

# **LG&E and KU Fuel Procurement Strategy**

## **Overview**

With the retirements of coal-fired units (including Mill Creek 1 at the end of 2024) and the 2015 addition of Cane Run 7 (691 MW), which operates as base load, the Companies' current generation capacity mix includes 37% natural gas-fired generation. Having an appropriate fuel procurement strategy that will balance the volume, price, and supply reliability of both coal and natural gas is extremely important. This comprehensive fuel procurement strategy will accomplish this goal while addressing the unique physical, transport, risk, and market characteristics of each fuel type to reliably serve our customers at the lowest reasonable cost.

In 2023, the Kentucky Public Service Commission approved the retirement of the coal-fired units Mill Creek 1 and 2 in 2024 and 2027, respectively, and the addition of the new Mill Creek 5 NGCC in 2027. The coal and Cane Run 7 procurement metrics defined in this document will recognize the impacts of the planned coal unit retirements in their respective years. However, both the coal and gas procurement metrics will be updated at a future date to reflect the changes in the Companies' generation fleet in 2027 and the coal and natural gas market conditions that impact fuel procurement activities.

## **Key Objectives**

### **1. Mitigate Major Fuel Risk Elements**

- a. To the extent practical, fuel procurement decisions will be made in a manner to mitigate major risks associated with the reliability and price of the fuel supply.
- b. Major risks include: volume, price, supplier performance, and supply development and logistics.

### **2. Coordinate Coal and Natural Gas Procurement**

- a. Coordinated procurement activities will be conducted to manage the potential swing in coal and natural gas usage created by the economic competition between coal and NGCC units.

### **3. Demonstrate Prudent Procurement Practices**

- a. The regulatory environment, market conditions, system and unit constraints and capabilities, and the risk and uncertainties associated with each factor will be evaluated when determining the most prudent fuel procurement decision.
- b. A needs assessment, for both coal and natural gas, will be conducted on at least a quarterly basis to ensure that the appropriate quantity and most cost-competitive fuel is being secured. A market solicitation will be issued to address any fuel need identified. In the event no fuel (coal or natural gas) is needed for a prompt quarter, a solicitation may not be issued.

- c. Coal inventory levels will balance reliability and carrying costs while recognizing the fuel procurement flexibility inherent in the NGCC fleet.
- d. Pipeline imbalance risks and costs will be considered in forward gas procurement decisions.

**4. Alignment of Fuel Procurement with the Business Plan**

- a. The Fuel Procurement Strategy will be guided by the overall Company strategy and plans set forth by senior management.
- b. Updates and approvals of the Fuel Procurement Strategy will be part of the annual Business Plan process.

**5. Management Overview**

- a. Senior management will review any modifications to this Fuel Procurement Strategy.
- b. Senior management will review and monitor the guidelines and metrics on a quarterly basis.

## **Coordinated Procurement Process**

To manage the potential swings in fuel requirements, the Generation Planning department will coordinate coal and natural gas procurement by the Coal Supply and Power Supply departments.

**1. Determining the Required Volume of Each Fuel**

- a. During the Business Plan process the minimum and forecast requirement for both coal and natural gas for each calendar year (“year” or “years”) of the business plan will be determined.
- b. For forward, non-current, years both departments will utilize the **minimum projected fuel requirement** to guide their procurement activity.
- c. For the balance of the current year and the first quarter of the prompt year procurement activities, Generation Planning will produce an updated generation forecast in the preceding quarter to determine the required volume of each fuel. This forecast will include: revised unit operational conditions and maintenance schedules, updated load forecasts, current market prices for coal and natural gas, and new regulatory considerations.
- d. Current coal inventory and future coal and natural gas delivery schedules will be included in the evaluation of incremental fuel needs.

**2. Coal Procurement Process**

- a. An assessment of need will be conducted on a quarterly basis. All solicitations will be utilized to address the prompt quarter requirement determined in the quarterly generation forecast.
- b. Solicitations will be conducted as needed to address prompt quarter needs. If there is no additional coal required for a prompt quarter a solicitation may not be issued.

- c. The spring and fall solicitations will continue to be more formal solicitations and will include a request for long-term offers. The term requested on a solicitation may extend beyond the six year horizon of this Fuel Procurement Strategy if market conditions present risks or opportunities that could be addressed through a longer term agreement. These solicitations will be utilized to address forward year fuel requirements to achieve the volume guidelines described below in “Guidelines and Portfolio Metrics for Coal.”

