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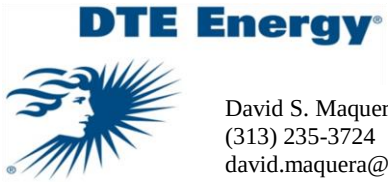

David S. Maquera
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October 18, 2017

Ms. Kavita Kale
Executive Secretary
Michigan Public Service Commission
7109 West Saginaw Hwy
Lansing, MI 48917

Re: In the matter of the Application of DTE Gas Company for approval of a Gas Cost Recovery Plan, 5-year Forecast and Monthly GCR Factor for the 12 months ending March 31, 2018
MPSC Case No. U-18152

Dear Ms. Kale:

Attached for electronic filing in the above-referenced case is DTE Gas Company's Revised Direct Testimony of Robert G. Lawshe. Also attached is a Proof of Service.

Very truly yours,

David S. Maquera

Digitally signed by: David S. Maquera
DN: CN = David S. Maquera email = david.maquera@dteenergy.com C = AD O = DTE Energy Company OU = General Counsel Organization
Date: 2017.10.18 16:37:01 -05'00'

David S. Maquera

DSM/lah
Attachments
cc: Service List

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of DTE Gas Company for approval of a Gas Cost Recovery Plan, 5-year Forecast and Monthly GCR Factor for the 12 months ending March 31, 2018	))))))	Case No. U-18152

QUALIFICATIONS

AND

REVISED

DIRECT TESTIMONY

OF

ROBERT G. LAWSHE

DTE GAS COMPANY
DIRECT QUALIFICATIONS OF ROBERT G. LAWSHE

Line No.

Q. What is your name and business address?

A. My name is Robert G. Lawshe. My business address is One Energy Plaza, Detroit, Michigan 48226.

Q. By whom are you employed and in what capacity?

A. I am employed by DTE Gas Company (DTE Gas or Company) as the Manager of Gas Supply and Planning.

Q. What is your educational background?

A. I received a Bachelor of Science Degree in Civil Engineering from Michigan State University in 1976 and a Master Degree in Business Administration from the University of Detroit in 1984.

Q. What is your business experience?

A. I have been employed full time by DTE Gas (formerly Michigan Consolidated Gas Company) since 1976. From 1976 to 1982, I held various positions in the Production, Transmission and Storage Department, including construction engineer and field supervisor. From 1982 to the present, I held various positions of increasing responsibility in the Gas Supply and Planning Department (formerly Gas Acquisition Department), including Administrator of Gas Purchase Contracts, Gas Buyer, Gas Supply Specialist, Senior Gas Acquisition Specialist, Principle Energy Analyst, up to my current position as Manager of Gas Supply and Planning, which I have held since 2006.

Q. What are your responsibilities as Manager of Gas Supply and Planning?

A. As Manager of Gas Supply and Planning, I am responsible for leading a team of professionals in the forecasting of DTE Gas sales markets, planning of supply and storage operations to serve those market requirements, and the purchase of gas and interstate transportation capacity to deliver the supply to the DTE Gas system.

Q. Have you previously testified or submitted testimony in any Michigan Public Service Commission (MPSC or Commission) proceeding?

A. Yes. I sponsored testimony for DTE Gas in an Act 9 price change case in 1985, MPSC Case No. U-8185. I have also sponsored testimonies for DTE Gas in the following Gas Cost Recovery (GCR) and GCR Reconciliation cases before the MPSC: 2004 GCR Plan Case No. U-13902; 2012-13 GCR Reconciliation Case No. U-16921-R; 2013-14 GCR Reconciliation Case No. U-17131-R; 2014-15 GCR Plan Case No. U-17332; 2014-15 GCR Reconciliation Case No. U-17332-R; 2015-16 GCR Plan Case No. U-17691, 2015-16 GCR Reconciliation Case No. U-17691-R, and 2016-17 GCR Plan Case No. U-17941, and for DTE Electric in their 2016 PSCR Case No. U-17920. In addition, I have provided support for DTE Gas' Gas Supply witnesses since the 1984 GCR Plan Case.

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Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to present DTE Gas' natural gas supply plan ("Plan") for the Plan Period extending from April 1, 2017 through March 31, 2022 ("Plan Period"). My testimony will cover the following subjects and demonstrate that DTE Gas' proposed gas supply Plan for the Plan year and the five-year Plan Period is reasonable and prudent:

1) **Supply Pricing Mix -** DTE Gas' pricing strategy is a mixture of both fixed price supply where the price is known months in advance of delivery and index price supply where the price is uncertain until delivery begins. Specifically, my testimony will discuss how DTE Gas will mitigate price uncertainty utilizing the Volume Cost Averaging methodology (VCA or VCA Method) of purchasing fixed price supply, which was first approved by the MPSC in the Company's 2010-2011 GCR Plan, Case No. U-16146, and contained in every subsequent Commission-approved GCR Plan (Case Nos. U-16482, U-16921, U-17131, U-17332, and U-17691) through the Company's 2016-2017 GCR Plan, Case No. U-17941.

2) **Price Forecast –** The price forecast is based on the average settled prices of the first five trading days of December 2016 because this is the most recent data available at the time this filing was prepared. This approach is consistent with past practice.

3) **Gas Supply Purchasing -** How the appropriate supply requirements are determined for the ensuing month in monthly gas supply meetings after taking into account the supply currently under contract and subsequently contracting for supply needs from different geographic production regions and market zones based on operational requirements first, followed by the

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lowest cost supply basin second, while acknowledging such factors as weather, natural gas market fundamentals, national inventory levels, geographical pricing, and system requirements.

4) **Transportation Portfolio Changes –** Since its last GCR Plan Case filing, DTE Gas has renewed or replaced nine interstate transport contracts that were scheduled to expire March 31, 2017. During the 2017-18 GCR Period, DTE Gas plans to renew or replace five interstate transport contracts that are scheduled to expire October 31, 2017. Those contracts will be replaced or renewed at a reduced level so as to maintain the same aggregate 400 MDth/day of winter capacity ~~with the addition of 75 MDth/day of NEXUS Pipeline capacity that is scheduled to commence November 1, 2017.~~

5) **AEP Gaylord Interconnect** – 50,000 Dth/day of Great L~~ak~~es Gas Transmission service to the DTE Gas Gaylord Transmission System will be replaced with a new AEP Gaylord Interconnect and transportation service on the DTE Gathering Company AEP Pipeline with $4.9 million/year reduction to cost of gas.

6) **Projected Total Gas Supply Costs -** How DTE Gas's total supply requirements for the 2017-18 GCR Plan Period are forecasted at approximately 132 Bcf at a total cost around $446 million including approximately $52 million in transportation costs.

7) **Projected Supply Costs for LIFO Valuation of Gas in Storage -** The projected volumes and costs are associated with the January 2017 through March 2017 time period for LIFO valuation of gas in storage, which is utilized by Company Witness Mr. Brunell.

~~8) **NEXUS Gas Transmission** – DTE Gas has entered into a Precedent Agreement with NEXUS Gas Transmission, which provides for 15 years of firm interstate transportation service to transport 75 MDth/d of Utica and Marcellus shale production gas from the Appalachian Basin to the DTE Gas system and scheduled to begin in November 2017; and DTE Gas is requesting in this case that the MPSC approve the cost recovery of the NEXUS interstate transport expense in this supply plan.~~

9) **Gas Supply Strategy for April 2018 and Beyond –** How DTE Gas' gas supply strategy for April 2018 and beyond is essentially consistent with the strategy used for the April 2017-March 2018 time period including a projection of gas purchases and transportation costs.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am supporting the following exhibits:

Exhibit	Description
A-7	Fixed Price Purchase Guidelines
A-8	Projected NYMEX, Basis, and Supply Basin Prices
A-9	Summary of Transport Contracts
A-10	Projected Purchase Volumes and Cost (Excluding Transportation Costs)
A-11	Projected Transportation Utilization, Reservation Costs, and Usage Costs
A-12	Projected Total Delivered Cost Including Transportation Cost
A-25	Fixed Price Program Analysis – Summary of Random Price Analysis and Historical Backcast of NYMEX Prices

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A-26	Fixed Price Program Analysis -- Purchase Percentages
A-27	Fixed Price Program Analysis -- Future NYMEX Projection – 95% Confidence Interval
A-29	Fixed Price Program Analysis -- NYMEX Monthly Settlement History 2012-2016
~~A-30~~	~~NEXUS Precedent Agreement Dated December 23, 2013~~
~~A-31~~	~~NEXUS Precedent Agreement Dated July 23, 2014~~
~~A-32~~	~~Ontario Energy Board Commission Order Dated December 17, 2015 Approving NEXUS for Union and Enbridge~~
~~A-38~~	~~Review of Utica Opportunities~~
~~A-39~~	~~NEXUS Landed Cost Analysis – July 2014~~
~~A-40~~	~~NEXUS Landed Cost Analysis – December 2014~~
~~A-41~~	~~NEXUS Rate Agreement Dated July 7, 2015~~
~~A-42~~	~~NEXUS Service Agreement Dated December 20, 2016~~

Q. Were these exhibits prepared by you or under your direction?

A. Yes, they were.

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SUPPLY PRICING MIX

Q. How is DTE Gas proposing to price its supply during the 2017-2018 GCR Plan Period?

A. DTE Gas' supply will be priced utilizing a mixture of both fixed price supply where the price is known months in advance of delivery and index price supply where the price is uncertain until delivery begins.

Q. What fixed price method is DTE Gas proposing to operate under during the 2017-18 GCR Plan Period?

A. DTE Gas will continue to purchase fixed price supply under the VCA Method, which is the same fixed price method that was first approved expressly by the Commission on September 28, 2010 in the Company's 2010-2011 GCR Plan, Case No. U-16146, thereby replacing the quartile indices method (QIM). This very same VCA method has been contained in every subsequent Commission-approved GCR Plan (Case Nos. U-16482, U-16921, U-17131, and U-17332) through the Company's 2015-2016 GCR Plan, Case No. U-17691, which was approved by Commission order dated November 22, 2016, and is also contained in the preceding 2016-17 GCR Plan Case No. U-17941, which is still awaiting Commission order. The specific guidelines of the VCA Method are detailed in Exhibit A-7.

Q. What is the purpose of the VCA Method?

A. The VCA Method is a methodology used to create price certainty for natural gas volumes that will be delivered at a future date also known as a hedge. VCA provides upward price protection, downward price participation, a year-over-year smoothing effect on the GCR factor, and most importantly, it is a simple and

effective way to manage price fluctuations and dampen natural gas price uncertainty for GCR Customers under a variety of actual and potential market and operating conditions.

Q. How does the VCA Method operate?

A. In general, DTE Gas will fix the price of its future supply requirements over a two year period prior to the start of delivery during the GCR Period. In other words, the price of 75% of DTE Gas' supply requirements will be known prior to the start of the GCR Period.

