

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE)	
GAS AND ELECTRIC COMPANY FOR)	CASE NO.
MODIFICATION OF ITS PERFORMANCE-)	2021-00028
BASED RATEMAKING MECHANISM)	

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION
DATED MARCH 3, 2021

FILED: MARCH 17, 2021

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Pamela L. Jaynes**, being duly sworn, deposes and says that she is Manager - Gas Supply for Louisville Gas and Electric Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.


_____ **Pamela L. Jaynes**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of March 2021.


_____ Notary Public

Notary Public, ID No. 003967

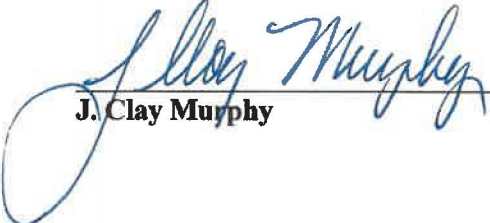
My Commission Expires:

July 14, 2022

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **J. Clay Murphy**, being duly sworn, deposes and says that he is Director – Gas Management Planning, and Supply for Louisville Gas and Electric Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.



J. Clay Murphy

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of March 2021.



Notary Public

Notary Public, ID No. 603967

My Commission Expires:

July 11, 2022

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 1

Witness: J. Clay Murphy / Pamela L. Jaynes

- Q-1. Refer to the Supplemental Testimony of J. Clay Murphy (Murphy Testimony), Appendix D.
- a. State whether the calculation of performance-based rate (PBR) cost savings for November and December 2020 were impacted in any way by the Commission's October 26, 2020 Order in Case No. 2019-00437¹.
 - b. State whether LG&E's gas cost and supply arrangements were impacted in any way by the Commission's Order in Case No. 2019-00437, or whether those arrangements were previously made and not subject to change.
 - c. Provide PBR cost savings for January 2021.
 - d. Provide the calculation of customer and shareholder portions of PBR cost savings for the months of November, December, and January beginning November 2015 through January 2021.

A-1.

- a. The two substantive changes to LG&E's gas supply cost PBR mechanism approved by the Commission in its October 26, 2020, Order in Case No. 2019-00437 were a change in the calculation of the Delivery Area Index ("DAI") and a change in the calculation of the sharing of any savings (or expenses) as between Company and Customer.

Because LG&E did not make any purchases that would have utilized the modified DAI component of the GAIF portion of the gas supply PBR mechanism, the calculation of PBR savings (or expenses) for November 2020, December 2020, and January 2021 was not affected by the Commission's October 26, 2020, Order in Case No. 2019-00437. Therefore, the Commission's change to the DAI mechanism did not impact the determination of total savings (or expenses) during this three-month period.

¹ Case No. 2019-00437, Electronic Application of Louisville Gas and Electric Company for Renewal and Proposed Modification of Its Performance-Based Ratemaking Mechanism (Ky. PSC Oct. 26, 2020).

Only the sharing of total savings (or expenses) achieved under the PBR mechanism since November 1, 2020, will be impacted when that sharing is calculated at the end of the current PBR Year.

- b. LG&E's gas supply and transportation arrangements including the contracts for the winter season commencing November 1, 2020, were executed before the Commission's Order dated October 26, 2020, in Case No. 2019-00437. In order to meet gas system requirements, these arrangements and contracts were then dispatched to meet system loads during the term of those arrangements and contracts in accordance with their applicable terms and conditions and/or supplemented with purchases of daily gas as necessary while taking into account the incentives and benchmarks approved in the Commission's October 26, 2020, Order.

LG&E had requested that the Commission make a decision in Case No. 2019-00437 by June 1, 2020, in order for LG&E to take into account any changes to the PBR mechanism in developing its planning and gas supply acquisition processes for the 2020/2021 planning period. See LG&E's "Report to the Kentucky Public Service Commission on Gas Supply Cost Performance-Based Ratemaking Mechanism" ("2019 PBR Report") dated December 27, 2019, at p. 11 and LG&E's February 21, 2020, response to Question No. 14 of the Commission's First Data Request.

- c. The total gas supply cost PBR savings for January 2021 was \$731,984.
- d. As LG&E understands the Commission's request, it is to calculate the sharing of savings (or expenses) under the applicable PBR mechanism for the first quarter of each PBR Year (November, December, and January) beginning November 2015 through January 2021 using the mechanism and sharing structure approved and in effect at the time the savings (or expenses) were achieved. The results of the requested calculations for the first quarter of the respective PBR Year are set forth in the table below.

LG&E has performed the requested calculations even though those calculations do not comport, from a timing perspective, with the methodology approved by the Commission for calculating the sharing of savings (or expenses) as between Company and Customer. While savings (or expenses) are calculated on a monthly basis under LG&E's gas supply cost PBR mechanism, sharing calculations are made at the conclusion of a PBR Year -- not on a monthly, quarterly, or other basis. Pursuant to LG&E's approved PBR mechanism, the sharing of savings (or expenses) is calculated by determining the percentage of savings (or expenses) when compared to Total Actual Gas Supply Costs ("TAGSC") over the course of a full PBR Year (12 months ended October 31). A PBR Year coincides with gas industry contracting practices and is designed to incent minimization of all gas supply cost elements over the course of the entire annual contracting cycle.

Louisville Gas and Electric Company
Summary of Gas Supply Cost Performance-Based Ratemaking Savings/(Expenses)
First Quarter of Each PBR Year (November, December, and January)

	(1)	(2)	(3)
<u>Year</u>	<u>Total Savings</u>	<u>Customer Portion</u>	<u>Shareholder Portion</u>
19			
Nov. 2015	\$352,680	\$235,028	\$117,652
Dec.	\$96,830	\$86,533	\$10,297
Jan. 2016	\$405,010	\$274,030	\$130,980
<i>Qtr. Subtotal</i>	<i>\$854,520</i>	<i>\$595,591</i>	<i>\$258,929</i>
20			
Nov. 2016	\$384,286	\$250,362	\$133,924
Dec.	\$946,272	\$580,807	\$365,465
Jan. 2017	\$500,405	\$319,890	\$180,515
<i>Qtr. Subtotal</i>	<i>\$1,830,963</i>	<i>\$1,151,059</i>	<i>\$679,904</i>
21			
Nov. 2017	\$578,989	\$382,549	\$196,440
Dec.	\$411,654	\$307,852	\$103,802
Jan. 2018	\$1,652,390	\$936,890	\$715,500
<i>Qtr. Subtotal</i>	<i>\$2,643,033</i>	<i>\$1,627,291</i>	<i>\$1,015,742</i>
22			
Nov. 2018	\$1,885,598	\$1,068,134	\$817,464
Dec.	\$697,953	\$457,407	\$240,546
Jan. 2019	\$859,574	\$537,689	\$321,885
<i>Qtr. Subtotal</i>	<i>\$3,443,125</i>	<i>\$2,063,230</i>	<i>\$1,379,895</i>
23			
Nov. 2019	\$423,585	\$307,857	\$115,728
Dec.	\$452,916	\$292,238	\$160,678
Jan. 2020	\$319,917	\$202,254	\$117,663
<i>Qtr. Subtotal</i>	<i>\$1,196,418</i>	<i>\$802,349</i>	<i>\$394,069</i>
24			
Nov. 2020	\$687,676	\$427,417	\$260,259
Dec.	\$560,914	\$382,967	\$177,947
Jan. 2021	\$731,984	\$454,752	\$277,232
<i>Qtr. Subtotal</i>	<i>\$1,980,574</i>	<i>\$1,265,136</i>	<i>\$715,438</i>
<i>Grand Total</i>	<i>\$11,948,633</i>	<i>\$7,504,656</i>	<i>\$4,443,977</i>

The calculations of the sharing of savings (or expenses) for full PBR Years 19, 20, 21, and 22 pursuant to the applicable approved tariffed PBR mechanism are set forth in Appendix A of the 2019 PBR Report, and Year 23 is included as Appendix C of the Supplemental Testimony filed on January 29, 2021, in Case No. 2021-00028. As described here and in LG&E's PBR tariff, it is not possible to accurately calculate the sharing of savings (or expenses) for the current PBR Year 24 until the current PBR Year is completed.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 2

Witness: J. Clay Murphy / Pamela L. Jaynes

- Q-2. Refer to LG&E's responses to Commission Staff's First Request for Information, Item 16, in Case No. 2019-00437 regarding LG&E's gas procurement methodology. Provide all updates to the information requested in Item 16 of that request for information through the date of this request and on a continuing basis during the pendency of this case.
- A-2. For the sake of clarity and ease of reference, LG&E has repeated the 14 subparts from Question No. 16 in summary form and responds to those 14 subparts accordingly with any changes that have occurred since LG&E's response dated February 21, 2020.
- a. Provide copies of all interstate pipeline transportation and storage contracts entered into and tariffs effective since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information dated February 6, 2020, in Case No. 2019-00437.
 - b. Provide copies of all contracts for commodity supply entered into since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information dated February 6, 2020, in Case No. 2019-00437.
 - c. Provide any updates to gas supply and capacity contract summaries showing significant contract terms; daily, monthly, and annual entitlements; and pricing for contracts entered into since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437. Identify capacity changes (renegotiated and expired agreements, contract cancellations, assignments, or long-term releases) that have occurred since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
 - d. Provide any updates to LG&E's storage arrangements, and state the maximum daily injection and withdrawal rates and the decline in deliverability that occurs as gas is withdrawn, updated to reflect any changes since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.

- e. Provide any updates to peaking arrangements made since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- f. Provide a copy of all written procedures in use by LG&E for nominations and dispatching that have changed since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- g. If LG&E has utilized gas marketing/trading organizations to obtain gas supplies since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437, indicate which organizations were employed, gas volumes purchased, prices, terms, and current contractual arrangements between LG&E and these marketing firms.
- h. Provide any changes to the Request for Proposal or bidding process for gas supply that have changed since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437; for the same period provide the original bid documents, a listing of the suppliers that were contacted, the responses to the request for bid, the evaluation process that led to the selection of a supplier, and any written procedures that exist for this activity.
- i. Provide a copy of LG&E's gas supply plan and a written description of its gas supply planning process made since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- j. Provide any changes to any supply-planning computer models currently being used by LG&E since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- k. Provide organization charts of the overall corporate organization and of the gas planning, gas purchasing, and gas operations functions that have changed since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437. Describe any changes that have occurred in the corporate, gas planning and purchasing, and gas operations organizations since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- l. Provide any updates to job descriptions of the personnel working in the gas planning, gas purchasing, and gas operating functions since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.
- m. Provide copies of reports or internal audits or reviews of any aspect of the supply function conducted since Staff's gas procurement methodology request since LG&E's

February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437. Include reports prepared by LG&E and outside auditors.

- n. Provide an updated copy of LG&E's strategic plan with primary emphasis on gas procurement, transmission, delivery, and expansion, including all significant related capital expenditures that has been prepared since LG&E's February 21, 2020, response to Question No. 16 from Commission Staff's First Request for Information in Case No. 2019-00437.

LG&E's responses to the above questions have been updated through February 28, 2021 below. As needed, quarterly updates will be provided hereafter through the pendency of this proceeding which will be filed with the Commission within thirty (30) days of the close of the applicable three-month period.

- a. For gas supply activity covering the most recent gas contract year (12 months ended October 31, 2020), the capacity contracts with interstate pipelines under Rates NNS, FT, and FT-A are the same as those referenced in LG&E's response dated February 21, 2020 to Commission Staff's Question No. 16(a) from Case No. 2019-00437. Those pipeline capacity contracts have not experienced any change for the contract year beginning November 1, 2020.

While there have been no changes to the terms and conditions of these transportation arrangements since that response, the "8-year" NNS contract that was subject to termination October 31, 2021, has been extended for an additional 5-year roll-over term through October 31, 2026. No new contractual documents were required to be executed.

