BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE REQUEST OF DOMINION ENERGY UTAH FOR APPROVAL OF A VOLUNTARY RESOURCE DECISION TO CONSTRUCT AN LNG FACILITY	Docket No. 19-057-13

REBUTTAL TESTIMONY OF MICHAEL L. PLATT

FOR DOMINION ENERGY UTAH

September12, 2019

DEU Exhibit 4.0R

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Michael L. Platt. My business address 1140 West 200 South, Salt Lake City, UT 84104.

Q. Are you the same Michael Platt who filed Direct Testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to some of the system planning issues raised in the direct testimonies of Mr. Douglas Wheelwright, Mr. Alex Ware, and Mr. David Schultz.

II. RISK ANALYSIS OF SHORTFALLS

Q. Witnesses from the Division of Public Utilities (DPU) and the Office of Consumer Services (the Office) have both claimed[1] that Dominion Energy Utah (Dominion Energy or Company) has not performed an appropriate risk analysis. How do you respond?

A. I disagree. Risk, by definition is the probability of occurrence multiplied by the consequence of that occurrence. The probability of such an event occurring on a Design Day is 5% annually. While the DPU and the Office have challenged the likelihood of an event causing a loss of service, neither has offered any meaningful evidence that the result of such a disruption would be anything short of catastrophic. My analysis shows the severe consequences of ignoring the risk the Company has identified.

When I performed my risk assessment for the Company's system, I was focused on what would happen to the system if a loss of gas supply were to occur on a design day. The answer is that, absent additional supply, numerous customers would lose service, and the

1 Pre-filed Direct Testimony of Douglas D. Wheelwright (Wheelwright Direct) at line 51; Pre-filed Direct Testimony of Alex Ware (Ware Direct) at lines 284-313 and 320-321.

loss of service could be significant. The Company has appropriately identified the consequence of a loss of gas supply of 150,000 Dth on a Design Day as a loss of service to approximately 650,000 customers.

Further, the Kem C. Gardner Policy Institute determined that this loss of service would result in a negative monetary loss of between $1.4 and $2.4 billion on Gross State Product (GSP). That means that the annual risk to GSP alone of this specific scenario is between $70 million and $120 million, based on the fact that there is a 5% annual probability that a Design Day will occur. The total risk of this scenario would include the Company's costs to relight customers and damage to property, as well as potential medical costs and resulting loss of life.

The total risk is actually the sum of the probabilities of events multiplied by the respective consequences of each potential scenario. The analysis is limited because it is obviously conclusive without enumerating and estimating the value of every potential event. The probability of a Design Day (-5°F or colder) is 5% annually. This multiplied by the cost of a supply disruption at these temperatures ($2.5 billion in predictable costs) equals the annual risk of this scenario and is about $125 million. The annual probability of mean temperatures occurring between -5°F and -2°F is approximately 0.47%, and if the cost of loss of service is scaled by the approximate number of customers affected to around $2.1 billion, the additional annual risk of a supply shortfall in this temperature range is about $10 million. This increases the annual risk from $125,000,000 to $135,000,000. The next range of mean temperatures, -2°F to 1°F, has an annual probability of 0.47%, with a supply shortfall likely costing around $1.3 billion. This will increase the annual risk by approximately $6 million, or a total of $141,000,000. A shortfall costing about $157 million at temperatures between 1°F and 3°F, which are slightly less probable at 0.31% annually, adds about $500,000, for a total risk of approximately $141,500,000. Continuing to add risk of lower probability or lower consequence events does not significantly increase the amount of risk that will be alleviated with the addition of the LNG Facility.

Q. Mr. Wheelwright claims that the proposed LNG facility will not be an effective tool to significantly mitigate disaster-related outages (Wheelwright Direct, Lines 102-105). Is his he correct?

A. No. It is important to note that the Company proposes construction of the LNG Facility to mitigate supply disruptions that are weather-related, as well as those caused by natural disasters and other catastrophic events. Weather-related disruptions are far more common, and the Company has experienced such disruptions in recent years – though not at Design-Day temperatures. Mr. Wheelwright's assumption is that the proposed LNG facility would only help with relatively minor supply shortfalls. He is incorrect. In this regard, he neglects to consider various factors, such as the location of the supply disruption, the temperatures at the time of the disruption, the duration of the disruption, and other important considerations.

