BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

| | |
|---|---|
| IN THE MATTER OF THE PASSTHROUGH APPLICATION OF DOMINION ENERGY UTAH FOR AN ADJUSTMENT IN RATES AND CHARGES FOR NATURAL GAS SERVICE IN UTAH | Docket No. 17-057-20 |

# DIRECT TESTIMONY OF WILLIAM F. SCHWARZENBACH III

# FOR DOMINION ENERGY UTAH

January 31, 2018

**DEU Exhibit 3.0**

## TABLE OF CONTENTS

## I. INTRODUCTION

**Q. Please state your name and business address.**

A. My name is William Frederick Schwarzenbach III. My business address is 333 South State Street, Salt Lake City, Utah.

**Q. By whom are you employed and what is your position?**

A. I am employed by Questar Gas Company dba Dominion Energy Utah ("Dominion Energy," "DEUWI" or "Company") as the Manager of Gas Supply. I am responsible for state Gas Supply matters in Utah and Wyoming. My qualifications are included in DEU Exhibit 3.1.

**Q. Please describe your experience relevant to this docket?**

A. I have worked for Dominion Energy for over 13 years. During that time I have worked in the System Planning group within Engineering and the Gas Supply department. I have a detailed understanding of the system modeling used to evaluate the need for Firm Peaking Services and the knowledge of services offered by upstream pipelines. The past few years, I have also been responsible for producing the Company's Integrated Resource Plan ("IRP"). As Manager of Gas Supply, I am also directly involved in the daily management of purchasing and nominations of gas supply.

**Q. Have you testified before the Utah Public Service Commission ("Commission") before?**

A. Yes. I have testified before the Commission in previous dockets, and I have presented to the Commission numerous times in technical conferences and workshops.

**Q. Attached to your written testimony are DEU Exhibits 3.1 through 3.9. Were these prepared by you or under your direction?**

A. Yes.

**Q. What is the purpose of your direct testimony in this Docket?**

A. The purpose of my direct testimony is to explain the need for Firm Peaking Services on the DEUWI system and to discuss the evaluation of alternative options available to meet the identified Peak Hour demand.

## II. NEED TO PLAN TO MEET PEAK-HOUR DEMAND

**Q. How long has the industry been discussing the need for additional services to address Peak-Hour demand requirements?**

A. The Federal Energy Regulatory Commission ("FERC") and the North American Energy Standards Board ("NAESB") have been focused on coordination between natural gas and electricity markets for the last five years. Regulations have been changed over that time to give wholesale and retail gas markets the flexibility to adjust for variability throughout the day. Hourly planning is part of this solution.

**Q. Please provide some background on this coordination.**

A. On February 3, 2012, FERC Commissioner Moeller requested comments on coordination between natural gas and electricity markets. Many parties, including NAESB, submitted comments on April 16, 2015. After hearing public comments, the FERC issued Order Number 809 "Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities". This order revised FERC regulations to better coordinate the scheduling of wholesale natural gas and electricity, increased reliance on natural gas for

electric generation, and to provide additional scheduling flexibility, including intra-day flexibility, to all shippers on interstate natural gas pipelines.

**Q. Was this discussion of interest to the Company?**

A. Yes. In addition to the Lake Side power generating facilities in Vineyard, Utah (Lake Side), we serve several electric generators representing over 10,785,000 Dth per year based on 2016-2017 usage. The Company is also interested in the intra-day scheduling flexibility to help match the gas supply deliveries with the overall demand on the DEUWI system. Dominion Energy was involved in the NAESB proceedings and shares the industry concern of preserving and enhancing system reliability for all customers.

**Q. Mr. Platt discusses the issues that occur when demand exceeds supply on an hourly basis on the system. Were these issues discussed in FERC order 809?**

A. Yes. On page 4 of the Order, the FERC states:

> "Except for special services, pipeline services are generally based on the assumption of uniform hourly flows over the Gas Day. During much of the year, most interstate pipelines can accommodate significant variations in hourly flow rates. However, during high demand periods when pipeline capabilities are being fully utilized to provide firm transportation services, a pipeline may announce a critical notice period, where shippers are expected to stay in balance. Some pipelines offer enhanced services that permit subscribing shippers more variable hourly flow rates."