The following updated information has been included as attachments to this response:

- Texas Gas Transmission, LLC Tariff Sheets:
 - Fuel Retention Percentages for Service under Rate Schedules NNS and FT (applicable to service from November 1, 2019 through June 30, 2020; from July 1 through October 31, 2020; and beginning November 1, 2020)
- Tennessee Gas Pipeline Company, LLC Tariff Sheets:
 - Rates for Service under Rate Schedule FT-A (applicable to service from November 1, 2019 through October 31, 2020 and beginning November 1, 2020)
 - Fuel Retention Percentages for Service under Rate Schedule FT-A (applicable to service from April 1, 2020 through March 31, 2021 and beginning April 1, 2021)

- b. Attached are copies of the following documents with respect to LG&E's contracts for gas commodity supply in effect from November 1, 2019 through February 28, 2021. These documents include the following:
- all new base forms of agreement under which LG&E was able to purchase gas supplies effective since LG&E's February 21, 2020 filing in Case No. 2019-00437; these base forms of agreement set forth the framework for a potential gas commodity transaction such as billing, payment, title transfer, etc., but do not include the specifics with respect to a particular transaction such as price, volume, or duration (term)
 - base forms of agreement under which LG&E was able to purchase gas supplies have been terminated since LG&E's February 21, 2020 filing in Case No. 2019-00437, of which there are none
 - a summary of the key terms and conditions of the gas supply commodity transactions in effect from November 1, 2019 through February 28, 2021 taken from the below referenced Nomination Schedules
 - all Nomination Schedules in effect from November 1, 2019 through February 28, 2021, which reference and are Exhibits to the above base forms of agreement which memorialize gas supply transactions, including the specifics of each transaction with respect to price, volume, and duration (term), but excluding transactions for a single day or weekend

As with the inquiry conducted in Case No. 2019-00437, LG&E has not included Nomination Schedules associated with the purchase of any daily gas supplies simply because they are voluminous. However, any updates to the bid solicitations and the awards associated with each daily purchase are provided in the response to Question No. 1-2(h). These purchases are made under the same base forms of agreements provided herewith and in order to satisfy either daily changes in load requirements or to optimize LG&E's gas supply portfolio as discussed, for example, in any updates to the response to Question No. 1-2(f).

The following updated information has been included as attachments to this response subject to a Petition for Confidential Treatment:

- Annual Supply Statistics for: November 1, 2019 through October 31, 2020 and from November 1, 2020 through February 28, 2021
- A copy of all new base forms of agreement and contractual documentation reflecting name changes and assignments effective since LG&E's February 21, 2020 filing in Case No. 2019-00437

- A summary of all transactions in effect from November 1, 2019 through February 28, 2021 (excluding transactions lasting only a single day or weekend)
 - The Nomination Schedules for each of the transactions from November 1, 2019 through February 28, 2021 (excluding transactions lasting only a single day or weekend)
- c. LG&E's response to Question No. 1-2(a) includes any updates to capacity changes (renegotiated and expired agreements, de-contracting, assignment, or long-term release) that have taken place since February 21, 2020.

LG&E's response to Question No. 1-2(b) includes a discussion of any updates to significant contract terms, daily/monthly/annual entitlements, and pricing.

- d. LG&E's off-system storage arrangements are made under Texas Gas's No-Notice Service ("NNS") which is a bundled service that includes pipeline transportation capacity and storage service. There have been no changes to these arrangements since February 21, 2020.

Parameters associated with LG&E's on-system storage are included with the 2020 Annual Gas Supply Plan provided in the response to Question No. 1-2(i). Specifically, LG&E's on-system storage injection parameters can be found in Exhibit V of Exhibit 4 of the 2020 Annual Gas Supply Plan, and LG&E's on-system withdrawal parameters can be found in Exhibit V of Exhibit 4 of the 2020 Annual Gas Supply Plan.

- e. Updated information with respect to storage facilities, pipeline transportation services and gas supply agreements have been identified in the responses to Questions Nos. 1-2(a), 1-2(b), 1-2(c), and 1-2(d).
- f. No changes to the written procedures previously submitted on February 21, 2020 in Case No. 2019-00437.
- g. There has been no change in the information submitted by LG&E since its response dated February 21, 2020 in Case No 2019-00437. LG&E's gas supply arrangements (which may include arrangements with both producers and marketers) are discussed in the response to Question Nos. 1-2(a), 1-2(b) and 1-2(c).
- h. The following written procedure has been modified since the previous submission dated February 21, 2020 in Case No 2019-00437:
- Section 2.15: "Supplier Credit Assessment and Daily Net Exposure"

Also, attached are copies of LG&E's gas commodity supply solicitations conducted between November 1, 2019 and February 28, 2021. The documentation is provided in the date order of the bid release. These documents include a copy of the original bid

documents, a listing of the suppliers that were contacted, the responses to the request for bid, and the evaluation process that led to the selection of a supplier. The longer-term bid solicitations associated with the 2020 Annual Gas Supply Plan (including copies of original bid documents, a listing of the suppliers that were contacted, the responses to the request for bid, and the evaluation process that led to the selection of a supplier) are included with LG&E's 2020 Annual Gas Supply Plan provided as a part of the response to Question No. 1-2(i).

The following information has been included as an attachment to this response subject to a Petition for Confidential Treatment:

- Section 2.15: "Supplier Credit Assessment and Daily Net Exposure"; original submission dated July 1, 2020, superseding the version dated August 1, 2019, which was provided on February 21, 2020
 - Bid documentation for gas commodity supply solicitations conducted between November 1, 2019 and February 28, 2021
- i. LG&E's 2020 Annual Gas Supply Strategies ("Gas Supply Plan") was prepared by the Gas Management, Planning, and Supply Department. Exhibit 1 to the 2020 Annual Gas Supply Plan includes the "Summary of Bid Evaluations for Natural Gas Supply Transactions (2020 Gas Supply Plan)" including the Bid Evaluation (Appendix A), Bid Invitation (Appendix B), list of suppliers invited to bid (Appendix C), bids provided by suppliers (Appendix D), and Bid Evaluation Methodology (Appendix E).

While the Annual Gas Supply Plan develops details for the upcoming year, it is primarily focused on deliveries for the upcoming winter season. The Summer Plan is more closely focused on summer season purchases which are primarily used for storage refill. The 2020 Summer Purchase Plan Analysis is also included.

The following information has been included as attachments to this response subject to Petition for Confidential Treatment:

- 2020 Annual Gas Supply Plan (including 2020 bid documentation)
 - 2020 Summer Purchase Plan Analysis
- j. No change.
- k. Beginning in 2020, a new Director – Asset Integrity Management & Compliance was created. There have been no other changes. See attached organizational chart.
- l. No change.
- m. No change.
- n. See attached.

Texas Gas Transmission, LLC
 FERC NGA Gas Tariff
 Fourth Revised Volume No. 1
 Effective On: November 1, 2019

Section 4.18.1
 Murphy/Jaynes
 Currently Effective Rates - Fuel Retention - General
 Version 12.0.0

**Schedule of Currently Effective Fuel Retention Percentages
 Pursuant to Section 6.9 of the General Terms and Conditions**

NNS/NNL/SGT/SGL/SNS/WNS Rate Schedules

<u>Delivery Fuel Zone</u>	<u>EFRP [1]</u>
South	1.01%
Middle	1.38%
North	1.44%

FT/STF/IT Rate Schedules

<u>Rec/Del Fuel Zone</u>	<u>EFRP</u>
South/South	0.71%
South/Middle	0.95%
South/North	1.34%
Middle/South	0.71%
Middle/Middle	0.15%
Middle/North	0.54%
North/South	1.11%
North/Middle	0.31%
North/North	0.31%

FSS/FSS-M/ISS/ISS-M Rate Schedules

<u>Injection / Withdrawal</u>
0.27%

**Swing Allocation Hybrid Rate
 NNS/NNL/SGT/SGL/SNS/WNS**

<u>Delivery Fuel Zone</u>	<u>EFRP</u>
South	0.17%
Middle	0.83%
North	0.68%

[1] Effective Fuel Retention Percentage Schedule of Currently Effective Fuel Retention Percentages Pursuant to Section 6.9 of the General Terms and Conditions

Texas Gas Transmission, LLC
 FERC NGA Gas Tariff
 Fourth Revised Volume No. 1
 Effective On: July 1, 2020

Section 4.18.1
 Currently Effective Rates - Fuel Retention - General
 Murphy/Jaynes
 Version 13.0.0

**Schedule of Currently Effective Fuel Retention Percentages
 Pursuant to Section 6.9 of the General Terms and Conditions**

NNS/NNL/SGT/SGL/SNS/WNS Rate Schedules

<u>Delivery Fuel Zone</u>	<u>EFRP [1]</u>
South	0.27%
Middle	0.47%
North	0.35%

FT/STF/IT Rate Schedules

<u>Rec/Del Fuel Zone</u>	<u>EFRP</u>
South/South	0.24%
South/Middle	0.41%
South/North	0.52%
Middle/South	0.24%
Middle/Middle	0.01%
Middle/North	0.07%
North/South	0.45%
North/Middle	0.01%
North/North	0.01%

FSS/FSS-M/ISS/ISS-M Rate Schedules

<u>Injection / Withdrawal</u>
0.00%

**Swing Allocation Hybrid Rate
NNS/NNL/SGT/SGL/SNS/WNS**

<u>Delivery Fuel Zone</u>	<u>EFRP</u>
South	0.00%
Middle	0.30%
North	0.12%

[1] Effective Fuel Retention Percentage Schedule of Currently Effective Fuel Retention Percentages Pursuant to Section 6.9 of the General Terms and Conditions

Texas Gas Transmission, LLC
 FERC NGA Gas Tariff
 Fourth Revised Volume No. 1
 Effective On: November 1, 2020

Section 4.18.1
 Currently Effective Rates - Fuel Retention - General
 Murphy/Jaynes
 Version 14.0.0

**Schedule of Currently Effective Fuel Retention Percentages
 Pursuant to Section 6.9 of the General Terms and Conditions**

NNS/NNL/SGT/SGL/SNS/WNS Rate Schedules

<u>Delivery Fuel Zone</u>	<u>EFRP [1]</u>
South	0.67%
Middle	0.54%
North	0.89%

FT/STF/IT Rate Schedules

<u>Rec/Del Fuel Zone</u>	<u>EFRP</u>
South/South	0.46%
South/Middle	0.58%
South/North	0.88%
Middle/South	0.60%
Middle/Middle	0.03%
Middle/North	0.32%
North/South	0.94%
North/Middle	0.51%
North/North	0.31%

FSS/FSS-M/ISS/ISS-M Rate Schedules

<u>Injection / Withdrawal</u>
0.00%

**Swing Allocation Hybrid Rate
NNS/NNL/SGT/SGL/SNS/WNS**

<u>Delivery Fuel Zone</u>	<u>EFRP</u>
South	0.08%
Middle	0.10%
North	0.28%

[1] Effective Fuel Retention Percentage Schedule of Currently Effective Fuel Retention Percentages Pursuant to Section 6.9 of the General Terms and Conditions

Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Fourteenth Revised Sheet No. 14
Superseding
Thirteenth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
RATE SCHEDULE FOR FT-A

Base Reservation Rates	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9656		\$10.3766	\$13.9580	\$14.2050	\$15.6084	\$16.5676	\$20.7866
	L		\$4.4083						
	1	\$7.4753		\$7.1656	\$9.5360	\$13.5088	\$13.3040	\$15.0039	\$18.4494
	2	\$13.9581		\$9.4788	\$4.9299	\$4.6086	\$5.8968	\$8.1104	\$10.4695
	3	\$14.2050		\$7.5081	\$4.9697	\$3.5853	\$5.5074	\$9.9605	\$11.5097
	4	\$18.0356		\$16.6272	\$6.3364	\$9.6295	\$4.7135	\$5.0976	\$7.2824
	5	\$21.5048		\$15.1110	\$6.6468	\$8.0427	\$5.2363	\$4.9117	\$6.3942
	6	\$24.8770		\$17.3562	\$11.9451	\$13.1593	\$9.2952	\$4.8900	\$4.2331