Q. Did DTE Gas conduct an annual review of the VCA Method?

A. Yes. DTE Gas reviewed the fixed price program (FPP) objectives, the current 75% level of fixed price coverage, and updated the quantitative analysis in light of current market conditions. These reviews and analyses were necessary to corroborate the Company's opinion that the VCA Method continues to form the foundation of a reasonable and prudent FPP. Specifically, DTE Gas updated the NYMEX back test through March 2016, which provides a 15-year historical view of how the VCA Method would have and did perform. In addition, DTE Gas updated the Random Price Analysis, which is a forward looking analysis of the VCA Method's performance in 5,000 different price scenarios. The Random Price Analysis update was necessary to determine that the original conclusions resulting from the analysis had not changed based on current market conditions. The NYMEX back test, Random Price Analysis updates, and related conclusions are described in greater detail below as are the FPP's objectives. This annual review and analyses support the continued use of the VCA Method. DTE Gas also created

an additional analysis of the fixed price program consisting of the Future NYMEX Projection and a 95% Confidence Interval of possible future prices.

Q. What are the objectives of a reasonable and prudent FPP?

A. The objectives of a reasonable and prudent FPP include:

(1) mitigating the impact of market price fluctuations and price uncertainty also known as price volatility or price risk to provide GCR factor stability;

(2) allowing participation in downward price movements;

(3) protecting customers against upward price movements;

(4) utilizing a prescriptive methodology that limits speculation; and

(5) ensuring simplicity by utilizing a methodology that is not overly complex.

Q. Does the VCA Method still meet all of the objectives of a reasonable and prudent FPP?

A. Yes. The VCA Method continues to meet all of the objectives for a reasonable and prudent program for purchasing fixed price gas. VCA allows continual market participation over an extended period of time up to two years in advance of the GCR Period start date. The methodology is consistent with the philosophy that one should not try to beat or time the market, but instead regularly participate in the market over an extended period of time, which is a reasonable and prudent method for mitigating price fluctuations or volatility. VCA provides upward price protection, downward price participation, GCR factor stability, and most importantly it is a simple and effective way to manage price uncertainty and dampen price fluctuations.

Q. How does VCA protect the customer against upward price movements and allow for downward price participation?

A. In the event of a temporary price spike in any given month, only approximately 3% of supply would be exposed to that price spike. Fast forward in time and assume that the temporary price spike does not abate, but instead becomes a fundamental upward price level shift. Under such circumstances, the purchase made during the initial price increase under VCA will look favorable in the new, higher price environment. In the event prices abate in subsequent months, then the customer will participate in the downside price movements with the execution of fixed price purchases during that abatement period. VCA spreads risk evenly over time and volumes in contrast to alternative approaches that may be speculative in nature and subject customers to additional price risks that are inherent with speculative trading.

Q. How would VCA provide benefits to the customers in the event prices do not abate but continue in a perpetual fundamental upward price shift?

A. If the market is in a long term upward price shift, then VCA would fix prices during the upward march of market prices, thereby contributing to a lower weighted average cost relative to the higher market prices at the time of the final delivery date.

Q. How does VCA eliminate price speculation?

A VCA eliminates price speculation based on the fact that purchases are fixed each month regardless of price. Therefore, the purchases are time dependent as opposed to price dependent. VCA also provides protection from price risk and uncertainty through equal volume purchases executed monthly over a defined period of time

well in advance of the delivery month. The purchase price in any given month could be an outlier that is an extreme high or low relative to historical prices. However, any individual monthly price will have a limited impact on the volume weighted price of gas.

Q. Does the VCA provide GCR factor stability?

A. Yes. The VCA Method mitigates price uncertainty, price risk, price variability, and volatility, thereby creating greater GCR factor stability.

Q. How will the VCA Method perform in a stable price environment?

A. In a stable price environment the VCA will yield gas costs that are similar to not hedging at all. This is due to the fact that VCA is a time dependent technique and if VCA purchase prices fixed in advance of the delivery date remain relatively stable until the actual delivery date, then VCA will yield similar gas costs to purchasing at Index. Index purchasing is a passive strategy that does not involve any form of hedging or creation of price certainty for future deliveries, which exposes all purchase requirements to market price fluctuations until the time of delivery.

Q. Would the Company continue to hedge during a stable price environment in which the VCA will yield gas costs that are similar to not hedging at all?

A. Yes, because a stable price environment is only visible in hindsight. It is not until the trading for a month has elapsed that one can know what the monthly settlement price will be. The Webster's New International Dictionary, Second Edition, defines "stable" as meaning "Firmly established; not easily moved,

shaken or overthrown; solid; fixed; steadfast."[1] See Exhibit A-29, NYMEX Monthly Settlement History 2012-2016, for a five year history of NYMEX monthly settlement data. As shown in Exhibit A-29, the NYMEX settlement price has varied between a high of $5.557 in February 2014 and a low of $1.711 in March 2016. These settlements are 25 months apart, which is only one month greater than the 24 month term utilized by DTE Gas's Volume Cost Averaging (VCA) program. During this 25 month period, the highest settlement price is more than three times or 300% greater than the lowest settlement price. This type of large price swing is not a characteristic of the above definition of a "stable" market.

Q. Does the Company recommend any method to predict a "stable" market before trading has completed for a time period?

A. One cannot know with any certainty whether or not the price of natural gas will change or fluctuate from month to month. It is only upon looking back over a period of time in hindsight that one can ascertain that pricing did not change and can deem that period of time as "stable." Lacking the ability to foresee the future, the only method to secure pricing stability is by acquiring gas supply under fixed prices. That is the function of the VCA program. It is to create a "stable" price environment for the GCR customers in spite of the actual vagaries of the marketplace.

[1] *Webster's New International Dictionary* 2449 (2d ed. 1934)

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Q. What were the results of the Random Price Analysis update?

A. The Random Price Analysis, originally presented in DTE Gas' Commission-approved 2012-2013 GCR Plan Case No. U-16921, has been updated for this GCR Plan case to reflect minor changes in DTE Gas' purchase profile, current market prices, and associated market price volatility. However, the conclusions and findings of the analysis, that were originally presented in Case No. U-16921, have not changed. Specifically, the Random Price Analysis confirms that the level of price risk or uncertainty that is borne by customers is dependent upon the level of fixed price coverage. More specifically, decreasing the level of fixed price coverage produces an increasingly wider range of potential price outcomes, or higher level of price uncertainty, which is synonymous with increased price volatility or price risk. This can be seen on Exhibit A-25, page 1, line 5, where 95% of the time, the Index Method produces price outcomes between $1.74 and $5.51. However, 95% of the time, the 75% VCA Method, represented on page 1, line 1, produces price outcomes in a smaller, more compact range between $2.09 and $4.85 Stated differently, 95% of the time, the Index Method produces residential gas costs that are 53% to 171% of the average cost. In contrast, the 75% VCA Method produces a more condensed and compact range of possible cost outcomes that are 65% to 150% of the average cost.

Q. Did DTE Gas update the NYMEX back test for the most recent GCR Period ending March 2016?

A. Yes. DTE Gas updated the back test of historical NYMEX prices, which was originally presented in DTE Gas' 2012-2013 GCR Plan Case No. U-16921, in order to include the most recent April 2015 through March 2016 GCR Period. This

NYMEX back test update is designated as Exhibit A-25, page 2. NYMEX is an industry wide benchmark price of natural gas at the Henry Hub receipt point in Louisiana. The back test assumed a purchase profile similar to DTE Gas's current purchase profile for all years to maintain consistency over the 14-year period. The intent of the analysis is to show the cost and benefit of the VCA Method as compared to settled NYMEX prices over an extended historical period of time. The analysis used NYMEX prices to represent gas costs because of the availability of historical data and also because it is an industry recognized benchmark of natural gas prices that are correlated to DTE Gas's purchase costs.

Q. What were the results of the NYMEX back test update in terms of residential gas costs?

A. As shown on Exhibit A-25, page 2, line 16, over the 15-year historical period a typical residential customer would have paid $528 annually on average under the VCA Method and $492 annually on average under the Index Method. In other words, over the 15-year period customers would have paid $36 more annually or $3.00 more per month on average under the VCA Method than compared to the Index Method. However, on Exhibit A-25, page 2, line 16, gas price fluctuations, or price uncertainty which is synonymous with price volatility, over the 15-year period was 15% under the VCA Method, which was significantly less than the Index Method volatility of 34% as described more fully below.

Q. What does a reduction in volatility mean for the GCR customer?

A. As shown on Exhibit A-25, page 2, line 17, volatility under the VCA Method means that for any given year, 95% of the time the customers' gas costs would be within a

range of 30% higher or 30% lower than the average cost based on the past 15 years. By contrast, volatility under the Index Method means that, for any given year, 95% of the time the customers' gas costs would be within a range of 68% higher or 68% lower than the average cost based on the past 15 years. Consequently, the VCA Method significantly reduces the risk of extreme price run ups and provides greater price certainty for the GCR customers, therefore providing greater assurance of price affordability.

Q. What conclusions did you reach based on the NYMEX backtest?

A. The $36 annual cost difference between the VCA Method and the Index Method that occurred over the historical 15 years used in the back test is approximately 6% of the customers' total gas cost (and an even lower percentage on a total bill basis), which is a reasonable cost to pay to lower the gas price volatility from 34% under the Index Method to 15% under the VCA Method as explained above.

Q. In addition to these two analyses, did DTE Gas perform any additional review of the VCA Fixed Price Purchase Program?

A. Yes. DTE Gas prepared the analysis presented in Exhibit A-27, Fixed Price Program Analysis -- Future NYMEX Projection – 95% Confidence Interval. This exhibit was created in response to the April 23, 2015 Commission Order U-17332 which states in part that "[t]he Commission reiterates that, going forward, the burden continues to be on DTE Gas to manage risk and to facilitate the affordability of the natural gas sold to GCR customers. The Commission is not looking for proof that a specific percentage of purchases were locked-in, but wants to ensure that, over time and under a variety of actual and potential market and operating

conditions, the benefits of price stability to the GCR customers outweigh any additional cost associated with the procurement strategy. Accordingly, the Commission expects DTE Gas to address the risk mitigation costs and benefits under different conditions…" This exhibit is intended to show that the benefits of price stability to the GCR customers outweigh any additional cost associated with the VCA procurement strategy. The exhibit represents this cost vs. benefit by comparing and quantifying the upside risk of higher prices against the downside opportunity of lower prices in future natural gas prices.

Q. What data is contained in Exhibit A-27?

A. The graph in Exhibit A-27 is based on the methodology from the "EIA Past Henry Hub Price and 95% NYMEX Confidence Interval" analyses performed by the United States Department of Energy's Energy Information Administration (EIA) in each monthly publication of its Short Term Energy Outlook (STEO). The upper and lower dotted lines that create the cone-shaped projection are the Upper Confidence Level (UCL) and Lower Confidence Level (LCL) projected five years into the future for NYMEX natural gas futures prices. The 95% confidence level represents the 95% probability that the final market price for a particular futures contract will fall somewhere within the lower and upper range of prices. Note that the lower range of prices has the same probability of occurrence as the upper range.

