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. 18-057-03

DIRECT TESTIMONY OF

BRUCE L. PASKETT

FOR

DOMINION ENERGY UTAH

EXHIBIT 4.0

April 30, 2018

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I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bruce Paskett. My business address is 10731 E. Easter Avenue, Suite 100, Centennial, Colorado 80112.

Q. PLEASE STATE YOUR OCCUPATION AND ON WHOSE BEHALF YOU ARE TESTIFYING.

A. I am a Senior Associate and Chief Regulatory Engineer at Structural Integrity Associates, Inc. I am testifying on behalf of Dominion Energy Utah (DEU).

Q. PLEASE SUMMARIZE YOUR EDUCATION AND WORK EXPERIENCE.

A. I received a Bachelor of Science Degree in Mechanical Engineering from Oregon State University. I have been a Registered Professional Engineer in the State of Oregon since 1987. From 1983-2014, I was employed at NW Natural Gas (NW Natural or NWN), a natural gas transmission and distribution pipeline operator and Local Distribution Company (LDC) based in Portland, Oregon. NW Natural also had two on-system LNG storage plants and on-system underground storage reservoirs. While at NW Natural, I held a number of different management positions, including System Design Engineer, Supervising Engineer-Design, Supervising Engineer-Field, Manager of Engineering, Chief Engineer, Manager of Code Compliance and Principal Compliance Engineer. In these positions, I had the responsibility at various times for the design, construction, operation and maintenance of the Company's transmission and distribution piping systems. I was also involved with

supporting the LNG plants and underground storage facility on numerous occasions regarding design, engineering, operations, maintenance and regulatory matters. During my tenure at NW Natural, I was responsible for ensuring the Company's compliance with applicable federal and state pipeline safety regulations and initiating programs to further improve the safety of the Company's pipeline infrastructure. I was also responsible for the development and distribution of procedures that defined the Company's policies and practices to comply with the requirements of federal and state pipeline safety regulations.

In September 2014, I joined Structural Integrity Associates, Inc. In my current practice, I provide consulting services for natural gas mid-stream, transmission, and distribution pipeline operators across the country relative to compliance with applicable federal and state pipeline safety regulations and the design, construction, operation, and maintenance of pipeline facilities.

My resume is included as DEU Exhibit 4.01.

Q. PLEASE DESCRIBE YOUR INVOLVEMENT WITH PROFESSIONAL ASSOCIATIONS AND PIPELINE SAFETY REGULATORY INITIATIVES.

A. During my nearly 35 years in the natural gas industry, I have been significantly involved in natural gas professional associations and pipeline safety regulatory initiatives, including:

- Loaned Executive for the American Gas Association (AGA)[1] from 2009-2013. Represented AGA member companies and the natural gas industry during the 2011

[1] The American Gas Association represents over 200 local distribution companies across the nation.

congressional pipeline safety reauthorization[2] and various pipeline safety rulemaking initiatives.

- AGA Operations Section Committees for nearly 35 years, including the Distribution Transmission Engineering Committee, Operations Safety Regulatory Action Committee, Security Committee and Transmission Integrity Management Program (TIMP) Committee. My tenure as a Loaned Executive with AGA and participation in various AGA operating committees has allowed me to gain in-depth familiarity with natural gas transmission and distribution companies across the nation.

- Participated with AGA in the development of the original natural gas Transmission Integrity Management Program (TIMP)[3] regulation in 2002-2003.

- Represented AGA member companies in development of the American Gas Foundation (AGF) Study on Safety Performance and Integrity of the Natural Gas Distribution Infrastructure.[4]

- Represented AGA member companies and the natural gas industry in the Federal Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA) "Integrity Management for Gas Distribution, Report of Phase 1 Investigations".[5]

- Represented AGA member companies and the natural gas industry in development of the Gas Piping Technology Committee (GPTC) Guidance for the Distribution Integrity Management Program (DIMP) Regulation.[6]

- Participated with AGA in drafting comments to the docket regarding the Notice of Proposed Rulemaking (NPRM) for PHMSA's DIMP regulation.[7]

- Participated with AGA in drafting comments to the docket regarding the Advance Notice of Proposed Rulemaking (ANPRM) for PHMSA's Safety of Gas Transmission Pipelines regulation.[8]