Daily Base Reservation Rate 1/ -----	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1633		\$0.3411	\$0.4589	\$0.4670	\$0.5132	\$0.5447	\$0.6834
	L		\$0.1449						
	1	\$0.2458		\$0.2356	\$0.3135	\$0.4441	\$0.4374	\$0.4933	\$0.6066
	2	\$0.4589		\$0.3116	\$0.1621	\$0.1515	\$0.1939	\$0.2666	\$0.3442
	3	\$0.4670		\$0.2468	\$0.1634	\$0.1179	\$0.1811	\$0.3275	\$0.3784
	4	\$0.5930		\$0.5466	\$0.2083	\$0.3166	\$0.1550	\$0.1676	\$0.2394
	5	\$0.7070		\$0.4968	\$0.2185	\$0.2644	\$0.1722	\$0.1615	\$0.2102
	6	\$0.8179		\$0.5706	\$0.3927	\$0.4326	\$0.3056	\$0.1608	\$0.1382

Maximum Reservation Rates 2/, 3/ -----	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9824		\$10.3934	\$13.9748	\$14.2218	\$15.6252	\$16.5844	\$20.8034
	L		\$4.4251						
	1	\$7.4921		\$7.1824	\$9.5528	\$13.5256	\$13.3208	\$15.0207	\$18.4662
	2	\$13.9749		\$9.4956	\$4.9467	\$4.6254	\$5.9136	\$8.1272	\$10.4863
	3	\$14.2218		\$7.5249	\$4.9865	\$3.6021	\$5.5242	\$9.9773	\$11.5265
	4	\$18.0524		\$16.6440	\$6.3532	\$9.6463	\$4.7303	\$5.1144	\$7.2992
	5	\$21.5216		\$15.1278	\$6.6636	\$8.0595	\$5.2531	\$4.9285	\$6.4110
	6	\$24.8938		\$17.3730	\$11.9619	\$13.1761	\$9.3120	\$4.9068	\$4.2499

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0168.

Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Murphy/Jaynes
 Fifteenth Revised Sheet No. 14
 Superseding
 Fourteenth Revised Sheet No. 14

RATES PER DEKATHERM

 FIRM TRANSPORTATION RATES
 RATE SCHEDULE FOR FT-A

Base Reservation Rates	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9656		\$10.3766	\$13.9580	\$14.2050	\$15.6084	\$16.5676	\$20.7866
	L		\$4.4083						
	1	\$7.4753		\$7.1656	\$9.5360	\$13.5088	\$13.3040	\$15.0039	\$18.4494
	2	\$13.9581		\$9.4788	\$4.9299	\$4.6086	\$5.8968	\$8.1104	\$10.4695
	3	\$14.2050		\$7.5081	\$4.9697	\$3.5853	\$5.5074	\$9.9605	\$11.5097
	4	\$18.0356		\$16.6272	\$6.3364	\$9.6295	\$4.7135	\$5.0976	\$7.2824
	5	\$21.5048		\$15.1110	\$6.6468	\$8.0427	\$5.2363	\$4.9117	\$6.3942
	6	\$24.8770		\$17.3562	\$11.9451	\$13.1593	\$9.2952	\$4.8900	\$4.2331

Daily Base Reservation Rate 1/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.1633		\$0.3411	\$0.4589	\$0.4670	\$0.5132	\$0.5447	\$0.6834
	L		\$0.1449						
	1	\$0.2458		\$0.2356	\$0.3135	\$0.4441	\$0.4374	\$0.4933	\$0.6066
	2	\$0.4589		\$0.3116	\$0.1621	\$0.1515	\$0.1939	\$0.2666	\$0.3442
	3	\$0.4670		\$0.2468	\$0.1634	\$0.1179	\$0.1811	\$0.3275	\$0.3784
	4	\$0.5930		\$0.5466	\$0.2083	\$0.3166	\$0.1550	\$0.1676	\$0.2394
	5	\$0.7070		\$0.4968	\$0.2185	\$0.2644	\$0.1722	\$0.1615	\$0.2102
	6	\$0.8179		\$0.5706	\$0.3927	\$0.4326	\$0.3056	\$0.1608	\$0.1392

Maximum Reservation Rates 2/, 3 /	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$4.9837		\$10.3947	\$13.9761	\$14.2231	\$15.6265	\$16.5857	\$20.8047
	L		\$4.4264						
	1	\$7.4934		\$7.1837	\$9.5541	\$13.5269	\$13.3221	\$15.0220	\$18.4675
	2	\$13.9762		\$9.4969	\$4.9480	\$4.6267	\$5.9149	\$8.1285	\$10.4876
	3	\$14.2231		\$7.5262	\$4.9878	\$3.6034	\$5.5255	\$9.9786	\$11.5278
	4	\$18.0537		\$16.6453	\$6.3545	\$9.6476	\$4.7316	\$5.1157	\$7.3005
	5	\$21.5229		\$15.1291	\$6.6649	\$8.0608	\$5.2544	\$4.9298	\$6.4123
	6	\$24.8951		\$17.3743	\$11.9632	\$13.1774	\$9.3133	\$4.9081	\$4.2512

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0181.

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
 RATE SCHEDULE FOR FT-A

Base
 Reservation Rates

RECEIPT ZONE	DELIVERY ZONE								
	0	L	1	2	3	4	5	6	
0	\$4.8571		\$10.1498	\$13.6529	\$13.8945	\$15.2673	\$16.2055	\$20.3323	
L		\$4.3119							
1	\$7.3119		\$7.0090	\$9.3276	\$13.2135	\$13.0132	\$14.6759	\$18.0462	
2	\$13.6530		\$9.2716	\$4.8222	\$4.5078	\$5.7679	\$7.9331	\$10.2407	
3	\$13.8945		\$7.3440	\$4.8611	\$3.5070	\$5.3870	\$9.7428	\$11.2581	
4	\$17.6413		\$16.2638	\$6.1979	\$9.4190	\$4.6105	\$4.9861	\$7.1232	
5	\$21.0347		\$14.7807	\$6.5015	\$7.8669	\$5.1218	\$4.8044	\$6.2544	
6	\$24.3333		\$16.9768	\$11.6840	\$12.8717	\$9.0920	\$4.7831	\$4.1405	

Daily Base
 Reservation Rate 1/

RECEIPT ZONE	DELIVERY ZONE								
	0	L	1	2	3	4	5	6	
0	\$0.1597		\$0.3337	\$0.4489	\$0.4568	\$0.5019	\$0.5328	\$0.6685	
L		\$0.1418							
1	\$0.2404		\$0.2304	\$0.3067	\$0.4344	\$0.4278	\$0.4825	\$0.5933	
2	\$0.4489		\$0.3048	\$0.1585	\$0.1482	\$0.1896	\$0.2608	\$0.3367	
3	\$0.4568		\$0.2414	\$0.1598	\$0.1153	\$0.1771	\$0.3203	\$0.3701	
4	\$0.5800		\$0.5347	\$0.2038	\$0.3097	\$0.1516	\$0.1639	\$0.2342	
5	\$0.6916		\$0.4859	\$0.2137	\$0.2586	\$0.1684	\$0.1580	\$0.2056	
6	\$0.8000		\$0.5581	\$0.3841	\$0.4232	\$0.2989	\$0.1573	\$0.1361	

Maximum Reservation
 Rates 2/, 3/

RECEIPT ZONE	DELIVERY ZONE								
	0	L	1	2	3	4	5	6	
0	\$4.8752		\$10.1679	\$13.6710	\$13.9126	\$15.2854	\$16.2236	\$20.3504	
L		\$4.3300							
1	\$7.3300		\$7.0271	\$9.3457	\$13.2316	\$13.0313	\$14.6940	\$18.0643	
2	\$13.6711		\$9.2897	\$4.8403	\$4.5259	\$5.7860	\$7.9512	\$10.2588	
3	\$13.9126		\$7.3621	\$4.8792	\$3.5251	\$5.4051	\$9.7609	\$11.2762	
4	\$17.6594		\$16.2819	\$6.2160	\$9.4371	\$4.6286	\$5.0042	\$7.1413	
5	\$21.0528		\$14.7988	\$6.5196	\$7.8850	\$5.1399	\$4.8225	\$6.2725	
6	\$24.3514		\$16.9949	\$11.7021	\$12.8898	\$9.1101	\$4.8012	\$4.1586	

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHGSurcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0181.

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
 RATE SCHEDULE FOR FT-A

Base Reservation Rates		DELIVERY ZONE							
RECEIPT ZONE	0	L	1	2	3	4	5	6	
0	\$4.8571		\$10.1498	\$13.6529	\$13.8945	\$15.2673	\$16.2055	\$20.3323	
L		\$4.3119							
1	\$7.3119		\$7.0090	\$9.3276	\$13.2135	\$13.0132	\$14.6759	\$18.0462	
2	\$13.6530		\$9.2716	\$4.8222	\$4.5078	\$5.7679	\$7.9331	\$10.2407	
3	\$13.8945		\$7.3440	\$4.8611	\$3.5070	\$5.3870	\$9.7428	\$11.2581	
4	\$17.6413		\$16.2638	\$6.1979	\$9.4190	\$4.6105	\$4.9861	\$7.1232	
5	\$21.0347		\$14.7807	\$6.5015	\$7.8669	\$5.1218	\$4.8044	\$6.2544	
6	\$24.3333		\$16.9768	\$11.6840	\$12.8717	\$9.0920	\$4.7831	\$4.1405	

Daily Base Reservation Rate 1/		DELIVERY ZONE							
RECEIPT ZONE	0	L	1	2	3	4	5	6	
0	\$0.1597		\$0.3337	\$0.4489	\$0.4568	\$0.5019	\$0.5328	\$0.6685	
L		\$0.1418							
1	\$0.2404		\$0.2304	\$0.3067	\$0.4344	\$0.4278	\$0.4825	\$0.5933	
2	\$0.4489		\$0.3048	\$0.1585	\$0.1482	\$0.1896	\$0.2608	\$0.3367	
3	\$0.4568		\$0.2414	\$0.1598	\$0.1153	\$0.1771	\$0.3203	\$0.3701	
4	\$0.5800		\$0.5347	\$0.2038	\$0.3097	\$0.1516	\$0.1639	\$0.2342	
5	\$0.6916		\$0.4859	\$0.2137	\$0.2586	\$0.1684	\$0.1580	\$0.2056	
6	\$0.8000		\$0.5581	\$0.3841	\$0.4232	\$0.2989	\$0.1573	\$0.1361	

Maximum Reservation Rates 2/, 3/		DELIVERY ZONE							
RECEIPT ZONE	0	L	1	2	3	4	5	6	
0	\$4.8984		\$10.1911	\$13.6942	\$13.9358	\$15.3086	\$16.2468	\$20.3736	
L		\$4.3532							
1	\$7.3532		\$7.0503	\$9.3689	\$13.2548	\$13.0545	\$14.7172	\$18.0875	
2	\$13.6943		\$9.3129	\$4.8635	\$4.5491	\$5.8092	\$7.9744	\$10.2820	
3	\$13.9358		\$7.3853	\$4.9024	\$3.5483	\$5.4283	\$9.7841	\$11.2994	
4	\$17.6826		\$16.3051	\$6.2392	\$9.4603	\$4.6518	\$5.0274	\$7.1645	
5	\$21.0760		\$14.8220	\$6.5428	\$7.9082	\$5.1631	\$4.8457	\$6.2957	
6	\$24.3746		\$17.0181	\$11.7253	\$12.9130	\$9.1333	\$4.8244	\$4.1818	

Notes:

- 1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
- 2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of \$0.0000.
- 3/ Includes a per Dth charge for the PS/GHGSurcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0413.