Q. What do the remaining lines on the graph in Exhibit A-27 represent?

A. The line in the middle of the graph that displays a series of peaks and valleys as it goes into future months represents the NYMEX natural gas futures prices for the next five years as projected in December 2016. The jagged line on the left side of

the graph is the actual monthly NYMEX settlement price from January 2015 through December 2016. This demonstrates a price that has been as high as $3.232/Dth in December 2016 and as low as $1.711 in March 2016. By displaying the market projections in this manner, the observer can easily review purchases from the perspective of the data that was known at the time that the purchase decisions were made. This removes the coloring of hindsight from the equation and allows for an understanding of the rationale that shows that the benefits of the VCA outweigh any additional costs.

Q. What is the comparison between upside risk and downside opportunity in natural gas pricing?

A. When one compares the future pricing of natural gas in terms of the potential to increase or decrease, in nearly all instances, the lower range of pricing is bounded by zero and the upper price range is infinite. This asymmetric potential for higher or lower prices translates into greater risk of higher prices and less risk of lower prices. For example, the winter of 2014-15 saw spot pricing at the MichCon City Gate rise from $2.785/Dth on February 1, 2015 up to a peak of $9.40/Dth on February 19, 2015, an increase of $6.615 or 237%. However, if conditions were reversed, then the spot price was not at risk of dropping $6.615/Dth because that would have resulted in a spot price below zero. Similarly, the weekend period of November 12 – 14, 2016 had a MichCon City Gate price of $1.98, but the weekend period of December 3-5, 2016 saw spot pricing at the MichCon City Gate rise to $3.40, an increase of $1.42 or 172% of the original price.

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Q. How would you quantify the value of the upside risk and the downside opportunity in future natural gas pricing where the future prices are uncertain?

A. Exhibit A-27 contains a graph based upon the methodology used in the U. S. Energy Information Administration (EIA) Short Term Energy Outlook (STEO) for quantifying price uncertainty. This graph covers the time range from January 2015 through March 2022. This graph shows projections at a 95% confidence interval at the Henry Hub for Natural Gas Prices going forward for the next six years as projected by the NYMEX average of the first five days of December 2016. As visible in this graph, the projection for the Upper Confidence Level (UCL) of natural gas pricing is as much as $1.76/Dth above the projection for the NYMEX Settlement in the month of March 2022. The projection for the Lower Confidence Level (LCL) in that same month as compared to the projection for the NYMEX Settlement in that month shows a decline of around $1.25/Dth potential decrease of gas pricing relative to the projection for the NYMEX Settlement in that month. Likewise, the average of the UCL projection for NYMEX prices from January 2017 through March 2022 is $4.47/Dth. The average for the LCL projection for the NYMEX prices from January 2017 through March 2022 is $1.99/Dth. The projected NYMEX prices for the same time period as projected by the first five days of December 2016 creates an average of $3.04/Dth. This tells us that there is an equal chance of the average price rising by $1.43 as there is of the price declining by $1.05. Thus, although the probability is equal of prices going up or down, the range of the price increase is 35% greater than the range of the price decrease. This graphically displays (as summarized in the table below) the fact that

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the potential cost exposure of a price increase is greater than the potential cost savings from a price decrease.

Price Outlook for Jan 2017 through Mar 2022 as of Dec 1-7, 2016:

NYMEX Avg Price (Col1)	UCL Avg Price (Col2)	LCL Avg Price (Col3)	UCL Range (Col2–Col1) (Col4)	LCL Range (Col1–Col3) (Col5)	Range Ratio UCL/LCL (Col4/Col5) (Col6)
$3.04	$4.47	$1.99	$1.43	$1.05	135%

Q. How does the graph in Exhibit A-27 and the table provided above demonstrate that the benefits of price stability to the GCR customers outweigh any additional cost associated with the procurement strategy?

A. The benefits are twofold: one benefit is the price certainty obtained with a fixed price, which is projected to be the NYMEX futures prices shown on the middle line of the graph; and the other benefit is the protection from the potential of higher prices as shown on the upper price line of the confidence interval. Conversely, the cost of a fixed price is represented by the potential for lower prices as shown on the lower price line of the confidence interval. In this cost-benefit analysis, the potential benefits can be quantified as the area between the projected UCL for the NYMEX pricing less the NYMEX price projection. The potential cost can be quantified as the area between the NYMEX price projection and the projected LCL price. One can easily see from observation that the area between the UCL and the projected NYMEX price is 35% greater than the area between the projected NYMEX price and the projected LCL price. With equal change of occurrence, the

analysis shows the potential benefits would be 35% greater than the potential costs. This is a visual representation of the risk potential of higher prices that was known at the time that the decision was made vs the much smaller opportunity potential of lower prices. Whether or not the actual NYMEX settlement reaches the height of the UCL is not relevant to the analysis because it is the mitigation of the risk of price uncertainty and the risk of potentially higher prices that is the purpose of the fixed price program.

Q. What are the "current and forecasted market conditions and fundamental economic and physical considerations that affect gas supply and prices" (see MPSC Order dated April 15, 2014 in Case No. U-17131)?

A. As described in my testimony above, the forecasted market conditions contain risk and uncertainty. The Short Term Energy Outlook (STEO) released by the Energy Information Administration (EIA) in October of 2016 states that although national storage levels have reached a record high level, daily production levels have decreased while consumption has increased, primarily due to natural gas fired electricity production. With the combination of decreased production and increased consumption, the report projects that price increases will occur in the near term. Additionally, the EIA's STEO dated December 6, 2016 stated that "growing domestic natural gas consumption, along with higher pipeline exports to Mexico and liquefied natural gas exports, contribute to the Henry Hub natural gas spot price rising from an average of $2.49/million British thermal units (MMBtu) in 2016 to $3.27/MMBtu in 2017." That constitutes a 31% price increase on a year over year comparison. Furthermore, in the current case, as in the previous two GCR Plan cases U-17691 and U-17941, DTE Gas has retained the services of ICF

International to speak not only to the benefits of the NEXUS Gas Transmission project, but also to address the underlying fundamentals and projected future course of the natural gas markets in North America. ~~In the current case, the testimony of Witness Sloan discusses the evolving fundamentals of natural gas supply and demand.~~

Q. Why is the VCA method reasonable and prudent for DTE Gas' customers?

A. In general, natural gas is not a discretionary purchase that can be avoided based on price or some other factor. DTE Gas' customers need to purchase and consume natural gas throughout the year for such basic needs as warmth in their homes and businesses. The greatest unknown to the customer is not necessarily how much natural gas they will consume but more importantly at what price they will purchase natural gas to supply their inherent need for natural gas. DTE Gas' customers should not be unduly subject to risk taking or speculating on what the price of natural gas will be in the future. The greater risk to DTE Gas's customers is rising prices because most customers, especially residential customers and small businesses, are generally believed to have a fixed amount of non-discretionary income to spend on a natural gas utility bill. These customers would ultimately be more financially burdened with higher bills (if gas prices rise over time) as opposed to steady or lower bills (if gas prices decline over time).

Q. How does the VCA Program mitigate this rising price risk for the customers?

A. Without some method of managing price uncertainty, DTE Gas' customers could be exposed to prices that could rise without constraint and be exposed to unlimited price risk. Thus, in order to mitigate this potentially unlimited price risk and

uncertainty, which could adversely impact customers' budgets, DTE Gas has implemented the VCA method wherein the price of natural gas is fixed for a portion of their supply many months prior to delivery, thereby creating price certainty or price protection.

Q. Why is a 75% fixed price coverage ratio reasonable and prudent?

A. The optimal level of fixed price protection that DTE Gas can provide customers and still have operational flexibility to adjust for lower purchase requirements associated with GCC migration, warmer than normal weather, or conservation resulting from ongoing energy efficiency initiatives is 75%. Stated differently, customers currently shoulder 25% of the price risk during the delivery period which is an acceptable and reasonable level of price risk or uncertainty based on operational constraints and the customers' inherent risk adverse nature. As the level of fixed price coverage is reduced from the 75% level, there is an equal and offsetting increase in the level of price risk or uncertainty. Under the 75% VCA Method, if prices rise as time progresses, then customers are rewarded through protection from the rising prices. However, if prices fall as time progresses, then customers risk paying more than they would have under a fixed price coverage ratio less than 75%. Conversely, in an environment where the fixed price coverage ratio is less than 75%, if prices fall as time progresses, then customers are rewarded through lower prices. However, if prices rise as time progresses, then customers risk paying more than they would have under the 75% fixed price coverage ratio. In summary, the greater risk to DTE Gas' customers is the risk of rising prices because they are generally believed to have a fixed amount of non-discretionary income to spend on a natural gas utility bill, and customers would ultimately be

more financially burdened with higher bills as opposed to steady or lower bills. Therefore, using the VCA method with a 75% fixed price coverage ratio is a reasonable and prudent approach to protecting customers from price risk.

Q. How does the VCA Method perform relative to the Index Method in different price environments in terms of gas costs?

A. In a rising price environment, in which prices consistently increase as time progresses, the VCA Method will produce lower gas costs than the Index method. In a falling price environment, in which prices consistently decrease as time progresses, the VCA Method will produce higher gas costs than the Index method. It is important to remember that no one can accurately predict the future natural gas price environment, and the greater risk to DTE Gas' customers comes from a drastically rising price environment as opposed to a drastically falling price environment. It is equally important to bear in mind that one of the goals of the VCA Method is to mitigate the risk of price spikes and to provide a stable price to DTE Gas' customers, and that the VCA Method was not designed or intended to compete with or "beat" the Index-based natural gas market. Although gas costs in a falling price environment may be lower with a fixed price coverage that is less than 75%, there is an equal and offsetting increase in price risk that could result in a significant financial burden if prices increase as time progresses as the natural gas utility bill becomes a larger component of the customers' non-discretionary income.

Q. How much gas has DTE Gas purchased under the VCA FPP for delivery in the April 2016-March 2017 GCR Period?

A. Currently, DTE Gas has fixed 75% of the April 2017 through March 2018 requirements and has therefore achieved the 75% fixed price coverage ratio by December 31, 2016 as specified in the Commission approved FPP.

Q. Is DTE Gas proposing any changes to the FPP originally approved by the Commission in Case No. U-16146 and subsequently approved as part of every GCR Plan in Case Nos. U-16482, U-16921, U-17131, U-17332 and U-17691?

A. No.

Q. When will DTE Gas lock-in fixed price purchases each month?

A. The timing of each intra-month purchase is based on factors such as willing counterparties, creditworthiness, market liquidity, and other best available market intelligence at the time of purchase. Utilization of these factors will ensure that intra-month purchases are executed in a reasonable and prudent manner.

