ATMOS ENERGY CORPORATION

VIA ELECTRONIC MAIL

March 31, 2022

Ms. Linda Bridwell
Executive Director
Kentucky Public Service Commission
211 Sower Blvd.
PO Box 615
Frankfort, Kentucky 40602

RE: Case No. 2022-00086 Gas Cost Adjustment Filing of Atmos Energy Corporation

Dear Director Bridwell:

Atmos Energy submits the accompanying Petition for Confidentiality in connection with the Company's Data Responses to the Commission's questions from Case No. 2022-00033.

Please feel free to contact us if you have any questions and/or need any additional information.

Sincerely,

/s/

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Attorneys for Atmos Energy Corporation

COMMONWEALTH OF KENTUCKY
BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION

In the Matter of:

GAS COST ADJUSTMENT	**)**	**CASE NO.**
FILING OF	**)**	**2022-00086**
ATMOS ENERGY CORPORATION	**)**	

PETITION FOR CONFIDENTIALITY OF INFORMATION
BEING FILED WITH THE KENTUCKY PUBLIC SERVICE COMMISSION

Atmos Energy Corporation ("Atmos Energy") respectfully petitions the Kentucky Public Service Commission ("Commission" or "KYPSC") pursuant to 807 KAR 5:001 Section (13) and KRS 61.878(1)(c)1 for confidential treatment of the information which is described below and which is attached hereto. In support of this Petition, Atmos Energy states as follows:

1. Atmos Energy is filing its Gas Cost Adjustment ("GCA") for the quarterly period commencing on May 1, 2022 through July 31, 2022. This GCA filing contains a change to Atmos Energy's Correction Factor (CF) as well as information pertaining to Atmos Energy's projected gas prices. In accordance with the Commission's Order of February 28, 2022 in Case No. 2022-00033, Atmos Energy is also filing responses to the Commission Staff's Requests for Information. The following attachments to those responses contain information which requires confidential treatment:

   a. The attachments provided in the responses to Staff Data Request Nos. 1 and 2 contain confidential information from which the actual price being paid by Atmos Energy for natural gas to its suppliers can be determined.

b. The attachment provided in response to Staff Data Request No. 11 contains an audit report in which specific Gas Supply processes and software packages are discussed in detail and which could be used by a criminal third party to assist in disrupting Gas Supply's normal operating procedures through which it forecast and procures the correct amounts of natural gas for its systems.

2. Information of the type described above has previously been filed by Atmos Energy with the Commission under petitions for confidentiality. The Commission has consistently granted confidential protection to that type of information in prior filings.

3. KRS 61.878 (1)(c) 1. provides that "…records confidentially disclosed to an agency or required by any agency to be disclosed to it, generally recognized as confidential or proprietary, which is openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records…" shall remain confidential unless otherwise ordered by a court of competent jurisdiction. The natural gas industry is very competitive. Atmos Energy has active competitors, who could use this information to their advantage and to the direct disadvantage of Atmos Energy.

All of the information sought to be protected as confidential, if publicly disclosed, would have serious adverse consequences to Atmos Energy and its customers. Public disclosure of this information would impose an unfair commercial disadvantage on Atmos Energy. Atmos Energy has successfully negotiated an extremely advantageous gas supply contract that is very beneficial to Atmos Energy and its ratepayers. Detailed information concerning that contract, including commodity costs, demand and transportation charges, reservations fees, etc. on specifically identified pipelines, if made available to Atmos Energy's competitors, (including specifically non-regulated gas marketers), would clearly put Atmos Energy to an unfair commercial disadvantage. Those competitors for gas supply would be able to gain information that is

otherwise confidential about Atmos Energy's gas purchases and transportation costs and strategies. The Commission has accordingly granted confidential protection to such information.

4. Atmos Energy would not, as a matter of company policy, disclose any of the information for which confidential protection is sought herein to any person or entity, except as required by law or pursuant to a court order or subpoena. Atmos Energy's internal practices and policies are directed towards non-disclosure of the attached information. In fact, the information contained in the attached report is not disclosed to any personnel of Atmos Energy except those who need to know in order to discharge their responsibility. Atmos Energy has never disclosed such information publicly. This information is not customarily disclosed to the public and is generally recognized as confidential and proprietary in the industry.

5. There is no significant interest in public disclosure of the attached information. Any public interest in favor of disclosure of the information is outweighed by the competitive interest in keeping the information confidential.

6. The attached information is also entitled to confidential treatment because it constitutes a trade secret under the two prong test of KRS 365.880: (a) the economic value of the information as derived by not being readily ascertainable by other persons who might obtain economic value by its disclosure; and, (b) the information is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. The economic value of the information is derived by Atmos Energy maintaining the confidentiality of the information since competitors and entities with whom Atmos Energy transacts business could obtain economic value by its disclosure.

7. Pursuant to 807 KAR 5:001 (13) confidentiality of the attached information should be maintained indefinitely. The statutes cited above do not allow for disclosure at any

time. Given the competitive nature of the natural gas business and the efforts of non-regulated competitors to encroach upon traditional markets, it is imperative that regulated information remain protected and that the integrity of the information remain secure.

For these reasons, Atmos Energy requests that the items identified in this petition be treated as confidential. Should the Commission determine that some or all of the material is not to be given confidential protection, Atmos Energy requests a hearing prior to any public release of the information to preserve its rights to notice of the grounds for the denial and to preserve its right of appeal of the decision.

WHEREFORE, Atmos Energy petitions the Commission to treat as confidential all of the material and information which is included in the attached volume marked "Confidential".

Respectfully submitted this 31st day of March 2022.

/s/

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

ELECTRONIC PURCHASED GAS ADJUSTMENT FILING OF ATMOS ENERGY CORPORATION	)))	Case No. 2022-00033

CERTIFICATE AND AFFIDAVIT

The Affiant, Brannon C. Taylor, being duly sworn, deposes and states that the attached responses to Commission Staff's first request for information are true and correct to the best of his knowledge and belief.

Brannon C. Taylor

STATE OF TENNESSEE

COUNTY OF WILLIAMSON

SUBSCRIBED AND SWORN to before me by Brannon C. Taylor on this the 23rd day of March, 2022.

Jacqueline Morton
Notary Public

My Commission Expires: June 25, 2025

JACQUELINE MORTON
STATE OF TENNESSEE NOTARY PUBLIC
MAURY COUNTY

REQUEST:

Provide copies of all interstate pipeline transportation and storage contracts and tariffs utilized during the most recent year. Provide a comparison of the terms of these transportation arrangements with those that were utilized during the five previous calendar years. Explain all efforts to ensure that interstate pipeline transportation costs were and are as low as possible.

RESPONSE:

Please see confidential Attachment 1 for the following interstate pipeline transportation and storage contracts utilized in the most recent year, along with amendments:

Tennessee Gas Pipeline:
https://pipeline2.kindermorgan.com/Tariff/SubIndex.aspx?code=TGP&category=TOC

(a) FS-MA: 2383
(b) FS-PA: 2384
(c) FT-G: 2546
(d,e) FT-A: 300264, 95033

Texas Gas Transmission:
https://infopost.bwpipelines.com/Posting/DisplayPostingDocumentPage.aspx?PostingMenuItemID=37&tspid=100000

(f,g,h) NNS: 29760, 29762, 29763
(i,j,k,l,m,n) FT:29759, 31097, 34380, 36773, 36788, 39041
(o) STF: 35772

Trunkline Gas Company:
https://tgcmessenger.energytransfer.com/ipost/TGC/tariff/table-of-contents

(p) FT: 14573

ANR Pipeline Company:
http://ebb.anrpl.com/tariff/driver.htm?bm=tstoc

(q) FTS-1: 122803

Beneath each pipeline name, there is an internet address where the tariff rate schedules are publicly posted. Also, please see confidential Attachment 2, which is a two page summary of the contracts with current capacity terms, and a comparison of the contract terms during the five previous calendar years. Atmos Energy works with each interstate pipeline to negotiate discounts on transportation contracts whenever possible. Interstate pipelines must comply with FERC's discounting policy, which requires a demonstration that absent a discount, a customer would not take service from that pipeline.