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[2] Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011.
[3] 49 CFR, Part 192, Subpart O, Gas Transmission Pipeline Integrity Management, 68 FR, 69817, December 15, 2003.
[4] AGF, "Safety Performance and Integrity of the Natural Gas Distribution Infrastructure" January 2005.
[5] "Integrity Management for Gas Distribution, Report of Phase 1 Investigations," December 2005.
[6] Gas Piping Technology Committee Z380, "Guide for Gas Transmission and Distribution Piping Systems, Distribution Integrity Management Program," Appendix G-192-8, 2009 Edition.
[7] Notice of Proposed Rulemaking, Pipeline Safety: Integrity Management for Gas Distribution Pipelines, FR/Vol.73, No.123/Wednesday, June 25, 2008/ Proposed Rules.

- Participated with AGA in drafting comments to the docket regarding the NPRM for PHMSA's Safety of Gas Transmission and Gathering Pipelines regulation.[9]

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide expert opinion regarding the reliability needs for DEU's system and DEU's evaluation of options to add resources to the Company's existing gas supply portfolio to improve the safety and reliability of service to customers during cold weather operating conditions.

Q. WHAT WAS THE SCOPE OF YOUR REVIEW?

A. In the formulation of my testimony, I reviewed the following documents and sources of information:

- Testimony of Tina M. Faust, DEU Exhibit 2.0
- DEU Supply Reliability Evaluation, DEU Highly Confidential Exhibit 2.11
- DEU Supply Reliability Risk Analysis, DEU Exhibit 2.12
- Transcript of Arizona Corporation Commission open meeting March 2, 2011, DEU Exhibit 2.5[10]
- DEU Supply Stack, Exhibit 3.02
- Telephonic and on-site meetings with DEU engineering, gas supply and regulatory personnel to discuss the Company's system and supply resource portfolio, recent supply issues and risks, and the supply reliability evaluation process that the Company has conducted.

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[8] Advance Notice of Proposed Rulemaking, Pipeline Safety: Safety of Gas Transmission Pipelines, FR/Vol. 76, No. 165/ Thursday, August 25, 2011/ Proposed Rules.
[9] Notice of Proposed Rulemaking, Pipeline Safety: Safety of Gas Transmission and Gathering Pipelines, FR/Vol.81, No.68/ Friday, April 8, 2016/ Proposed Rules.
[10] Before the Arizona Corporation Commission "In the Matter of the Commission's Gathering of Information Concerning Natural Gas Outages in the Southwestern United States", open meeting 03/02/2011. Docket No. G-00000C-11-0081.

II. BACKGROUND OF THE PROCESS TO IDENTIFY RELIABILITY SOLUTIONS

Q. WHAT DO YOU UNDERSTAND IS THE REASON THE COMPANY HAS SOUGHT TO IDENTIFY A LONG-TERM SUPPLY RELIABILITY SOLUTION?

A. My understanding is that historically and recently, DEU has experienced supply disruptions of contracted gas supplies during cold weather events when temperatures were well above the Company's Design-Peak-Day. Further, these supply shortfalls occurred due to events that are upstream of the DEU system and, therefore, outside of the Company's control. Based on these supply disruptions, DEU is no longer confident that the Company will be able to provide safe and reliable service to firm customers during a cold weather event, even at temperatures that may be above a Design-Peak-Day. Further, based on system network modelling, the Company has determined that the types of supply shortfalls experienced in recent years have the potential to cause a severe loss of pressure in large portions of the Company's piping infrastructure, resulting in the loss of service of up to 650,000 firm industrial, commercial and residential customers. The Company has also recognized that customers whose gas service has been interrupted have the potential to experience extreme cold weather conditions without heat for an extended period of time until upstream supplies are re-instated and individual customer gas service can be restored. Since DEU is committed to fulfilling the Company's statutory mandate and obligation to provide safe and reliable service to customers, the Company has voluntarily initiated a process to identify and evaluate options for adding supply sources to maintain system supply, reliability and pressure support during cold weather periods.

Q. WHAT IS YOUR UNDERSTANDING OF THE PROCESS ENGAGED IN BY THE COMPANY TO IDENTIFY A LONG-TERM SUPPLY RELIABILITY SOLUTION?