Q. How does DTE Gas plan to price its remaining supply requirements that are not fixed purchases?

A. All gas that is not locked in at fixed prices will be priced utilizing market based settled index prices or at the NYMEX settlement price plus a fixed premium or minus a fixed discount based on the geographic purchase point, which is also known as fixed basis.

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Q. What is a market based settled index price?

A. Market based settled index prices are determined by independent publishing companies that survey market participants a week before the delivery month as to the value of gas to be delivered during the month. The market based settled index prices are published industry wide.

Q. What is the NYMEX settlement price?

A. NYMEX is the world's largest physical commodity futures exchange and is the industry-wide recognized price reference point for commodities including natural gas. NYMEX provides the North American market's collective assessment of the expected future values for natural gas. NYMEX trades reveal the value in dollars per Dth that the market places on gas delivered to the Henry Hub trading point, located in Louisiana, for each future delivery month. The NYMEX settlement price is determined on the last day that market participants can enter into transactions before the delivery month.

Q. Why are either the market based settled index price or the NYMEX settlement price, plus a fixed premium or minus a fixed discount, the best methods for pricing remaining gas supplies that are not fixed purchases?

A. These are the best methodologies to determine the price of gas, which have not been fixed because they indicate the most recent value the market places on gas immediately prior to the month of delivery.

Line No.

PRICE FORECAST

Q. What methodology did DTE Gas use to forecast gas prices for this GCR Plan Case?

A. The five-year price forecast, which is a long-term price projection for the market, is found on Exhibit A-8. Line 1 contains the average settlement price for the first five trading days of December 2016 for the NYMEX Henry Hub natural gas futures contract for each respective delivery period. The remaining lines show the forecasted basis price differentials and resulting prices for the indicated purchase locations. All prices are stated in dollars per Dth. Throughout this testimony, I assume a simple average heating value of 1.049 Dth per Mcf. This conversion factor represents the most recent system average heating value of gas delivered to the DTE Gas system as of July 2016.

Q. Why did DTE Gas use the average settlement price for the first five trading days of December 2016 to forecast market prices?

A. The average of the settlement prices on the first five trading days of December 2016 is the most recent natural gas traded prices at the time the Plan was finalized for filing in this case.

Q. How did DTE Gas forecast the price of gas at geographic locations other than at Henry Hub?

A. The price of gas at different geographic locations is measured through basis price differentials. Basis price differentials represent the difference in price for gas delivered at the indicated geographic location and the price for gas delivered at Henry Hub as traded on the NYMEX. Basis prices may be expressed as either

positive (a price that is higher than Henry Hub) or negative (a price that is lower than Henry Hub) depending on the geographic location. The basis differential for DTE Gas' receipt points reflects prices both higher and lower than Henry Hub.

Q. What source is DTE Gas using for forecasted basis prices?

A. DTE Gas is utilizing natural gas industry publications to forecast basis prices as well as other available market intelligence.

Q. How are projected gas prices at different geographic supply points used in your gas supply forecast?

A. These prices are used to calculate the cost of forecasted volumes that have not been fixed.

Q. Has DTE Gas included a forecast of volumes and prices associated with natural gas purchases from affiliates in the Plan?

A. Yes. DTE Gas has included 50,000 Mcf per month of forecasted volumes that it plans to purchase from DTE Gas Gathering (MGAT) at the Platt's Gas Daily Price Guide first-of-the-month DTE Gas city-gate published index price. However, the actual volumes may be more or less than 50,000 Mcf per month.

GAS SUPPLY PURCHASING

Q. What process does DTE Gas use to acquire its monthly gas supply?

A. DTE Gas maintains an active list of more than 30 creditworthy suppliers with production in areas that connect to the Company's contracted interstate transportation capacity. Due to the continuous price volatility in the natural gas

industry, DTE Gas does not issue formal RFPs (Requests for Proposal) for its supply requirements.

For its supply needs, the Company generally solicits at least three verbal offer prices from its list of creditworthy suppliers from the supply area that is required. DTE Gas will attempt to enter into transactions with the lowest price supplier, but the Company also considers supplier diversity, supplier performance history, ability to deliver to alternate receipt points, and creditworthiness existing at the time of purchase in order to ensure a balanced and prudent gas supply plan.

Q. What factors does DTE Gas consider when making decisions about purchasing its supply?

A. DTE Gas considers an array of factors in monthly meetings or more often if necessary when making its supply decisions. These factors include, but are not limited to: weather forecasts, system requirements and operational capabilities, the forward NYMEX price curve, regional market basis prices, national storage levels as reported by the Energy Information Administration (EIA), DTE Gas-owned storage levels, and industry periodicals and reports such as Gas Daily and the EIA Short Term Energy Outlook.

Q. What level of interstate firm transport capacity does DTE Gas rely on to meet its market requirements?

A. DTE Gas maintains a portfolio of 400 MDth/day of firm transportation contracts for the winter operating season and 330 MDth/day for the summer storage injection

season to meet supply requirements for normal weather, colder than normal weather, design day, and supplier of last resort.

Q. What are the Company's total reservation charges for firm pipeline capacity for the 2017-2018 GCR year?

A. The Company's reservation charges for firm pipeline capacity for the 2017-2018 GCR year are approximately $49 million, which amount is shown on Exhibit A-11, column (14), line 34. These costs are used by Witness Brunell as the basis for the Reservation Charge.

Q. Have there been any significant rate increases to transportation rates since the previous GCR Plan Case filing?

A. Yes. ANR Pipeline filed a Rate Case with the FERC under Docket No. RP16-440-000. A settlement agreement was reached between ANR Pipeline and joint participants in the negotiations, and those parties agreed to a 34.8% increase to ANR's transmission reservation rates and commodity rates effective August 1, 2016. This increase is reflected in increased transportation costs on Exhibit A-11.

Q. How will capacity release revenues that DTE Gas receives be treated with respect to the proposed SOLR charge?

A. Any capacity release revenues that DTE Gas receives will be credited back to customers, both GCR and GCC, in the same load proportionate manner in which the transportation reservation costs were allocated. However, out of path capacity, which is not needed or used for GCR system supply, may be released and credited

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as an offset to O&M in the same manner and the same accounting as out of path capacity that may be used for exchange services.

Q. What level of capacity release revenues is DTE Gas estimating in this GCR Plan case to include in the SOLR charge?

A. Due to the highly unpredictable nature of capacity release revenues DTE Gas is not predicting any capacity release revenue to include in the SOLR charge. Based on historical capacity release revenue receipts, it is DTE Gas' assessment that capacity release revenue will not materially alter the SOLR charge that is being proposed in this preceding.

Q. What are the total reservation charges for pipeline capacity that the Company intends to recover through the SOLR Reservation Charge for the 2017-18 GCR year?

A. The total amount of reservation charges to be recovered for pipeline capacity is approximately $49 million, which amount is shown on Exhibit A-11, line 34, column (14).

TRANSPORTATION PORTFOLIO CHANGES

Q. What pipeline capacity have you assumed in the GCR Plan Case for the period April 2017 through March 2018?

A. Exhibit A-9 shows all interstate transport currently under contract and their related receipt points, capacity, and term. Exhibit A-11 separates transportation costs by reservation and commodity charges. Exhibit A-11 also displays the total available capacity and forecasted monthly load utilization associated with each pipe.

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Q. Has DTE Gas included the costs associated with ANR service to Alpena under Contract No. 122065 and ANR Trufant service to Grand Rapids under Contract Nos. 111493 and 112110 in the projected transportation costs for the April 2017 through March 2018 GCR period?

A. No. Consistent with the Partial Settlement Agreement in DTE Gas' General Rate Case No. U-16999 to recover these costs in DTE Gas' base rates, DTE Gas has not included any transportation costs in this GCR filing that are associated with service to Alpena or Grand Rapids. However, ANR Contract No. 122065 also provides transportation service for gas supply purchases that are outside the service to Alpena referenced in the Partial Settlement Agreement. Accordingly, that portion of the transport costs have been included in the GCR cost of gas.

Q. How has the Company allocated the costs of the ANR-Alpena Transport Contract No. 122065 between GCR and O&M?

A. All of the costs for the system integration function of the contract are charged to O&M, which include ANR reservations costs for 50,000 Dth/day of capacity during the winter months and 20,000 Dth/day of capacity during the summer months, plus all of the ANR commodity charges for storage gas received into ANR at Woolfolk (Detroit A) and redelivered to Alpena. All other costs are for the gas supply function of the contract are charged to GCR cost of gas and SOLR Reservation Rate, which include ANR reservation costs for 30,000 Dth/day of capacity during the summer months, plus all of the ANR commodity charges for purchase gas received into ANR at the Alliance Pipeline interconnect near Chicago and redelivered into the DTE Gas system.

Q. What changes has DTE Gas made to its interstate pipeline capacity since its 2016-17 GCR Plan Filing?

A. DTE Gas made the following changes to its transport portfolio:

a) **Great Lakes 30 MDth/d Contract.** Although this is not a change, it should be noted that DTE Gas did not exercise its annual option to terminate the 30 MDth/d of Great Lakes capacity.

b) **ANR SW Contract # 122247 for 15 MDth/d**. This capacity transports gas from the ANR SW Headstation to the DTE Gas system at the Willow Run citygate and was scheduled to expire on March 31, 2017. DTE Gas renewed the capacity for a five year term through March 31, 2022.

c) **ANR SW Contract # 122067 for 14 MDth/d.** This capacity transports gas from the ANR SW Headstation to the DTE Gas system at Menominee during the winter months of November through March and it transports gas from the same receipt point to the DTE Gas system at the Willow Run citygate during the summer months of April through October. DTE Gas renewed this capacity for a three year term through March 31,2020.

d) **ANR Northern Zone Contract # 122248 for 21 MDth/d**. This capacity transports gas from the ANR Marshfield interconnect with Viking Gas Transmission to the DTE Gas system at Menominee throughout the GCR year. DTE Gas renewed this capacity for a five year term through March 31, 2022 to coincide with the renewal of the corresponding capacity held on Viking Gas Transmission.

e)_ Viking Gas Transmission Contract # FT-A (AF0081) for 21 MDth/d. This capacity transports gas from the Viking Gas Transmission interconnect with TransCanada Pipeline at Emerson. DTE Gas renewed this capacity for

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a five year term through March 31, 2022 to coincide with the renewal of the corresponding capacity held on ANR Pipeline.

f) Panhandle Eastern Pipeline (PEPL) Contract # 41525 for 20 MDth/d Winter, 10 MDth/d Summer. DTE Gas is allowing this capacity to expire effective October 31, 2017. This contract is being replaced with the same volumes by Vector Pipeline Contract # FT1-MCG-5676 20 MDth/d Winter, 10 MDth/d Summer. The Vector capacity will transport gas from the Vector interconnect with Alliance Pipeline to the DTE Gas citygate at Milford Junction. That capacity was contracted for the five year term beginning November 1, 2017 through October 21, 2022.

g) Panhandle Eastern Pipeline (PEPL) Contract # 45114 for 10 MDth/d Winter only. DTE Gas is renewing this capacity for a three year term through March 31, 2020. The volume of this contract is being increased to 60 MDth/d Winter only to replace both the 10 MDth/d PEPL Contract # 45114 referenced here and the 50 MDth/d Winter only volumes previously transported in series via Trunkline and PEPL to the DTE Gas citygate described below.

h) Trunkline Contract # 29464 50 MDth/d Winter only. DTE Gas is allowing this capacity to expire on March 31, 2017 and replacing it with PEPL Contract # 45114 described above which has 60 MDth/d Winter only through March 31,2020.

i) Panhandle Eastern Pipeline (PEPL) Contract # 40240 for 50 MDth/d Winter only. DTE Gas is allowing this capacity to expire on March 31, 2017 and replacing it with PEPL Contract # 45114 described above which has 60 MDth/d Winter only through March 31, 2020.

j) Great Lakes Gas Transmission (GLGT) Contract # FT17664 for 50 MDth/d year round from Belle River to various delivery points. DTE Gas is allowing this capacity to expire on March 31, 2017, and replacing it with transportation across the Antrim Expansion Project (AEP) with receipts into AEP at an existing interconnect with DTE Gas at Kalkaska, Michigan and deliveries out of AEP into DTE Gas at a new interconnect near Gaylord, Michigan.