**Q. Are you aware of whether or not upstream pipeline capabilities are being fully utilized as described above?**

A. Yes. Kern River Gas Transmission Company ("Kern River") made a presentation at its customer meeting on September 14, 2017 where it informed its customers that customers' daily and hourly imbalances are impairing Kern River's ability to provide reliable service. I attended that meeting and have attached a copy of that presentation as DEU Exhibit 3.2. Page 9, of DEU Exhibit 3.2 contains Kern River's statement to that effect, along with examples of actions Kern River could take to address hourly imbalances and with excerpts from the Kern River Tariff that authorize Kern River to take those actions. Specifically, Kern River emphasized certain of its Tariff provisions including the following:

- "Transporter will have the right to take actions of whatever nature may be required (*including termination or reduction of service to Shipper*) to correct any imbalances which impair the operation of or threaten the integrity of its system, including maintenance of service to other Shippers." Kern River Tariff, Section 10.9; DEU Exhibit 3.2, page 9 (emphasis added).
- "Kern River has the "right to take actions of whatever nature may be required (*including interruption or suspension of service* to the Location) to correct any Operational Imbalances that may impair the operation of, threaten the integrity of, or interfere with maintenance of service on" Kern River's system." DEU Exhibit 3.2, page 9 (quoting Kern River Standard Operations Balancing Agreement ("OBA") Section 4(b)) (emphasis added).
- "Kern River will be proactive to protect the integrity of its system." DEU Exhibit 3.2, page 10.

- "Corrective actions will include control of physical flows at delivery points and curtailment of previously scheduled quantities." DEU Exhibit 3.2, page 10.

**Q. What specific steps did Kern River indicate that it would take to maintain reliability?**

A. Kern River indicated that, though it would continue to "provide a reasonable amount of flexibility," "[w]hen conditions exist that cause Kern River to be concerned with the integrity of its system, notices will be provided to advise customers of requirements and corrective actions Kern River will take, if necessary." DEU Exhibit 3.2, Page 10.

**Q. Kern River indicated it would "continue to provide a reasonable amount of flexibility" to its customers. Can Dominion Energy rely upon this flexibility instead of meeting its Peak-Hour demand in other ways?**

A. No. Kern River points out that "market conditions and customer behavior have changed" and that it will be "proactive to protect the integrity of the system." (*Id.*) As the Company witnesses have previously testified, it would not be prudent to rely upon this "flexibility," which equates to non-firm service, to ensure reliable service on the coldest days.

**Q. Has Kern River taken any other action to direct Dominion Energy to more closely match scheduled quantities to its demand?**

A. Yes. On October 13, 2017 Kern River visited with Gas Supply personnel at Dominion Energy to discuss "System Balancing Procedures". Slides from the presentation discussed are included as DEU Exhibit 3.3. As part of this discussion, Kern River emphasized a number of points including the following:

- "Kern River is committed to providing reliable service – this will not be compromised" DEU Exhibit 3.3, Page 7.

- "Daily and hourly imbalances are impairing our ability to meet the commitment" DEU Exhibit 3.3, Page 7.

Q. **What actions did Kern River implement in order to manage imbalances on its system?**

A As described on page 11 of DEU Exhibit 3.3, Kern River began to implement "Stage One" and "Stage Two" corrective actions. When posted, a "Stage One" corrective action allows shippers "a tolerance equal to the greater of 1,000 Dth or 2% of the applicable day's scheduled quantity. A "Stage Two" corrective action "will not allow a tolerance." DEU Exhibit 3.3, Page 10. Kern River also noted that "it will limit physical flows during the current gas day if corrective action is deemed necessary during low line pack or potential adverse operating conditions events or non-performance by shippers and/or delivery point operators." DEU Exhibit 3.3, Page 11.