A. Based on my review of the Supply Reliability Evaluation and my discussions with Company personnel, my understanding is that DEU has conducted an identification and evaluation of numerous options to determine the most favorable alternative(s) to provide a reliable source of an additional 150,000 Dth/day of gas supply to supplement the Company's existing gas supply portfolio during a Design-Peak-Day or at temperatures above Design-Peak-Day where there is a supply disruption. The supply options considered include a comprehensive range of alternatives, including a greater utilization of existing storage resources, contracting for additional off-system storage, both existing and proposed, demand response using large volume customers and firm sales customers, and the construction of on-system liquefied natural gas (LNG) storage. In the evaluation, the Company considered reasonable and appropriate factors such as safety, reliability of the resource, cost, risk associated with the delivery of the supply, physical location of the additional supply source (on-system vs. off-system), location where the supplemental supply would enter the DEU piping system, and other appropriate factors.

Q. BASED ON YOUR EXPERIENCE, IS THE PROCESS ENGAGED IN BY THE COMPANY TO ASSESS ITS RELIABILITY NEEDS AND THE AVAILABLE OPTIONS CONSISTENT WITH PRUDENT UTILITY OPERATIONS?

A. In my expert opinion, I believe that the process engaged in by DEU to assess reliability needs and perform a critical evaluation of a broad range of supply options to supplement the Company's existing gas supply portfolio has been conducted in a reasonable and prudent

manner. The process identified a broad range of potential options, including conventional alternatives and also more creative options that have been attempted by other LDCs in different locations and climates. In addition, the DEU analysis has done a competent and objective job of considering and evaluating the appropriate risks and threats associated with each option. The process and evaluation utilized by the Company is consistent with my experience and expectations for a prudent LDC.

Q. WHAT DO YOU UNDERSTAND THE COMPANY'S MANDATE AND OBLIGATIONS TO BE WITH REGARD TO PROVIDING RELIABLE SERVICE TO CUSTOMERS?

A. My understanding is that DEU has a legislative mandate and obligation to provide safe and reliable natural gas service to customers in the Company's franchised service territory. The Utah Code[11] requires that:

> Every public utility shall furnish, provide and maintain such service, instrumentalities, equipment, and facilities as will promote the safety, health, comfort and convenience of its patrons, employees, and the public, and as will be in all respects adequate, efficient, just and reasonable.

Based on the Utah Code, it is clear that DEU has a statutory mandate to make every reasonable effort to ensure that the Company's gas customers are provided with gas service that promotes their safety, health, comfort and convenience. This legislative mandate is especially applicable during periods of extreme cold weather when the interruption of reliable gas service for an extended period of time could present a threat to life, safety, and health.

III. THE COMPANY NEEDS A LONG-TERM RELIABILITY SOLUTION

Q. HAVE YOU REVIEWED THE COMPANY'S RISK ANALYSIS, DEU EXHIBIT 2.12?

A. Yes. I have reviewed the DEU Supply Reliability Risk Analysis. In addition, I have met with Company personnel to discuss that analysis and to understand the system impacts that have caused supply disruptions. In my opinion, the Risk Analysis does a reasonable and competent job of identifying the types of threats and risks to the upstream delivery system that could potentially affect the reliability of gas supplies to the DEU system during a Design-Peak-Day or during an extended disruption at temperatures that are above Design-Peak-Day temperatures. Threats such as well freeze-offs, plant shut-downs due to mechanical issues and/ or power interruptions, equipment failures at processing plants or compressor stations, landslides/ washouts/ flooding, earthquakes, human error, third-party excavation damage and cyber-attacks on processing plants and Control Room facilities are all threats to the upstream delivery system that have been experienced by the natural gas industry. These risks present legitimate threats to the safe and reliable delivery of natural gas to the DEU system.