Q. Why did DTE Gas maintain its current 30 MDth/d of GLGT transport contracts?

A. DTE Gas's GLGT 10 MDth/d Contract No. FT4634 and GLGT 20 MDth/d Contract No. FT4635 both have an evergreen provision, which allows DTE Gas to perpetually maintain the contracts, but also allows DTE Gas the right to terminate the contract with a 24-month prior notice. DTE Gas elected to maintain these contracts to meet operational requirements in both the Upper Peninsula and the Northern Lower Peninsula.

Q. Why did DTE Gas renew ANR Contract # 122247 for 15 MDth/d.?

A. This capacity transports gas from the ANR SW Headstation to the DTE Gas system at the Willow Run citygate and was scheduled to expire on March 31, 2017. DTE Gas renewed this contract for a term of five years through March 31, 2022. This capacity was renewed to serve the operationally required supply at the Milan Gate Station. This was the least cost alternative from an existing supply hub with Right of First Refusal (ROFR).

Q. Why did DTE Gas renew ANR Contract # 122067 for 14 MDth/d?

A. This capacity transports gas from the ANR SW Headstation to the DTE Gas system at the Menominee citygate and was scheduled to expire on March 31, 2017. DTE Gas renewed this contract for a term of three years through March 31, 2020. This capacity was renewed because this transportation route is the only existing capacity capable of delivering gas to the isolated Menominee area in the Upper Peninsula of Michigan.

Q. Why did DTE Gas renew ANR Contract # 122248 for 21 MDth/d?

A. This capacity transports gas from the ANR Marshfield interconnect with Viking Gas Transmission to the DTE Gas system at Menominee citygate and was scheduled to expire on March 31, 2017. DTE Gas renewed this capacity for a term of five years through March 31, 2022 to coincide with the renewal of the corresponding capacity held on Viking Gas Transmission. This capacity was renewed because this 21 MDth/d requirement is necessary to service this isolated area of the DTE Gas system in the Upper Peninsula of Michigan.

Competitive bids were not solicited for this capacity due to the isolated nature of the service. This is the only transportation route capable of serving this specific portion of the DTE Gas system. ANR was asked if there was any available capacity from the Chicago Hub or on ANR SW field zone to service the Menominee area starting on 4/1/2017, and ANR stated that there was none available. DTE Gas attempted to negotiate a discounted reservation rate with ANR, but DTE Gas was told that ANR would not be willing to offer any discounts on this leg of transportation.

Q. Why did DTE Gas renew Viking Gas Transmission Contract # FT-A (AF0081) for 21 MDth/d?

A. This capacity transports gas from the Emerson interconnect with TransCanada Pipeline to the Marshfield interconnect with ANR Pipeline and was scheduled to expire on March 31, 2017. DTE Gas renewed this capacity for a term of five years through March 31, 2022 to coincide with the renewal of the corresponding capacity held on ANR Pipeline. This capacity was renewed because this 21 MDth/d volume is necessary to feed into ANR Contract # 122248 to provide service to the isolated Menominee area of the DTE Gas system in the Upper Peninsula of Michigan. Additionally, a five year term was elected because Viking was willing to offer a discount for a five year term vs maximum tariff rates for a three year term.

Q. Why did DTE Gas choose not to renew Panhandle Eastern Pipeline (PEPL) Contract # 41525 for 20 MDth/d Winter, 10 MDth/d Summer?

A. DTE Gas is allowing this capacity to expire effective October 31, 2017. This contract is being replaced with the same volumes by Vector Pipeline Contract # FT1-MCG-5676 20 MDth/d Winter, 10 MDth/d Summer. This contract is the lowest cost alternative to replace the expiring PEPL contract. This capacity transports gas from the Vector interconnect with Alliance Pipeline to the DTE Gas citygate at Milford Junction. This capacity was contracted for the five year term beginning November 1, 2017 through October 21, 2022, because it was determined that a five year term would be the appropriate length to meet short term transport requirements and to maintain flexibility of the transportation portfolio.

This capacity will be 20,000 Dth/d winter and 10,000 Dth/d summer and is scheduled to begin on November 1, 2017 and run through October 31, 2022 with the primary receipt point at the Alliance interconnect and the primary delivery point at the DTE Gas interconnect at Milford Junction. The rate for this service would be a discounted rate of $0.14/Dth. This service will maintain the Company's total interstate transport portfolio design day requirement of 400,000 Dth/day.

Q. Why did DTE Gas renew and amend Panhandle Eastern Pipeline (PEPL) Contract # 45114 for 10 MDth/d Winter only?

A. DTE Gas chose to replace the 10 MDth/d Winter only capacity on this contract as well as the 50 MDth/d Winter only capacity that was previously served with the combination of Trunkline Contract # 29464 and PEPL Contract # 40240. Combining these volumes onto one PEPL contract with 60 MDth/d Winter and no summer volumes for a term of five years provided the least cost alternative from an existing supply hub with ROFR. The ROFR provision is necessary to ensure continued access to interstate transportation reliability and security of supply. Supply hub sourcing is necessary to avoid the high prices at market hubs, as well as providing access to gas within the production region with direct connection to producers which in turn provides security of supply necessary to meet Design Day requirements.

Q. Why did DTE Gas choose not to renew Trunkline Contract # 29464 for 50 MDth/d Winter only?

A. DTE Gas is allowing this capacity to expire on March 31, 2017 and replacing it with PEPL Contract # 45114 which has 60 MDth/d Winter only through March 31, 2020. Please see my above answer regarding PEPL Contract # 45114 for detail.

Q. Why did DTE Gas choose not to renew Panhandle Eastern Pipeline (PEPL) Contract # 40240 for 50 MDth/d Winter only?

A. DTE Gas is allowing this capacity to expire on March 31, 2017 and replacing it with PEPL Contract # 45114 which has 60 MDth/d Winter only through March 31, 2020. Please see my above answer regarding PEPL Contract # 45114 for detail.

AEP GAYLORD INTERCONNECT

Q. Why did DTE Gas choose not to renew Great Lakes Gas Transmission (GLGT) Contract # FT17664 for 50 MDth/d year round from Belle River to various delivery points?

A. DTE Gas elected not to renew the 50 MDth/d year-round GLGT backhaul contract, which will expire March 31, 2017, because it will be replaced with a lower cost transport service across the Antrim Expansion Project (AEP). The AEP is an existing pipeline system in northern Michigan that is owned and operated by DTE Gathering Company. AEP will provide transport service from an existing interconnect with DTE Gas near Kalkaska, MI, with delivery to the DTE Gas Gaylord transmission system at a new interconnect between AEP and DTE Gas near Gaylord, MI (AEP Gaylord Interconnect). The Gaylord transmission system is currently served by firm transportation on Great Lakes Gas Transmission (GLGT).

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Q. What costs will be incurred for the new AEP service to the DTE Gas Gaylord transmission system

A. DTE Gas will spend approximately $2.6 million to construct the AEP Gaylord interconnect with metering and related equipment. DTE Gas will also pay AEP a monthly fee of $800/month for this interconnect, plus a monthly fee of $300/month for transportation service, plus a gas transportation charge of $0.03626/Mcf for all volumes of gas transported. Only the monthly fees and gas transportation charges will be billed and recovered through cost of gas; the construction costs will be charged and recovered through base rates.

Q. How do the rates and costs for transportation on AEP compare to the rates and costs of transportation on GLGT for the 50,000 Dth/day of service under the expiring backhaul Contract # FT17664?

A. The costs under the expiring GLGT backhaul contract consist of $416,900/month in reservation charges plus $0.0105/Dth transport commodity fees. With an estimated usage of approximately 1.6 Bcf/Year, based on historical usage over the 36 month period ending March 2016, continued service under the GLGT backhaul contract would cost approximately $5.0 million/year. The cost under the AEP contract at the same 1.6 Bcf/Year usage would be approximately $0.1 million/year, for a total cost reduction of approximately $4.9 million/year (see table below). DTE Gas is therefore proceeding with the estimated $2.6 million of capital costs to build the AEP Gaylord Interconnect to achieve the estimated $4.9 million/year reduction in gas costs.

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Item	GLGT	AEP	Variance
Monthly Transport Fixed Cost	$ 416,900	$ 1,100	
	12	12	
Annual Transport Fixed Cost	$ 5,002,800	$ 13,200	$ (4,989,600)
Annual Transport Usage	1,600,000	1,600,000	
Transport Usage Rate	$0.0105	$0.0363	
Annual Transport Usage Cost	$ 16,800	$ 58,016	$ 41,216
Annual Transport Cost	$ 5,019,600	$ 71,216	$ (4,948,384)

Q. What changes does DTE Gas plan to make to its interstate pipeline contracts during the 2017-18 GCR Plan Period?

A. For forecasting purposes, DTE Gas plans to renew each of the interstate transportation contracts identified on Exhibit A-9 that are scheduled to expire during the period April 2017 through March 2018~~, excluding 75 MDth/day of capacity to be replaced with capacity on NEXUS Pipeline effective November 1, 2017 as more fully described later in my testimony.~~

Q. Why does DTE Gas plan to renew each of these expiring interstate transport contracts for forecasting purposes only?

A. DTE Gas plans to renew, or replace with capacity on NEXUS Pipeline, each of these contracts to secure sufficient capacity to meet the gas supply needs of its customers. However, these contracts may or may not be renewed depending on the renewal negotiations with each of the pipelines and DTE Gas' analysis of its alternatives to each renewal. As each contract nears expiration, DTE Gas will determine on a contract by contract basis whether each of these contracts should

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be renewed or whether an alternative route exists that will provide the customer with a lower cost reliable source of supply while maintaining supply diversity.