Traditionally, the most widely accepted way to demonstrate the need for a discount is a showing that the customer has the ability to take service from another source at a lower rate. LDC distribution systems are often "captive" to a single pipeline. Atmos Energy has limited ability to build to other pipelines, or shift volumes between pipelines in Kentucky, so only portions of the Kentucky transportation portfolio are eligible for discounts. While Texas Gas Transmission (TGT) typically does not discount NNS or STF service contracts, Atmos Energy's contracts are sculpted, so that there is less capacity held in the summer and shoulder months when demand is lower. The same is true for Tennessee Gas Pipeline (TGP), which does not discount FT-G contracts, but Atmos Energy's FT-G capacity is sculpted so that there is less capacity in the summer and shoulder months. Sculpted capacity helps keep transportation costs lower. With the exception of NNS, STF, and FT-G rate schedules on TGT and TGP, Atmos Energy has been able to successfully demonstrate that it has credible bypass options and thus qualify for discounts pursuant to FERC's discounting policy rates on the other firm transportation contracts including Texas Gas, Tennessee Gas, Trunkline and ANR. The current Gas Supply & Asset Management Agreements (AMAs) generate cost savings to Kentucky. Subject to meeting the full demand requirements of the regulated distribution system, the Asset Manager is granted the right to manage and optimize Atmos Energy's transportation and storage capacity assets that are released to the Asset Manager in accordance with the asset management capacity release regulations and orders of the Federal Energy Regulatory Commission (FERC) and the tariff requirements of the applicable pipelines. In consideration of Atmos Energy's release of transportation and storage capacity to the Asset Manager, the Asset Manager provides value back to Atmos in the form of discount to index pricing on commodity gas supply purchases or in the form of a fixed monthly credit.

ATTACHMENTS:

Staff_1-01_Att1 - Pipeline Transp Storage Contracts (CONFIDENTIAL).pdf
Staff_1-01_Att2 - Pipeline Transp Storage Contract Summary List (CONFIDENTIAL).pdf

REQUEST:

Provide copies of all current contracts for commodity supply. Provide a comparison of the terms of these commodity supply arrangements with those that were utilized during the five previous calendar years. Explain all efforts to ensure that commodity gas supply costs were and are the lowest possible cost, and consistent with security of supply.

RESPONSE:

Please see confidential Attachment 1 for the current gas supply and asset management agreements, more specifically described as follows:

a. United Energy Trading - Gas Supply and Asset Management Agreement effective April 2020 through March 2023.
b. Symmetry Energy Solutions (formerly CenterPoint Energy Services) Gas Supply and Asset Management Agreement effective November 2020 through October 2023.

To ensure that commodity gas supply costs are the lowest possible, Atmos Energy utilizes a Request for Proposal (RFP) process to solicit competitive bids. The principal criteria on which proposals are evaluated are as follows: 1) total delivered cost of gas supply over the term of the contract, 2) reliability of the supply, and 3) the financial viability of the respondent. Atmos Energy requires that all gas supply is to be firm, assuring that natural gas supply services will meet all contractual obligations without fail. In the vetting process, Atmos Energy requires evidence of supplier's knowledge and experience in providing service and evidence of supplier's financial viability. Please refer to the Company's response to Staff 1-08 for further information on the RFP process and the Company's selection of qualified suppliers who provide natural gas supply at the best value for Kentucky customers.

The current Gas Supply & Asset Management Agreements (AMAs) generate cost savings to Kentucky. The Asset Managers provide value back to Atmos Energy in the form of discount to index pricing on commodity gas supply purchases or in the form of a fixed capacity utilization credit. Through the Atmos Energy PGA, Kentucky customers receive the benefit of 100% of these savings up front. Later, through the Performance Based Ratemaking Program, Atmos Energy has the opportunity to share in a portion of the savings.

The requirements within the commodity supply contracts have been fairly consistent comparing the current contracts with the previous contracts in the last five years. The term length has varied based on the expiration dates of the underlying transportation and storage capacity. A comparison of the pricing terms of the current supply agreements with those in place during the five previous calendar years are provided in confidential Attachment 2.

ATTACHMENTS:

Staff_1-02_Att1 - Gas Supply and Asset Management Agreements (CONFIDENTIAL).pdf
Staff_1-02_Att2 - KY Supply Contract terms 2017-2022 (CONFIDENTIAL).pdf

REQUEST:

Provide gas supply and capacity contract summaries showing significant contract terms, daily/monthly/annual entitlements, and pricing. Identify any capacity changes renegotiated and expired agreements, de-contracting, assignment, or long-term release) that took place during the most recent year.

RESPONSE:

Please see the attachments provided in the Company's responses to Staff 1-01, 1-02 and 1-04.

REQUEST:

Provide Atmos's storage arrangements; state the maximum daily injection and withdrawal rates; and the decline in deliverability that occurs as gas is withdrawn.

RESPONSE:

Atmos Energy's interstate pipeline storage arrangements (MSQ, MDWQ and MDIQ) are shown in confidential Attachment 2 to the Company's response to Staff 1-01. The decline in deliverability is as follows:

Tennessee Gas Pipeline storage – no decline in deliverability in either storage contract.

Texas Gas Transmission NNS 29760

MSQ	Inventory	MDWQ
100-25%	1,335,000 - 333,750	18,212
25-20%	333,750 - 267,000	16,391
20-15%	267,000 - 200,250	15,480
15-10%	200,250 - 133,500	14,570
10 - 0%	133,500 - 0	13,659

Texas Gas Transmission NNS 29762

MSQ	Inventory	MDWQ
100-25%	2,130,000 - 532,500	16,702
25-20%	532,500 - 426,000	15,032
20-15%	426,000 - 319,500	14,197
15-10%	319,500 - 213,000	13,362
10 - 0%	213,000 - 0	12,527

Texas Gas Transmission NNS 29763

MSQ	Inventory	MDWQ
100-25%	376,150 - 94,038	5,727
25-20%	94,038 - 75,230	5,154
20-15%	75,230 - 56,423	4,868
15-10%	56,423 - 37,615	4,582
10 - 0%	37,615 - 0	4,295

Additionally, five Company-owned Kentucky on-system storage fields and a contract Kentucky on-system storage field, East Diamond Storage, are utilized to serve Kentucky customers. Please see Attachment 1, which shows the field capacities and operating parameters.

ATTACHMENT:

Staff_1-04_Att1 - Storage Fields.pdf

ATMOS ENERGY CORPORATION - Attachment DR 4
Company Owned and On System Storage Parameters

Facility	Group	Location	Working Capacity (Mcf)	Maximum Daily Delivery Capability (Mcf)
Company-Owned Storage				
St. Charles	Madisonville	Hopkins County, KY	2,685,196	43,175
Bon Harbor	Owensboro	Daviess County, KY	778,600	17,087
Hickory	Owensboro	Daviess County, KY	499,257	20,000
Grandview	Owensboro	Daviess County, KY	305,400	4,457
Kirkwood	Madisonville	Hopkins County, KY	249,638	12,000
Atmos Kentucky Company Owned Total			**4,518,091**	**96,719**
Contract Storage				
East Diamond (see ratchet information below)		Hopkins County, KY	2,160,000	27,341

Ratchets for Bon Harbor	**Ratchet Level**	**MSQ**	
		778,600	**Note 1**
		MDIQ	
Maximum Daily Injection Quantity		**13,253**	
		MDWQ	
Maximum Daily Withdrawal Quantity	If Balance is 0.62 Bcf to 0.78 Bcf (80% - 100%)	15,191	
	If Balance is 0.43 Bcf to 0.62 Bcf (55% - 80%)	12,820	
	If Balance is 0.23 Bcf to 0.43 Bcf (30% - 55%)	10,449	**Note 2**
	If Balance is 0.16 Bcf to 0.23 Bcf (20% - 30%)	9,501	
	If Balance is 0.16 Bcf or less (<20%)	8,552	

Note 1: Storage capacity is stated in MCF
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