**Q. Has Dominion Energy Questar Pipeline ("DEQP") made similar statements?**

A. Yes. As Mr. Platt discusses, Dominion Energy and DEQP engage in an annual Joint Operating Agreement planning process. During that process in 2015, DEQP indicated that its system would not be able to meet the increasing demand fluctuations necessary to maintain adequate pressures during the Peak-Hour for the DEUWI system on a firm basis. Dominion Energy is a firm transportation customer on the DEQP system. The DEQP Tariff requires customers to flow on a ratable basis. DEQP does not have an obligation to permit hourly fluctuations, or to guarantee that flows above the Required Daily Capacity ("RDC") will continue during the Peak-Hour of any given day. Dominion Energy has no contractual recourse if DEQP does not or cannot allow flows above the RDC on an hourly basis. Firm

Peaking Services provide that contractual recourse, and guarantee that the service will continue on a firm basis.

**Q. Mr. Platt has provided evidence that the hourly system demand will exceed daily average capacity available on a Design Peak Day. Is this occurring on an actual basis on non-Design-Peak-Days as well?**

A. Yes. DEU Exhibit 3.4 shows an approximation of the hourly deliveries to the DEUWI system vs. the total contracted transportation capacity over the past few years. The red line shows the daily average capacity, also known as the Required Daily Capacity or RDC, on both Kern River and DEQP. The purple line shows the total hourly flow from both pipelines. The light blue line shows an approximation of the average daily flow rate. As the load on the DEUWI system has increased, the actual hourly deliveries have started to exceed the RDC even though the daily deliveries do not. Any deliveries that exceed the RDC are subject to pipeline operational capacity availability and are not available on a firm basis.

**Q. Based on the data in DEU Exhibit 3.4, it appears that the Company is exceeding its RDC on many days, not just the Design Peak Day. Does the Company need a solution to meet its needs on non-peak cold winter days?**

A. Yes. The data points show that on cold winter days the Peak-Hour for a given day is exceeding the upstream capacity. As Mr. Platt shows in DEU Exhibit 2.5, the Company is likely to use Firm Peaking Services during cold winter days as well as a Design Peak Day.

**Q. If the upstream pipeline is unable to provide firm delivery to meet hourly demand, isn't that the upstream pipeline's problem?**

A. No. It is Dominion Energy's problem. Part 1, Section 11.9 (a) of the DEQP tariff states that "a shipper shall use reasonable efforts to deliver and receive gas at uniform hourly and daily rates of flow". (Dominion Energy Questar Pipeline, LLC FERC Gas Tariff Part 1, Section 11.9.) Any fluctuations to hourly and daily flows are managed on the pipeline on an operationally-available (as opposed to firm) basis. Firm Peaking Services allow the Company to fluctuate to a higher contract limit during Peak Hours when the gas is needed most. Similarly, Kern River's OBA specifically indicates that it can take any action, including "termination or reduction of service" to limit operational imbalances. Kern River OBA at Sections 4(b) and Tariff Section 10.9.

**Q. Dominion Energy Utah has been operating and meeting Peak-Hour demand for decades. What has changed in the last few years to necessitate this service?**

A. In 2015, during the Joint Operations Agreement planning process, DEQP notified Dominion Energy that Dominion Energy's Design-Peak-Day demand would exceed the RDC. In fact, DEQP would not have capacity operationally available to meet the customer demands during a Peak Hour on a Design Peak Day. DEQP made clear that, under its FERC Gas Tariff, No-Notice Transportation Service does not provide for flows above the RDC on a firm basis. In December of 2015, the Company notified the Commission of this concern. The Company also immediately began seeking solutions to ensure that it could provide reliable service on a firm basis during the peak hour of a Design Peak Day. Also, as indicated above, Kern River has provided similar notice to Dominion Energy.

**Q. What will happen if an upstream pipeline does not have the capacity to serve increased demand during peak-hours?**

A. If a pipeline reaches capacity and cannot provide flow above the RDC during Peak Hours, customers, including Dominion Energy, would be asked to match flows to ratable scheduled nominations. This is standard practice throughout the industry and has been occurring regularly in the winter and summer on Kern River. If flows were to be reduced to match daily scheduled volumes from the upstream pipelines, the demand on the system during the Peak Hour would exceed the supply coming into the system. As Mr. Platt explains in his testimony, this would cause pressures on the DEUWI system to drop and could result in the loss of service to customers throughout the system.