Q. Is there regional diversity in the Company's current transportation portfolio?

A. Yes, the following table shows the regional variety and percentage of firm interstate transportation contracts from each of the Company's supply sources for the GCR Plan Year. This table is divided between the Summer and Winter periods because several changes occur in the transportation portfolio after October 31, 2017. The table below includes 75 MDth/d of NEXUS capacity beginning on November 1, 2017. This table assumes that this capacity will replace 50 MDth/d of Vector Pipeline capacity and 25 MDth/d of ANR Southwest Pipeline capacity; however, that final determination will be made during the upcoming year based on bids solicited at the time of replacement.

Supply Basin	% of Total	% of Total
	Apr 17 – Oct 17	Nov 17-Mar 18
Canadian	46%	30%
Great Lakes Gas Transmission	9%	8%
Viking/ANR	6%	5%
Vector Pipeline	15%	5%
ANR Northern Zone	15%	13%
Mid-Continent	54%	51%
ANR Southwest Leg	32%	20%
Panhandle Eastern Pipeline	23%	31%
Gulf Coast	0%	0%

Trunkline/Panhandle Eastern	0%	0%
Utica/Marcellus	0%	19%
NEXUS Gas Transmission	0%	19%
Total of All Pipelines	100%	100%

Q. Why is regional diversity of supply important to DTE Gas and its customers?

A. DTE Gas' customers benefit from regional diversity of supply with increased supply reliability and mitigated price risk. Security of supply and increased options for supply sources are the primary reasons DTE Gas holds regionally diverse interstate transportation capacity. Supply location diversity helps the Company mitigate adverse effects of major disruptions in the general industry supply chain. If supply becomes constrained in a particular supply basin, then a diverse supply portfolio helps in insulating DTE Gas and its customers from the risk of potential supply disruptions in that area.

PROJECTED TOTAL GAS SUPPLY COSTS

Q. What are DTE Gas' projected total gas purchase quantities and costs for the April 2017 through March 2018 period?

A. DTE Gas' projected total gas purchase quantities and costs are summarized in Exhibit A-10. This exhibit reflects projected total purchases and subtotals for these categories: contracted fixed price, contracted indexed price, and supply not under contract. The totals of these subdivisions are added together to arrive at the total expected gas purchase quantity of approximately 132 MMDth (page 1, line 4, column (14) and a total expected gas purchase cost around $394 million (page 1, line 12, column (14) for the April 2017 through March 2018

period. These costs are inclusive of all pipeline fuel retention and conversion from Dth (energy quantity) to Mcf (volumetric quantity) at an annual average heating value of 1.049 Dth/Mcf, but do not include pipeline transportation costs.

Q. What are DTE Gas' projected total transportation costs for the April 2017 through March 2018 GCR Plan Period?

A. DTE Gas' projected total transportation costs are summarized in Exhibit A-11. This exhibit reflects projected transportation reservation and commodity costs by month. The total expected transportation cost is approximately $52 million (page 1, line 46, column (14) for the period April 2017 through March 2018.

Q. What are DTE Gas' projected total supply costs and total delivered supply volumes for the period April 2017 through March 2018?

A. Projected total supply costs are presented on Exhibit A-12 and reflect the sum of the projected gas purchases and transport costs. DTE Gas' projected total supply cost for period April 2017 through March 2018 is approximately $446 million (Exhibit A-12, page 1, line 3, column (14). The total delivered supply volumes are presented on Exhibit A-10. DTE Gas' total delivered supply volume for the period April 2017 through March 2018 is approximately 122 Bcf, Exhibit A-10, (page 1, line 8, column (14)). This total delivered supply volume is the quantity delivered into DTE Gas' system after interstate pipeline fuel is removed and after conversion from Dth (energy quantity) to Mcf (volumetric quantity) at an annual average heating value of 1.049 Dth/Mcf.

PROJECTED SUPPLY COSTS FOR LIFO VALUATION OF GAS IN STORAGE

Q. What projections have you developed regarding DTE Gas' gas supply volumes and costs for the period January 2017 through March 2017?

A. The following table shows the projected volumes and costs for the period January 2017 through March 2017. Furthermore, and consistent with the methods used throughout the GCR Plan, appropriate basis, fuel, transportation charges, and heating value adjustments were applied. These costs were developed using the average settlement prices of the NYMEX contract at the close of trading on the first five trading days of December 2016. These NYMEX prices were used to calculate the purchase price for all volumes not already contracted at fixed prices pursuant to the FPP.

Item	Jan-17	Feb-17	Mar-17
Delivered Vol (MMcf)	8,985	8,126	8,979
Total Cost ($000)	$39,640	$36,258	$39,501

~~**NEXUS GAS TRANSMISSION**~~

~~**Q. What is NEXUS Gas Transmission?**~~

~~A. DTE Gas's affiliate, DTE Gas Storage & Pipelines (wholly owned by DTE Energy) and Spectra Energy Corp are jointly developing the proposed NEXUS Gas Transmission (NEXUS) project, which is a 1.5 billion cubic feet per day (Bcf/d) project designed to transport growing supplies of Appalachian Basin gas including Utica and Marcellus shale gas production to customers in the U.S. Midwest, including Ohio and Michigan, and to customers in Ontario, Canada including MichCon Citygate and the Dawn Hub. The project will provide these regions with~~

additional access to natural gas supplies from the Utica and Marcellus shale supply basin and help meet the growing environmental need for cleaner fuels for power generation and for industrial and commercial customers, as well as home heating and domestic use. The service commencement date for the NEXUS Gas Transmission is currently targeted for November 2017.

Q. Where is the proposed path of NEXUS Gas Transmission?

A. The proposed path for the NEXUS project will consist of a pipeline that will extend approximately 250 miles from receipt points in eastern Ohio to interconnect(s) with the existing pipeline grid in southeastern Michigan.

Q. Has DTE Gas contracted with the NEXUS pipeline?

A. Yes, DTE Gas entered into a Precedent Agreement (PA) to secure long term firm transportation service on the NEXUS pipeline. The PA was initially accepted and signed by DTE Gas on December 23, 2013 (Exhibit A-30). However, prior to execution by the NEXUS pipeline partners--consisting of DTE Pipeline Company, Spectra Energy Transmission, LLC, and Enbridge, Inc.--one of the partners, Enbridge, Inc., exited from the partnership. Consequently, the PA was corrected to remove any reference to Enbridge, Inc., and an amended PA was signed July 23, 2014 (Exhibit A-31). Additionally, DTE Gas and NEXUS have entered into a Rate Agreement dated July 7, 2015 (Exhibit A-41) and plan to execute the Service Agreement in January of 2017 (Exhibit A-42).

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Q. What are the commercial terms of the NEXUS transport service?

A. The NEXUS Precedent Agreement and the Service Agreement provide for 15 years of firm natural gas transportation from Kensington, OH, to MichCon Citygate for 75,000 Dth/d commencing on the in-service date of the NEXUS pipeline, which is scheduled to begin November 1, 2017. The Rate Agreement specifies the negotiated transportation rate of $0.695/Dth and the fuel rate, which is currently anticipated to be 1.32% per the rate filed by NEXUS with the FERC. With an MDQ of 75,000 Dth/d, this results in an average monthly Reservation cost of $1.6 million ($1.6 million = (75,000Dth/d) X ($0.695/Dth) X (365days/year) / (12months/year)). The term of the contract is 15 years commencing on the in-service date of the NEXUS pipeline, which is scheduled to begin November 1, 2017.

Q. Has Paragraph 7(b)(i) of the Precedent Agreement that contains a regulatory approval condition precedent for DTE Gas been satisfied or waived?

A. Yes. Paragraph 7(b)(i) of the Precedent Agreement required DTE Gas to receive an order from the MPSC that approves DTE Gas' recovery of costs related to the 75,000 Dth/day of transport service on NEXUS. If such order was not received by November 30, 2016, DTE Gas could either waive the requirement or terminate the Precedent Agreement. In consideration of the significant cost savings to GCR customers and other benefits to be receive from the NEXUS Pipeline, and in consideration of the MPSC Order dated November 22, 2016 in the DTE Gas 2015-16 GCR Plan Case No. U-17691, DTE Gas elected to waive requirement 7(b)(i) of the Precedent Agreement.

Q. Why is DTE Gas interested in NEXUS Gas Transmission?

A. The construction of NEXUS Gas Transmission to the DTE Gas system and the addition of NEXUS to the DTE Gas transportation portfolio is expected to lower the cost of gas for DTE Gas customers by up to $847 million (see testimony of witness Sloan for additional support of estimated cost reductions) and would increase both the diversity of supply and security of supply for DTE Gas. Diversity of supply is achieved by providing access to the Utica and Marcellus shale gas, thereby supplementing and expanding the diversity of the current portfolio of Mid-Continent, Gulf Coast, Canadian, and city-gate supplies. Security of supply is achieved by providing greater volumes of gas that can be delivered into the DTE Gas system from this new and burgeoning production region, thereby mitigating potential price run ups in the future similar to what occurred the two winters of 2013-14 and 2014-15 at each of the major Midwest city-gate market locations, including DTE Gas. Shale gas is the largest and fastest growing source of natural gas supply in North America, and access to the Utica and Marcellus shale gas reserves will position DTE Gas with the ability to secure abundant, long-term, cost effective natural gas supply to serve its customers well into the foreseeable future.

Q. What are the benefits to DTE Gas customers from holding long-term firm natural gas transportation capacity on NEXUS?

A. The benefits from holding long-term firm natural gas transportation capacity on NEXUS, and the benefits of NEXUS in general, are described by Witness Michael D. Sloan of ICF Resources, LLC ("ICF," a subsidiary of ICF International). In the Company's 2016-2017 GCR Plan Case (U-17941), ICF provided an independent market report on the potential value to DTE Gas

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customers of holding NEXUS Pipeline capacity. Witness Sloan also discusses the benefits of NEXUS in his direct testimony in the current GCR Plan case. In addition to the direct benefit to the GCR customers of lower gas cost and the increased security and diversity of supply, the NEXUS pipeline will potentially enhance the value of DTE Gas storage and transportation assets for the benefits of its customers through incremental midstream revenues and consequently potentially lower distribution rates. NEXUS is also expected to bring up to $2.5 billion worth of savings through lower price gas for all natural gas consumers in the state of Michigan, both large and small, including industrial, commercial and residential (see testimony of witness Sloan for additional support of estimated cost reductions). The NEXUS pipeline will benefit the State of Michigan through increased tax revenues, and it is anticipated to create more jobs, bring economic development, provide supply for potential gas fired electric generation to meet market growth and replace aging coal fired plants with reduced pollution emissions. It is also expected to have a smaller environmental footprint than the other proposed greenfield pipelines traversing East Ohio to Michigan and points beyond.