Q. ARE THERE ANY OTHER POTENTIAL THREATS TO THE RELIABILITY OF DELIVERY OF UPSTREAM, OFF-SYSTEM GAS SUPPLIES?

A. Yes. There are also additional risks that present significant threats to the reliable delivery of off-system gas supplies to the DEU system. These additional risks involve threats to the integrity of the upstream transmission pipelines that deliver off-system gas supplies to

[11] Utah Code, Title 54, Chapter 3, Section 1, Amended by Chapter 206, 1977 General session.

custody transfer points (gate stations) on the DEU system. Industry consensus standards (ASME/ANSI B31.8S)[12] identify nine categories of potential threats to transmission pipeline systems for operators to consider. These additional threats include internal corrosion, external corrosion, stress corrosion cracking, and fabrication and construction defects. The risks addressed in the DEU Supply Reliability Risk Analysis in conjunction with the additional threats identified in ASME/ANSI B31.8S present realistic threats to the reliability of delivery of contracted off-system natural gas supplies to the DEU system during cold weather events.

Q. DID YOU EXPERIENCE SIMILAR RISKS WHEN YOU WORKED FOR AN LDC?

A. Yes. During my approximately 31-year tenure at NW Natural, I had extensive experience in the operations of the Company's piping systems, including experience as a member of the Emergency Operations Committee (EOC) that was convened during emergency operating conditions. I also had responsibility for designing and modelling of the piping system as System Design Engineer during my career at NWN. While at NWN, I experienced many of the risks detailed in the DEU Supply Reliability Risk Analysis. For example, in February 1989, NWN experienced a significant upstream supply shortfall during a wintertime cold weather event that approached a Design-Peak-Day. The interstate transmission pipeline company that transported natural gas supplies to the NWN system was unable to maintain adequate pressure in the pipeline system to meet contracted delivery pressures at gate stations on the NWN system. The failure to deliver adequate pressures to NWN at gate

[12] American Society of Mechanical Engineers/ American National Standards Institute B31.8S-2004, "Managing System Integrity of Gas Pipelines".

stations resulted in cascading inadequate pressures on the Company's transmission pipeline system and downstream distribution pipelines. This resulted in a significant loss of service to the Company's firm customers. The 1989 cold weather event on NWN's system was similar to the February 2011 cold weather event experienced in New Mexico and Arizona as described by Tina Faust in DEU Exhibit 2.0. In addition to the 1989 failure of the interstate pipeline system to maintain adequate pressures, the interstate pipeline system that transported off-system gas supplies to the NWN system experienced catastrophic pipeline ruptures due to pipeline integrity threats. These included catastrophic pipeline failures due to land movement (landslides) at Castle Rock, Washington (March 1995), Everson, Washington (February 1997), Kalama, Washington (February 1997) and North Bonneville, Washington (February 1999). In addition to the failures due to natural force events, the interstate pipeline system also suffered catastrophic failures related to stress corrosion cracking (SCC) at Lake Tapps, Washington (May 2003) and at Toledo, Washington (December 2003). These catastrophic failures of the upstream interstate pipeline system resulted in flow entitlements that impacted the delivery of gas to NWN.

Q. IN YOUR EXPERIENCE, SHOULD THESE RISKS BE ADDRESSED BY THE COMPANY WHEN IT IS ASSESSING ITS GAS SUPPLY PORTFOLIO?

A. Yes. Based on my experience in operations for a natural gas LDC, it is prudent for any operator to identify and evaluate the potential risks to the delivery of contracted gas supplies when the company is assessing its gas supply portfolio and contemplating resource additions. DEU has a commitment and statutory obligation to provide safe and reliable delivery of natural gas supplies to its firm customers, including under peak winter time cold

weather operating conditions. It is appropriate and prudent for the Company to consider threats and risks to the upstream supply system that may prevent the Company from fulfilling this obligation when selecting supply resources.

Q. HOW DO OTHER LDCS ADDRESS THESE KINDS OF CONCERNS?

A. In my experience, LDCs across the nation are firmly committed to providing safe and reliable delivery of natural gas to their customers in accordance with their franchise agreements and tariffs. That means they will not only acquire sufficient gas supplies to support the aggregate of their firm customer loads, including on a peak cold weather design day, but they also evaluate the reliability of delivery associated with each of the sources of their gas supply portfolios. In this process, operators will typically diversify the gas supply portfolio as much as practicable. For example, they will purchase gas from multiple locations/ producers, store gas in multiple storage locations and transport gas to their systems through more than one interstate pipeline system to diversify supply and minimize the potential for a single adverse event from causing a significant outage during a peak cold weather event. While the DEU gas supply portfolio includes a diversified range of supply resources, the Company still experiences supply disruptions during cold weather events due to the reliance upon off-system supply resources that are subject to a number of risks and threats that are outside of the Company's control. As a specific example of an operator's actions to address these kinds of concerns, in response to the February 2011 cold weather event that resulted in the interruption of service to approximately 40,000 gas customers in New Mexico and Arizona, Southwest Gas Corporation re-examined the Company's gas supply portfolio and exclusive reliance on off-system supply sources. In response to this evaluation, Southwest Gas

