Louisiana Public Service Commission

POST OFFICE BOX 91154
BATON ROUGE, LOUISIANA 70821-9154
lpsc.louisiana.gov

Telephone: (225) 342-3157

June 7, 2022

VIA HAND DELIVERY
Ms. Terri Bordelon
Louisiana Public Service Commission
Records and Recordings
602 N. Fifth St.
Galvez Bldg, 12th Fl.
Baton Rouge, LA 7082

Re: Docket No. X-35985, Louisiana Public Service Commission, ex parte. In re: Audit of Fuel Costs of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkla and CenterPoint Energy Entex Associated with the February 2021 Winter Storm Event.

Dear Ms. Bordelon:

Enclosed for filing is the Public Version of Staff's Audit Report. A confidential version of this report is being provided under seal. This docket should now be converted from an X docket to a U docket. Should you have any questions, please do not hesitate to contact me.

Sincerely,

W. Noah Hoggatt
Staff Attorney

Encl.
cc.: Service List (via email)

BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

DOCKET NO. X-35985

In re: Audit of Fuel Costs of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy CenterPoint Energy Entex Associated with the February 2021 Winter Storm Event.

May 19, 2022

Prepared by:

EXETER
ASSOCIATES, INC.

10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	NATURAL GAS PRODUCTION	2
III.	NATURAL GAS PROCUREMENT MARKETS	4
IV.	ENTEX GAS SUPPLY ARRANGEMENTS	6
V.	IMPACT ON LDC OPERATIONS	9
VI.	CONCLUSION	10

I. Introduction

Winter Storm Uri was a major winter and ice storm that had widespread impacts across the United States during the period February 13-17, 2021. The storm resulted in over 170 million Americans being placed under various winter weather alerts issued by the National Weather Service. The storm also caused natural gas and electricity prices to reach record highs in certain areas of the country. At the April 14, 2021 Business and Executive Session ("B&E") held by the Louisiana Public Service Commission ("LPSC" or "Commission"), Chairman Craig Greene made the following directive, which received no opposition:

> Pursuant to Special Order No. 19-2021, I direct Staff to take whatever action necessary, including the hiring of outside consultants and/or outside counsel, to initiate dockets, to audit and review the actions taken and decisions made that impacted the fuel costs incurred during the February 2021 Winter Storm by the Investor-Owned Utilities ("IOUs") and Gas Local Distribution Companies ("LDCs"). These dockets should include an evaluation of lessons learned and best practices in order to mitigate similar problems into the future.

Also at the Commission's April 2021 B&E, Exeter Associates, Inc. ("Exeter") was retained to assist Commission Staff in the review of the purchased gas adjustment ("PGA") clause filings of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex ("Entex") in Docket No. U-35909 for the period January 2018 through December 2020. At the June 16, 2021, B&E, Exeter was subsequently selected by the Commission to review the actions taken and decisions made by Entex that impacted its natural gas costs during the February 2021 Winter Storm event. This report reviews the impact of Winter Storm Uri on Entex gas costs during February 2021 and the decisions made by Entex that impacted its gas costs. This report also includes an evaluation of lessons learned and best practices to mitigate similar adverse impacts in the future, as appropriate.

II. Natural Gas Production

LDCs in Louisiana are generally served by interstate and intrastate pipelines that access natural gas production in the on-shore and off-shore Gulf Coast Production region of the United States. The largest producing states in the Gulf Coast Production region are Texas and Louisiana. According to the U.S. Energy Information Administration, the top five natural gas-producing states and their share of total U.S. natural gas production in 2020 were as follows:[1]

Texas	23.9%
Pennsylvania	21.1
Louisiana	9.5
Oklahoma	7.6
West Virginia	7.1
Total	69.2%

The state most significantly affected by Winter Storm Uri was Texas. A significant portion of the natural gas production in Texas is from supply regions other than the Gulf Coast region. According to a July 2021 report prepared by the Energy Institute at the University of Texas at Austin ("UT Report"), natural gas production in Texas fell by almost 50 percent during Winter Storm Uri, from 21.3 billion cubic feet per day (Bcfd) during the week ending February 13, 2021, to approximately 11.8 Bcfd at its lowest point on February 17, 2021.[2] While Exeter was unable to find daily Louisiana natural gas production for February 2021, monthly information from the Louisiana Department of Natural Resources indicates that similar or significant declines in natural gas production were not experienced in Louisiana during February 2021.[3] For 2019 and 2020, February natural gas production represented an average of 32.6 percent of total Louisiana natural gas production for the first quarter of each year (i.e., January – March).[4] In 2021, February natural gas production represented 30.1 percent of total Louisiana natural gas production for the first quarter of 2021.