Q. Does DTE Gas's commitment to contract for capacity on NEXUS increase the viability of the NEXUS project?

A. Yes, the Company's commitment contributes to the likelihood of the pipeline being built. The 75,000 Dth/day that DTE Gas has contracted for of the 1.5 Bcf/day capacity is approximately 5% of the total daily capacity. DTE Electric has contracted for a similar amount, thereby ensuring that 10% of the total volume has a long-term commitment. Based on preliminary FERC filings by the Pipeline,

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the full capacity of the pipeline has not yet been fully contracted. While it is difficult to determine whether a specific commitment for pipeline capacity is necessary to ensure construction of the project, the pipeline is unlikely to be developed without contracts supporting a significant percentage of the proposed capacity. The DTE Gas and DTE Electric commitments represent as much as 10% of the contracted capacity on the pipeline, which is important in ensuring that the project continues to be developed. This, in turn, helps to ensure that the economic benefits to both natural gas customers and all residents in the State of Michigan will receive the benefits identified in both this testimony and in the testimony of Witness Sloan.

Q. Why has DTE Gas incorporated the NEXUS transport capacity of 75,000 Dth/d into its supply plan at this time?

A. DTE Gas first identified its intent to secure future capacity on the NEXUS Pipeline four year ago in the December 27, 2012 application for the 2013-14 GCR Plan Case No. U-17131; and reaffirmed its ongoing future plans to acquire NEXUS capacity in the 2014-15 GCR Plan Case No. U-17332. DTE Gas then proceeded to specifically request Commission approval to incorporate the 15-year NEXUS transport contract into its future gas supply portfolio in the 2015-16 GCR Plan Case No. U-17691, which received an order dated November 22, 2016 that stated, in part, "the Commission rejects the ALJ's recommendation that a Section 7 warning regarding the likelihood of recovering GCR costs resulting from the NEXUS contract is warranted. The Commission agrees with the ALJ that costs associated with NEXUS should not be recoverable absent a transparent evidentiary presentation examining the full nature of the NEXUS arrangements. The

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Commission prefers to examine these issues more holistically and therefore refrains from issuing a Section 7 warning. Accordingly the Commission rejects this recommendation in the PFD."

DTE Gas then included the NEXUS transport capacity in the filing of the 2016-17 GCR Plan Case No. U-17941, but the Commission has not yet issued an Order in that Case. Pending this delayed Order, the Company is compelled to reaffirm its commitment to the NEXUS Pipeline transport capacity and to continue its pursuit of Commission approval of the recovery of the NEXUS transport costs in this Case in order to secure the substantial benefits that will accrue to DTE Gas' customers.

Q. Why did DTE Gas select NEXUS transport capacity to secure gas supply from the Utica and Marcellus production region instead of the Energy Transfer sponsored Rover Pipeline or the TransCanada sponsored ANR East Pipeline?

A. DTE Gas did not participate in either the Rover or ANR East Open Season projects primarily because: (1) a landed cost analysis showed that NEXUS was the least cost alternative compared to the rates offered by ANR and Rover; (2) DTE Gas had already committed to the NEXUS Pipeline at the time ANR East and Rover were conducting their open seasons; and (3) DTE Gas could not bid on Rover because it was a binding open season and DTE Gas had already committed to the NEXUS Pipeline. See Exhibit A-38, Review of Utica Opportunities for DTE Gas July 2014.

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DTE Gas selected NEXUS over Rover and ANR East because it provided the lowest delivered cost of gas from the Utica and Marcellus regions as calculated at the time that the Company's decision to re-affirm its commitment to continue to contract for the NEXUS capacity was made in July 2014. This decision making process included multiple steps and multiple points in time for the identification of DTE Gas's long-term and short-term transportation objectives, and the identification and evaluation of alternatives to meet those objectives. This process included an economic analysis of NEXUS Pipeline to DTE Gas originally performed in December 2013 when DTE Gas signed the 2013 NEXUS PA with NEXUS Pipeline, a refresh of the economic analysis by performing a landed cost analysis in July 2014 when Rover and ANR East Open Season offerings were announced, followed by an updated landed cost analysis in December 2014 at the time of its 2015-16 GCR Plan Case filing. See attached Exhibit A-39 Landed Cost Analysis July 2014 and Exhibit A-40 Landed Cost Analysis December 2014.

In June 2014, DTE Gas hired consultant Michael Sloan from ICF to evaluate the NEXUS Pipeline and his findings were filed in the 2015-2016 GCR Plan Case. The results of his independent analysis showed that NEXUS was the best deal for the customers of DTE Gas at the time. One year later, DTE Gas retained the same consultant to update his analysis in December 2015, which was filed in the 2016-2017 GCR Plan Case. Again, in the 2017-2018 GCR Plan Case for the current filing, DTE Gas has retained the services of ICF to reiterate the benefits of NEXUS Gas Transmission to the customers of DTE Gas and ultimately, to all gas customers in the State of Michigan. The data in his analysis shows that NEXUS

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is still a valuable investment and that it is still the best course of action for DTE Gas.

Q. Did DTE Gas evaluate NEXUS against competing project offers at the time that the Company's original decision was made to contract for NEXUS capacity in December 2013?

A. No. The Rover and ANR East projects did not exist at the time DTE Gas initially accepted the 2013 NEXUS PA offered by NEXUS Pipeline in December 2013. However, when the open seasons for the Rover and ANR East projects were announced six months later, DTE Gas reassessed its NEXUS commitment in contrast to the competing Rover and ANR East pipelines. The results of that assessment showed that NEXUS was not only the least cost alternative, but also held several other advantages as explained in more detail by witness Sloan.

Q. Why did DTE Gas not perform a long-term landed cost analysis of NEXUS against alternative sources of supply in December 2013?

A. When DTE Gas committed to NEXUS in December 2013, there were no alternative interstate pipelines that met the DTE Gas criteria for its long-term interstate transportation objectives described below. A long-term landed cost analysis is not performed when there are no alternative pipelines to compare. DTE Gas also recognized that as the planning phase of the NEXUS Pipeline project progressed, and gas development in the Appalachian basin progressed, a more detailed, updated, and in-depth analysis would be needed from a reputable independent consultant to confirm the benefits of the NEXUS Pipeline for the

DTE Gas customers, and support DTE Gas's continued commitment to this project including the recovery of the costs from GCR customers.

Q. What were DTE Gas's long-term transportation requirements you mention above?

A. At the time NEXUS announced its open season notice for firm transportation service in October 2012, DTE Gas had both short-term and long-term objectives for its interstate transportation portfolio. In the long-term, DTE Gas was looking to increase both its long-term security and diversity of supply with Appalachian Basin gas, including the Utica and Marcellus shale gas production, from a new single pipeline resource; with the intent to secure lower cost gas supply for its customers by fostering additional competition with existing interstate transport providers, and fostering additional competition with existing and future supply sources feeding into those existing pipelines. It was DTE Gas's desire to supplement the current portfolio of Mid-Continent, Gulf Coast, and Canadian transportation paths with a new competitive alternative from the largest and fastest growing natural gas resource in North America.

Q. What were DTE Gas's short-term objectives for its transportation portfolio?

A. Its short-term objectives were to renew or replace a portion of its existing transportation portfolio with a diversity of short-term (three to five year) capacity on a diversity of existing transportation paths, from a diversity of service providers, connected to a diversity of existing, mature, and liquid trading points at competitive rates. Additionally, DTE Gas was interested in short-term to mid-term transport from new major pipeline interconnects on a limited basis to gain

familiarity with the pipelines providing delivery to that interconnect, depending on the maturity and expected liquidity of trading at the receipt point at that time.

TIME LINE:

Q. What was DTE Gas' decision making process that led up to the current plan proposal to add 75,000 Dth/day of NEXUS to the DTE Gas transport portfolio?

A. Following is a timeline of events that led up to the current Plan Case filing and the proposal to incorporate NEXUS transport into the DTE Gas supply portfolio:

Date	Action
Nov 12	DTE Gas Submits NEXUS Open Season Bid
Dec 12	Identify plans to contract with NEXUS in 2013-14 GCR Plan
Dec 13	Economic Analysis of NEXUS Pipeline to DTE Gas
Dec 13	DTE Gas Signs 2013 NEXUS PA
Dec 13	Identify plans to contract with NEXUS in 2014-15 GCR Plan
Jun 14	Hired ICF Consultant to analyze NEXUS Pipeline Transport
Jul 14	ANR East Open Season Bids Due
Jul 14	Rover Open Season Bids Due
Jul 14	Landed Cost Analysis of Alternative Pipeline Routes
Jul 14	DTE Gas and NEXUS sign Revised 2014 NEXUS PA
Sep 14	NEXUS Offers Draft Negotiated Rate Agreement
Dec 14	Updated Landed Cost Analysis of Alternative Pipeline Routes
Dec 14	File for NEXUS transport in 2015-16 GCR Plan Case

Oct 15	Hired ICF Consultant to update analysis of NEXUS transport
Nov 15	NEXUS Files for FERC Certificate
Dec 15	File for NEXUS transport in 2016-17 GCR Plan Case
Nov 16	FERC issues Final Environmental Impact Statement (FEIS)
Dec 16	File for NEXUS transport in 2017-18 GCR Plan Case

Q. Why did DTE Gas submit a bid in the NEXUS Open Season in November 2012?

A. The NEXUS Pipeline met all of the criteria for the DTE Gas long-term objectives for its interstate transportation portfolio as I discussed above. These criteria were discussed in DTE Gas Witness Mr. Clinton's testimony filed with the MPSC in December 2012 in the DTE Gas GCR Plan Case No. U-17131. Witness Clinton explained that adding NEXUS Pipeline capacity to the DTE Gas supply pipeline portfolio would increase both DTE Gas's security and diversity of supply by providing access to the Utica and Marcellus shale gas, thereby supplementing the current portfolio of Mid-Continent, Gulf Coast, Canadian, and city-gate supplies. DTE Gas identified the NEXUS Pipeline as a unique opportunity to bring new competitively priced gas supply to Michigan, and specifically to the DTE Gas system. NEXUS was the only greenfield pipeline project at the time designed to transport growing supplies of Appalachian Basin gas including Utica and Marcellus shale gas production to customers in Michigan and the surrounding area. Supporting the NEXUS Pipeline as a greenfield project was desirable because the Company expected the project to reduce gas cost for GCR customers by providing access to one of the largest and fastest growing sources of supply in North America from a new single pipeline resource that would create additional

competition with both the existing interstate transport providers and compete with existing and future supply sources feeding into those pipelines.

Q. Why should the Commission approve the recovery of the costs of the 75,000 Dth/d NEXUS transportation capacity as part of the supply plan in this GCR proceeding?