Tennessee Gas Pipeline Company, L.L.C.
 FERC NGA Gas Tariff
 Sixth Revised Volume No. 1

Sixteenth Revised Sheet No. 15
 Superseding
 Fifteenth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES
 RATE SCHEDULE FOR FT-A

Base
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2391	\$0.2282	\$0.2716
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.2033	\$0.2073	\$0.2367
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0658	\$0.1055	\$0.1169
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0879	\$0.1217	\$0.1329
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0407	\$0.0576	\$0.0932
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0573	\$0.0567	\$0.0705
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0881	\$0.0478	\$0.0290

Minimum
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0038		\$0.0121	\$0.0183	\$0.0225	\$0.2397	\$0.2288	\$0.2722
L		\$0.0018						
1	\$0.0048		\$0.0087	\$0.0153	\$0.0185	\$0.2039	\$0.2079	\$0.2373
2	\$0.0173		\$0.0093	\$0.0018	\$0.0034	\$0.0664	\$0.1061	\$0.1175
3	\$0.0213		\$0.0175	\$0.0032	\$0.0008	\$0.0885	\$0.1223	\$0.1335
4	\$0.0256		\$0.0211	\$0.0093	\$0.0111	\$0.0413	\$0.0582	\$0.0938
5	\$0.0290		\$0.0262	\$0.0106	\$0.0124	\$0.0579	\$0.0573	\$0.0711
6	\$0.0352		\$0.0306	\$0.0149	\$0.0169	\$0.0887	\$0.0494	\$0.0296

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0006.

Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Murphy/Jaynes
Seventeenth Revised Sheet No. 15
Superseding
Sixteenth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES
RATE SCHEDULE FOR FT-A

Base
Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2391	\$0.2282	\$0.2716
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.2033	\$0.2073	\$0.2367
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0658	\$0.1055	\$0.1169
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0879	\$0.1217	\$0.1329
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0407	\$0.0576	\$0.0932
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0573	\$0.0567	\$0.0705
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0881	\$0.0478	\$0.0290

Minimum
Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum
Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0039		\$0.0122	\$0.0184	\$0.0226	\$0.2398	\$0.2289	\$0.2723
L		\$0.0019						
1	\$0.0049		\$0.0088	\$0.0154	\$0.0186	\$0.2040	\$0.2080	\$0.2374
2	\$0.0174		\$0.0094	\$0.0019	\$0.0035	\$0.0665	\$0.1062	\$0.1176
3	\$0.0214		\$0.0176	\$0.0033	\$0.0009	\$0.0886	\$0.1224	\$0.1336
4	\$0.0257		\$0.0212	\$0.0094	\$0.0112	\$0.0414	\$0.0583	\$0.0939
5	\$0.0291		\$0.0263	\$0.0107	\$0.0125	\$0.0580	\$0.0574	\$0.0712
6	\$0.0353		\$0.0307	\$0.0150	\$0.0170	\$0.0888	\$0.0485	\$0.0297

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0007.

RATES PER DEKATHERM

COMMODITY RATES
 RATE SCHEDULE FOR FT-A

Base
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2339	\$0.2232	\$0.2656
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.1989	\$0.2028	\$0.2315
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0644	\$0.1032	\$0.1144
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0860	\$0.1190	\$0.1300
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0398	\$0.0563	\$0.0912
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0560	\$0.0555	\$0.0689
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0862	\$0.0467	\$0.0284

Minimum
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0039		\$0.0122	\$0.0184	\$0.0226	\$0.2346	\$0.2239	\$0.2663
L		\$0.0019						
1	\$0.0049		\$0.0088	\$0.0154	\$0.0186	\$0.1996	\$0.2035	\$0.2322
2	\$0.0174		\$0.0094	\$0.0019	\$0.0035	\$0.0651	\$0.1039	\$0.1151
3	\$0.0214		\$0.0176	\$0.0033	\$0.0009	\$0.0867	\$0.1197	\$0.1307
4	\$0.0257		\$0.0212	\$0.0094	\$0.0112	\$0.0405	\$0.0570	\$0.0919
5	\$0.0291		\$0.0263	\$0.0107	\$0.0125	\$0.0567	\$0.0562	\$0.0696
6	\$0.0353		\$0.0307	\$0.0150	\$0.0170	\$0.0869	\$0.0474	\$0.0291

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0007.

RATES PER DEKATHERM

COMMODITY RATES
 RATE SCHEDULE FOR FT-A

Base
 Commodity Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.2339	\$0.2232	\$0.2656
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.1989	\$0.2028	\$0.2315
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0644	\$0.1032	\$0.1144
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0860	\$0.1190	\$0.1300
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0398	\$0.0563	\$0.0912
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0560	\$0.0555	\$0.0689
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0862	\$0.0467	\$0.0284

Minimum
 Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0032		\$0.0115	\$0.0177	\$0.0219	\$0.0250	\$0.0284	\$0.0346
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.0210	\$0.0256	\$0.0300
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0056	\$0.0100	\$0.0143
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0081	\$0.0118	\$0.0163
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0028	\$0.0046	\$0.0092
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0046	\$0.0046	\$0.0066
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0086	\$0.0041	\$0.0020

Maximum
 Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.0048		\$0.0131	\$0.0193	\$0.0235	\$0.2355	\$0.2248	\$0.2672
L		\$0.0028						
1	\$0.0058		\$0.0097	\$0.0163	\$0.0195	\$0.2005	\$0.2044	\$0.2331
2	\$0.0183		\$0.0103	\$0.0028	\$0.0044	\$0.0660	\$0.1048	\$0.1160
3	\$0.0223		\$0.0185	\$0.0042	\$0.0018	\$0.0876	\$0.1206	\$0.1316
4	\$0.0266		\$0.0221	\$0.0103	\$0.0121	\$0.0414	\$0.0579	\$0.0928
5	\$0.0300		\$0.0272	\$0.0116	\$0.0134	\$0.0576	\$0.0571	\$0.0705
6	\$0.0362		\$0.0316	\$0.0159	\$0.0179	\$0.0878	\$0.0483	\$0.0300

Notes:

- 1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at <http://www.ferc.gov> on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
- 2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
- 3/ Includes a per Dth charge for the PS/GHGSurcharge Adjustment per Article XXXVIII of the General Terms and Conditions of \$0.0016.

FUEL AND EPCR

F&LR 1/, 2/, 3/, 4/

RECEIPT		DELIVERY ZONE							
ZONE	0	L	1	2	3	4	5	6	
0	0.38%		1.55%	2.47%	3.08%	3.59%	4.24%	4.84%	
L		0.10%							
1	0.52%		1.08%	2.00%	2.44%	3.02%	3.68%	4.21%	
2	2.47%		1.16%	0.09%	0.33%	0.77%	1.43%	1.96%	
3	3.08%		2.44%	0.33%	0.00%	1.14%	1.70%	2.32%	
4	3.59%		2.79%	1.16%	1.41%	0.35%	0.63%	1.22%	
5	4.24%		3.68%	1.45%	1.73%	0.62%	0.62%	0.84%	
6	5.09%		4.40%	2.00%	2.32%	1.13%	0.46%	0.14%	

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 6.59%

EPCR 3/, 4/

RECEIPT		DELIVERY ZONE							
ZONE	0	L	1	2	3	4	5	6	
0	\$0.0020		\$0.0077	\$0.0120	\$0.0149	\$0.0180	\$0.0204	\$0.0245	
L		\$0.0007							
1	\$0.0027		\$0.0054	\$0.0099	\$0.0121	\$0.0151	\$0.0184	\$0.0212	
2	\$0.0120		\$0.0058	\$0.0006	\$0.0018	\$0.0039	\$0.0071	\$0.0098	
3	\$0.0149		\$0.0121	\$0.0018	\$0.0000	\$0.0057	\$0.0084	\$0.0113	
4	\$0.0180		\$0.0139	\$0.0058	\$0.0070	\$0.0019	\$0.0032	\$0.0061	
5	\$0.0204		\$0.0184	\$0.0071	\$0.0084	\$0.0032	\$0.0032	\$0.0042	
6	\$0.0245		\$0.0212	\$0.0098	\$0.0113	\$0.0057	\$0.0024	\$0.0009	

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ \$0.0429

- 1/ Included in the above F&LR is the Losses component of the F&LR equal to -0.09%.
- 2/ For service that is rendered entirely by displacement and for gas scheduled and allocated for receipt at the Dracut, Massachusetts receipt point, Shippers shall render only the quantity of gas associated with Losses of 0.00%.
- 3/ The F&LR's and EPCR's listed above are applicable to FT-A, FT-BH, FT-G, FT-GS, and IT.
- 4/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.
- 5/ The incremental F&LR and EPCR set forth above are applicable to a Shipper(s) utilizing capacity on the Broad Run Expansion Project – Market Component facilities, from any receipt point(s) to any delivery point(s) located on the project's transportation path. Any service provided to a Shipper(s) outside the project's transportation path shall be subject to the greater of the incremental F&LR and EPCR for the project or the applicable F&LR and EPCR for the applicable receipt(s) and delivery point(s) as shown in the rate matrices above. Included in the above F&LR is the Losses component of the F&LR equal to -0.09%.

FUEL AND EPCR

F&LR 1/, 2/, 3/, 4/	DELIVERY ZONE								
	RECEIPT ZONE	0	L	1	2	3	4	5	6
0	0.43%		1.54%	2.34%	2.97%	3.59%	4.08%	4.66%	
L		0.16%							
1	0.56%		1.09%	1.96%	2.43%	2.92%	3.55%	4.06%	
2	2.40%		1.17%	0.15%	0.38%	0.79%	1.44%	1.96%	
3	2.97%		2.37%	0.38%	0.03%	1.14%	1.67%	2.26%	
4	3.46%		2.71%	1.16%	1.40%	0.40%	0.66%	1.22%	
5	4.08%		3.55%	1.42%	1.67%	0.66%	0.65%	0.86%	
6	4.88%		4.06%	1.96%	2.26%	1.14%	0.50%	0.20%	

Broad Run Expansion Project – Market C component (Z3-Z1): 5/ 7.62%

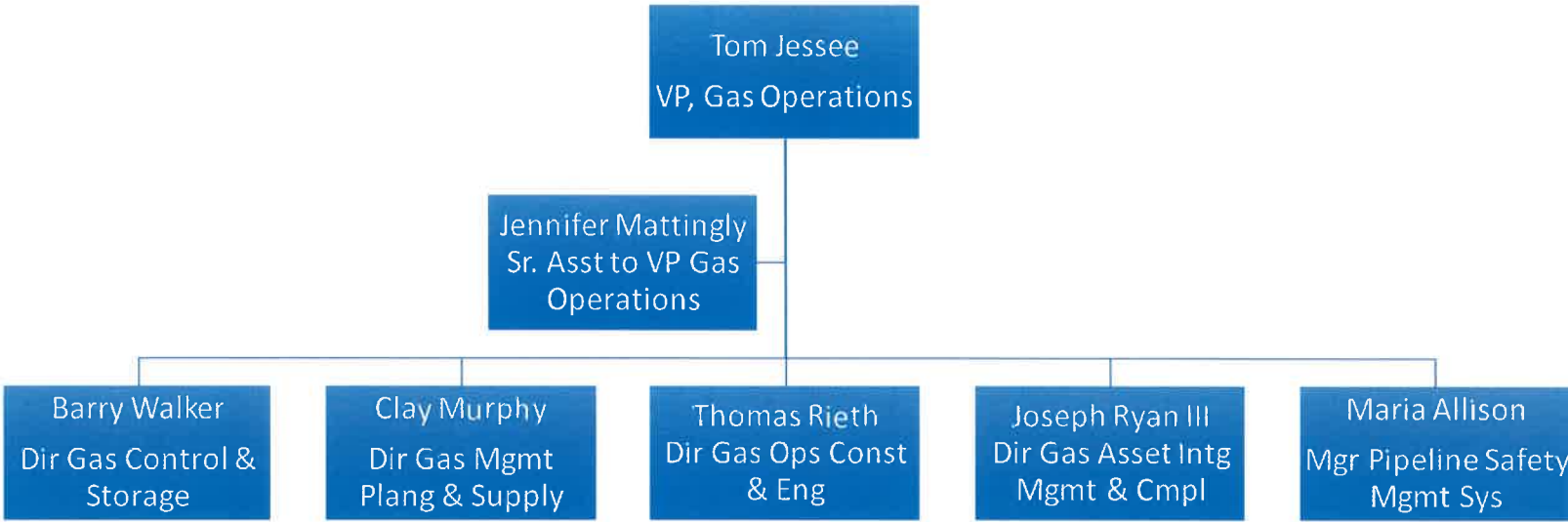
EPCR 3/, 4/	DELIVERY ZONE								
	RECEIPT ZONE	0	L	1	2	3	4	5	6
0	\$0.0021		\$0.0081	\$0.0125	\$0.0155	\$0.0188	\$0.0214	\$0.0256	
L		\$0.0007							
1	\$0.0028		\$0.0057	\$0.0104	\$0.0127	\$0.0157	\$0.0193	\$0.0221	
2	\$0.0125		\$0.0061	\$0.0007	\$0.0018	\$0.0041	\$0.0074	\$0.0102	
3	\$0.0155		\$0.0127	\$0.0018	\$0.0000	\$0.0060	\$0.0088	\$0.0118	
4	\$0.0188		\$0.0145	\$0.0060	\$0.0074	\$0.0019	\$0.0034	\$0.0063	
5	\$0.0214		\$0.0193	\$0.0074	\$0.0088	\$0.0033	\$0.0033	\$0.0044	
6	\$0.0256		\$0.0221	\$0.0102	\$0.0118	\$0.0059	\$0.0025	\$0.0009	