It is true that an LNG Facility (or any of the evaluated supply reliability options) would not have sufficient capacity to mitigate a total loss of supply at every gate station in the DEU system. But, the proposed facility would mitigate supply losses in myriad other scenarios. For instance, if a landslide occurred in North Salt Lake, near the Company's Feeder Line (FL) 21 that disabled the line on a day in early spring, with cold enough temperatures to require an additional resource, the proposed LNG facility would mitigate any loss of service that would otherwise result. I note that such a landslide has occurred, though it did not result in a failure of FL21, and the Company did take precautions and shut the line in. If this event occurred on a colder day, without a supply reliability resource in place, deciding to shut in the line would have been much more difficult. Shutting the line in, in this scenario, could result in many consequences, including property damage and human health impacts that the Company is trying to avoid.

Similarly, if the freeze-off of 137,390 Dth/day[2] from 2015 had occurred when temperatures approached Design-Day temperatures, the LNG Facility would have prevented an otherwise inevitable loss of service to customers. There are countless other scenarios for which the proposed LNG Facility would prevent a loss of service to

2 Wheelwright Direct Testimony Line 175.

customers. My analysis shows that the proposed LNG Facility would mitigate any scenario that results in a shortfall of 150,000 Dth/day or less on a day at Design- Day temperatures or warmer.

Mr. Wheelwright contends that, because the proposed LNG Facility cannot solve for *all* scenarios, it is not worthwhile. The Company has not proposed to build this facility to solve every conceivable circumstance. The Company is attempting to strike a balance between the likelihood of an event—like the events the Company has experienced in recent history—and the cost of a reliability solution. The proposed LNG Facility does just that. It will mitigate lost supply in the most likely scenarios.

Q. Similarly, Mr. Ware wonders "[w]hat types of risks are remedied with resource portfolio scenarios experiencing shortages of more than 150,000 Dth/day, and would the use or deployment of other options provide better solutions?" (Ware Direct at lines 297-300). How do you respond?

A. Again, the proposed LNG Facility may not solve for *all* scenarios; it solves the most probable scenarios. For example, experts predict that there is a 25% probability of a 6.5[3] or higher magnitude earthquake along the Wasatch Fault within the next 50 years. That is a 0.5% annual probability or a chance of occurring once every 200 years. Earthquakes occur independently of temperature, and the Company's supply requirements are temperature dependent. Therefore, the probability of a major earthquake occurring at temperatures that the Company expects to be incapable of immediately replacing approximately 150,000 Dth/day, or less, is equal to the product of the two probabilities (the likelihood of a magnitude 6.5 earthquake or greater multiplied by the likelihood of Design-day temperatures). This results in an annual probability of 0.03% or one occurrence every 3,200 years. The Company does not seek a solution for the most extreme, least likely scenario. It has proposed a solution for the most probable events, and that solution could also help mitigate many of the less probable events (e.g. earthquakes), should they occur. The probability that the Company would experience a

3 https://quake.utah.edu/regional-info/earthquake-faq

supply shortfall due to freeze-offs on a very cold day is considerably higher and is the driving reason for the need of additional on-system supply reliability resource.

III. SYSTEM OPERATING FACTORS

Q. Representatives from DPU and the Office have questioned the reasoning behind operating the system with multiple[4] Maximum Allowable Operating Pressures (MAOPs). Could you please explain the purpose of the MAOP ratings and why these MAOPs are not consistent throughout the DEUWI system?

A. DEU's system has been designed and constructed over time based on the needs of the communities that it served at the time. As communities have continued to grow and as the Company replaces aging pipeline infrastructure, the higher pressures that the Company now contemplates system-wide are becoming more advantageous. As such, the Company is working towards a consistent Maximum Allowable Operating Pressure (MAOP). However, this will take decades to complete.

The process of uprating, or increasing the MAOP, of an existing pipeline requires the operator to review the design and installation of every segment of pipe prior to raising the pressure in increments while leak surveying the length of the pipe. In many cases, pipelines must be pressure tested at stress levels much higher than the pipe is subject to during normal operation in order to increase the MAOP. The Company has concerns about subjecting aging pipelines to these high stress levels, especially in a functioning and safe system. While the Company could elect to reduce the operating pressures on the higher-MAOP portion of the system, to do so would compromise the Company's ability to serve the communities in the affected areas as the Company's system has been designed to utilize the higher MAOP. The Company's measured approach to pipeline replacement is reasonable and cost-effective. Placing the proposed LNG Facility at the Company-identified location allows this measured approach to continue despite the pipeline replacement that will take place over an extended period, while maximizing the

4 Wheelwright lines 227-236 and Ware lines 510-518.

benefit offered by the LNG Facility. As I previously testified, placing a facility further north or south would not provide the same benefits.

Q. Mr. Wheelwright contends that the Company's practice of transporting 80% of its gas supply through Dominion Energy Questar Pipeline (DEQP) creates additional risk. Do you agree?