**Q. Has Dominion Energy seen upstream pipelines take steps to limit hourly fluctuations?**

A. Yes. During high flow events that were not Design-Peak-Day events, upstream pipelines have sent out many notices directing shippers to match their deliveries to scheduled volumes. These notices have come frequently in the last year-and-a-half during both summer and winter high flow events.

**Q. Is there a way for Dominion Energy to get Firm Service if this type of event were to occur?**

A. Yes. Contracting for Firm Peaking Services would require the upstream pipeline to reserve capacity and provide increased flows during Peak Hours on a firm basis. Such action would ensure Dominion Energy receives supply while other shippers are being held to the ratable flow of their confirmed nominations.

**Q. How will Firm Peaking Services ensure that the Company can maintain reliable service on the Peak Hour of a Design Peak Day?**

A. The Firm Peaking Services offered by upstream pipelines are an example of the "enhanced services" referred to by the FERC in Order 809. These services allow the upstream pipelines to make facility or operational changes to reserve capacity to provide subscribing shippers variable hourly flow rates on a firm basis.

**Q. Would Firm Peaking Service work effectively on both Kern River and DEQP?**

A. Yes. DEU Exhibit 3.5 shows how the Firm Peaking Services from Kern River and DEQP will be used to manage peak-hour demand. This exhibit is a chart indicating supply and demand on the DEUWI system on a Design Peak Day. The chart shows a full gas day, which is the 24-hour period running from 8:00 a.m. to 8:00 a.m. the next day. The chart also shows the eight hours prior to the gas day to show the full impact of the peak-hour period. The black line indicates the expected non-ratable (fluctuating) flows to the DEUWI system. The red line indicates the ratable (average hourly) scheduled volumes from the upstream pipelines. The blue shaded area represents firm ratable supply being delivered from Kern River. The purple shaded area indicates the non-ratable supply being delivered from Kern River as part of the Firm Peaking Service. Since the Kern River interconnects are flow controlled, the Firm Peaking Service provides for set flow increases during peak hours**.** Kern River allows Dominion Energy to "store" gas on the Kern River pipeline through linepack and withdraw that supply from linepack during peak hours. The yellow shaded area represents firm supply being delivered from DEQP. The green shaded area represents the supply adjustments being made on a firm basis as part of the Firm Peaking Service provided by DEQP. The DEQP service would allow increased deliveries during the peak hours. In order to provide this service for Dominion Energy, DEQP will reserve and utilize capacity on

Overthrust Pipeline along with variable storage withdrawals to increase linepack on its system that can be used to meet DEUWI's fluctuating demand requirements. These resources would not be available without a contract for a Firm Peaking Service.

## III. ALTERNATIVES TO MEET PEAK-HOUR DEMAND

**Q. Please identify what options the Company considered in response to its peak-hour demand shortfall?**

A. Dominion Energy evaluated the impact of taking no action to plan to meet peak-hour demand on high sendout days as well as a number of options to reduce or meet the increased demand during peak hours. Dominion Energy discussed potential solutions in its 2016-2017 Integrated Resource Plan (IRP) and in the Dominion Energy 2017-2018 IRP, DEU Exhibit 3.6 contains copies of the referenced Sections of each IRP. DEU Exhibit 3.6, Pages 1 through 3 are portions of the 2016-17 IRP. DEU Exhibit 3.6, Pages 4 through 6 are portions of the 2017-18 IRP. As you can see, the Company considered the following solutions (separately or in combination): 1) demand response programs, 2) contracting for additional firm upstream transportation capacity and supply purchases, 3) contracting for additional firm upstream transportation capacity and additional off-system storage, 4) backhaul on interruptible upstream transportation capacity and supply purchases, 5) upstream hourly Firm Peaking Services offered by upstream pipelines, 6) on-system storage, and 7) contracting for storage and extend pipelines to eliminate the need for upstream transportation.

**Q. Have you prepared a summary of the advantages and disadvantages the Company sees with each of these alternatives?**

A. Yes. I have attached as Confidential DEU Exhibit 3.7 a copy of slides from a presentation I

provided during an IRP workshop on February 28, 2017 that discusses many of these options. Attached as Confidential DEU Exhibit 3.8 is a summary I have prepared that identifies each of the alternatives considered and the pros and cons of each option. Confidential DEU Exhibit 3.8 includes a summary of the alternatives considered.