Ratchets for Grandview	**Ratchet Level**	**MSQ**	
		305,400	**Note 1**
		MDIQ	
Maximum Daily Injection Quantity		**4,110**	
		MDWQ	
Maximum Daily Withdrawal Quantity	If Balance is 0.24 Bcf to 0.31 Bcf (80% - 100%)	3,476	
	If Balance is 0.17 Bcf to 0.24 Bcf (55% - 80%)	2,341	
	If Balance is 0.09 Bcf to 0.17 Bcf (30% - 55%)	1,306	
	If Balance is 0.06 Bcf to 0.09 Bcf (20% - 30%)	920	**Note 2**
	If Balance is 0.06 Bcf or less (<20%)	550	

Note 1: Storage capacity is stated in MCF
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

Ratchets for Hickory	**Ratchet Level**	**MSQ**	
		499,257	**Note 1**
		MDIQ	
Maximum Daily Injection Quantity		**10,646**	
		MDWQ	
Maximum Daily Withdrawal Quantity	If Balance is 0.40 Bcf to 0.50 Bcf (80% - 100%)	18,538	
	If Balance is 0.27 Bcf to 0.40 Bcf (55% - 80%)	14,850	
	If Balance is 0.15 Bcf to 0.27 Bcf (30% - 55%)	10,434	**Note 2**
	If Balance is 0.10 Bcf to 0.15 Bcf (20% - 30%)	8,463	
	If Balance is 0.10 Bcf or less (<20%)	6,375	

Note 1: Storage capacity is stated in MCF
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

ATMOS ENERGY CORPORATION - Attachment DR 4
Company Owned and On System Storage Parameters

Facility	Group	Location	Working Capacity (Mcf)	Maximum Daily Delivery Capability (Mcf)
Ratchets for Kirkwood		**Ratchet Level**	**MSQ**	
			249,638	**Note 1**
			MDIQ	
Maximum Daily Injection Quantity			**4,298**	
			MDWQ	
Maximum Daily Withdrawal Quantity	If Balance is 0.20 Bcf to 0.25 Bcf (80% - 100%)		8,364	
	If Balance is 0.14 Bcf to 0.20 Bcf (55% - 80%)		4,780	
	If Balance is 0.07 Bcf to 0.14 Bcf (30% - 55%)		3,034	**Note 2**
	If Balance is 0.05 Bcf to 0.07 Bcf (20% - 30%)		2,642	
	If Balance is 0.05 Bcf or less (<20%)		2,364	

Note 1: Storage capacity is stated in MCF
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

Ratchets for St. Charles		Ratchet Level	MSQ	
			2,685,196	**Note 1**
			MDIQ	
Maximum Daily Injection Quantity			**22,046**	
			MDWQ	
Maximum Daily Withdrawal Quantity	If Balance is 2.1 Bcf to 2.7 Bcf (80% - 100%)		34,566	
	If Balance is 1.5 Bcf to 2.1 Bcf (55% - 80%)		28,037	
	If Balance is 0.81 Bcf to 1.5 Bcf (30% - 55%)		21,425	**Note 2**
	If Balance is 0.54 Bcf to 0.81 Bcf (20% - 30%)		17,609	
	If Balance is 0.54 Bcf or less (<20%)		12,630	

Note 1: Storage capacity is stated in MCF
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

Ratchets for Contract Storage East Diamond		Ratchet Level	MSQ	
			2,160,000	**Note 1**
			MDIQ	
Maximum Daily Injection Quantity	If Balance is 0 to 1.08 Bcf (0 - 50%)		15,000	
	If Balance is 1.08 to 2.16 Bcf (50% - 100%)		10,000	
			MDWQ	**Note 2**
Maximum Daily Withdrawal Quantity	If Balance is 1.73 Bcf to 2.16 Bcf (80% - 100%)		26,200	
	If Balance is 1.19 Bcf to 1.73 Bcf (55% - 80%)		18,000	
	If Balance is 0.65 Bcf to 1.19 Bcf (30% - 55%)		11,000	
	If Balance is 0.65 Bcf or less (<30%)		9,200	

Note 1: Storage capacity is stated in MCF. MDWQs are the "low withdrawal" estimate. Estimated 1.025 Btu - all fields.
Note 2: The storage withdrawal ratchet schedule is provided for informational purposes only and in no way represents contractual withdrawal rights. Withdrawal quantities are approximate. Additional withdrawals may be possible, and minimum/maximum withdrawal quantities are not guaranteed.

REQUEST:

Provide the capacity of any peaking arrangements.

RESPONSE:

There are no capacity peaking arrangements now or within the past five years; however, within the TGP AMA, the Company has the right to call on additional delivered supply service October through March of up to 2,500 Dth/day.

REQUEST:

Provide a copy of any written procedures in use by Atmos for nominations and dispatching.

RESPONSE:

Please see Attachment 1 for the written procedure for purchasing and nominating natural gas supply, revised October 2019. Based upon our daily, monthly and seasonal directives, the Asset Managers perform the task of physically nominating and dispatching gas supply on behalf of Atmos Energy. This function is outlined in the Asset Management Agreements (AMAs) within Article 1 and Article 4. The AMAs are provided in the Company's response to Staff 1-02.

ATTACHMENT:

Staff_1-06_Att1 - Gas Supply Purch and Nom Procedures.pdf

GAS SUPPLY INFORMATION AND PROCEDURES MANUAL

Procedure for Purchasing and Nominating Natural Gas

Revised October, 2019

The purchasing, nomination and scheduling of natural gas is the process by which the Gas Supply Department meets the Company's firm and interruptible sales customers' seasonal requirements, through first of month and incremental gas purchases, along with managing on-system, as well as pipeline storage injection/withdrawal activity. This specific procedure addresses intra-month/incremental gas purchases, as well as, discusses the nomination and scheduling activities required to perform this activity.

The Gas Supply Specialist/Representative develops the seasonal gas supply Plans for each pipeline system based on Load Studies, Design Day and Forecast requirements provided by the Gas Supply Planning Department. Each Plan reflects normalized seasonal requirements (winter Nov-Mar and summer Apr-Oct). The Plans consist of monthly purchase quantities and anticipated storage withdrawals/injections.

The Regional Gas Supply and Gas Supply Planning departments have access to daily gas supply information, as well as short term weather and anticipated load forecasts. The two groups communicate throughout the business day in planning and arranging for daily gas supply needs.

- Twice daily the Gas Supply Short Term Forecast Tableu dashboard is updated with forecast data. The Gas Supply Specialist/Representative accesses the weather data to update short term (1-7 days) load forecasts. The short term forecasts were developed by Gas Supply Planning through an analytical comparison to historical utilization and gas day weather data.

- The Gas Supply Specialist/Representative analyzes the short term load forecasts to plan the next day gas supply and storage requirements. The load forecast provides the necessary information to determine if current flowing gas along with available storage is adequate, deficient or excessive in meeting the forecasted requirements. Third party nominations are reviewed during this process. The Gas Supply Specialist/Representative and the Manager Regional Gas Supply routinely discuss the forecast data and system requirements. Weekly, and more frequently during extreme weather, the Gas Supply team including the VP Gas Supply and Services and the Regional Managers, conference to discuss plans of action.

- The daily data is accumulated during the month to determine whether planned storage utilization is tracking anticipated current month and seasonal usage.

- Discussion as to current and next day gas flow (first of month, storage, and swing/incremental gas) takes place on a routine basis between the Gas Supply Representatives and the Manager. Market prices and storage positions are considered throughout this process. .

    - In the event the next day forecast is greater than the first of month flowing gas planned storage withdrawal, incremental gas may be purchased to accommodate the difference.
    - In the event storage is being utilized substantially more than planned utilization, incremental purchases may be made to limit monthly withdrawals.
    - In the event that first of the month nominations/purchases are at levels resulting in monthly storage withdrawals significantly below the planned level, and using current, as well as, forecasted weather along with existing pricing review a prudent decision is made as to whether first of month supply should be turned back during the current month or to reduce any subsequent month(s) purchase.
    - Plans are reviewed prior to the end of the current month to determine if revisions are necessary to adjust the baseload purchases in the succeeding month.
    - Incremental daily purchases may also be needed for normal operational reasons.