A. No. At lines 224-254 of his Direct Testimony, Mr. Wheelwright suggests that the Company could avoid risk by transporting greater volumes on the Kern River Gas Transmission Company pipeline (Kern River). However, the DEQP system actually provides greater reliability than Kern River because it is not a single pipe (or two parallel pipes in the same alignment) from one point to another, as is the case with Kern River's system. While DEQP and Kern River are both susceptible to many of the same risks, one earthquake or one landslide would be more significant on Kern River's pipeline. A similar event on the DEQP system would not be as catastrophic because the DEQP system is configured more like a spider web than a soda straw, and damage to one portion of DEQP would likely leave other areas intact. Catastrophic damage (i.e. pipeline rupture) to one portion of the Kern River pipeline is more likely to impact both parallel lines, and disable their ability to feed through that section of their system. As a result, DEQP has greater flexibility than Kern River. Kern River is certainly a reliable system, but it is largely built in one single alignment and therefore more susceptible to "single-point-of-failure" events than DEQP's system.

Q. Mr. Ware alleges that DEU's consideration of an LNG Facility for a variety of problems is evidence that DEU is simply seeking to add an LNG Facility to its portfolio rather than to solve a real system problem.[5] How do you respond?

A. The Company's consideration of LNG as a potential solution for other system issues is simply evidence that the Company routinely conducts thorough due diligence in finding solutions to the variety of challenges it faces. LNG is a common and versatile tool that is used throughout the natural gas industry to solve a number of challenges. LNG has been a potential solution to a variety of challenges on DEU's system dating back, at least, to

5 Ware Direct, Lines 146-151.

1985. In 1985, the Company considered using LNG to increase gas volume to the Northern HP System, but the Company opted instead to construct the Hyrum gate station. In 2010, the Company's System Planning and Analysis group again considered an LNG plant to feed demand growth. More recently, the Company considered LNG as an option to solve its Peak-Hour challenges, but opted instead to contract for peak-hour services on both DEQP and Kern River. The fact that the Company considered and rejected LNG as a solution to certain system issues only proves that the Company considered all reasonable solutions to each of those challenges. The fact that the Company selected a different solution in each of those instances shows that the Company reliably chooses the solution that is the best and most cost-effective alternative to ensure safe and reliable service. The Company continues to do so now. When the LNG solution was not the least-cost, most reliable solution, it was not selected. It happens that, for the current supply reliability issue, it is the best option. Mr. Ware's assumption to the contrary is not based in fact, but in suspicion and conjecture.

Q. **Mr. Ware also wonders how the Company would respond to supply shortfalls that are greater than 300,000 Dth/day (Ware Direct at lines 308 through 310). What will the Company do to minimize the effects of such an event?**

A. The Company will follow the Emergency Service Restrictions as outlined in the Tariff in Section 7.03.

Q. **Mr. Ware suggests that, in addition to seeking a solution for more catastrophic and unlikely events, the Company should also have planned for "shortages less than 150,000 Dth/day," and determined whether there are "other more cost-effective solutions" for those lesser shortfalls. Do you believe the Company has addressed this question?**

A. Yes. The Company stated in the RFP that "DEU will consider proposed options that will provide less than 150,000 Dth/day of deliverability" and no such options were proposed. Moreover, the Company has provided historical evidence that it requires 150,000 Dth/day of a supply reliability resource. Mr. Wheelwright provided a summary of the Company's

recent supply cuts on line 175 of his Direct Testimony. The maximum cut shown is 137,390 Dth with a mean temperature of 26°F at the Salt Lake International Airport.[6] The Optimal Deliverability that was identified in the RFP provides about 9% contingency above the historical maximum total supply cut. It would not be prudent to select a solution that could not have mitigated the known and probable shortfalls that have occurred and that could also address potential shortfalls that could be slightly more severe. The LNG Facility would mitigate the known and probable shortfalls as well as provide additional supply if the shortfall were more severe.

Q. **Mr. Ware asks what would be the result of supply reliability solutions at locations across DEU's system that are different from the Company's preferred location (Ware, 311-313). Have you performed this analysis?**

A. Yes. As I stated in my Direct Testimony at lines 324-325, the options that deliver outside the Optimal Delivery Location cannot maintain system pressures in the shortfall scenarios analyzed as part of this Docket.

Q. **Magnum Midstream Energy Holdings LLC (Schultz lines 152-174) complains that the Optimal Delivery Location has been a moving target and changed since the beginning of discussions. Have you changed the location as he suggests?**

A. No. There has only been one Optimal Delivery Location identified. The potential locations Mr. Schultz has referenced were attempts to identify the closest location to Magnum, on the DEU system, at which an interconnect could reasonably be located. The Optimal Delivery Location was determined based on the performance of the DEU System. The other locations provided to Magnum were determined based on proximity, not performance.