**Q. Do you believe that the Firm Peaking Services provided by Kern River and DEQP are the best options available at this time?**

A. Yes. Dominion Energy has spent a great deal of time analyzing the peak-hour demand needs and evaluating alternatives to meet those needs. The Firm Peaking Services are the most reliable and cost effective solutions based on this evaluation, as I explain in more detail in Confidential DEU Exhibit 3.8.

**Q. Do you believe that taking no action to meet peak-hour demands on high sendout days is prudent?**

A. No. As discussed on page 2 of Confidential DEU Exhibit 3.8, the Company has been warned by both of its upstream pipelines that they will not reserve additional capacity above the required daily contract (RDC) amounts on firm transportation contracts. The Company does not believe it would be responsible to ignore those warning as, on high demand days, these pipelines may not be able to deliver flows above the daily scheduled quantity during the Peak Hours of the day. If flows to the DEUWI system are limited during these hours, the system will not be able to maintain adequate pressures to serve all firm customers, with the significant consequences described in Mr. Platt's direct testimony. Not planning to mitigate this situation would be imprudent, as it would limit Dominion Energy's ability to ensure reliable service for customers.

**Q. Please explain why demand response was not chosen as the preferred solution at this time.**

A. As shown on pages 3 through 5 of Confidential DEU Exhibit 3.8, Dominion Energy does not consider a demand response to be a reliable solution. In order for demand response to be a solution to reduce Peak-Hour demand, the Company would have to trust that customers would reduce usage during Peak Hours. Historically, when the Company properly directed transportation customers to curtail usage due to system interruptions or to limit usage to match gas scheduled for their use, many large customers have not appropriately limited their usage, despite the fact that the Company's Utah Natural Gas tariff No. 500 ("Tariff") imposes penalties on those who fail to interrupt service. While Dominion Energy can provide financial incentives, and install flow control devices on large customers, these actions still would not guarantee that enough of the Peak-Hour demand will be reduced in order to ensure system reliability. As I explain in more detail in Confidential DEU Exhibit 3.8, implementing flow control on a substantial number of large customers would be costly, difficult to manage, and would not sufficiently reduce peak-hour demand to ensure the Company could provide reliable service during the peak hour of all days.

**Q. Would the installation of remote control equipment create any other concerns?**

A. Yes. While the installation of this equipment would ensure the customers could be turned off during a Peak Hour, it would also need to be managed by the Gas Control department. The addition of this equipment on a large number of customers would mean that the Company's Gas Control department would likely not be able to manage shut-offs on a case-by-case basis. They would likely have to just shut off the whole group at once any time an issue arose.

**Q. Would this create problems for the impacted customers?**

A. Yes, I would expect so. Customers would be shut off remotely with little or no warning. This would stop their processes and shut down equipment. This could have substantial impact on their equipment, operations and products.

**Q. Will the Company continue to pursue demand response programs going forward?**

A. Yes, demand response programs may be a way to reduce the Peak-Hour requirements in the future. The Company will need to evaluate their effectiveness before considering their value in addressing Peak-Hour demand.

**Q. Please explain why Firm Peaking Services were chosen instead of additional upstream firm transportation contracts.**

A. The Firm Peaking Service contracts are a less expensive option than purchasing additional firm transportation contracts and additional supply. The Kern River Firm Peaking Service for 25,000 Dth allows the Company to flow 4,167 Dth/hr during the 6 peak hours (25,000/6 = 4,167). In order to get the same 4,167 Dth/hr flow on a standard transportation capacity contract, the contract would need to be for 100,000 Dth/day (4,167 x 24 = 100,000). This Firm Peaking Service for the term of Nov 15, 2017 through Feb 14, 2018 will cost the company [redacted]. Equivalent Firm Transportation Service on Kern River, at the reduced Period 2 rate of $0.2018 per Dth, would cost $1,836,380 for the same period. At the lower DEQP rate of $0.17652 per Dth, this would still cost $1,606,332. In addition, this would be the cost if the capacity were available just for the heating season. DEQP has presented options to provide up to [redacted] Dth/day of additional capacity to the Wasatch Front. [redacted] Dth/day of this capacity could be provided on their northern system at a rate of