### **3. NGCC Gas Procurement Process**

- a. The volume guidelines described below in “Guidelines and Portfolio Metrics for NGCC” will guide forward purchases.
- b. Solicitations for natural gas will be considered quarterly or as needed with ongoing coordination with coal procurement activities.
- c. The five-year rolling average, with the highest and lowest values excluded, differential of TGT Mainline Zone 1 pool to NYMEX will be used to establish appropriate price differential targets for monthly natural gas purchases. A purchase at, or below, these differentials would be considered a fair and reasonable level at which to acquire natural gas supplies.
- d. Alternately, natural gas purchases can be evaluated for price competitiveness against the price of coal already purchased. Natural gas may be purchased for months wherein the cost of power generation from natural gas is lower than the forecast cost of power generation at baseload units based on existing coal purchases.
- e. With the addition of NGCC units to the fleet beginning in 2027, operational needs for additional forward purchases to displace spot purchases may also be considered if spot purchases become large relative to supply location activity. These guidelines will be updated to reflect operational minimum volumes.
- f. Short term daily or weekly natural gas purchases (and possibly sales), gas burn at peaking units on the same pipeline(s), as well as balancing services provided by our firm pipeline agreements will be used to manage differences between longer-term gas purchases and actual gas burns.

### **4. Typical Procurement Schedule**

- a. Current Year
  - i. Approximately six weeks before the start of each quarter, current market data for coal and natural gas, will be utilized along with other updated inputs to generate the fuel requirements as described in 1.c. above.
  - ii. Once the prompt quarter requirement is determined, solicitations for coal and natural gas will be conducted, as required.
  - iii. Decisions on quarterly coal purchases, negotiations, and drafting of necessary documents will be completed during the last month of the preceding quarter.

- iv. Decisions on gas purchases take place during each quarter, with the current year including January and February of the next calendar year. The inclusion of the additional two winter months of the following calendar year recognizes seasonal considerations for purchasing natural gas.
- b. Forward Years
  - i. The formal coal solicitations in the fall and the spring will be utilized to address forward year fuel requirements.
  - ii. Decisions on gas purchases take place during each quarter.
  - iii. For natural gas purposes, Year 1 extends from March through December of the first non-current year (current year plus one year), while Year 2 and beyond correspond to full calendar years.

## **Major Risk Elements**

All of the following risk elements are shared by both coal and natural gas. However, the characteristics of production, supply and transport logistics are unique to each commodity. Therefore, the following definitions may not apply to both commodities and are noted where appropriate. In these cases there is no metric or guideline for that particular component of the risk element.

### **1. Volume Exposure**

The most common way to think about risk in any portfolio relates to volume exposure (long, flat, and short). The volume metrics will describe the percent of the **minimum projected fuel requirement** by year that is under contract while the volume guidelines will set forth the desired range (in percent) by year that the Company desires to have under contract.

### **2. Price Exposure**

In addition to the price exposure of the open position, additional price exposure could be imbedded within the contract portfolio. The price metrics and guidelines describe the price terms of the portfolio according to the following categories:

- a. Fixed price – Known prices for the life of the contract.
- b. Fully indexed price – Total price is adjusted per indices.
- c. Fully indexed price with floor and/or ceiling – Total price is adjusted per indices, but is bounded by a floor and/or ceiling.
- d. Partially or limited indexed price – Known price for a portion of the total price and the balance is adjusted per indices.

Note that the Price Structure metric is not a “mark-to-market” measure. In other words, it is not trying to value the portfolio. Instead, it is merely trying to describe the price structure of the contracts that are in the portfolio and not how much price risk exists.

### **3. Supplier Performance**



This risk element focuses on the risks associated with suppliers and their ability to perform their contractual obligations. Each supplier is assessed scores based on financial strength, operational capabilities and their past performance in meeting specifications for quantity and quality of fuel. These individual supplier scores are then aggregated over the entire portfolio so that for each category of Supplier Performance the portfolio is rated as follows:

- High – there is a high degree of confidence that the suppliers in the portfolio will fulfill their obligations.
- Moderate – there is moderate degree of confidence that the suppliers in the portfolio will fulfill their obligations.
- Low – there is a low degree of confidence that the suppliers in the portfolio will fulfill their obligations.