The UT Report attributed the decline in natural gas production in Texas during the February 2021 Winter Storm to several factors. First, the cold temperatures associated with Winter

[1] https://www.eia.gov/energyexplained/natural-gas/where-our-natural-gas-comes-from.php
[2] https://www.puc.texas.gov/agency/resources/reports/UTAustin_(2021)_EventsFebruary2021TexasBlackout_(002)FINAL_07_12_21.pdf
[3] http://www.dnr.louisiana.gov/assets/TAD/OGTables/Table09.pdf
[4] Percentage adjusted for 2020 leap year.

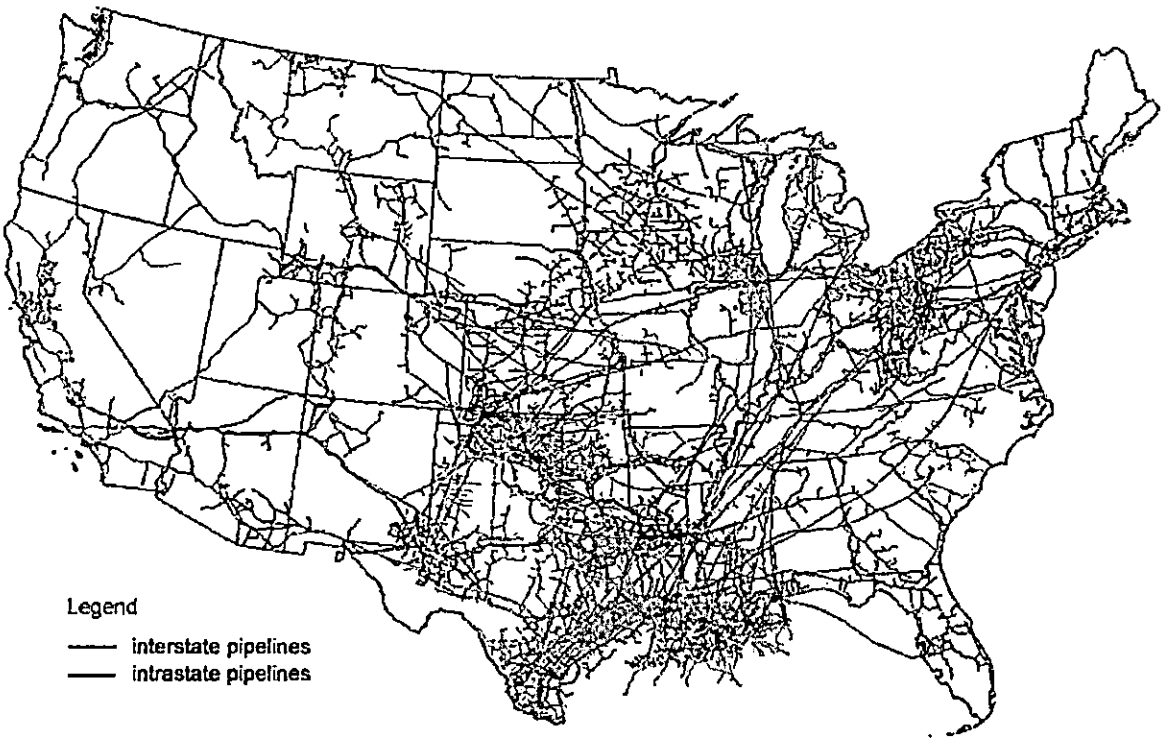
Storm Uri caused the direct freezing of natural gas production and processing equipment. In addition to the Gulf Coast Production region, the Permian Basin in West Texas is a major natural gas production region in Texas. The UT Report noted that Permian Basin gas generally has a higher water content, making it more prone to freeze in cold weather and form hydrates which can block the flow of gas. Based on sample data, the UT Report estimates that the decline in Permian Basin production and processing accounted for 75 percent of the reduction in Texas caused by Winter Storm Uri. Second, when electric transmission and distribution utilities began shedding load during the height of the storm to avoid a catastrophic grid failure, among the facilities to which electric service was curtailed were natural gas production and processing facilities. These curtailments contributed to the decline in the production and availability of natural gas during Winter Storm Uri.