$[redacted]/Dth/day. The remaining [redacted] Dth/day could be on the DEQP southern system at a cost of $[redacted]/Dth/day. The total cost of the additional [redacted] Dth/day DEQP capacity would be $[redacted] per year. Additional upstream transportation contracts would also not provide operational flexibility that Firm Peaking Services provide. Given these figures, it is clear that both the Kern River and DEQP Firm Peaking Services contracts provide a much lower cost option than procuring additional firm upstream transportation.

**Q. Would Dominion Energy incur any other costs if it chose to purchase additional upstream transportation?**

A. Yes. Since the Kern River Firm Peaking Services allow for flow only during the 6-hour Peak-Hour period, it also only requires the purchase of supplies that will be used during those hours. The DEQP Firm Peaking Service does not require any additional supply purchases. Firm upstream transportation would require significant supply purchases, increasing the all-in cost. The use of a standard firm capacity contract would require the purchase of the full 340,000 Dth each day to achieve the same flow rate during the Peak Hours. This excess supply would then have to be moved to storage in later cycles, or through the use of No-Notice Transportation. Assuming the gas price would be higher on high demand days, the additional purchases would be at a premium to gas purchased on other days. For every $1 of price premium, the result would be $340,000 of additional costs. This outcome makes firm upstream transportation a much less desirable option.

**Q. Could additional off-system storage services be used for supply in place of additional purchases for use with the upstream transportation capacity?**

A. Yes. However, this would be limited by the availability of additional storage and would also result in additional cost for any additional storage contracts.

**Q. What other concerns do you have with the option of utilizing additional upstream transportation?**

A. Intraday nominations would be required to manage supply changes on the upstream transportation capacity as described above. A comparison of transportation requirements for a Design Peak Day vs. Peak Hour are shown in red on DEU Exhibit 3.9. Not only would this be a less economical alternative, as described above, the intraday cycle change times do not correspond to the timing of the hourly demand increases on the system and, therefore, would not match the operational need. DEU Exhibit 3.9 shows the relation of the NAESB flow times and the typical demand profile on the DEUWI system. On the graph in DEU Exhibit 3.9, the black line shows a typical non-ratable flow profile to the DEUWI system. The yellow shaded area represents the supply nominated for the start of the NAESB gas day. This amount would have to match the Peak-Hour flow in order to reserve the transportation capacity and ensure firm supply availability. This volume could be reduced using the intraday 1 (ID1) cycle of the NAESB gas day. The dark blue shaded area shows that this flow change will start at 1:00 PM. The next flow change could be made using the intraday 2 (ID2) cycle. The green shaded area shows that this flow change will start at 5:00 PM. The next flow change could be made using the intraday 3 (ID3) cycle. The purple shaded area shows that this flow change will start at 9:00 PM. This will be the last opportunity to make changes for the gas day. Since purchased volumes cannot be reduced once they are made for the day, the changes that are made to reduce flows to the DEUWI system must be accompanied by

nominations to move the excess volumes to storage. The volumes being moved to storage are shown with the light blue shaded area. This strategy will result in volumes being delivered to the city gate in excess of demand at times throughout the day. This is evident any time the shaded areas of the graph are above the black line. In short, pursuing the option of purchasing additional firm transportation would result in additional supply that would need to be purchased. This supply would have to be moved to storage in later cycles, and would still result in packing the system for most of the day. This process could also create operational issues on the upstream pipeline systems.

**Q. Could the Company buy additional gas at Goshen and use backhaul on interruptible transportation capacity to deliver the gas to the DEUWI system?**

A. Yes. This is a solution that was used in the past, before Firm Peaking Services were available. However, there are reliability concerns with this alternative based on the availability of supplies at Goshen. Specifically, this solution assumes that volumes will be available for purchase at Goshen. During cold weather periods, supplies are more scarce and, if available, more expensive. If there are not supplies available at Goshen, then this option fails. In the past, we mitigated these concerns as much as possible through the use of peaking supply contracts.