Supplier Performance is divided into three main categories:

- a. Financial Integrity Assessment – A credit review of each fuel supplier will be conducted at the time of each transaction, with the intent of doing business with creditworthy entities at the time of each deal. Before a forward transaction is completed, the counterparty will be approved for the quantity of fuel contracted.
  - Natural gas counterparties must be approved by the Credit Department.
  - Coal counterparties will be evaluated by the Fuels Department, including a qualitative credit consideration by the Credit Department.
- b. Operational Capability Assessment (OCA) – **coal only** – this category rates the ability of the supplier to physically produce the quantity and quality of coal by year called for in the contract (High, Moderate, Low). The OCA is assigned based on an onsite inspection and an engineering evaluation of the key attributes. If the contract is sourced from multiple operations, an OCA is assigned based on each source (each OCA will be associated with a percentage of the contract tonnage). To obtain the OCA for the portfolio for each year, the OCA of each supplier is weighted by tons under contract for that year. *Note that because a supplier's OCA can change over the horizon of a contract, the portfolio will have an OCA rating for each year.* The key attributes of the OCA are shown in Table 1.

**Table 1**

Reserves permitted	Reserves (quantity and quality)	Workforce	Mining Equipment/Infrastructure
Percentage of reserves needed to meet contract obligations that are permitted.	Percentage of reserves needed to meet contract obligations that are controlled.	Percentage of workforce needed to meet contract obligations.	Current capacity compared to the required capacity needed to meet the contract obligations shown as a percentage.

- c. Past Performance Assessment (quality & quantity) - **coal only** – this category rates the historical performance of a supplier based on their delivery of the quality of coal called for in a contract and the quantity of coal in each month as set forth in Table 2. A rating of 1 or 2 is considered “High,” a rating of 3 is considered “Moderate,” and a 4 rating is considered “Low.” To report the Past Performance Assessment of the portfolio, the percentage of contracted tons in each rating category (High, Moderate, and Low) for each year is calculated.

**Table 2**

Rating	Quantity Weighting = 75%	Quality Weighting = 25%
1	Has delivered > 97% of contractual obligation	Has met the quality guarantees for Btu/lb, Lbs. Ash, Lbs. Sulfur, and Lbs. Moisture 90-100%
2	Has delivered 90-97% of contractual obligation	Has met the quality guarantees for Btu/lb, Lbs. Ash, Lbs. Sulfur, and Lbs. Moisture 80-90%
3	Has delivered 80-89% of contractual obligation	Has met the quality guarantees for Btu/lb, Lbs. Ash, Lbs. Sulfur, and Lbs. Moisture 70-80%
4	Has delivered less than 80% of contractual obligation	Has met the quality guarantees for Btu/lb, Lbs. Ash, Lbs. Sulfur, and Lbs. Moisture less than 70%

#### **4. Supply Development and Logistics**

This risk element focuses on the physical deliverability aspects of the portfolio based on reserve or contract delivery location, how fuels can be delivered to the plants (coal-barge, rail, truck, natural gas-pipeline), and the production status of the operations. Note that this risk element aggregates contracts and is not intended to report information by supplier.

- a. Supply Region Diversity – **coal only** – most of the Companies’ coal-fired units burn high sulfur coal from the Illinois Basin. However, because of price and/or the ability to diversify barge transportation risk, the Company on occasion will contract for Northern Appalachian high sulfur coal. Therefore, this category reports the percentage of contract volume by year based on “upstream” or “downstream” of Louisville.
- b. Transportation Logistics – **coal only** – some of the Companies’ generating stations can receive coal deliveries by both barge and rail while others may only receive deliveries by barge or by rail. Some plants may also receive deliveries by truck. This category reports the volume of contracted fuel by year by delivery mode. The guidelines (minimum and maximum tons) for this category represent the physical capabilities of the generating fleet.

Transportation Logistics – **natural gas only** – this metric will describe the percent of pipeline capacity necessary to meet the maximum hourly demand for combined cycle units that is under firm contract.

- c. Resource Development Exposure – **coal only** – this category measures the percentage of contracted volume by year that is coming from a mine i) that has the necessary permits to operate and ii) is already in production.

Note that guidelines and metrics for procurement strategy risk elements are established and tracked on forward procurement activities. They will not be used to address current year procurement issues related to inventory management and other variances from plan. Current year procurement activities will take place based on short-term events, not on longer term strategic objectives.

## **Guidelines and Portfolio Metrics for Coal**

The tables below set forth the metrics for the existing portfolio as well as guidelines for selected categories. Guidelines are not being established for all categories at this time. After considerable evaluation, it was determined that either not all categories required guidelines or that they would not be meaningful. The issue of appropriate guidelines are part of the review and update during the annual Business Plan process. Categories may get guidelines in the future if they enhance strategic procurement activities.