Broad Run Expansion Project – Market C component (Z3-Z1): 5/ \$0.0272

- 1/ Included in the above F&LR is the Losses component of the F&LR equal to 0.00%.
- 2/ For service that is rendered entirely by displacement and for gas scheduled and allocated for receipt at the Dracut, Massachusetts receipt point, Shipper shall render only the quantity of gas associated with Losses of 0.00%.
- 3/ The F&LR's and EPCR's listed above are applicable to FT-A, FT-BH, FT-G, FT-GS, and IT.
- 4/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.
- 5/ The incremental F&LR and EPCR set forth above are applicable to a Shipper(s) utilizing capacity on the Broad Run Expansion Project – Market Component facilities, from any receipt point(s) to any delivery point(s) located on the project's transportation path. Any service provided to a Shipper(s) outside the project's transportation paths shall be subject to the greater of the incremental F&LR and EPCR for the project or the applicable F&LR and EPCR for the applicable receipt(s) and delivery point(s) as shown in the rate matrices above. Included in the above F&LR is the Losses component of the F&LR equal to 0.00%.

Attachments to
Questions 2(b),
2(h), and 2(i) are
Confidential and
provided separately
under seal.

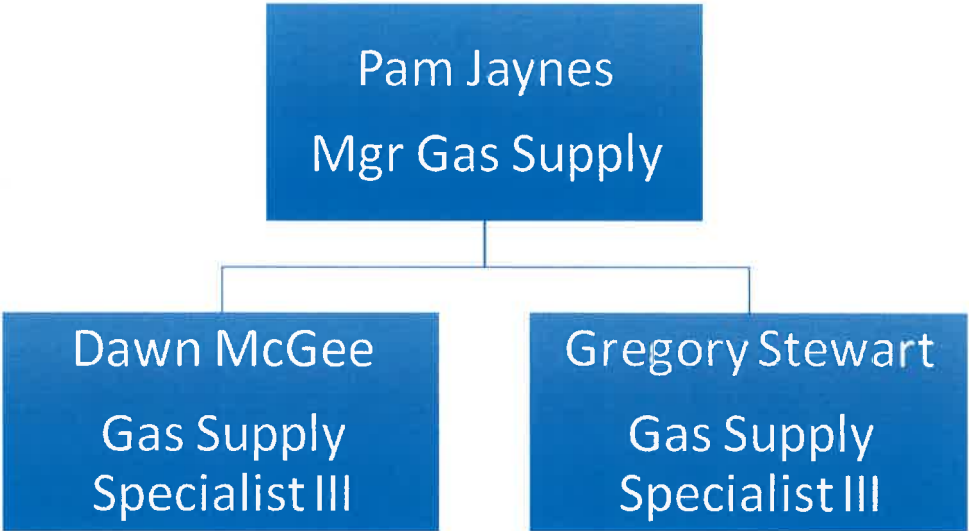
VP Gas Operations



Dir Gas Mgmt Plang & Supply



Mgr Gas Supply



Gas Operations LG&E and KU Utilities 2021 Operating Plan



September 2020



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- Major Assumptions
- Financial Performance
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- Key Performance Indicators

Plan Highlights

Gas Operations mission is to provide safe, reliable, and affordable natural gas to our customers while meeting or exceeding state and federal regulatory requirements.

Funding levels within the proposed plan were established with the following priorities in mind:

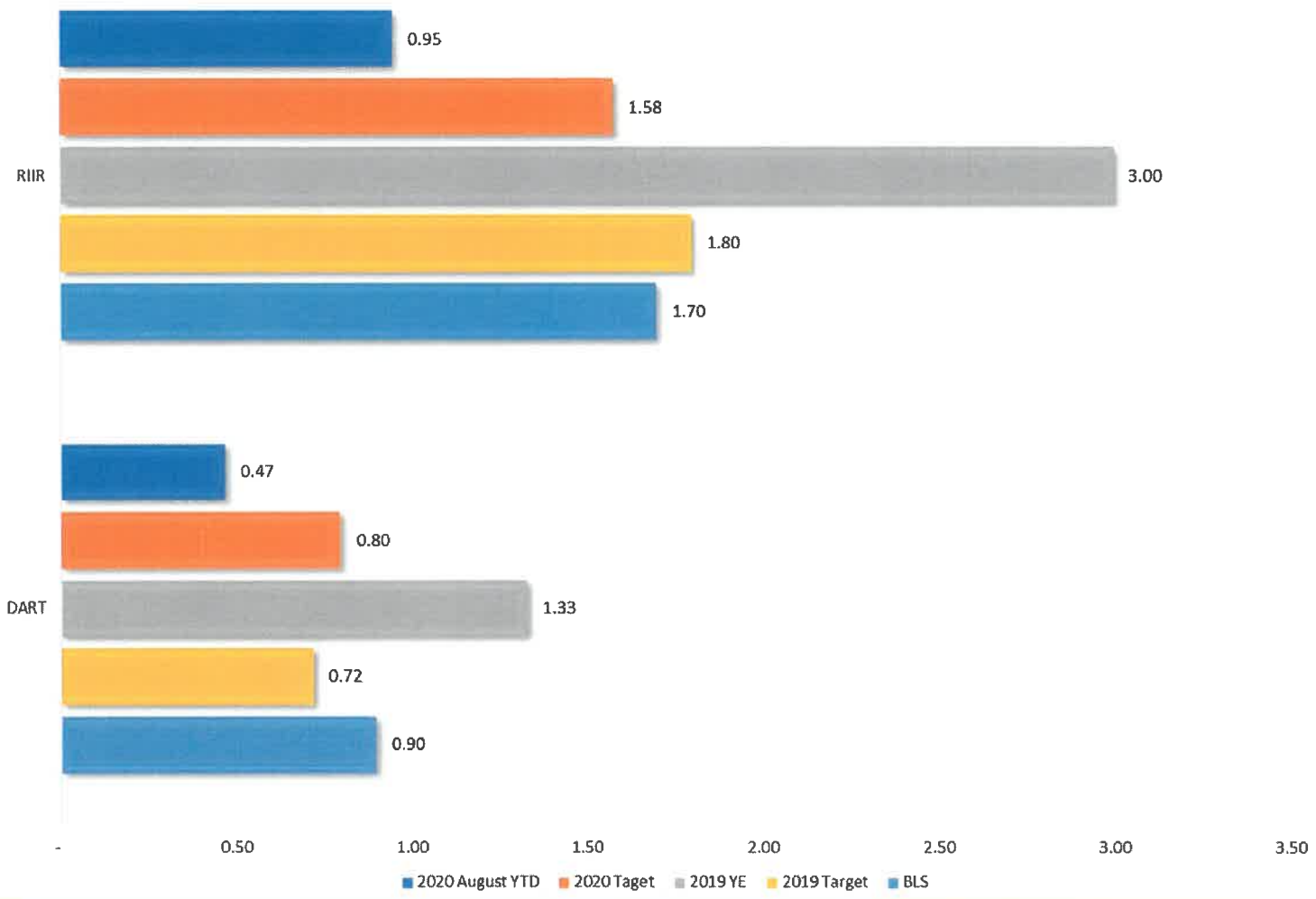
- Employee, contractor and public safety
- Regulatory compliance
- Capital investments for transmission asset modernization and reinforcement
- Supporting customer service requests
- Gas system reliability
 - Asset replacement to ensure reliable and safe service
 - System enhancements to meet customer needs
- Operational technology cyber security initiative

Plan Highlights

- Workforce and Public Safety
 - Continuously strive to improve employee and business partner safety performance
 - Ensure effective employee engagement through the Gas Operations Safety Focus Team.
 - Maintain and enhance gas system safety thru effective Integrity, Public Awareness, Damage Prevention, and Gas Control Room Management programs and continue implementation of a Pipeline Safety Management System
 - Enhanced public safety through customer communications and asset replacement
 - Continuation of motor vehicle safety initiatives
 - Identify, share, and capitalize on industry best practices
 - Mock drills, leak detection training, and emergency response improvements
 - Effective liaison with emergency response agencies
 - Promote wellness initiatives as an aspect of safety

Plan Highlights

Safety Performance - Gas



Plan Highlights

- Control Room Management (CRM) Program
 - The CRM program prescribes the safety requirements for Gas Controllers, Control Rooms, and SCADA systems that are used to remotely monitor and control pipeline operations
 - The CRM program address both engineering and management solutions related to human factors in a control room operation in order to enhance the performance of the operator's personnel and safety of the pipeline control operation
 - LG&E's CRM program consists plans, policies and procedures to address the following:
 - Fatigue mitigation, alarm management, change management, controller training, team training, and compliance validation
 - By the start of 2021, all LG&E and KU gas pipeline facilities planned will be under Gas Operation's CRM.
 - Two incremental operators are required to properly staff the control room for safe, effective and compliant operation.

Plan Highlights

- **Damage Prevention Program**
 - Annual pipeline locating ticket request volume has remained consistent for 2018-2020 (Approx. 136,000 tickets annually)
 - On time performance has significantly improved for locating underground facilities with the current business partners.
 - Metrics:

Year	Damage Rate	Total Gas Damages	Locator At-Fault Damages	On Time Performance
Target	2.25	NA	NA	95% or greater
2018	2.63	373	90	44%-95.7%
2019	2.14	289	39	99.10%
2020*	1.61	147	12	99.92%

*2020 Data is through August

Plan Highlights

- Emergency Response Time & Success Rate
 - Success rate is the rate of response to an emergency order in under 60-minutes.