A significant portion of electric generation in Texas is fueled by natural gas. Reductions in natural gas production and processing due to the storm exacerbated the challenge faced by the electric industry as the storm hit and throughout the storm because gas-fired generators were short fuel supply and forced to curtail output. The UT Report noted that winter storms adversely affecting electric generation in Texas have previously occurred in December 1989 and February 2011. This suggests a probability of occurrence for similar winter storms events of once every decade or so given those events at 20 and 10 winters apart, respectively.

III. Natural Gas Procurement Markets

Gas supplies delivered to LDCs are generally acquired from gas producers/processors and/or other unregulated suppliers including marketers at upstream pipeline receipt points and subsequently delivered to the LDC by interstate and intrastate pipelines. The facilities of many interstate pipelines extend across both Texas and Louisiana and deliver supplies produced in both Texas and Louisiana. Those interstate pipelines are interconnected with many intrastate pipelines in the Gulf Coast that together provide a highly integrated infrastructure to support the delivery of natural gas production as shown in Figure 1. LDCs in Louisiana are generally served by interstate and intrastate pipelines that access natural gas produced in the Gulf Coast Regions of Texas and Louisiana.

Figure 1. Map of U.S. Interstate and Intrastate Natural Gas Pipelines



Source: U.S. Energy Information Administration, *About U.S. Natural Gas Pipelines*

In the natural gas industry, gas supply commodity purchases can generally be categorized as either monthly base load or daily swing purchases. Monthly base load purchases are generally

arranged on a monthly basis, and the same quantity of gas is delivered on each day during the month. Monthly base load purchases are generally arranged several days prior to the month of flow (during what is referred to as "Bidweek") and commence flowing on the first-of-the-month. All other purchases are generally considered daily swing purchases and, as the term implies, are typically made on a day-to-day basis. Frequently, daily swing purchases are made which flow for several consecutive days.

Gas industry publications report average prices, referred to as index prices, on a monthly basis for monthly base load purchases and on a daily basis for swing purchases. LDCs in Louisiana generally purchase their gas supplies at published index prices. The industry standard publication utilized for monthly base load purchases is S&P Global Platts *Inside FERC's Gas Market Report* ("*Inside FERC*"). The industry standard publication utilized for daily purchases is *S&P Global Platts Gas Daily* ("*Gas Daily*").

During Winter Storm Uri, natural gas commodity prices increased significantly. In certain areas of the country, prices reached record levels. Subject to evaluation in this audit are the daily prices paid by Entex for supplies purchased during Winter Storm Uri and lessons learned to mitigate the impact of high cost purchases during similar events in the future. Index prices in *Gas Daily* are reported by region, and specific locations within a particular region. Major *Gas Daily* index price locations relevant to this evaluation are as follows:

Production Region	Location
Gulf Coast – East Texas	Houston Ship Channel
Gulf Coast – Louisiana/Southeast	Henry Hub

Like the pipeline transmission facilities in Texas and Louisiana, the natural gas commodity markets in Texas and Louisiana are extensively integrated as each state is served by many of the same interstate and intrastate pipelines, and the supplies delivered by each pipeline are secured from common production regions in Texas and Louisiana. Therefore, the supply and demand and resulting prices for natural gas in one location in Texas and Louisiana will generally have an impact on supply and demand and resulting prices in other locations in Texas and Louisiana.