obtained pre-approval to construct an on-system LNG storage facility and is presently in the process of constructing that facility in Southern Arizona.

Q. WHAT IS THE COMPANY'S CURRENT GAS SUPPLY RESOURCE PORTFOLIO?

A. Based on the DEU Supply Resource Stack (Exhibit 3.02), the Company's current gas supply resource portfolio sources include the following; Aquifer Storage, Ryckman Creek Storage, Clay Basin Storage, Cost-of-service gas, Baseload purchases, Peaking Purchases, and Spot Gas Purchases. All of the Company's gas supply resource portfolio is located off the DEU system and therefore, the Company must rely on others to operate the respective upstream facilities and transport the gas resources to the DEU system.

Q. WHY IS THE COMPANY'S PORTFOLIO INSUFFICIENT TO ADDRESS THE RELIABILITY CONCERNS YOU DISCUSS ABOVE?

A. DEU has adequate natural gas in its gas supply portfolio to meet customer needs on a Design-Peak-Day, assuming 100% of the contracted gas reaches DEU's system as planned. If less than 100% of the gas is delivered as planned, the Company would not be able to meet its firm customer needs on a Design-Peak-Day. While the Company's gas supply portfolio includes a number of different resources, they are all located off-system and therefore subject to threats and risks to their reliable delivery. Conversely, on-system supply resources are not subject to the same threats and risks and therefore, are a highly reliable supply resource. There is always the risk that a portion of the off-system portfolio will not reach the DEU system on a Design-Peak-Day. Indeed, over the past five years, there have been multiple instances where disruptions have occurred on the upstream supply system and contracted gas

supplies have failed to reach the DEU system, even though Design-Peak-Day temperatures were not present. As noted in the Supply Reliability Evaluation and Supply Reliability Risk Analysis, these disruptions may be caused by numerous threats and risks to the overall supply delivery chain that ranges from the production or storage wells to gate stations on the DEU system. Recent cold weather operating experience strongly suggests there is a high likelihood the Company will experience additional supply disruptions during cold weather events in the future that result in the loss of service to a significant number of firm sales customers.

Q. GIVEN THESE RELIABILITY CONCERNS, IS THE COMPANY'S SUPPLY PORTFOLIO SUFFICIENT TO ADDRESS THESE CONCERNS ON A DESIGN-PEAK-DAY?

A. No. Although DEU technically has adequate gas supplies under contract to meet firm customer's gas needs on a Design-Peak-Day, its portfolio presumes that all contracted off-system gas supplies will reach the Company's piping system without disruption. Cold weather operating experience in recent years strongly suggests it is unreasonable to assume that all gas supplies will be delivered on a Design-Peak-Day or that the Company will have enough supply if a disruption occurs when temperatures are very cold for an extended period. Therefore, the existing gas supply portfolio is not sufficient to address DEU's reliability risks and concerns.

Q. HAVE YOU HAD AN OPPORTUNITY TO DISCUSS THESE CONCERNS WITH THE COMPANY?

A. Yes. I have had the opportunity to meet with DEU engineering, gas supply and regulatory personnel to discuss the Company's reliability risks and concerns. Based on my discussions with Company personnel and my experience in operations for an LDC, I have concluded that DEU's concerns regarding the reliability of upstream supply sources during extreme cold weather events are reasonable and well founded.

Q. BASED ON YOUR REVIEW AND YOUR EXPERIENCE AS AN OPERATOR AT AN LDC, DO YOU BELIEVE IT IS REASONABLE FOR THE COMPANY TO PROCURE ADDITIONAL RESOURCES TO ADDRESS ITS RELIABILITY CONCERNS?