- The incremental volume can be up to the Maximum Daily Quantity on the respective pipeline(s) transportation contract as determined by the supplier contract; the requested incremental quantity is typically priced on a gas daily index.

- When changes are made to next day's flowing gas quantities, the Gas Supply Specialist/Representative notifies the supplier/asset manager no later than 8:00 AM (time varies by contract) the day prior to any nomination changes (8:00 AM Friday for any Saturday through Monday changes; if a holiday is on Monday, then changes must be made on Friday morning for Saturday through Tuesday).

- The supplier/asset manager notifies Gas Control and the appropriate pipeline of the nominated receipts in time to meet the pipeline nomination deadlines.

REQUEST:

If Atmos has utilized gas marketing/trading organizations to obtain gas supplies over the last five years, indicate which organizations were so employed, gas volumes purchased, prices, terms, and current contractual arrangements between Atmos and these marketing firms.

RESPONSE:

To the extent a marketer was a successful bidder in Atmos Energy's competitive RFPs, and the Company selected them as a supplier, then Atmos Energy has utilized natural gas marketers for gas supplies. Atmos Energy obtained all its Kentucky gas supplies from the following gas marketers over the last five years:

a. Symmetry Energy Solutions, LLC (formerly CenterPoint Energy Services, Inc.)
b. United Energy Trading, LLC

The pricing, terms and current contractual arrangements are found in the Company's response to Staff 1-02.

REQUEST:

Provide a summary of the bidding/Request for Proposal process for gas supply for the last five years, providing 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 election of a supplier, and any written procedures that exist for this activity.

RESPONSE:

Please refer to Case No. 2020-00289 and the Company's response to Staff DR Set 1 – Question 9 (h).

Atmos Energy utilizes an RFP process to procure firm supply for its requirements and asset management. This process is accomplished through the use of an Atmos Energy's online RFP website that allows registered suppliers to receive and view current requests for supply from the Company. Any questions from the suppliers concerning Atmos Energy's RFPs are required to be submitted on the RFP website and all responses are posted for review. Prior to 2017, the Company had an affiliated marketing company and as such additional steps were incorporated in the RFP process: for Kentucky RFPs, the bidders were instructed to mail their proposals directly to an unrelated third party accounting firm who documented the receipt of the bids, opened, tabulated and forwarded scanned copies to the Atmos Energy Gas Supply Department. We've continued to use this process in Kentucky even though Atmos Energy has not had a marketing affiliate in the last five years.

REQUEST:

Provide a copy of Atmos's most recent gas supply plan and a written description of its gas supply planning process.

RESPONSE:

Please see Attachment 1 for the most recent Kentucky summer and winter gas supply plans.

Overview

Atmos Energy Regional Gas Supply Department is responsible for the procurement and management of the natural gas supplies to meet its customer seasonal requirements through first of the month purchases, incremental gas daily purchases, and storage injection/withdrawal activity.

Planning Process

Around June of each year, the Gas Supply Planning group develops the normalized monthly gas supply requirements for each pipeline system based on annual load studies. In addition, a forecast model is utilized to provide a short term (7 days) load forecast. The forecasting model inputs include daily weather forecasts and utilizes historical data. The short term load forecast is updates at least twice daily and provides the necessary information to help determine if current flowing gas along with available storage volumes is adequate, deficient or in excess of meeting the next day(s) forecasted requirements. The Gas Supply Representative analyzes the short term load forecast at a minimum every morning to plan the next day(s) gas supply and storage requirements and make day ahead changes to procurements.

The Gas Supply Representatives use the monthly normalized requirements to prepare Seasonal Gas Supply Plans: winter (November-March) and summer (April-October). The Seasonal Plans consist of monthly forecasted commodity purchases and storage withdrawals/injections.

Daily Decision Process

The gas procurement function is performed by the Gas Supply Representative and the Regional Manager. The Gas Supply Representative uses the Seasonal Gas Supply Plan with its normalized monthly requirements to help determine baseload purchases. The Frontier Weather month ahead forecast is considered, and adjustments can be made to the normalized requirements for the upcoming month. Baseload purchase quantities and storage plan are given to the suppliers five trading days prior to the beginning of the flow month.

On a daily basis, the short term load forecast, storage inventories and market prices are reviewed and procurement decisions are made. When changes are made to the next day's flowing gas quantities, suppliers are notified no later than 8:00 AM, the trading day prior to any nomination change. As the month is ending, current purchases and storage activity are considered and if necessary the Supply Plan is revised for succeeding months.

ATTACHMENT:

Staff_1-09_Att1 - KY Seasonal Gas Supply Plans 2021-2022.pdf

Atmos Energy Corporation
TGP-KY Gas Supply Plan
Seasonal Winter 2021-2022
All Volumes MMBTU
10/15/2021

Tennessee Gas Area	30		31		31		28		31		151
	Nov-21		Dec-21		Jan-22		Feb-22		Mar-22		Winter Total
	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	
Total Requirements	**259,980**	**8,666**	**412,176**	**13,296**	**496,899**	**16,029**	**394,912**	**14,104**	**291,183**	**9,393**	**1,855,150**
Estimated FS-MA Storage w/d	88,620	2,954	177,227	5,717	221,526	7,146	177,240	6,330	132,928	4,288	797,541
FS-PA Storage w/d	71,820	2,394	74,214	2,394	74,214	2,394	67,032	2,394	74,214	2,394	361,494
Total Withdrawals at Citygate	**160,440**	**5,348**	**251,441**	**8,111**	**295,740**	**9,540**	**244,272**	**8,724**	**207,142**	**6,682**	**1,159,035**
TOTAL PURCHASES *	**99,540**	**3,318**	**160,735**	**5,185**	**201,159**	**6,489**	**150,640**	**5,380**	**84,041**	**2,711**	**696,115**
Fuel											
FS-MA Storage w/d	90,386	3,013	180,772	5,831	225,965	7,289	180,772	6,456	135,579	4,374	813,473
FS-PA Storage w/d	73,254	2,442	75,696	2,442	75,696	2,442	68,370	2,442	75,696	2,442	368,711
Gross Storage Withdrawals	**163,640**	**5,455**	**256,467**	**8,273**	**301,660**	**9,731**	**249,142**	**8,898**	**211,275**	**6,815**	**1,182,184**

* purchase quantities have not been adjusted for fuel retention.

Atmos Energy Corporation
TGP-KY Gas Supply Plan
Projected Summer 2022
All Volumes MMBTU
3/15/2022

Tennessee Gas Area	30 Apr-22		31 May-22		30 Jun-22		31 Jul-22		31 Aug-22		30 Sep-22		31 Oct-22		214 Summer
	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Total
Est. Requirements at CityGate	144,330	**4,811**	75,764	**2,444**	52,230	**1,741**	47,864	**1,544**	52,886	**1,706**	59,880	**1,996**	119,133	**3,843**	**552,087**
Estimated FS-MA Storage inj.	118,170	3,939	122,109	3,939	118,170	3,939	122,109	3,939	122,109	3,939	118,170	3,939	122,109	3,939	842,946
FS-PA Storage inj.	50,670	1,689	52,359	1,689	50,670	1,689	52,359	1,689	52,359	1,689	50,670	1,689	52,359	1,689	361,446
Total Gross Injections at meter	**168,840**	**5,628**	**174,468**	**5,628**	**168,840**	**5,628**	**174,468**	**5,628**	**174,468**	**5,628**	**168,840**	**5,628**	**174,468**	**5,628**	**1,204,392**
TOTAL NET PURCH AT DELIVERY	**313,170**	**10,439**	**250,232**	**8,072**	**221,070**	**7,369**	**222,332**	**7,172**	**227,354**	**7,334**	**228,720**	**7,624**	**293,601**	**9,471**	**1,756,479**
Inj Fuel															
1.35% *Estimated* FS-MA Stor net of inj fuel	116,580	3,886	120,466	3,886	116,580	3,886	120,466	3,886	120,466	3,886	116,580	3,886	120,466	3,886	831,604
1.35% FS-PA Stor net of inj fuel	49,980	1,666	51,646	1,666	49,980	1,666	51,646	1,666	51,646	1,666	49,980	1,666	51,646	1,666	356,524
Total Net Injections	**166,560**	**5,552**	**172,112**	**5,552**	**166,560**	**5,552**	**172,112**	**5,552**	**172,112**	**5,552**	**166,560**	**5,552**	**172,112**	**5,552**	**1,188,128**