IV. Entex Gas Supply Arrangements

Entex provides natural gas service to nearly 120,000 customers in South Louisiana. During Winter Storm Uri, Entex operated under an Asset Management Agreement ("AMA") with BP Energy Company (BP). The term of the current BP AMA extends through April 30, 2023. Nearly all of the gas supplies acquired by Entex to meet the requirements of its sales customers are delivered by Gulf South Pipeline Company, LLC (Gulf South), an interstate pipeline. A small percentage of Entex's gas supply requirements are delivered by Trunkline Gas Company, LLC. ("Trunkline"), another interstate pipeline. Combined, Gulf South and Trunkline account for the delivery of approximately 99% of Entex's gas supply requirements.[5]

Under the AMA with BP, Entex released all of its Gulf South and Trunkline firm transportation and storage capacity to BP at no cost. The AMA provided that Entex would purchase all of the gas supplies necessary to meet customer requirements that would be delivered under the released Gulf South and Trunkline capacity from BP. In return for releasing the Gulf South and Trunkline capacity to BP and purchasing gas from BP, Entex was paid a monthly Asset Payment by BP, of which, with Commission approval, 50% of the Asset Payment was retained by Entex and the remainder was credited to sales customers through the Company's monthly PGA filings.

In the natural gas industry, gas supply commodity purchases are generally categorized as either monthly baseload or daily purchases. Monthly baseload purchases are generally arranged on a monthly basis, and the same quantity of gas is delivered on each day during the month. All other purchases are generally considered daily purchases and, as the term implies, are typically made on a day-to-day basis. Frequently, daily purchases are made that flow for several consecutive days. Gas industry publications report average market prices, referred to as "index prices," on a monthly basis for monthly baseload purchases and on a daily basis for swing purchases. The industry standard publication utilized for monthly baseload purchases is S&P Global Platts' Inside FERC's Gas Market Report (Inside FERC). The industry standard publication utilized for daily purchases is S&P Global Platts' Gas Daily (Gas Daily). These publications were used to price Entex's gas supply purchases under its current AMA with BP.

[5] Entex is also served by Texas Gas Transmission, LLC and Cameron Interstate Pipeline, LLC.

Under the BP AMA, Entex had an [redacted]

The AMA provided that for each month during the winter, Entex could [redacted]

Purchases by Entex [redacted] This daily price cap provision provided a significant benefit to PGA customers in February 2021. Total deliveries by Gulf South and Trunkline during February 2021 were 1,161,523 Dth. During the period February 12-18, 2201, the price cap provision was applied to 478,935 Dth, and reduce the average cost associated with daily purchases from $101.07 Dth to $9.94 Dth, reducing Entex's PGA gas costs by $45.75 million.

Table 1 below presents a summary of daily index prices published for the period February 13 – February 20, 2021, as well as Entex's daily purchase quantities in excess of monthly baseload purchases.[6]

	Location		
Index/Date	Henry Hub ($/Dth)	Houston Ship Channel ($/Dth)	Entex Daily Purchases (Dth)
Inside FERC-February 2021	$2.77	$2.77	
February 13, 2021	$6.000	$180.660	49,368
February 14, 2021	$6.000	$180.660	64,610
February 15, 2021	$6.000	$180.660	74,929
February 16, 2021	$6.000	$180.660	65,382
February 17, 2021	$16.955	$400.000	59,427
February 18, 2021	$23.605	$299.760	63,597
February 19, 2021	$7.495	$55.290	49,757
February 20, 2021	$4.985	$3.835	11,303
Total			**438,373**

[6] In the natural gas industry, daily purchases for a Saturday must also be purchased for the following Sunday and Monday. If Monday is a holiday as was February 16, 2021 (Presidents Day), the supplies must also be purchased for that Tuesday. Therefore, index prices were the same for all four days during the period February 13-16, 2021.

V. Impact on LDC Operations

Entex reports that during the Winter Storm Uri, it experienced no supply shortages or delivery disruptions of purchased supplies, and no customers were curtailed. Entex further reports that it issued no operation flow orders ("OFOs") affecting the use of its distribution system by customers, and the interstate pipelines serving Entex did not issue any OFOs.

On average, the commodity cost of gas purchased by Entex in February 2021 was $4.11/Mcf compared to $2.33/Mcf for January 2021. Without the commodity price cap provision included in the BP AMA, the company's commodity cost of gas for February 2021 would have been approximately $44.00/Mcf.

In addition to providing sales service, Entex also provides transportation service to customers that acquire their gas supplies directly from suppliers or marketers in the competitive market and arrange for the delivery of those supplies to Entex's distribution system. When the quantity of gas delivered on behalf of a transportation customer to Entex's distribution system is significantly less than the consumption of the transportation customer, system reliability may be adversely affected, or Entex may be required to purchase additional gas supplies to address the delivery deficiency. During February 2021, deliveries to Entex's distribution system on behalf of transportation customers exceeded transportation customer usage. Therefore, the Company's distribution system operations were not affected by transportation customers in February 2021.