**Q. Are there cost concerns with this backhaul option?**

A. Yes. There is significant risk that the cost for gas at Goshen will be high on high demand days. This cost risk would be added to the additional cost of the peaking supply contracts and the cost of the use of the backhaul capacity.

**Q. Could the Company just draw additional volumes from its storage facilities to address this problem?**

A. No. Unlike many local distribution companies, Dominion Energy contracts for storage at facilities that are not located on-system. The location of these facilities means that the use of storage withdrawals on a firm basis requires the withdrawals to be scheduled using additional firm upstream capacity. Again, this option would result in the costs described above and would be subject to the NAESB flow times concerns described above.

**Q. Are there storage services that would not be subject to these restrictions?**

A. Yes. On-system storage is a potential solution. This is a resource that is common throughout the industry. However, this is not a solution the Company can currently look to as it does not have on-system storage. It is also considerably more expensive than the Firm Peaking Services provided by Kern River and DEQP.

**Q. Have any other parties provided alternative solutions at the time you signed the Firm Peaking Service contracts?**

A. Yes. Magnum Energy had proposed a solution. Its solution included the traditional use of salt cavern storage.

**Q. Did the Magnum Energy proposal meet Dominion Energy's need?**

A. No. The storage facility was not in operation at the time Dominion Energy entered into the Firm Peaking Service contracts.

**Q. Are there cost concerns with this option?**

A. Yes. The cost for this option is shown on page 14 of Confidential DEU Exhibit 3.8.

## IV. FIRM PEAKING SERVICES

**Q. Please describe the Firm Peaking Service contracts.**

A. On May 18, 2017, the Company entered into a Firm Peaking Transportation Service Agreement with Kern River. This agreement is for the equivalent of 100,008 Dth per day for a 6-hour period from November 15, 2017 to February 14, 2018 and November 15, 2018 to February 14, 2019 and the equivalent of 115,008 Dth per day for a 6-hour period from November 15, 2019 to February 14, 2020. As explained in the June 27, 2017 technical conference in Docket No. 17-057-12, the Company also entered into a Precedent Agreement for Firm Peaking Service with DEQP for 250,000 Dth per day. On August 18, 2017, the FERC approved DEQP's proposed Firm Peaking Service Tariff. Dominion Energy entered into a Firm Peaking Service contract with DEQP effective November 15, 2017.

**Q. Why did the Company sign up for the equivalent of 100,000 Dth per day of Firm Peaking Service from Kern River and why has the Company decided to contract for 250,000 Dth per day of Firm Peaking Service from DEQP?**

A. As explained in the February 28, 2017 IRP workshop, attached as Confidential DEU Exhibit 3.7, due to take-away constraints, 100,000 Dth is the maximum amount that can be procured from Kern River. The 250,000 Dth per day from DEQP will be used to meet the remaining peak-hour demands along the Wasatch Front as well as the Peak-Hour demands for all of the other areas served only from DEQP. The Company will have additional take away capacity from a new Kern River gate station in 2019. At that time, the contract supply would increase to the equivalent of 115,000 Dth per day in order to meet the growing Peak-Hour demand.

**Q. Would Firm Peaking Service be subject to NAESB scheduling timelines?**

A. No. The Firm Peaking Services are designed to allow the pipelines to provide firm service and are not subject to the same limitations as standard firm transportation service.

**Q. Does this service also provide benefits on non-Design Peak Days?**

A. Yes. As mentioned earlier, the service can provide secondary operational benefits on the DEUWI system. Dominion Energy used the Kern River Firm Peaking Service during the 2016-2017 heating season to allow the Company to make supply adjustments at Hunter Park outside of the NAESB cycle flow times. This allowed the Company to adjust supply to better match the demand on the system with flows from Kern River. Otherwise, the Kern River stations that serve the main DEUWI system are generally held constant through the day.

