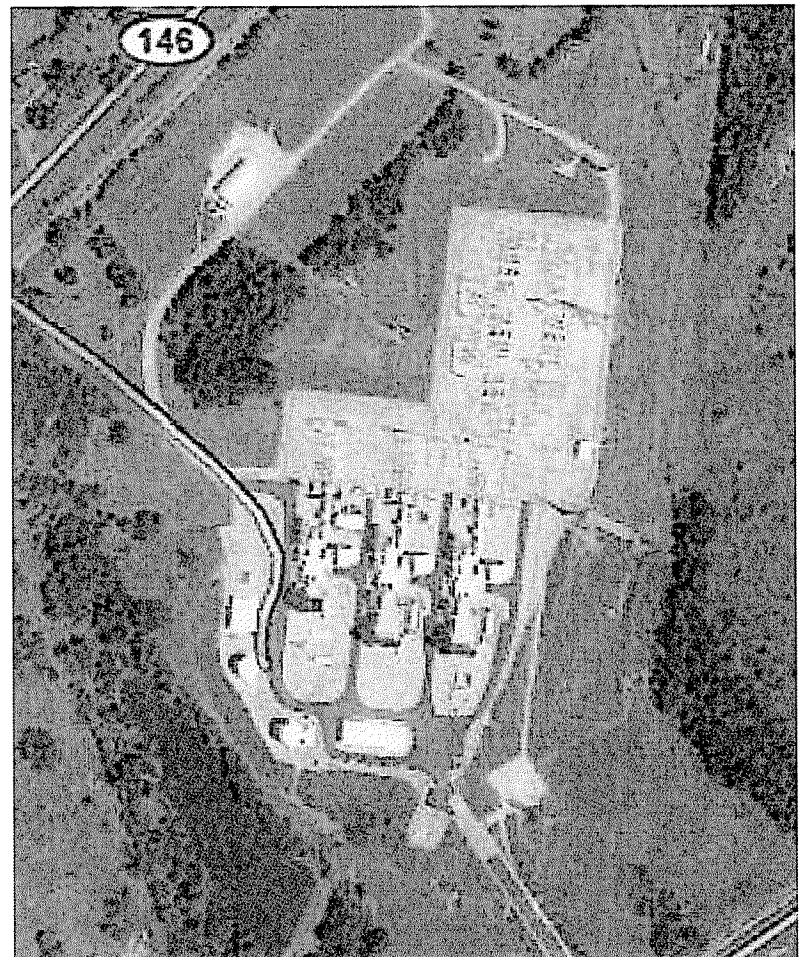
- *Air permit construction application submitted to LMAPCD on June 13, 2011; permit expected in Spring 2012*
- *Post retirement emissions from all pollutants except Volatile Organic Compounds (VOCs) and Carbon Monoxide (CO) are predicted to decrease*

- **Other Environmental Permits**

- *Permitting for the new landfill continues to provide space should the existing landfill reach final capacity prior to retirement*
- *Kentucky Pollutant Discharge Elimination System (KPDES) permit modification will be required for water withdraw and discharge (mechanical cooling tower will be constructed)*
- *KPDES Best Management Practices (BMP) will be modified to address new construction activities*

# Bluegrass Acquisition

- *Agreement to purchase the assets of Bluegrass Generation Company LLC*
  - *495 MW of summer capacity, three Siemens 501FD2 gas turbines (F class)*
  - *Purchase price of \$109.5 Mil. or about \$222/KW*
  - *Excludes transmission system upgrade costs (\$5m)*



# Key Asset Purchase Agreement Terms

- *"As Is Where Is " purchase with sufficiency representation*
  - *Risk mitigated by robust due diligence*
  - *Enhanced Inspection Covenant*
    - *Operation triggers new inspection rights at closing (LG&E-KU request excluded)*
- *Conditions Precedent*
  - *Regulatory approvals for LG&E/KU*
  - *Payment In Lieu of Taxes termination for Bluegrass*
  - *Either party may terminate on or after June 30, 2012*
  - *Title insurance at closing*





# Bluegrass - Environmental Permitting

- **Air Permit**

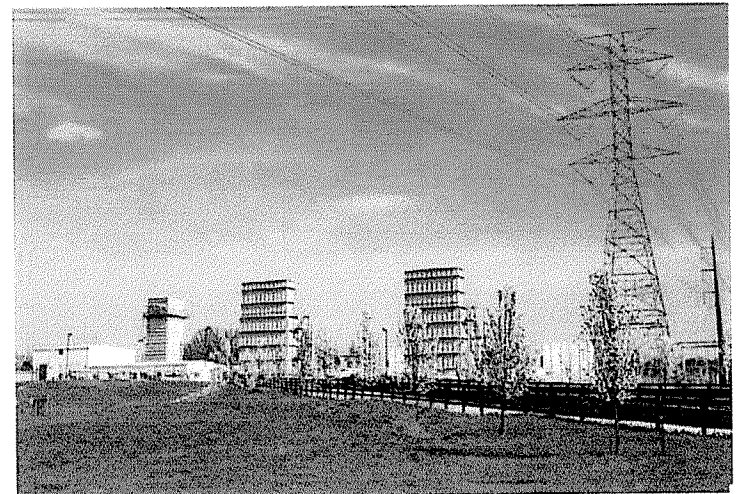
- *Title V air permit renewal issued to Bluegrass Generation on September 19, 2011*
- *A change of owner/operator of a Title V air permit only requires an administrative change and thus minimum timeframe*

- **Other Environmental Permits**

- *Bluegrass Generation is seeking a first time KPDES water discharge permit, in place of the existing Oldham Co. Sewer District discharge permit*
- *No other environmental permits are needed*

# Bluegrass Due Diligence

- *Robust Technical Due Diligence Conducted*
  - *Siemens bore scope completed in August*
  - *Pro Energy report issued on September 9*
  - *Forecast of O&M expenditures consistent with similar plants*
- *Environmental Due Diligence*
  - *Phase I only had a single finding*
    - *Minor lube oil spill during construction*
  - *Air permit limits NOx and CO tons per year*
    - *Limits unit starts to about 220/year*
    - *188 forecasted starts in 2014*



## APPENDIX - LG&E / KU Resource Summary

	2012	2013	2014	2015	2016	2017	2018
Forecasted Peak Load	7,210	7,356	7,477	7,603	7,654	7,760	7,897
Peak Reductions <sup>1</sup>	390	442	501	544	585	626	664
Total Demand	6,821	6,915	6,976	7,059	7,070	7,135	7,234
Existing Resources	8,002	8,006	8,001	7,996	7,969	7,970	7,970
Retirements					(797)	(797)	(797)
Firm Purchases (OVEC)	154	152	152	152	152	152	152
Total Supply	8,156	8,158	8,153	8,148	7,324	7,325	7,325
16% Reserve Requirements	1,091	1,106	1,116	1,129	1,131	1,142	1,157
Difference from Target	243	137	61	(40)	(877)	(952)	(1,066)
Reserve Margin	19.6%	18.0%	16.9%	15.4%	3.6%	2.7%	1.3%

<sup>1</sup> Peak reductions include the impacts of interruptible demands and demand-side management programs.