Year	Avg. Response	
	Time	Success Rate
2016	37.0	87.6%
2017	37.1	86.8%
2018	32.9	91.4%
2019	34.1	90.6%
2020*	31.4	93.7%

*2020 is through August

Plan Highlights

- Operator Qualification Program
 - Integration with Industrial Training Services compliance program is complete (July 2017 – December 2019)
 - LKE employees completed over (8,000) man hours of evaluations during this initial period
 - In addition to Gas Distribution Operations, Operator Qualification touches several LOBs across the company including:
 - Power Generation - E.W. Brown, Cane Run, Paddy's Run, and Trimble County
 - Customer Service – Call Center representatives, and meter readers
 - Field Services - Gas service turn on/off, gas meter shop, meter change, and meter sampling program
 - Current LG&E/KU employees in the OQ system – 929
 - Current number of individuals in the OQ system (including LG&E/KU employees) – 8,028
 - Total number of OQ qualifications held by all individuals performing OQ related work for LG&E/KU – 97,193

Plan Highlights

- Integrity Assessments – Gas Transmission Program
 - For the dry gas system, approx. 267 miles or 93% is capable of in-line inspection (i.e. piggable)
 - Leveraging an expanded set of technologies enables LG&E to achieve a higher overall level of pipeline safety and pipeline integrity
 - The suite of tools being used provides a better understanding of the threats to the pipeline and its condition and to meet the latest regulatory requirements requiring validation of the actual safe operating pressure for transmission pipelines. Technologies include these tools:
 - Geometry – pipeline geometry (diameter, pipe ovality, dents)
 - Magnetic Flux Leakage (MFL-A & C) circumferential and axial – pipeline wall loss and corrosion
 - Electro-magnetic Acoustic Transducer (EMAT) – crack-like anomaly detection
 - ROMAT - material and pipe grade determination, hard spots & categorization of the pipe seam
 - Pipe grade sensors – Used to determine pipe yield strength
 - Inertial – Used to determine pipe movement/bend strain and to provide coordinates of anomalies discovered by other tools

Plan Highlights

- Integrity Assessments – Gas Storage Program
 - Enhancing Gas Storage safety by implementing a phased-in, multi-year timeframe for Integrity Management
 - Implementing new risk modeling software (TaskOp), and asset and workflow management system (Asset Manager)
 - Well Inspection base line assessments – deadline 2023 extended to Jan 2027
 - Planned 70% completed by end of 2020

- Integrity Assessments – Gas Distribution Program
 - Implementing new probabilistic risk modeling software (JANA DIMP)
 - Creating a valve isolation program utilizing gas system planning and valve area isolation software to identify valves assigned to the designated valve program.

Plan Highlights

- Customer Experience
 - Meet customer expectations for new service requests
 - Promptly address customer service issues
 - Identify customer service improvement opportunities
 - Promote professional and positive corporate image to customers
 - Restore customer service outages quickly and efficiently
 - Meet customer capacity needs
 - Proactively communicate with customers

Plan Highlights

- Reliability, Infrastructure and Regulatory Compliance
 - Targeted replacement of aging infrastructure to ensure safety, reliability and performance
 - Effectively manage gas safety compliance programs
 - Provide reliable gas supplies through investments in:
 - Gas regulation/measurement facilities
 - Gas transmission system
 - Gas compressor stations
 - Gas storage fields
 - Distribution infrastructure upgrades

Plan Highlights

- Workforce Development
 - Headcount plan that addresses retirements
 - Identification of pre-hires for critical job positions
 - Knowledge transfer to new employees
 - Support of employee continuing education initiatives
 - Support onboarding and enhanced training/operator qualification to promote consistent work practices across operational groups
 - Internal and external training opportunities
 - Mobile computing technologies supporting training
 - Skilled craft-worker intern program in participation with local technical colleges

Major Assumptions

- Customer expectations regarding levels of service and information availability will continue to increase.
- Incremental headcount is needed to meet increased regulatory, work scope and compliance demands, contractor offsets and transfer critical knowledge in preparation for retirements.
- New Business generally assumes low customer growth and inflationary increases through the planning period with new commercial and industrial loads requiring gas main extensions and system reinforcements.
- Discontinuation of the Gas Line Tracker (GLT) mechanism for cost recovery starting in June 2021 except for customer service line ownership and replacing company services.
- Gas Supply Clause remains fundamentally unchanged.
- Available technology, transmission pipeline projects and operating conditions will support successful enhanced in-line inspections.
- No material impacts to costs related to the Pipeline Safety Act reauthorization.

Major Assumptions

- New gas safety regulatory requirements will:
 - Require operators to validate MAOPs of gas transmission pipelines (49 CFR 192.624 MAOP Verification).
 - Expand pipeline integrity requirements beyond high consequence areas (49 CFR 192.710 Pipeline Assessments).
 - Expand operator qualification requirements to construction activities (49 CFR 192.801 Qualification of Pipeline personnel, Scope).
 - Require continuous improvement for distribution system integrity (49 CFR 192.1007 Gas Distribution Pipeline Integrity Management).
 - Require continued implementation of storage integrity compliance program (49 CFR 192.12 Underground Natural Gas Storage).
 - Requirements starting in 2021 have added incremental costs to our plan (49 CFR 192.1 Mega Rule Part 2)

Major Assumptions

- Gas Load Forecast:
 - Forecasted Design Day for 2021 is expected to increase to 689,000 Mcf/day from 679,000 Mcf/day estimated in the prior BP. Through the current 5-year planning period, the forecasted Design Day is expected to gradually increase to 692,000 Mcf/day.

2020-2025 Capital Expenditures (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Gas Line Tracker	\$ 81,708	\$ 37,259	\$ 11,094	\$ 11,034	\$ 11,034	\$ 11,037
Base (Non-Tracker)						
New Business	5,344	6,389	4,989	4,989	4,989	4,989
Enhance the Network	28,036	70,803	15,664	9,514	66,703	4,360
Maintain the Network	34,259	25,542	18,237	15,335	16,697	18,582
Repair the Network	1,011	1,100	1,101	1,100	1,099	1,099
Miscellaneous	343	1,643	661	506	514	521
Subtotal Base	<u>68,994</u>	<u>105,477</u>	<u>40,650</u>	<u>31,443</u>	<u>90,001</u>	<u>29,550</u>
Total Capital	<u>\$ 150,702</u>	<u>\$ 142,735</u>	<u>\$ 51,744</u>	<u>\$ 42,477</u>	<u>\$ 101,035</u>	<u>\$ 40,586</u>
2020 Plan	<u>\$ 148,704</u>	<u>\$ 126,873</u>	<u>\$ 63,250</u>	<u>\$ 58,701</u>	<u>\$ 51,436</u>	
Change	<u>\$ (1,998)</u>	<u>\$ (15,862)</u>	<u>\$ 11,506</u>	<u>\$ 16,224</u>	<u>\$ (49,599)</u>	

2020-2025 Annual O&M Expenses (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Labor	\$ 22,289	\$ 23,336	\$ 24,162	\$ 25,200	\$ 26,196	\$ 26,698
Non-Labor:						
In-Line Inspections	4,794	10,253	10,933	7,220	11,206	10,407
Line Locating	12,173	12,163	11,751	11,032	10,468	10,537
Compressor Stations	4,409	4,087	4,191	4,277	4,546	4,117
Gas Control	1,308	1,505	1,453	1,459	1,391	1,451
Gas Ops, Construction, Engineering	3,986	3,981	3,998	3,983	3,959	3,968
Storage Integrity Engineering	4,819	5,847	5,837	5,885	5,931	5,895
Distribution Integrity & Compliance	406	467	447	432	458	457
Transmission Integrity & Compliance	24	783	1,202	937	1,179	973
Other	1,280	1,791	1,771	1,764	1,792	1,799
Total Base Rate Recovery	\$ 55,488	\$ 64,214	\$ 65,744	\$ 62,188	\$ 67,127	\$ 66,301
GLT Mechanism O&M	\$ 1,326	\$ 999	\$ 1,023	\$ 1,038	\$ 1,052	\$ 1,065
GSC Mechanism O&M	\$ 1,500	\$ 1,421	\$ 1,466	\$ 1,593	\$ 1,593	\$ 1,427
Total O&M	\$ 58,314	\$ 66,633	\$ 68,233	\$ 64,819	\$ 69,772	\$ 68,793

¹ Multi-diameter tool development was assumed to move to GLT mechanism in 2020, but that was denied by the PSC. Inline inspections were assumed to move to GLT in 2021, but that was not allowed.

Employee Headcount by Department

Department	9/30/2020 2020	Plan 2021	Plan 2022	Plan 2023	Plan 2024	Plan 2025
VP Gas Distribution Operations	2	2	2	2	2	2
Pipeline Safety Mgmt Systems	4	6	7	7	7	7
Gas Regulatory Compliance	49	55	59	66	71	72
Dir Gas Regulatory Compliance	1	1	1	1	1	1
Transmission Integrity & Comp	11	15	16	16	16	16
Distribution Integrity & Comp	30	31	34	41	46	47
Gas Storage Integrity Engineering	3	4	4	4	4	4
Operator Qualifications Program	4	4	4	4	4	4
Gas Management & Supply	6	6	6	6	6	6
Gas Ops, Construction & Engr	127	130	130	130	130	130
Dir Gas Ops, Const, & Engr	1	1	1	1	1	1
Gas Operations	81	83	83	83	83	83
Gas Construction	32	33	33	33	33	33
Gas Engineering	13	13	13	13	13	13
Gas Control & Storage	96	99	101	101	101	101
Dir Gas Control and Storage	2	2	2	2	2	2
Muldraugh Operations	28	30	30	30	30	30
Magnolia Operations	22	22	22	22	22	22
Gas Control	44	45	47	47	47	47
Interns	7	13	13	13	13	13
Total	291	310	318	325	330	331
2021BP	291	310	318	325	330	331
Prior Plan	315	324	329	334	339	
Change from Prior Plan	24	14	11	9	9	

** Average headcount not end of year

Supplemental Contractor Headcount by Department

<u>Department</u>	<u>6/30/2020</u> <u>2020</u>	<u>Plan</u> <u>2021</u>	<u>Plan</u> <u>2022</u>	<u>Plan</u> <u>2023</u>	<u>Plan</u> <u>2024</u>	<u>Plan</u> <u>2025</u>
Magnolia Gas Storage Operations	-	-	-	-	-	-
Muldraugh Gas Storage Operations	5	5	3	3	3	3
Gas Control	5	4	4	4	4	4
Operator Qualification Program	-	-	-	-	-	-
Gas Transmission Integrity & Compliance	25	15	15	17	15	15
Gas Distribution Integrity & Compliance	150	150	145	140	135	135
Gas Constuction	147	147	100	100	100	100
Gas Engineering and Planning	2	-	-	-	-	-
Gas Operations	30	42	42	42	42	42
Gas Supply	-	-	-	-	-	-
Pipeline Safety Mgmt System	-	-	-	-	-	-
Total	364	363	309	306	299	299
Total Contractor Workforce						
2021BP	364	363	309	306	299	299
Prior Plan	386	385	380	375	370	370
Change from Prior Plan	22	22	71	69	71	71

Change from prior plan due to reduction in Distribution Integrity & Compliance contractors and Gas Construction contractors.