A. Yes. Based on my review of the information provided by the Company and my experience working with an LDC, I believe it is reasonable and prudent for DEU to acquire additional, diversified resources in the gas supply portfolio to address reliability concerns and minimize the potential for major interruptions of service to firm sales customers during cold weather events.

IV. AN ON-SYSTEM LNG FACILITY IS THE BEST SOLUTION OF AVAILABLE OPTIONS TO ADDRESS RELIABILITY CONCERNS AND WOULD BE IN THE PUBLIC INTEREST

Q. DID YOU REVIEW THE COMPANY'S SUPPLY RELIABILITY OPTION EVALUATION IDENTIFIED AS DEU HIGHLY CONFIDENTIAL EXHIBIT 2.11?

A. Yes. I have reviewed the Company's Supply Reliability Evaluation, including each of the options to determine the optimum alternative to provide a reliable source of 150,000 Dth/day of gas supply to supplement the Company's existing gas supply portfolio.

Q. DO YOU BELIEVE THE COMPANY HAS DONE A COMPREHENSIVE EVALUATION OF OPTIONS AVAILABLE FOR RESOLVING ITS SUPPLY RELIABILITY CONCERNS?

A. Yes. The supply options identified and evaluated by the Company include a comprehensive inventory of all reasonable alternatives. The range of alternatives include utilization of existing storage resources, contracting for additional off-system storage, both existing and proposed, demand response using large use customers and residential firm sales customers, and the construction of an on-system LNG storage facility. In my opinion, the Company has conducted a comprehensive, prudent and objective evaluation of the merits associated with each of the identified alternatives to resolve reliability concerns. The evaluation considered reasonable and appropriate factors such as safety, reliability of the resource, cost, risks associated with the delivery of the supply, location of the supplemental gas supply (off-system vs. on-system), location (gate station) where the supplemental supply would be delivered to the DEU piping system, DEU system implications and other appropriate factors.

The Company also considered on-system underground storage as an additional supply resource, but this alternative was rejected as there are no known geological formations near the DEU load center that are conducive to storage of natural gas.

Q. ARE THERE ANY OF THE OPTIONS OUTLINED IN DEU HIGHLY CONFIDENTIAL EXHIBIT 2.11 THAT FAIL TO ADEQUATELY ADDRESS THE IDENTIFIED CONCERNS?

A. Yes. While all the resource options considered in DEU Highly Confidential Exhibit 2.11 would potentially add additional supply resources to the Company's gas supply portfolio, all the options considered except construction of an on-system LNG facility fail to adequately address the identified concerns and risks that precipitated the Supply Reliability Evaluation. Most of the other options considered are located off-system and are therefore subject to the multitude of the same risks and threats that have prevented gas supplies from reliably reaching the DEU system during cold weather operating conditions in the past. Selection of any of the alternatives other than the on-system LNG facility would essentially perpetuate the same issues, concerns and supply shortfalls that the Company is attempting to resolve.

Q. WHAT IS THE DIFFERENCE BETWEEN AN ON-SYSTEM SUPPLY OPTION AND AN OFF-SYSTEM SUPPLY OPTION?

A. As the name suggests, an on-system supply option means that the gas supply resource is physically located on the operator's system and therefore under the direct control of the company. When that company elects to utilize an on-system supply resource, the on-system supply is immediately available to provide additional natural gas supplies, reinforce system

pressures, and, in general, meet the needs of the company's customers. Conversely, an off-system supply option is physically located off the company's system, and, in the case of DEU, they are hundreds of miles away, and therefore not under the direct control of the LDC. For its off-system options, DEU must rely on third parties throughout the supply chain to perform. In addition, gas from the off-system resources must be physically transported to the Company's system, which exposes the supply to a multitude of risks and threats to its deliverability.