**Table 3**

<b>Risk Element</b>	<b>Year 1<sup>1</sup> 2026</b>	<b>Year 2 2027</b>	<b>Year 3 2028</b>	<b>Year 4 2029</b>	<b>Year 5 2030</b>	<b>Year 6 2031</b>
<b>Volume Exposure</b>						
<b>Minimum projected requirement under contract (%)</b>						
Guideline (%)	98-102	80-90	40-90	30-70	10-50	0-30
<b>Price Exposure</b>						
Price Structure of Contracted Volume (%)						
a. Fixed Price						
b. Fully Indexed Price						
c. Fully Indexed Price w/Floor & Ceiling						
d. Partially or Limited Indexed Price						
Guideline (%)	n/a	n/a	n/a	n/a	n/a	n/a

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<sup>1</sup> Year 1 is defined as current year plus one. For example, effective January 1, 2025, the “current year” will be 2025 and “Year 1” will be 2026. The guidelines for the minimum projected requirement under contract should be achieved before the end of the current year.

**Table 4**

Risk Element	Year 1 2026	Year 2 2027	Year 3 2028	Year 4 2029	Year 5 2030	Year 6 2031
<b>Supplier Performance (% of Contracted Volume)</b>						
1. Operational Capability Assessment						
a. High						
b. Moderate						
c. Low						
Guideline – Not more than ____% in Low	5	10	15	20	25	30
2. Past Performance Assessment						
a. High						
b. Moderate						
c. Low						
Guideline – Not more than ____% in Low	10	10	10	0	0	0

**Table 5**

Risk Element	Year 1 2026	Year 2 2027	Year 3 2028	Year 4 2029	Year 5 2030	Year 6 2031
<b>Supply Development &amp; Logistics</b>						
1. Supply Region Diversity - % Down River						
Guideline	n/a	n/a	n/a	n/a	n/a	n/a
2. Transportation Logistics – Tons under contract (mm)						
a. Rail or Barge						
b. Barge						
c. Rail						
d. Truck						
Guidelines (Minimum and Maximum Tons - millions)						
a. Barge	8 -11	n/a	n/a	n/a	n/a	n/a
b. Rail	2 – 4	n/a	n/a	n/a	n/a	n/a
c. Truck	0.0 – 0.2	n/a	n/a	n/a	n/a	n/a
3. Resource Development Exposure - % of Contracted Volume						
a. Reserves Permitted						
Guideline	≥ 95	≥ 80	≥ 60	≥ 50	≥ 30	≥ 30
b. Contract Obligation Production Status						
Guideline	≥ 95	≥ 80	≥ 60	≥ 50	≥ 30	≥ 30

## **Guidelines and Portfolio Metrics for NGCC Gas**

The tables below set forth the metrics for the existing portfolio as well as guidelines for selected categories. Guidelines are not being established for all categories at this time. After considerable evaluation, it was determined that either not all categories required guidelines or that they would not be meaningful. The issue of appropriate guidelines will be part of the review and update during the annual Business Plan process. Categories may get guidelines in the future if they enhance strategic procurement activities.

**Table 6**

<b>Risk Element</b>	<b>Year 1<sup>2</sup> 2026</b>	<b>Year 2 2027</b>	<b>Year 3 2028</b>
<b>Volume Exposure</b>			
<b>Minimum projected requirement under contract (%)<sup>3</sup></b>			
Guideline (%)	40-60	20-40	0-20
<b>Price Exposure</b>			
Price Structure of Contracted Volume (%)			
a. Fixed Price	100	100	100
b. Fully Indexed Price			
c. Fully Indexed Price w/Floor & Ceiling			
d. Partially or Limited Indexed Price			
Guideline (%)	n/a	n/a	n/a

**Table 7**

<b>Risk Element</b>	<b>Year 1 2026</b>	<b>Year 2 2027</b>	<b>Year 3 2028</b>
<b>Supply Development &amp; Logistics</b>			
Transportation Logistics – % of maximum hourly requirement under Firm contract			
Guidelines (% of maximum hourly requirement)	100	100	100

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<sup>2</sup> To better align with the Companies' needs and natural gas seasons, the current year extends through February of the subsequent year, i.e., effective January 1, 2025, the current year 2025 includes January and February 2026. Year 1 is defined as current year plus one beginning in March. For example, effective January 1, 2025, Year 1 will become March through December 2026. Year 2 and beyond are defined as full calendar years. The guidelines for the minimum projected requirement under contract should be achieved before the end of the current year.

<sup>3</sup> While the volume guideline for NGCC gas is on an annual basis, forecast gas usage is reviewed periodically for monthly planned outages and adjusted accordingly.