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Inline Inspections:						
Ballardsville ILI	\$ -	\$ 1,613	\$ 1,074	\$ 1,029	\$ 295	\$ -
Blanton-Paddy's ILI	-	2,830	1,235	-	-	-
Calvary ILI	2	-	-	-	3,200	1,280
Center 20 ILI	246	-	-	-	-	2,842
Doe Valley 8 ILI	-	-	1,940	324	-	-
MAG 16 ILI	472	-	-	-	-	3,117
MAG 20 ILI	-	3,324	689	-	-	-
Mill Creek 12 ILI	0	-	-	-	1,679	637
Muldraugh - Piccadilly ILI	117	-	-	-	-	-
Muldraugh to Penile ILI	-	-	-	-	3,083	917
Penile - Paddy's ILI	48	-	-	-	-	-
Riverport 12 ILI	-	-	1,223	-	-	-
Riverport 8 ILI	-	-	-	950	-	-
Western Kentucky A - ILI	45	-	-	3,199	946	-
Western Kentucky B - ILI	767	-	3,699	360	-	-
Tool Development	3,098	1,005	-	-	-	-
Validation Digs	-	1,481	1,072	1,358	2,003	1,614
Total Inline Inspections	\$ 4,794	\$ 10,253	\$ 10,933	\$ 7,220	\$ 11,206	\$ 10,407

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Line Locating:						
Electric Line Locating	\$ 5,359	\$ 5,360	\$ 5,527	\$ 5,408	\$ 5,326	\$ 5,394
Unlocatables	305	312	265	270	270	270
Software	60	-	-	-	-	-
Total Electric Line Locating	\$ 5,724	\$ 5,672	\$ 5,792	\$ 5,678	\$ 5,596	\$ 5,664
Gas Line Locating	\$ 5,154	\$ 5,191	\$ 4,577	\$ 3,946	\$ 3,456	\$ 3,461
Unlocatables	1,231	1,300	1,381	1,408	1,416	1,412
Software	65	-	-	-	-	-
Total Gas Line Locating	\$ 6,450	\$ 6,491	\$ 5,958	\$ 5,354	\$ 4,872	\$ 4,873
Total Line Locating	\$12,173	\$ 12,163	\$11,751	\$11,032	\$ 10,468	\$ 10,537

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecas	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Compressor Stations:						
Supplemental Contractors	\$ 58	\$ 44	\$ 57	\$ 57	\$ 57	\$ 57
Outside Services-Other	1,631	851	893	872	914	880
Materials	1,419	1,899	1,929	2,019	2,226	1,817
Transportation & Equipment	800	835	853	871	892	904
Other	500	458	458	458	458	458
Total Compressor Stations	\$ 4,409	\$ 4,087	\$ 4,191	\$ 4,277	\$ 4,546	\$ 4,117
Gas Control:						
Supplemental Contractors	\$ 11	\$ 22	\$ 22	\$ 22	\$ 22	\$ 22
Outside Services-Other	332	565	482	493	409	458
Materials	463	364	377	361	361	361
Transportation & Equipment	362	376	392	403	420	432
Other	140	179	179	179	179	179
Total Gas Control	\$ 1,308	\$ 1,505	\$ 1,453	\$ 1,459	\$ 1,391	\$ 1,451

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Gas Operations, Construction & Engineering:						
Gas Construction	\$ 252	\$ 345	\$ 348	\$ 351	\$ 354	\$ 357
Gas Operations:						
Trouble	\$ 742	\$ 662	\$ 677	\$ 688	\$ 673	\$ 680
Customer Initiated	616	495	512	527	521	522
Leak Repair	588	572	592	605	609	617
Patrolling & Related Repair Costs	95	112	186	149	145	147
Materials	1,510	1,304	1,343	1,358	1,352	1,357
Transportation	58	128	139	143	124	117
Administrative	1,158	925	945	949	952	956
Other	294	251	259	267	275	284
Total Gas Operations	<u>5,060</u>	<u>4,449</u>	<u>4,654</u>	<u>4,685</u>	<u>4,651</u>	<u>4,680</u>
Gas Engineering	73	58	61	62	64	66
Director	<u>5</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>10</u>
Total Gas Operations, Construction & Engineering:	<u>\$ 5,390</u>	<u>\$ 4,861</u>	<u>\$ 5,072</u>	<u>\$ 5,108</u>	<u>\$ 5,079</u>	<u>\$ 5,113</u>

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Distribution Integrity & Compliance:						
Leak Survey	\$ 882	\$ 938	\$ 938	\$ 948	\$ 980	\$ 927
Public Awareness	276	427	425	431	431	431
Stop Box Inspections	1,196	1,300	1,300	1,350	1,350	1,350
Priority Valves	92	107	110	112	115	115
Farm Tap Inspections	45	50	52	50	50	50
Corrosion Control	1,905	2,317	2,325	2,333	2,341	2,349
Records Review	-	90	90	90	90	90
Administrative	232	348	356	360	362	372
Other	191	270	241	211	212	211
Total Dist Int. & Compliance:	\$ 4,819	\$ 5,847	\$ 5,837	\$ 5,885	\$ 5,931	\$ 5,895
Transmission Integrity & Compliance:						
Records Review	\$ 107	\$ 50	\$ 50	\$ 50	\$ 50	\$ 50
Pipeline Integrity	169	325	305	290	316	315
Administrative	-	-	-	-	-	-
Other	111	92	92	92	92	92
Total Trans Int. & Compliance:	\$ 386	\$ 467	\$ 447	\$ 432	\$ 458	\$ 457

2020-2025 Non Labor Expense Category (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Storage Integrity Engineering:						
Outside Services-Other	\$ 5	\$ 716	\$ 1,132	\$ 869	\$ 1,108	\$ 903
Materials	6	2	2	2	2	2
Transportation & Equipment	10	27	27	28	29	30
Other	2	39	41	39	41	39
Total Storage Integrity Engineering	\$ 24	\$ 783	\$ 1,202	\$ 937	\$ 1,179	\$ 973
Other:						
Pipeline Safety Management Systems	\$ 14	\$ 84	\$ 92	\$ 90	\$ 107	\$ 97
Operator Qualification	78	152	180	182	181	186
Gas Supply	173	190	189	169	169	169
American Gas Association Dues	219	213	219	226	233	240
Dept Of Transportation Storage Fee	167	167	100	100	100	100
Dept of Transportation Assessment	125	147	153	158	162	167
OT Security	88	543	543	543	543	543
Liability Claims	99	109	109	109	109	109
Other	318	186	187	187	188	189
Total Other	\$ 1,280	\$ 1,791	\$ 1,771	\$ 1,764	\$ 1,792	\$ 1,799

2020-2025 Mechanism O&M Expense (\$000)

Item	2020 Forecast	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
GLT Mechanism:						
CSO Meter Conditions	589	375	388	398	406	414
Repair Leaks	374	314	325	330	336	341
Customer Unlocatables	362	310	310	310	310	310
Total GLT Mechanism	\$ 1,326	\$ 999	\$ 1,023	\$ 1,038	\$ 1,052	\$ 1,065
GSC Mechanism:						
Gas Losses - Muldraugh	1,311	1,241	1,281	1,407	1,407	1,241
Gas Losses - Magnolia	189	180	185	186	186	186
Total GSC Mechanism	\$ 1,500	\$ 1,421	\$ 1,466	\$ 1,593	\$ 1,593	\$ 1,427
Total Mechanism Expense	\$ 2,826	\$ 2,420	\$ 2,489	\$ 2,631	\$ 2,645	\$ 2,492

Annual Gas Losses assumed to be 418 MMcf at Muldraugh and 60 MMcf at Magnolia.

O&M Annual Expense Reconciliation (\$000)

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
2021 Business Plan (pg 6)	\$ 66,633	\$ 68,233	\$ 64,819	\$ 69,772	\$ 68,793
2020 Business Plan	63,625	63,446	59,940	65,272	67,026
Change	<u>\$ (3,008)</u>	<u>\$ (4,787)</u>	<u>\$ (4,880)</u>	<u>\$ (4,500)</u>	<u>\$ (1,767)</u>
Drivers:					
Labor	\$ 652	\$ 1,005	\$ 1,008	\$ 1,160	\$ 1,480
Inline inspections	(2,848)	(4,069)	(3,948)	(3,145)	(2,105)
Line Locating	(555)	(907)	(1,117)	(846)	(628)
Mega Rule Part 2 Compliance	(311)	(393)	(400)	(408)	(416)
Well Logging	559	187	86	(541)	(319)
Customer Initiated Requests	27	21	16	30	44
Leak Repair	(83)	(97)	(98)	(95)	(89)
Trouble Orders	(14)	36	48	146	156
Compressor Stations Material	37	(86)	(107)	(305)	142
OT / IT Security	(543)	(543)	(543)	(543)	(543)
All Other	70	58	176	46	511
Total Drivers	<u>\$ (3,008)</u>	<u>\$ (4,787)</u>	<u>\$ (4,880)</u>	<u>\$ (4,500)</u>	<u>\$ (1,767)</u>

Operational Performance

Key Performance Indicators

KPI	2020 Aug YTD	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan
Safety - Employee Incident Rate	0.95	1.56	1.55	1.53	1.51	1.51
Safety - Contractor Incident Rate	2.01	1.66	1.55	1.47	1.38	1.38
DART - Employees	0.47	0.78	0.77	0.75	0.73	0.73
Gas Response Priority 1 Calls (minutes)	31.4	34.5	34.5	34.0	34.0	34.0
New Business Cycle Time (calendar days) ¹	5.50	8.50	8.00	7.50	7.50	7.00

1) Measures from the time a service request is approved by a locator from the Design department to the time the service is installed.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 3

Witness: J. Clay Murphy / Pamela L. Jaynes

- Q-3. State whether LG&E has performed an analysis that examines the extent to which its gas purchase or transportation costs beat market rates before it adopted a PBR mechanism as compared to after LG&E adopted a PBR mechanism. If so, identify and describe any such analysis, and provide a copy of any such analysis, if written. If not, explain whether it would be possible to perform such an analysis now.
- A-3. LG&E has not performed an analysis that examines the extent to which its purchased gas or interstate pipeline transportation costs beat market rates before a PBR mechanism was approved for LG&E as compared to after a PBR mechanism was approved for LG&E. Presumably, the suggested analysis would apply the benchmarks used in the current PBR mechanism to gas procurement activities that occurred before LG&E first received approval to use a PBR mechanism beginning November 1, 1997. Such an analysis would be akin to the back-casting exercise that the Commission requested LG&E to perform in Question No. 4 of the Commission Staff's Post-Hearing Request for Information in Case No. 2019-00437 dated June 29, 2020.

The current regulatory regime under which LG&E and most local gas distribution companies ("LDCs") are required to assume responsibility for their own gas supply portfolio (including both the gas commodity and the interstate pipeline transportation) commenced on November 1, 1993, with the implementation of FERC Order 636. FERC Order 636 removed the interstate pipelines from the merchant function and unbundled gas transportation services. LG&E has had a PBR mechanism in place since November 1, 1997. Therefore, the period applicable to this question is from November 1, 1993, through October 31, 1997. The data required to construct an analysis for a four-year period that occurred over 23 years ago is no longer available.

The cost/benefit test and analysis set forth in LG&E's gas supply cost PBR mechanism has demonstrated over more than two decades the benefits to customers of a well-constructed gas supply cost PBR mechanism. As LG&E has explained, absent the incentives present in a gas supply cost PBR mechanism, LG&E would not seek to out-perform the benchmarks but would instead adhere to the "least cost acquisition standard" that applies to LDCs without a PBR mechanism.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 4

Witness: J. Clay Murphy / Pamela L. Jaynes

- Q-4. Identify any economic or scientific studies of which LG&E is aware that support the contention that adopting a PBR mechanism reduces gas costs for customers of local gas distribution companies, and provide copies of any such studies.
- A-4. The incentive component incorporated in a PBR mechanism is an example of applying the behavioral “principle of reinforcement”² in order to improve performance in the acquisition of gas supplies. Positive reinforcement can be seen in the reward to outperform the “least cost acquisition standard” (*i.e.*, achieving savings and the sharing in those savings). Conversely, negative reinforcement can be seen in the absorption of gas costs in excess of the “least cost acquisition standard” (*i.e.*, avoiding expenses and the sharing in those expenses). Withdrawal (or extinction) of the PBR incentive mechanism (sharing in savings or expenses) can be seen as a reversion to the “least cost acquisition standard”. PBR mechanisms include a risk/reward mechanism that incents the local distribution company (“LDC”) to outperform benchmarks and achieve superior results by placing the LDC at risk if those results are not achieved. A properly incentivized PBR mechanism can encourage (and reward) the LDC to purchase gas supplies at less than market clearing prices. If the LDC can do that successfully, gas supply costs are reduced, thereby producing savings not otherwise achieved, which savings are shared by the LDC and its customers. If there is no incentive for the LDC to take on that purchasing risk, the prudent and conservative way for the LDC to purchase gas is to simply purchase gas at market clearing prices.