**Q. Have any other parties in the industry shown interest in Firm Peaking Services?**

A. Yes. The Environmental Defense Fund ("EDF") filed comments to the FERC related to Docket No. AD17-12-000. In its comments, EDF argued that Firm Peaking Services will be beneficial to power generators. It stated: "Non-ratable flows are the operational but not the commercial norm, and demand for, and the value of, flexible flows are increasing. While pipelines endeavor to provide more flexible flows, they are primarily provided at the prerogative of pipelines and thus are often unavailable during constrained or peak periods. These points all suggest the need for pipelines and market participants to delineate and price shaped flows". EDF also cited to *Portland Natural Gas Transmission System*, 106 FERC ¶ 61,289 at P 52 (2004) ("Portland asserts that this 'flexibility' is not part of Portland's firm service obligations, but has been extended on a best-efforts basis as an accommodation to FT shippers. Portland maintains that it has made clear to the Generators, in written correspondence and otherwise, that this flexibility was provided by Portland as a 'courtesy'

with the expectation that the Generators would endeavor to adhere to the tariff's uniform take provisions.").

**Q. Are similar Firm Peaking Services offered by other interstate pipelines?**

A. Yes. Similar Firm Peaking Services are offered by other natural gas pipelines such as Panhandle Eastern Pipeline Company, Gulf Crossing Pipeline Company, Gulf South Pipeline Company, and El Paso Natural Gas Company.

Also Equitrans, L.P. ("Equitrans") recently had a similar service's rate schedule approved to be included in their FERC Gas Tariff. In its filing, Equitrans states the following as its "Nature, Reason and Basis for Filing":

> "In response to the increase in natural gas consumption by the electric generation market, as well as existing customer interest for firm hourly flow flexibility and the ability to negotiate receipt and/or delivery pressures, Equitrans is proposing to amend its Tariff to implement a new Enhanced Firm Transportation Service to be provided pursuant to Rate Schedule EFT. The proposed service will allow Equitrans to provide additional firm hourly flexibility for Customers. The contractual right to hourly flexibility contemplated by this filing is in addition to, and not in lieu of, current undefined hourly flexibility provided on Equitrans' transmission system under Rate Schedules FTS or STS-1 on an undefined basis. The proposed service will complement Equitrans' existing firm and interruptible services and offer new opportunities for customers. In addition,

> Equitrans' proposed Enhanced Firm Transportation Service is consistent with other pipeline and storage companies' Commission-approved tariff provisions that offer enhanced firm transportation services." Letter from Sara A. Shaffer to Kimberly D. Bose dated July 5, 2017.

On, December 28, 2017 the FERC approved two new tariff rate schedules for Gas Transmission Northwest LLC ("GTN"). In its filing GTN states these rate schedules, Firm Hourly Service (FHS) and Interruptible Hourly Service (IHS), were proposed for the following purpose:

> "The proposed new services will provide additional transportation options and flexibility to shippers whose intra-day gas requirements may not be uniform and who may require accelerated flow rates during particular periods of the gas day." Letter from Nathaniel J. Davis, Sr. to Gas Transmission Northwest LLC dated December 28, 2017, in Docket No. RP18-184-000.

**Q. How else do other utilities meet their Peak-Hour needs?**

A. Many utilities use on-system storage to meet their Peak Hour needs.

**Q. Given your analysis, having reviewed all these options, was the Company prudent in entering into contracts for the Firm Peaking Services?**

A. Yes. The Firm Peaking Services provide the additional firm services necessary to meet the Company's needs during Peak Hours. These services provide the greatest flexibility at the lowest reasonable cost. The Company was prudent in entering into the Firm Peaking Services

agreements with Kern River and DEQP, and the Commission should find that the associated costs are prudently incurred and in the public interest.

**Q. Does this conclude your testimony?**

A. Yes.

State of Utah )
) ss.
County of Salt Lake )

I, William Schwarzenbach, being first duly sworn on oath, state that the answers in the foregoing written testimony is true and correct to the best of my knowledge, information and belief. Except as stated in the testimony, the exhibits attached to the testimony were prepared by me or under my direction and supervision, and they are true and correct to the best of my knowledge, information and belief. Any exhibits not prepared by me or under my direction and supervision are true and correct copies of the documents they purport to be.

_____
William Frederick Schwarzenbach III

SUBSCRIBED AND SWORN TO this _____ day of January, 2018.

_____
Notary Public