A. The unique nature of the NEXUS transportation capacity and its importance for DTE Gas's customers and the state of Michigan in general requires Commission support and approval at this time to make the benefits of the NEXUS pipeline and the transport capacity in the DTE Gas supply portfolio a reality. The nature of this gas transportation arrangement is unique because the NEXUS pipeline does not currently exist and it will require the timely support of all stake holders to make the greenfield construction of this 250 mile, 1.5 Bcf/d, $2.2 billion pipeline a reality, and to also make the resulting benefits of the pipeline a reality for the DTE Gas customers, the state of Michigan, and all consumers in the state of Michigan. DTE Gas has commissioned ICF to provide an independent market report and cost analysis on the potential value to DTE Gas and its customers of holding Nexus pipeline capacity. The results of the independent market report and cost analysis are overwhelmingly favorable and the results show that if the NEXUS pipeline gets built, and DTE Gas acquires 75 MDth/d of NEXUS capacity, then it would reduce the cost of gas to DTE Gas GCR customers by up to $847 million over the 15-year period November 2017 through March 2032 (see testimony of witness Sloan for additional support of estimated cost reductions). In light of these results, DTE Gas began taking the necessary steps during the 2016-2017 GCR Plan Year to replace 75 MDth/d of existing transport with NEXUS capacity effective November 1, 2017. Commission approval of the recovery of the costs of

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DTE Gas's transportation arrangement with NEXUS Gas Transmission would benefit not only the customers of DTE Gas, but would also give the support needed for this greenfield pipeline project that will bring new shale gas resources to the state of Michigan with up to an estimated $2.9 billion reduction in natural gas costs for all Michigan consumers (see testimony of witness Sloan for additional support of estimated cost reductions).

Q. Have any other regulatory agencies reviewed the reasonableness and prudence of NEXUS transport capacity and the cost recovery for any other natural gas local distribution company?

A. Yes. The Ontario Energy Board Commission (OEB) issued its Decision and Order on December 17, 2015 in Case EB-2015-0166/EB-2015-0175 regarding the Applications for Pre-Approval of the Cost Consequences of Long-Term Natural Gas Transportation Contracts for Capacity on the NEXUS Pipeline by applicants Union Gas Limited (Union) and Enbridge Gas Distribution Inc. (Enbridge). In those applications, Union requested OEB approval of a 15-year transport contract on NEXUS for 150,000 Dth/day of capacity and Enbridge requested approval of a 15-year contract for 110,000 Dth/day. There were a total of fifteen intervenors in that case, one of which was TransCanada PipeLines Limited, which is an affiliate of ANR Pipeline Company. See Exhibit A-32 for the full OEB Decision and Order in Case EB-2015-0166/EB-2015-0175.

Q. What were the final decision and findings of the OEB in that Case?

A. The OEB approved the applications, thus allowing Union and Enbridge to receive full cost recovery of the contracts from their customers. The OEB found that the

contracts will result in increased gas supply diversity by securing direct transportation from the source in the Appalachian Basin, and that contracting for that capacity was a prudent decision on behalf of system supply customers who rely on these utilities to contract for their gas supply needs. The OEB found that substantial benefits will accrue to Union's and Enbridge's customers through the proposed long-term contracts for transportation capacity on the NEXUS pipeline. These benefits include access to pricing signals, and pricing indices available in the Appalachian region that the utilities would not be able to access directly without the contracts, as well as the benefit of enhanced diversity of supply and expected reduction in price volatility and, as noted by Sussex Economic Advisors, an expert retained jointly by Union and Enbridge, these contracts will provide the benefit of direct access to gas supply from the Appalachian basin, which is the fastest growing natural gas supply basin in North America. In summary, the OEB found that the quantitative and qualitative benefits arising from the NEXUS transport contracts justify the cost consequences.

Q. How are the OEB findings and final decision in that Case relevant to the NEXUS capacity that DTE Gas is proposing in this GCR Case?

A. The findings of the OEB in the Union and Enbridge Case (i.e. that securing NEXUS pipeline capacity is prudent and will provide benefits to their customers) provides additional reassurance and affirmation that the similar findings of DTE Gas and its consultant with respect to the prudence and benefits of procuring NEXUS pipeline capacity for DTE Gas are likewise reasonable. Specifically, DTE Gas, Union and Enbridge are large LDCs in the Great Lakes region of North America, each respectively serving over 1.1 million, 1.4 million, and 2 million

residential, commercial and industrial customers. Each utility holds a relatively large portfolio of diverse long-haul transportation contracts that provide access to the major natural gas supply basins and trading hubs of North America through the interconnecting network of US and Canadian natural gas pipeline systems that reach into the Western Canadian Sedimentary Basin, Midcontinent, Gulf Coast, Appalachian Basins and other geographically diverse areas. Each utility maintains a relatively large capacity of storage to aid in the delivery of gas to a customer base that is subject to relatively high seasonal demand due to the similarly situated seasonally cold climate of the Great Lakes region in which these utilities serve. With relatively similar supply planning needs to serve relatively similar customer requirements, the OEB decision that the NEXUS transport capacity is prudent and beneficial to the customers of Union and Enbridge provides confirmation that the conclusions reached by DTE Gas and its consultant are likewise reasonable.

Q. What transport contracts does DTE Gas plan to replace with the NEXUS capacity?

A. DTE Gas has taken the necessary steps during the 2016-2017 GCR Plan Year to replace 75 MDth/d of existing transport with NEXUS capacity effective November 1, 2017, by renewing or replacing expiring contracts in the transportation portfolio but leaving contracts with volumes of 50 MDth/d on Vector and 75 MDth/d on ANR Pipeline, available for replacement closer to the NEXUS commencement date. However, DTE Gas reserves the right to defer the final decision on which interstate transport contracts to replace until the existing contracts come up for expiration, thereby keeping its options open to select the

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least-cost service providers as long as possible. The transportation agreements that are scheduled to expire on October 31, 2017 are 75 MDth/d of ANR SW Capacity and 50 MDth/d of Vector capacity. As discussed earlier in testimony, DTE Gas will replace 75 MDth/d of existing capacity with new capacity from NEXUS Gas Transmission to begin November 1, 2017.

Q. Has the Company changed the composition of the transportation contracts to be replaced with NEXUS transport capacity in November of 2017?

A. As described earlier in my testimony, DTE Gas has replaced expiring capacity throughout the year by seeking competitive bids, and the remaining capacity that is now being considered for replacement consists of 75 MDth/d of ANR SW Capacity and 50 MDth/d of Vector capacity that are scheduled to expire on October 31, 2017. The 75 MDth/d of NEXUS capacity will replace an equivalent volume between these two pipes. At the time of the preparation of this testimony, the assumption was made that 50 MDth/d of Vector Capacity and 25 MDth/d of ANR SW Capacity will be selected for replacement; however, DTE Gas reserves the right to change this composition based upon competitive bids received prior to the final decision.

Q. Has DTE Gas undertaken any further actions in preparation for the start of gas flows from NEXUS Gas Transmission?

A. Yes. DTE Gas is proceeding with construction of the interconnect facilities between NEXUS and DTE Gas near Ypsilanti, MI. The construction is expected to take place in April and May 2017 and, during the tie-in phase of the construction, may result in temporary disruptions of gas flow in that area of the

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~~DTE Gas system. DTE Gas does not expect any impact on its gas supply purchases at this time, however this construction activity and effect on system operations will be closely monitored.~~

GAS SUPPLY STRATEGY FOR APRIL 2018 AND BEYOND

Q. How does DTE Gas plan to purchase its required gas supply for April 2018 and beyond?

A. DTE Gas's proposed natural gas supply acquisition strategy for April 2018 and beyond is essentially the same as that used for April 2017 - March 2018 period. Specifically, DTE Gas's supply will be priced utilizing a mixture of fixed price supply and market based indexed price supply.

Q. Does DTE Gas plan to execute any fixed price supply contracts during the Plan Period for gas to be delivered in April 2018 and beyond?

A. Yes. Consistent with the Commission approved VCA methodology in the Company's 2010-2011 GCR Plan Case No. U-16146, and contained in every subsequent Commission-approved GCR Plan (Case Nos. U-16482, U-16921, U-17131, U-17332, and U-17691) through the Company's 2016-2017 GCR Plan Case No. U-17941, as detailed in Exhibit A-7, DTE Gas will continue to make fixed price purchases each month during the April 2017-March 2018 Period for approximately 3% of the total gas supply requirements to be delivered during the April 2018-March 2020 GCR Period. The table on Exhibit A-26 "Fixed Price Program Analysis – Purchase Percentages" summarizes the monthly and cumulative total fixed price purchases to occur by GCR delivery period.

Q. Is DTE Gas reviewing any transportation portfolio changes during the Plan Period related to future GCR periods, specifically April 2018 and beyond?

A. Yes. The aforementioned ANR SW Contract Number 109511, totaling 50 MDth/d, is scheduled for expiration on October 31, 2017. Additionally, Vector Contracts #FT1-MCG-0014 and FT1-MCG-C0014 for 50 MDth/d are scheduled for expiration on October 31, 2017. As previously mentioned, 75 MDth/d of capacity is expected to be replaced by NEXUS Gas Transmission in November 2017. Those volumes not replaced by NEXUS will either be renewed or replaced via a competitive bidding process.

Q. Does DTE Gas plan to change its transport capacity for April 2018 and beyond due to customers switching between GCR and GCC?

A. No. DTE Gas does not plan to change its transport capacity if customers switch between GCR and GCC. DTE Gas intends to maintain a GCR/GCC portfolio of interstate transportation and city-gate supply that is sufficient to serve total GCR and GCC markets. This is necessary from a security of supply standpoint as DTE Gas is the SOLR for all customers, both GCR and GCC.

Q. What projection of gas purchase and transportation costs have you made for the period April 2018 through March 2022?

A. Projected gas purchase costs for the period April 2018 through March 2022 are calculated on pages 2 through 5 of Exhibit A-10. Projected transportation costs for that same period are calculated on pages 2 through 5 of Exhibit A-11 and the projected total supply costs (the sum of purchase and transport costs) are calculated on Exhibit A-12.

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Q. Does this complete your direct testimony?

A. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE GAS COMPANY** for approval of a Gas Cost Recovery Plan, 5-year Forecast and Monthly GCR Factor for the 12 months ending March 31, 2018	)))))	Case No. U-18152

PROOF OF SERVICE

STATE OF MICHIGAN)
) ss.
COUNTY OF WAYNE)

TANYA MARIA CARR, being duly sworn, deposes and says that on the 18th day of October, 2017, she served a copy of DTE Gas Company's Revised Direct Testimony of Robert G. Lawshe, via electronic mail upon the persons referred to on the attached service list.

Tanya Maria Carr

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Date: 2017.10.18 15:27:08 -04'00'

TANYA MARIA CARR

Subscribed and sworn to before
me this 18th day of October, 2017.

Karyn B. Kazyaka

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Macomb County, Michigan
My Commission Expires: 7-21-2023
Acting in Wayne County

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