Atmos Energy Corporation
Kentucky Gas Supply Plan
November FOM and Projected Winter 2021-2022
All Volumes MMBTU
10/25/2021

Texas Gas Area	30		31		31		28		31		151
	Nov-21		Dec-21		Jan-22		Feb-22		Mar-22		Total
	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly
Zone 2 - Requirements	300,660	10,022	581,002	18,742	722,207	23,297	584,304	20,868	412,176	13,296	2,600,349
Texas Gas Purchase	63,810	2,127	236,499	7,629	324,322	10,462	233,940	8,355	134,416	4,336	992,987
Texas Gas - NNS Storage *Estimated* Withdrawals	146,850	4,895	267,003	8,613	320,385	10,335	280,364	10,013	200,260	6,460	1,214,862
Trunkline Purchase	90,000	3,000	77,500	2,500	77,500	2,500	70,000	2,500	77,500	2,500	392,500
Total	**300,660**		**581,002**		**722,207**		**584,304**		**412,176**		**2,600,349**
Zone 3 - Requirements	1,035,330	34,511	1,957,960	63,160	2,390,999	77,129	1,893,640	67,630	1,368,216	44,136	8,646,145
Texas Gas Purchase	342,210	11,407	802,187	25,877	1,088,131	35,101	150,556	5,377	0	0	2,383,084
Texas Gas - NNS Storage *Estimated* Withdrawals	234,300	7,810	426,002	13,742	511,190	16,490	455,980	16,285	123,442	3,982	1,750,914
Owensboro Storage Group Withdrawal - Bon Harbor*	78,300	2,610	75,835	2,446	75,835	2,446	175,927	6,283	200,181	6,457	606,078
Owensboro Storage Group Withdrawal - Grandview*	35,100	1,170	36,270	1,170	36,270	1,170	45,295	1,618	39,152	1,263	192,087
Owensboro Storage Group Withdrawal - Hickory*	50,220	1,674	37,679	1,215	37,679	1,215	165,940	5,926	96,107	3,100	401,215
Madisonville Storage Group Withdrawals - Kirkwood*	25,110	837	23,207	749	23,207	749	51,657	1,845	67,512	2,178	190,694
Madisonville Storage Group Withdrawals - St. Charles*	270,090	9,003	288,215	9,297	288,215	9,297	424,947	15,177	500,816	16,155	1,772,283
East Diamond Storage Withdrawals SCULPTED**	-	0	268,553	8,663	330,460	10,660	423,332	15,119	341,000	11,000	1,363,345
ANR Pipeline PEAKING (8k/d) Fayetteville	0	0	0	0	0	0	0	0	0	0	0
Midwestern	0	0	0	0	0	0	0	0	0	0	0
Total	**1,035,330**		**1,957,948**		**2,390,987**		**1,893,634**		**1,368,209**		**8,659,698**
Zone 4 - Requirements	109,590	3,653	211,172	6,812	253,177	8,167	201,516	7,197	149,296	4,816	924,751
Texas Gas Purchase	68,220	2,274	135,935	4,385	162,905	5,255	122,528	4,376	92,876	2,996	582,464
Texas Gas - NNS Storage *Estimated* Withdrawals	41,370	1,379	75,237	2,427	90,272	2,912	78,988	2,821	56,420	1,820	342,287
Total	**109,590**		**211,172**		**253,177**		**201,516**		**149,296**		**924,751**
Total Requirements	**1,445,580**		**2,750,134**		**3,366,383**		**2,679,460**		**1,929,688**		**12,171,245**
Total NNS and Storage	**881,340**	**29,378**	**1,498,001**	**48,323**	**1,713,513**	**55,275**	**2,102,430**	**75,087**	**1,624,889**	**52,416**	**7,820,173**
Texas Gas Purchase Zone 2	63,810	2,127	236,499	7,629	324,322	10,462	233,940	8,355	134,416	4,336	992,987
Texas Gas Purchase Zone 3	342,210	11,407	802,187	25,877	1,088,131	35,101	150,556	5,377	-	0	2,383,084
Texas Gas Purchase Zone 4	68,220	2,274	135,935	4,385	162,905	5,255	122,528	4,376	92,876	2,996	582,464
Total Texas Gas Purchases	**474,240**	**15,808**	**1,174,621**	**37,891**	**1,575,358**	**50,818**	**507,024**	**18,108**	**227,292**	**7,332**	**3,958,535**
Total Trunkline Purchase	**90,000**	**3,000**	**77,500**	**2,500**	**77,500**	**2,500**	**70,000**	**2,500**	**77,500**	**2,500**	**392,500**
Total ANR Purchase	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Total Purchases	**564,240**	**18,808**	**1,252,121**	**40,391**	**1,652,858**	**53,318**	**577,024**	**20,608**	**304,792**	**9,832**	**4,351,035**

* For company owned and East Diamond storage, intention is to stick to monthly plan withdrawals but do not anticipate rateable withdrawals throughout the month.
** East Diamond Withdrawals 26,855 for 12 days and
18,450 for 30 days through Feb 15

The above storage plan is for general planning purposes only - actual daily withdrawals will be sculpted throughout the month, including weekends.

Note 1: Purchases reflect total requirements less anticipated winter storage withdrawal.
Note 2: Purchase quantities have not been adjusted for fuel retention.

Atmos Energy Corporation
Kentucky TGT/Trunkline/ANR Gas Supply Seasonal Plan
Projected Summer 2022
All Volumes MMBTU
3/16/2022