² The fields of behavior analysis and organizational behavior are replete with scientific studies regarding systems of rewards and punishments. Contemporary academia considers B. F. Skinner, John B. Watson, and Ivan Pavlov among the pioneers of modern behaviorism. In particular, Skinner saw human action as dependent on the consequences of previous actions, which he called the “principle of reinforcement”: if the consequences to an action are bad, there is a high chance the action will not be repeated; if the consequences are good, the probability of the action being repeated becomes stronger. Reinforcement is the primary process that shapes and controls behavior, and occurs in two ways: “positive” and “negative”. “Positive” reinforcement is the strengthening of behavior by the occurrence of some event, whereas “negative” reinforcement is the strengthening of behavior by the removal or avoidance of some unpleasant event. “Extinction” is the absence of a rewarding stimulus, which weakens behavior. These same principles are applicable to organizations as well as individuals. Skinner’s most influential work, written with Charles Ferster, is “Schedules of Reinforcement” (1957).

Another aspect of organizational behavior is the structure of reward systems. Reward systems are expected to be equitable. Performance goals are established, and work compared against measurable objectives agreed to at the beginning of the appraisal period. Distributive justice assigns rewards based on the contribution. This distributive justice model is used in organizations with merit-based incentive programs where rewards are determined by performance levels. Using this distributive justice model, and in the context of PBR mechanisms, LDCs with similarly robust PBR mechanisms should have similar sharing mechanisms. LG&E's gas supply cost PBR mechanism is at least as robust as those of other Kentucky LDCs; and therefore, the sharing mechanism should be at least as robust as those other sharing mechanisms.

LG&E's PBR mechanism and the results it has produced over more than 23 years is the economic study that demonstrates that adopting a PBR mechanism reduces gas costs for customers, specifically the customers of LG&E.

As detailed in LG&E's 2019 PBR Report "LG&E's gas supply cost PBR mechanism establishes the cost/benefit test to determine the effectiveness of LG&E's procurement activity." (2019 PBR Report at p. 5.) The benchmarks which are established prior to the beginning of the operation of the PBR mechanism are objective benchmarks that represent the "least cost acquisition standard" and provide the framework for measuring and reviewing performance, that is, the benchmarks against which gas procurement savings (or expenses) are measured. The sharing of those savings (or expenses) provides the incentive for the LDC to optimize its gas supply portfolio to out-perform the benchmarks and achieve results superior to the "least cost acquisition standard." Absent a PBR mechanism, the "least cost acquisition standard" applies, and the benefits of optimization would not accrue.

LG&E has provided the results of its activity under the gas supply cost PBR mechanism in this proceeding and in Case No. 2019-00437.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 5

Witness: J. Clay Murphy / Pamela L. Jaynes

- Q-5. Explain whether LG&E believes a PBR mechanism is still necessary in the current low-cost natural gas environment for Kentucky local distribution companies generally and LG&E specifically.
- A-5. This question is substantially similar to Question No. 1(d) from the Commission's First Data Request in Case No. 2019-00437 which has been incorporated by reference into this proceeding pursuant to the Commission's Order dated October 26, 2020, in Case No. 2019-00437. LG&E's response to Question No. 1 including subpart (d) support LG&E's belief that a well-constructed PBR mechanism can provide benefits to customers irrespective of price environment or national supply/demand levels. For example, the "Average Annual NYMEX Settle Price" listed in the "U.S. Natural Gas Supply and Demand table" included in response to Question No. 1 subparts (a) and (b) indicates that a variety of price environments have existed over the life of LG&E's PBR mechanism. The PBR mechanism has encouraged LG&E to achieve savings for customers in each price environment. Additionally, there is no guarantee that natural gas prices will remain at their current levels. In the response to Question No. 1 subparts (a) and (b), LG&E described in detail several market factors that could put upward pressure on the price of gas and its delivery to LG&E such as:
- New pipeline projects required to deliver gas to market are undergoing significant challenges and delays.
 - The demand for gas to produce electricity continues to grow.
 - Natural gas exports (both as LNG and to Mexico) continue to grow.
 - Increases in supply and demand have created more competition for pipeline capacity.
 - The natural gas industry faces considerable political uncertainty.

During 2020, there were two main events that have or will have affected natural gas markets. The first was the COVID-19 pandemic, and the second was the change in Presidential Administration from Trump to Biden.

As the COVID-19 pandemic began to take hold in March 2020, the picture for the oil and gas industry was bleak.³ Not only was the U.S. caught in an oil price war between Russia and Saudi Arabia, there was significant demand destruction impacting not only domestic use of natural gas, but also LNG exports.⁴ Pipeline exports to Mexico also declined.⁵ By the end of March, U.S. industrial natural gas demand was down by almost 1 Bcf/day.⁶ This combination of events leads to low oil and gas prices which did not bode well for the oil and gas industry, their credit ratings, their financial stability, or their long-term viability. There were also pipeline project deferrals, either as the result of social distancing orders⁷ or due to project deferrals.⁸ The oil and gas industry is still recovering from the uncertain long-term effects of the pandemic.

Adding to the natural gas demand and price uncertainty brought about by the COVID-19 pandemic, the change in Presidential Administration has brought its own set of uncertainties. Climate action is high on the Biden agenda. Programs to tackle that agenda include addressing and prioritizing climate change across government departments and agencies, and would include establishing net greenhouse gas emissions goals, slowing or halting onshore leasing of oil and gas reserves, denying permits for fossil fuel infrastructure, and stopping fracking through Environmental Protection Agency regulations.⁹ Halting drilling permits on federal lands and waters could impact natural gas production totaling 3.7 Bcf/day by 2025.¹⁰ Many of these initiatives are likely to be achieved through executive actions or agency regulations or rescission of Trump's Executive Orders.¹¹ Because methane, a chief component of natural gas, is classified as a greenhouse gas and because natural gas produces carbon-dioxide when burned, the impact on natural gas production and utilization is uncertain. However, if demand for natural gas increases as the U.S. and the world recovers from the pandemic, and supply is suppressed by the Biden climate agenda, then the result could be higher oil and natural gas prices.

As LG&E explained in its response to Question No. 1(d) in Case No. 2019-00437, well-constructed gas supply cost PBR mechanisms work well in all cost environments. Even if it were true, which it is not, that PBR mechanisms are more relevant in high-cost, rather

³ "US oil, gas sector sees historic declines, but executives expect a price rebound: Dallas Fed," *Platt's Gas Daily*, March 26, 2020, pp. 4 - 5.

⁴ "COVID-19 strikes gas, LNG demand amid oversupply," *Platt's Gas Daily*, April 2, 2020, pp. 6 - 7.

⁵ "Pandemic response in Mexico puts gas demand, imports at risk," *Platt's Gas Daily*, March 31, 2020, pp. 4 - 5.

⁶ "Price plunge, coronavirus pandemic affect all sectors of US natural gas industry," *Platt's Gas Daily*, March 31, 2020, pp. 5 - 6.

⁷ "Pennsylvania's orders to stem coronavirus outbreak pause several gas pipeline projects," *Platt's Gas Daily*, March 26, 2020, p. 4.

⁸ "More gas, oil midstream project deferrals likely as sector strain grows, experts say," *Platt's Gas Daily*, April 2, 2020, pp.7 - 8.

⁹ "US ELECTIONS: Biden transition team rolls out energy agency review groups," *Platt's Gas Daily*, November 12, 2020, pp. 3 - 4.

¹⁰ "US ELECTIONS: Biden win brings new approach to energy markets," *Platt's Gas Daily*, November 10, 2020, pp. 2 - 3.

¹¹ "US ELECTIONS: Executive, agency actions may offer viable pathway for Biden," *Platt's Gas Daily*, November 11, 2020, pp. 6 - 7.

As LG&E explained in its response to Question No. 1(d) in Case No. 2019-00437, well-constructed gas supply cost PBR mechanisms work well in all cost environments. Even if it were true, which it is not, that PBR mechanisms are more relevant in high-cost, rather than low-cost environments, it is not possible to know when the marketplace will shift from a low-cost to a high-cost environment. Similarly, there is no reason to abandon gas supply cost PBR mechanisms and “leave money on the table” that could otherwise reduce gas costs for customers irrespective of the cost environment.

LOUISVILLE GAS AND ELECTRIC COMPANY

**Response to Commission Staff's First Request for Information
Dated March 3, 2021**

Case No. 2021-00028

Question No. 6

Witness: J. Clay Murphy / Pamela L. Jaynes

Q-6. Explain whether LG&E competitively bids its supply contracts. If so, explain LG&E's process to competitively bid the contracts for the PBR mechanism.

A-6. Yes, LG&E competitively bids the transactions it enters into under its supply contracts. The processes and procedures related to LG&E's bidding process were first supplied to the Commission in LG&E's response to Question No. 8 of LG&E's September 28, 2018 response to Information Requested in Appendix B of Commission's Order dated July 30, 2018 in Case No. 2018-00302; updated in LG&E's February 21, 2020 response to Question No. 16(a) of Commission Staff's First Request for Information dated February 6, 2020 in Case No. 2019-00437, with any updates thereto included in response to Question No. 2(h) of this proceeding.

Briefly, gas supplies may be purchased for terms ranging from a single day up to a month or for multiple months or years. While certain aspects of the solicitation process may vary in detail depending on the duration of the intended purchase, the fundamental process used for each supply purchase is the same.

The bidding process for gas commodity supplies can be summarized as follows:

- (1) LG&E enters into a base form of agreement with potential suppliers. The base form of agreement contains standard provisions related to the purchase and sale of natural gas. The base form of agreement does not include any specifics related to the price, volume, term, or other specifics related to an individual transaction.
- (2) LG&E monitors on an on-going basis the creditworthiness of its natural gas suppliers. Solicitations are sent only to suppliers that have the level of creditworthiness required to support the transaction described in the solicitation. Because different types of transactions may require different credit limits, not all potential suppliers will qualify for all potential transactions.
- (3) Based on operational need or price, LG&E solicits bids from suppliers which have entered into base forms of agreement and who meet the required credit limit for the kind of transaction contemplated. These solicitations depending on the duration of the

transaction, may be either oral or written, and include the required volume, term, pricing arrangement, pipeline, or other specifications.

For supply packages with a term of one month or longer, a written “Request for Proposal” letter and “RFP Response Form” are prepared, reviewed, and approved by appropriate department personnel, and sent, via e-mail, to all qualifying suppliers. Potential suppliers complete the bid form and provide any additional information in writing. For supply packages with a term of less than one month, generally next-day gas supplies, the Gas Supply Department contacts qualifying suppliers via telephone in order to receive oral bid responses and manually records the results.

- (4) LG&E evaluates the proposals received from responding suppliers. This evaluation includes the supplier’s price as well as other factors supporting the reliability of the supplier, including, for example, receipt point(s) or other delivery parameters.
- (5) LG&E selects the supplier with the best proposal whose response conforms to the bid invitation. The supplier with the best proposal is contacted and awarded the transaction.
- (6) The transaction is memorialized through a confirmation (“Nomination Schedule”) which is executed in accordance with LG&E’s Authority Limit Matrix.
- (7) The supply is dispatched in accordance with the provisions in the Nomination Schedule.

Importantly, the competitive bidding process is not the same as the optimization process. The competitive bidding process is one of the steps used by LG&E to ensure that its gas supplies are reliable and meet the “least cost acquisition standard.” It is different from the optimization process. The optimization process is a separate step that is largely responsible for moving beyond the “least cost acquisition standard” and achieving superior cost performance as incited by LG&E’s gas supply cost PBR mechanism. Gas supply optimization takes existing supply arrangements entered into by means of the competitive bidding process and makes the most effective use of those resources in order to surpass the “least cost acquisition standard” benchmarks of the PBR mechanism. The optimization encouraged by a well-constructed PBR mechanism enables performance to surpass the “least cost acquisition standard.”

The gas supply cost PBR mechanism also drives the kinds of contracts entered into by LG&E using the competitive bidding process. As explained in LG&E’s February 21, 2020 response to Question No. 4 of Commission Staff’s First Request for Information dated February 6, 2020, in the absence of a PBR mechanism, LG&E’s overall gas supply strategy would change as would the kinds of gas supply contracts that it would enter into under a competitive bidding program. Yet those gas supply strategies and gas supply contracts would still meet the “least cost acquisition standard” – but on their own would not provide the benefits produced from optimization.