VI. Conclusion

The increases in the price for natural gas supplies experienced in Texas during Winter Storm Uri were attributable to a number of factors. Abnormally cold temperatures increased the demand for electric and natural gas service for heating purposes. That same cold weather led to production well freeze offs that reduced natural gas supply when it was needed most. Then, when electricity demand exceeded the capability of the electric grid and load shedding became necessary, curtailment of electric service to natural gas production and processing facilities exacerbated the situation as natural gas-fired generators were forced to curtail output.

The natural gas supply markets in Texas and Louisiana are highly integrated. It appears that the price increase experienced in Louisiana (Henry Hub) during Winter Storm Uri were largely attributable to decreases in supply and increases in demand in Texas.

Entex was not significantly adversely affected by Winter Storm Uri and the resulting increase in natural gas prices. This was because of the commodity price cap provisions included in the AMA with BP under which Entex purchases nearly all of its gas supplies. It is estimated that the additional costs incurred by Entex and subsequently its customers as a result of Winter Storm Uri were $1.46 million, or an average of approximately 25 cents per Mcf per year. Given a historic probability of such winter storm events of once every decade or so, the average annual impact would be less than 2.5 cents per Mcf per year. Price hedging programs have been utilized by Louisiana LDCs in the past to mitigate natural gas price volatility. However, those programs have generally hedged the price of monthly baseload purchases. Hedging the price of daily purchases is not practical since the quantity of daily purchases Entex would need to make cannot be determined in advance with any degree of certainty. Without such certainty, the hedging of daily purchase prices could result in significant price volatility. The commodity price cap provision included in the BP AMA was an effective price hedging strategy which significantly mitigated the price increase attributable to Winter Storm Uri. Entex should include such provision in future AMAs provided the provision does not command a significant price premium.

In addition to examining the impact of Winter Storm Uri on Louisiana LDCs, Exeter has also examined the impact on LDCs in Ohio, Indiana, Pennsylvania, Massachusetts, and Rhode Island. The impact of Winter Storm Uri on the prices paid for gas supplies by the LDCs in Ohio and Indiana were significantly more extreme than the impact experienced by Entex. In the

other jurisdictions, the impact was similar. Exeter's examination of the impact of Winter Storm Uri in these other jurisdictions revealed that the LDCs did not modify their purchasing practices as a result of Winter Storm Uri. Therefore, Exeter recommends no changes to Entex's current practices to potentially mitigate the impact of similar price increases in the future.

However, Exeter does note the increase in prices caused by Winter Storm Uri were at least partially caused by the curtailment of electric service to natural gas production and processing facilities which reduced the available natural gas supplies in Texas. Since Winter Storm Uri, Texas has passed legislation designed to ensure that electric service to natural gas production and processing facilities not be curtailed during periods in which curtailments are implemented. Exeter recommends that the Commission consider measures to ensure that electric service to natural gas production and processing facilities in Louisiana not be curtailed during extreme weather events such as Winter Storm Uri.

Service List for X-35985
as of 6/7/2022

Commissioner(s)

Lambert C. Boissiere, III.
Mike Francis
Foster L. Campbell
Eric Skrmetta
Craig Greene

LPSC Staff Counsel

W. Noah Hoggatt, LPSC Staff Attorney

LPSC Staff

Jessica Kayuha, LPSC Utilities Division
Robin Pendergrass, LPSC Auditing Division

LPSC Consultant

Jerry D. Mierzwa
10480 Little Patuxent Pkwy., Suite 300
Columbia, MD 21044
Email: jmierzwa@exeterassociates.com
Fax: (410)992-3445; Phone: (410)995-7500

Company : **CenterPoint Energy Resources Corp.**

Paul F. Guarisco
Phelps Dunbar LLP
400 Convention Street, Suite 1100
Baton Rouge, LA 70802-4412
Email: paul.guarisco@phelps.com
Fax: (225)376-0284; Phone: (225)376-0241

John O. Shirley
Phelps Dunbar LLP
400 Convention Street, Suite 1100
Baton Rouge, LA 70821
Email: john.shirley@phelps.com
Fax: (225)376-9197; Phone: (225)376-0288