Texas Gas Area		30		31		30		31		31		30		31	214
		Apr-22		May-22		Jun-22		Jul-22		Aug-22		Sep-22		Oct-22	Total
Planned Customer Requirements (excludes 3rd party transport)	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly
Zone 2 *															
Texas Gas Req	177,540	5,918	89,962	2,902	62,790	2,093	56,947	1,837	64,759	2,089	62,430	2,081	121,024	3,904	635,452
Trunkline Req	30,000	1,000	31,000	1,000	30,000	1,000	31,000	1,000	31,000	1,000	30,000	1,000	31,000	1,000	214,000
Total Req	207,540	6,918	120,962	3,902	92,790	3,093	87,947	2,837	95,759	3,089	92,430	3,081	152,024	4,904	849,452
Zone 3															
Texas Gas Req	653,850	21,795	360,685	11,635	277,830	9,261	256,928	8,288	277,233	8,943	368,160	12,272	531,991	17,161	2,726,677
ANR Req	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midwestern Req	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Req	653,850	21,795	360,685	11,635	277,830	9,261	256,928	8,288	277,233	8,943	368,160	12,272	531,991	17,161	2,726,677
Zone 4															
Texas Gas Req	70,380	2,346	34,689	1,119	24,420	814	21,421	691	22,692	732	26,460	882	54,529	1,759	254,591
TOTAL WEATHER NORMALIZED CUSTOMER REQUIREMENTS	931,770	31,059	516,336	16,656	395,040	13,168	366,296	11,816	395,684	12,764	487,050	16,235	738,544	23,824	3,830,720
Planned Storage Injections															
Estimated TGT NNS Storage Injections Zones 2	*162,810*	5,427	168,237	5,427	162,810	5,427	168,237	5,427	168,237	5,427	162,810	5,427	168,237	5,427	*1,161,378*
Estimated TGT NNS Storage Injections Zones 3	*259,770*	*8,659*	268,429	8,659	259,770	*8,659*	268,429	8,659	268,429	8,659	259,770	8,659	268,429	8,659	*1,853,026*
Estimated TGT NNS Storage Injections Zones 4	*45,870*	*1,529*	47,399	1,529	45,870	*1,529*	47,399	1,529	47,399	1,529	45,870	1,529	47,399	1,529	*327,206*
The following injection plan is for KY Zone 3 area "on system" Company Owned storages:															
Owensboro Storage Group Injections via TGT (Grandview)	23,610	787	24,397	787	23,610	787	24,397	787	24,397	787	23,610	787	24,397	787	168,418
Owensboro Storage Group Injections via TGT (Hickory)	47,640	1,588	49,228	1,588	47,640	1,588	49,228	1,588	49,228	1,588	47,640	1,588	49,228	1,588	339,832
Owensboro Storage Group Injections via ANR (Bon Harbor) ML-2 to ML-3	71,100	2,370	73,470	2,370	71,100	2,370	73,470	2,370	73,470	2,370	71,100	2,370	73,470	2,370	507,180
Madisonville Storage Group Injections via TGT (Kirkwood)	22,470	749	23,219	749	22,470	749	23,219	749	23,219	749	22,470	749	23,219	749	160,286
Madisonville Storage Group Injections via TGT (St Charles)	197,670	6,589	204,259	6,589	197,670	6,589	204,259	6,589	204,259	6,589	197,670	6,589	204,259	6,589	1,410,046
East Diamond Storage Injection via ANR Fayetteville FTS-1 ML-2 to ML-2	168,900	5,630	174,530	5,630	168,900	5,630	174,530	5,630	174,530	5,630	168,900	5,630	174,530	5,630	1,204,820
East Diamond Storage Injections ANR Delivered to ML-2	13,110	437	13,547	437	13,110	437	13,547	437	13,547	437	13,110	437	13,547	437	93,518
Total Storage Injections (Company Owned)	544,500	18,150	562,650	18,150	544,500	18,150	562,650	18,150	562,650	18,150	544,500	18,150	562,650	18,150	3,884,100
Texas Gas Purchase Zone 2	340,350	11,345	258,199	8,329	225,600	7,520	225,184	7,264	232,996	7,516	225,240	7,508	289,261	9,331	1,796,830
Texas Gas Purchase Zone 3	1,205,010	40,167	930,217	30,007	828,990	27,633	826,460	26,660	846,765	27,315	919,320	30,644	1,101,523	35,533	6,658,285
Texas Gas Purchase Zone 4	116,250	3,875	82,088	2,648	70,290	2,343	68,820	2,220	70,091	2,261	72,330	2,411	101,928	3,288	581,797
Total Texas Gas Purchases	1,661,610	55,387	1,270,504	40,984	1,124,880	37,496	1,120,464	36,144	1,149,852	37,092	1,216,890	40,563	1,492,712	48,152	9,036,912
Total Trunkline Purchases	30,000	1,000	31,000	1,000	30,000	1,000	31,000	1,000	31,000	1,000	30,000	1,000	31,000	1,000	214,000
Total ANR Purchases	253,110	8,437	261,547	8,437	253,110	8,437	261,547	8,437	261,547	8,437	253,110	8,437	261,547	8,437	1,805,518
Total Estimated Purchase Plan	1,944,720	64,824	1,563,051	50,421	1,407,990	46,933	1,413,011	45,581	1,442,399	46,529	1,500,000	50,000	1,785,259	57,589	11,056,430
Behind gate storage injections - Zone 3	544,500	18,150	562,650	18,150	544,500	18,150	562,650	18,150	562,650	18,150	544,500	18,150	562,650	18,150	3,884,100

Note 1: Purchases include planned storage injection quantities
* The Zone 2 summer requirements can be provided operationally all on Texas Gas Zn 2 deliveries.

REQUEST:

Provide a narrative description of any supply-planning computer models currently being used by Atmos, or being considered for future use.

RESPONSE:

Please see Attachment 1.

ATTACHMENT:

Staff_1-10_Att1 - Model Building Procedures 2022-2023.pdf

Model Building Procedures for Atmos Energy

Dr. Russell Robins
Martin F. Schmidt Chair of International Business
Freeman School of Business
Tulane University

Professor Robins received his doctorate in economics in 1982 from the University of California at San Diego. He joined the Tulane University's Freeman School of Business in 1989. From 1995 to 1999 he served as Faculty Director and Associate Dean of Academic Programs. Dr. Robins served as Associate Dean and Director of the Stewart Center for Executive Education at Tulane University from 2002 to 2011.

Prior to his appointment at the business school, he was a senior econometrician at Transworld Oil Ltd., in Hamilton, Bermuda. He also worked as an economist with Data Resources in Lexington, Massachusetts and as a senior econometrician with Shearson Lehman/American Express in New York.

Dr. Robins' primary research interests are in financial economics, applied econometrics, and forecasting. His research has been published in a number of leading journals including *Econometrica, Management Science,* and the *Review of Economics and Statistics*.

Dr. Robins has worked on gas utility forecasting since 1999.

1. Atmos Energy needs to produce Design Day calculations.

    a. The Company's standard methodology is to use the weather conditions with a probability of occurrence of once in 30 years. This consists of a set of conditions including Design Day HDD, prior day HDD and design day average wind speed as determined by Marquette. All parameters are determined as the hourly average over the standard gas day (9-9 in the central time zone).

2. Atmos uses Time Series linear regression models to prepare Design Day calculation.

3. The linear regression model relates energy use (DTH) to weather variables, HDD, HDD squared, wind, day-of-the-week dummy variables, and monthly dummy variables

a. Atmos prefers linear models that do not use HDD squared; non-linear models for extremely low temperatures could produce explosive forecasts for DTH

b. Since Atmos produces Design Day calculations, Atmos builds models using ONLY winter data. Atmos defines winter as the season from Nov 1 to March 31. Using only the most RELEVANT data leads to the best estimates of the impact of extreme weather onto energy use (DTH).

4. When building linear regression models, Atmos attempts to use as much winter data as is consistent with the best model (see point 9 for date range).

5. The linear regression model includes contemporaneous values for HDD, the first lag of HDD, the Peak Weather Variable (HDDX), wind, the first lag of DTH, day-of-the-week dummy variables, and monthly dummy variables. Models are estimated using only winter data.

6. The Design Day forecast is the upper 95% confidence limit of the model's forecast (with reasonable assumptions made for HDD, HDD lagged 1, wind, and DTH lagged 1 and wind).

    a. In situations where Atmos does not have a good estimate for DTH(t-1), Atmos estimates DTH(t-1) using two different approaches and then averages the two forecasts.
        i. The first approach is a simple regression of DTH onto HDD
        ii. The second approach treats the Atmos model as a dynamic equation as solves for the steady state value of DTH. (Point 9 discusses more of the details of the second approach.)

7. The following model is a simplified version of the model Atmos currently uses.

    (1.1)
    $$DTH(t) = C + \beta_1 * HDD(t) + \beta_2 * HDDX(t) + \beta_3 * HDD(t\text{-}1) + \beta_4 * DTH(t\text{-}1) + \beta_5 * wind(t) + \varepsilon(t)$$

    Atmos forecasts DTH(t) using reasonable assumptions for HDD(t), HDDX(t) and HDD(t-1).

    The Peak Weather Variable (HDDX) is the temperature at which the model gets the best R-Square. This temperature is supposed to be representative of the inflection point in the dataset at which the heat load increases for that particular region. Since 65 degrees is standard for all regions, it may not represent the correct temperature of increased heat load for each individual dataset, so HDD is used as well as the Peak Weather Variable (HDDX).

8. What is a reasonable estimate for DTH(t-1) when HDD(t-1) = 63(for example)?

   The idea behind this approach is to use the basic Atmos equation, but view the equation as a dynamic equation and solve for the "Long-Run-Value (LRV)" of DTH—when HDD = 63.

   To solve for the Long-Run-value (LRV) proceed as follows:

   a. Consider a situation where all days ("the long run" or "steady state" or at least today and yesterday) have HDD=63. That means that HDD(t)=HDD(t-1)=63.

   b. In steady state, DTH(t)=DTH(t-1)=LRV (Long-Run-Value).

   Solve equation 1.1 for LRV, when you let HDD(t)=HDD(t-1)=63 and DTH(t)=DTH(t-1)=LRV. The solution is equation 1.2.

   (1.2) $$LRV = \frac{C + (\beta_1 + \beta_2) * 63}{(1 - \beta_3)}$$

   In equation (1.2) HDD = 63, but the equation is valid for any specified value of HDD. The beta values are the values when equation 1.1 is estimated.