Q. **Mr. Ware suggests that the Company failed to provide sufficient analysis supporting the selection of the Optimal Deliverability and Total Annual Supply Availability as identified in the RFP. Do you agree?**

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6 The minimum temperatures in Green River, Wyoming were -24°F and -17°F the two days prior to the shortfall event. The mean temperatures in Green River were 19°F on the day of the shortfall.

A. No. The Company provided thorough analysis supporting both the selection of the Optimal Delivery and the Total Annual Supply Availability. The Company has repeatedly represented that this level of coverage, for the duration covered, will allow the Company to mitigate the most probable scenarios. While not a comprehensive list of all the instances in which the Company has identified the benefits that a facility with these specifications would provide, the Company has identified the benefits of the LNG Facility in the 2018 IRP- Section 11 page 11-5, 2019 IRP- Section 11 page 11-2,11-4 &11-5, in my Direct Testimony in this Docket, lines 128-139, 290-299, 308-313, 315-321, 409-413, and 453-461, as well as my Direct Testimony in Docket 18-057-03 in Section V Operational Benefits of On-System Storage (lines 270-370).

Q. Mr. Ware states that "[n]o modeling or scenarios have been run to assess how a solution would perform in the face of most of the risks the Company lists" in DEU Exhibit 2.04 (Ware Direct at lines 477-480). Have you run modeling scenarios that consider supply losses at various points on the DEU system?

A. Yes. I have modeled shortfall scenarios at each gate station which effectively captures the majority of the risks outlined in DEU Exhibit 2.04, especially if the statement is weighted by associated probability. Freeze-offs, flooding and landslides, earthquakes, human error, upstream facility design inadequacies and maintenance, cyber-attacks, and third-party damage are all capable of resulting in shortfalls at a specific gate station. In Docket 18-057-03, the Division asked for a meeting to review the modeling and look at various scenarios. Based on that meeting, Mr. Neale concluded in his testimony that, "The Company has shown that its network analysis model demonstrates that a strategically located resource that provides the same delivery capacity as the proposed LNG facility will maintain minimum system wide operating pressures under the design peak-day supply deficiency scenarios the Company's Gas Supply Planning Department has evaluated." I would be happy to repeat the discussion if Mr. Ware believes it would be helpful.

Q. There is a general misconception that as the population and natural gas demand grows a supply reliability resource may become ineffective (Ware 503-509 of Direct Testimony). Do you agree with this perspective?

A. No. Demand growth is not the same as shortfall growth. It is possible that new wells or production will be as susceptible to freeze-offs as the current supply portfolio. If the predicted shortfall amount increases with the demand, it is likely that smaller deployed satellites will be a cost effective method to mitigate the incremental amounts required.

Q. Mr. Schultz claims that it is possible the LNG Facility is overbuilt and places an unnecessary burden on the customer (lines 386-419 of Schultz Direct Testimony). How is demand growth related to the sizing of a supply reliability resource?

A. As I stated before, the sizing of the LNG Facility or any supply reliability resource is dependent upon expected shortfalls, not projected demand. So long as the total demand is greater than the total expected shortfall, the missing gas supply must be replaced. The LNG Facility is designed to deliver 150,000 Dth/day of gas into the system, which is about 12% of the current total demand and is based on historical and anticipated shortfalls on the system, not projected demand.

Q. Please summarize your rebuttal testimony?

A. The Company has appropriately identified the risks associated with the most probable shortfall scenarios, as well as the associated costs of these scenarios. Continuing to provide analysis for the infinite number of lower probability and/or lower consequence scenarios will only increase the overall risk posed by shortfalls and does not change the fact that a supply reliability resource is needed to alleviate the identified risks.

The DEU system operating conditions and/or the balance of transportation contracts are not contributing factors or potential solutions to supply shortfall. A supply reliability resource is needed to address the underlying issue of lack of gas supply during a shortfall event.

The design specifications requested in the RFP were determined through analysis of the system, careful observation, and operating experience. The benefits of a supply reliability resource of these specifications have been well documented and consistent.

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

A. Yes.

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

I, Mike Platt, being first duly sworn on oath, state that the answers in the foregoing written testimony are 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.

Michael L. Platt

SUBSCRIBED AND SWORN TO this 12th day of September, 2019.

Notary Public

RENA PORTER
Notary Public - State of Utah
Comm. No. 704986
My Commission Expires on
Apr 25, 2023