9. Atmos desires to use the most data possible when performing a forecast; this will increase the accuracy of the forecast. Atmos uses an iterative approach to decide the correct date range for each load study.

   a. First, the model is run with all years of data.
   b. Then, the model is run with the first year of the dataset removed from the entire dataset.
   c. Then, the model is run with the first and second years of the dataset from the entire dataset.
   d. Continue this process, until the last model only includes the 3 most recent years of data.
   e. All of the models using different date ranges are evaluated by which model has the highest R-Square. The model with the highest R-Square whose start date is within 2 years of last year's model start date unless outside factors indicate a specific date range.

10. In some cases, daily measurement is not available to perform a daily load study. In these cases, the measurement data is received as monthly volumes and monthly load studies are performed. Beginning in 2012, wind speed was added as a parameter in the daily load studies. Because of its nature, it is not possible to include the effects of wind directly in the design day calculation for a monthly load study. In order to ensure that sufficient capacity is held for these studies, it is appropriate to include an uncertainty factor based on the increase in design day

observed for similarly situated daily load studies in which wind is included as a correlation factor.

a. The following model is a simplified version of the model Atmos currently uses.

(1.3) $$DTH(t) = c + \beta_1 * HDD(t) + \varepsilon(t) + windadjust$$

11. Design days are calculated for the winter Design Day, April Design Day and October Design day using the 1-in-30 conditions from Marquette Energy Analytics along with the Design Day models described in steps 7 and 10 above.

REQUEST:

Provide copies of reports or internal audits or reviews of any aspect of the supply function conducted within the last five years. Include reports prepared by Atmos and outside auditors.

RESPONSE:

Please see confidential Attachment 1, Gas Supply Review, Internal Audit Report from August of 2019.

ATTACHMENT:

Staff_1-11_Att1 - Gas Supply Review Report (CONFIDENTIAL).pdf

REQUEST:

Provide a copy of Atmos's strategic plan with primary emphasis on gas procurement, transmission, delivery, expansion and inclusive of any significantly related capital expenditures.

RESPONSE:

Please see the Company's response to Staff 1-09 for a copy of the Company's Seasonal Gas Supply Plans. There are no specific capital expenditures that focus on the gas procurement, transmission, delivery, expansion or inclusion of gas supply in the Kentucky strategic plan.

REQUEST:

Explain if Atmos currently has entered into any financial hedges for its customers in Kentucky. If not, state when Atmos last used hedging practices for its Kentucky customers.

RESPONSE:

The Company does not have any financial hedges in place for its customers in Kentucky. Please see the Company's response to Staff 1-15.

REQUEST:

Explain if Atmos utilizes storage as a natural hedge.

RESPONSE:

Storage is primarily used for operational purposes and to ensure reliability. However, storage can function as a natural hedge since natural gas can be withdrawn at WACOG instead of at prevailing market prices and the Company has some optionality around when it can elect to make storage withdrawals.

REQUEST:

Explain if Atmos employs a formal hedging plan.

RESPONSE:

The Company employs a formal hedging plan in the states where hedging is approved. The Kentucky PSC has told the Company to not employ formal hedging in Kentucky. Please see Attachment 1 for the Order by the Kentucky PSC.

ATTACHMENT:

Staff_1-15_Att1 - Hedging Order .pdf

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF ATMOS ENERGY CORPORATION FOR CONTINUATION OF ITS HEDGING PROGRAM	)))	CASE NO. 2013-00421

ORDER

On December 2, 2013, Atmos Energy Corporation ("Atmos") filed its request for approval to continue its existing gas cost hedging program for five years, through March 31, 2019. Atmos has had a Commission-approved hedging program in place since June 2001. The most recent version of its hedging program was approved in Case No. 2012-00440.[1] In that case, Atmos requested a five-year extension of its hedging program through March 31, 2018. The Commission approved an extension of only one year, instructing Atmos to file no later than November 30, 2013, if it desired to extend its gas cost hedging program past March 31, 2014. On December 2, 2013, Atmos filed its application in this proceeding requesting continued approval of its gas cost hedging program, with no change in the features of its program, through March 31, 2019. Atmos filed with its application certain information required by the Commission in its final Order in Case No. 2012-00440.

On March 10, 2014, the Commission issued an Order in this proceeding approving the continuation of Atmos's hedging program pending the issuance of a final Commission Order. There are no intervenors in this proceeding. Atmos has responded

[1] Case No. 2012-00440, *Application of Atmos Energy Corporation for Continuation of its Hedging Program* (Ky. PSC Mar. 28, 2013).

to one Commission Staff Request for Information. On August 7, 2014, the Commission issued an Order giving Atmos seven days to request a hearing, or otherwise to have this matter submitted for decision. Atmos made no such request, and this matter now stands submitted for Commission decision.

BACKGROUND

On September 12, 2000, the Commission issued an Order initiating Administrative Case No. 384[2] ("Admin. 384") to investigate increases in wholesale natural gas prices which had recently occurred and the impacts of such increases on the retail customers served by Kentucky's jurisdictional natural gas local distribution companies ("LDCs"). In that Order, the Commission identified several specific issues it intended to explore, one of which concerned possible strategies the LDCs could use to mitigate higher natural gas prices. The Commission's January 30, 2001 Order in Admin. 384 referenced the LDCs' indication that, although hedging strategies would not necessarily be a means of reducing prices, they could be used as a means of reducing the volatility in prices. The Commission stated in that Order that the use of storage facilities, performance-based ratemaking, hedging strategies, and budget payment plans were the most prominent approaches identified as ways of mitigating the impact of higher prices on retail customers. The Commission found that the LDCs should be encouraged to pursue these options in order to ensure that all reasonable efforts were being made to provide natural gas service in a cost-effective, efficient manner. It also required each LDC to file a detailed report describing, among other things, the results of

[2] Administrative Case No. 384, *An Investigation of Increasing Wholesale Natural Gas Prices and the Impact of Such Increases on the Retail Customers Served by Kentucky Jurisdictional Natural Gas Distribution Companies* (Ky. PSC Sept. 6, 2001).

an investigation of financial hedging practices that the Commission directed each of the LDCs to perform. The Commission's July 17, 2001 Order in Admin. 384 found that LDCs should consider limited hedging programs as one means of attaining the objectives of obtaining low-cost gas supplies, minimizing price volatility, and maintaining reliability of supply.

DISCUSSION

As mentioned previously, Atmos has had a Commission-approved hedging program in place since 2001. Atmos proposes to continue its hedging activities with no modifications to its currently approved program for five years through March 31, 2019. Atmos's gas cost hedging program is described in its interim (filed within 30 days of the November 1 start of the heating season) and final (filed within 30 days of the end of the heating season on March 31) hedging reports, the most recent interim report having been filed with Atmos's December 2, 2013 application and the most recent amended final report having been filed on July 16, 2014. During the course of the Commission's review of Atmos's pending request for extension of its hedging program, it considered information filed in the record not only of this case and previous Atmos hedging program cases, but also in the records of Admin. 384 and of Atmos's Gas Cost Adjustment ("GCA") cases which reflect Atmos's gas cost rates over the 13 years that Atmos has employed its hedging program. The Commission notes that Atmos's hedging program is not designed to produce the lowest purchased gas cost, but to help stabilize gas costs for customers. This has also been the Commission's primary stated objective, both in Admin. 384 and in past hedging plan cases involving Atmos and other Kentucky LDCs.

Atmos's substantial company-owned gas storage capacity, along with its hedging program, can provide for a majority of its winter gas needs at costs that are not subject to the market pressures that often exist during the winter heating season. In support of its request for Commission approval to extend its hedging program for an additional five years, Atmos provides a discussion of potential changes to the supply and demand for natural gas that could impact gas prices in the future. In response to a Commission Staff request for information, Atmos discussed the colder-than-normal weather and attendant price increases during the winter of 2013-2014, which it said proved that volatility is still occurring in the natural gas market. Because of this, according to Atmos, it is still convinced that that a disciplined hedging strategy is essential risk management for its Kentucky ratepayers with regard to natural gas price volatility.[3]

Based on the evidence of record of this and previous Atmos hedging program cases and that of Admin. 384 and Atmos's GCA cases, and being otherwise sufficiently advised, the Commission finds that Atmos's hedging program should not be extended. In approving only a one-year extension of the program in Case No. 2012-00440, the Commission's expressed concern was that continued low and stable gas prices could obviate the need for financial hedging, and that is the conclusion we have now reached. The Commission finds that current conditions and the outlook for future natural gas supplies and prices are sufficiently different in 2014 from what they were in 2001 to allay our concern regarding the potential adverse impact of price volatility on customer bills. We therefore conclude that it is no longer reasonable to impose the cost attendant to

[3] Response to Item 1 of Initial Request for Information of Commission Staff, filed Jan. 31, 2014.

hedging, to the extent there is net cost rather than net savings, to be passed along to Atmos's customers as part of their gas cost. The Commission takes note that Atmos's hedging activities resulted in gas cost savings to its customers from 2002 through 2005 and during the most recent winter. Otherwise, since it was first implemented, Atmos's hedging program has caused an increase in gas costs that has been passed through to its customers. While this result is not contrary to the goal of decreased volatility, a review of Atmos's GCA rates beginning with the winter of 2008-2009 does not support the need for continued pursuit of that goal through the use of hedging.

Following the winter of 2008-2009, during which time it was approximately $11.00 per thousand cubic feet ("Mcf"), Atmos's GCA rate steadily decreased to approximately $5.00 per Mcf in August through October 2009. Atmos's GCA rate then exhibited volatility in a relatively narrow range between $6.49 per Mcf at the highest and $4.11 per Mcf at the lowest between November 2009 and April 2014. The highest GCA rate since the winter of 2008-2009 was $7.05 per Mcf during the GCA quarter May through July 2014. The volatility and price levels exhibited by Atmos's GCA rates from 2009 to the present are relatively low in contrast to those of 2004 through 2008, which saw GCA rates from $8.22 per Mcf at the lowest to a high of $15.67 per Mcf following Hurricane Katrina. While there is no guarantee that comparable prices and volatility will not recur, current projections from the United States Energy Information Administration's ("EIA") 2014 Annual Energy Outlook indicate prices not to exceed $8.00 per Mcf through 2040 using the reference case and not to exceed $8.15 per Mcf using the High Growth scenario. More importantly with regard to volatility, the trend in price increases is projected by EIA to be gradual and steady in the long run.

As mentioned previously, the Commission's January 30, 2001 Order in Admin. 384 noted that the use of storage facilities, performance-based ratemaking, hedging strategies, and budget payment plans were the most prominent approaches identified as ways of mitigating the impact of higher prices on retail customers. In the case of Atmos with regard to these approaches, it meets approximately one-third of its winter heating requirements from company-owned storage; has a performance-based ratemaking mechanism approved by the Commission; and has a budget payment plan available to its customers. Furthermore, its gas cost is passed through to its customers via a quarterly GCA mechanism, which naturally smooths potential volatility that would otherwise be introduced to customer bills by following the changes in market prices as they occur.

In addition to the factors discussed above that tend to moderate gas cost as it is passed on to Atmos's customers, current trends in customers' natural gas usage and changes in LDC rate design since 2001 also tend to mitigate the impact of gas cost on customer bills. EIA's 2014 Annual Energy Outlook indicates a gradual decline through 2040 in residential customers' use of natural gas for space heating. Atmos also projected decreasing residential usage in its most recent rate case, Case No. 2013-00148,[4] in which it noted that its ten-year trend of customer usage showed an average decline in use of approximately 0.9 Mcf per year per residential customer for the period ending in 2012. The documented historical trend of declining sales and projections for the trend to continue into the future have been two reasons the Commission has approved increasingly higher monthly customer charges for gas utilities. This is

[4] Case No. 2013-00148, *Application of Atmos Energy Corporation for an Adjustment of Rates and Tariff Modifications* (Ky. PSC Apr. 22, 2014).

important to note when considering the future volatility of gas cost as it is translated into monthly bills for Atmos's customers. Since 2001 when the Final Order in Admin. 384 was issued, Atmos's residential customer charge has risen from $7.50 to $16.00 per customer per month. The collection of more of Atmos's revenue requirement through the fixed monthly customer charge, as customers are using fewer volumes to which the GCA rate will be applied, provides a stabilizing impact on bills in and of itself.

While the Commission finds that any future benefit to customers in terms of reduced volatility does not appear to be sizable enough to justify extension of the hedging program, we also find that Atmos has made every reasonable effort to comply with the express direction contained in the Commission's Orders in Admin. 384. The Commission commends Atmos for those efforts.

IT IS THEREFORE ORDERED that:

1. Atmos's request to extend its hedging program is denied, and it shall cease hedging activities as of the date following the date of this Order.

2. Atmos shall reflect in its GCA applications the net cost and benefits of its approved hedging activities associated with its natural gas procurement and supply performed through the date of this Order for the winters of 2014-2015 and 2015-2016.

By the Commission

ENTERED
SEP 18 2014
KENTUCKY PUBLIC
SERVICE COMMISSION

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REQUEST:

Refer to Atmos' interim GCA rate report for rates effective March 1, 2022. Also, refer to Atmos' GCA rate report in Case No. 2021-004537 for rates effective February 1, 2022.

a. Explain what changes to the commodity cost of gas occurred between the GCA rate cases and why Atmos was not able to capture those changes in the Case No. 2021-004538 GCA rate report filing.
b. Provide an explanation for the cost mitigation measures Atmos has in place to mitigate any unexpected increases to the cost of natural gas.

RESPONSE:

a. The Company regularly monitors the commodity price of natural gas. At the end of January, there was a significant increase in the NYMEX price for the month of February. Forward looking NYMEX prices showed an increase as well. An interim filing was made to capture potential market increases that was projected for the months of March and April to allow for timely recovery of gas costs for those months and minimize the resulting under-recovery for the reporting period of February through April 2022.

b. One way that Atmos Energy mitigates the risk of unexpected increases in the cost of natural gas supply is through our base load supply plan (please refer to the Company's response to Staff 1-09). In base loading supply, the price is locked in at the beginning of the month for a fixed daily quantity of natural gas. This quantity is shielded from price spikes that may occur in the daily market. Additionally, in Kentucky, the Company holds substantial storage reserves, as well as contract storage. In the Seasonal Supply Plans provided in response to Staff 1-09, supply is injected in the summer when prices are typically lower, and storage is withdrawn in the winter to help mitigate higher winter prices.

REQUEST:

Refer to Atmos' interim GCA rate report, Exhibit C, page 2 of 2.

a. For each rate listed under March and April 2022 provide an explanation for how each rate was determined
b. Also refer to Atmos' GCA rate report in Case No. 2021-004539 for rates effective February 1, 2022, Exhibit C, page 2 of 2. For each rate listed under March and April 2022, explain what caused the rate to change between the GCA rate filings.

RESPONSE:

a. Exhibit C.2 calculates a weighted average Spot Market Price.

   Purchases - Monthly purchase volumes are pulled from the latest Gas Supply Plan for each gas supplier (Texas Gas, Tennessee Gas, ANR & Trunkline).

   The monthly 10-day average of the NYMEX price calculated in Exhibit C.1 is applied against each respective monthly purchase volumes to compute the total purchase dollars per month.

   The total purchase dollars for all months are totaled together and then divided by the total purchase volumes for all months to compute an estimated weighted average spot price.

   Storage - The storage rates are the most recently available weighted average cost of gas in storage.

b. The following resulted in a change in the rates listed in Exhibit C, page 2 of 2:

   i. The Atmos Energy interim GCA filing contains an updated 10-day average of the NYMEX price (Exhibit C.1), which is used to compute the weighted average spot price within Exhibit C.2 as explained in 17a.
   ii. The storage rates were updated to the most recently available estimated weighted average cost of gas in storage (December 2022).
   iii. Total purchase and storage volumes contained in Exhibit C.2 changed because the GCA quarterly filing included February-April purchase and storage volumes while the GCA interim filing included purchase and storage volumes for only March-April. However, the purchase and storage volumes for the months of March and April in both filings are the same.