Q. IN YOUR EXPERIENCE, ARE THERE DISADVANTAGES TO AN OFF-SYSTEM RESOURCE?

A. Yes. Based on my experience working for an LDC, there are numerous disadvantages to off-system gas supply resources. Since the resources are physically located off-system, they are not under the direct control of the operator and are subject to North American Energy Standards Board (NAESB) scheduling which restricts the ability to transport the gas to the operator's system quickly. The fact that the resource is located off the operator's system requires that the gas be physically transported from the resource location to the custody transfer points (gate stations) on the operator's system through one or more interstate transmission pipelines. Off system resources are subject to a multitude of threats and failures on one or more plants, facilities or pipeline systems upstream of the LDC's system (e.g. wellheads, gathering lines, processing plants, compressor stations, pipelines). The reliance on a series of off-system facilities greatly increases the potential for supply disruptions.

Q. THE COMPANY HAS INDICATED THAT THE GEOGRAPHICALLY DISTANT RESOURCES THAT IT HAS ASSESSED ARE VULNERABLE TO A VARIETY OF RISKS. DO YOU AGREE?

A. Yes. Based on my experience working for an LDC and my review of the risks and concerns identified by the Company in the Supply Reliability Evaluation, the Supply Reliability Risk Analysis, and during my meetings with Company operations personnel, I agree that the geographically distant, off-system supply resources identified and evaluated by the Company are vulnerable to a wide variety of risks that threaten the safe, reliable and timely delivery of natural gas supplies and pressure reinforcement to the DEU system, particularly during a cold weather event. The more off-system facilities that are involved in the supply resource chain of the Company's portfolio, and the greater the physical distance, the greater the exposure to an increased number of supply reliability risks.

Q. IN YOUR EXPERIENCE, HOW SERIOUS ARE THESE RISKS?

A. The potential risks associated with off-system, geographically distant supply options are very serious, and a prudent operator should consider them carefully in evaluating and selecting a gas supply resource. During my tenure with an LDC, I had the occasion to experience many of these risks personally. My Company experienced numerous supply disruptions due to the failures of upstream pipelines and other facilities due to the types of risks identified by DEU. In addition, the February 2011 supply disruption in New Mexico and Arizona that affected more than 40,000 customers underscores and confirms the serious potential of these upstream risks to disrupt supplies to a significant number of end- use customers during a cold weather event.

Q. IN YOUR EXPERIENCE, ARE THERE PARTICULAR BENEFITS TO AN ON-SYSTEM RESOURCE?

A. Yes. Based on my experience with an LDC, there are significant benefits to on-system gas resources. On-system storage resources provide an unparalleled benefit to system reliability. The on-system resource owner operates the resource and has complete flexibility in operation and deliverability of the resource. In the event of upstream supply disruptions, the owner/operator of an on-system supply resource can quickly provide additional gas and pressure support to the system to replace disrupted upstream resources. One of the most significant benefits of on-system resources is the ability to provide immediate gas supplies and system pressure support as compared to the process of nominating or purchasing gas supplies in accordance with the NAESB schedule which may substantially delay the delivery of urgently needed supplemental gas supplies. The major benefits associated with on-system resources is that they are immediately dispatchable by the Company and avoid the significant risks and concerns associated with off-system resources as identified by DEU in the Company's Supply Reliability Risk Analysis. In my experience with NWN, there were numerous occasions where the Company utilized one or both of the LNG plants and underground storage to provide gas supplies and pressure support to the NWN system when off-system gas supplies failed to reach the Company's system due to upstream interstate pipeline failures. These pipeline failures resulted in flow entitlements (restrictions) to the amount of gas that could be taken from the interstate pipeline system. NWN frequently mitigated these supply shortfalls by the use of on-system storage.

Q. THE COMPANY HAS DETERMINED THAT AN ON-SYSTEM LNG FACILITY IS THE BEST SOLUTION FOR ADDRESSING THE SUPPLY RELIABILITY RISKS OUTLINED IN DEU EXHIBIT 2.12. DO YOU AGREE?

A. Yes. Based on my experience working with an LDC and my experience with the benefits and reliability of on-system supplies, I agree with DEU's determination that an on-system LNG facility is the best solution available for addressing its supply reliability risks. On-system storage provides compelling advantages to system reliability compared to the other alternatives. Of the options evaluated by the Company, the on-system LNG storage facility is the only alternative that effectively mitigates the upstream risks to the reliable delivery of gas to the DEU system under peak cold weather operating conditions. In addition, it would add to the diversity of the Company's gas supply portfolio in that DEU does not currently have any other on-system supply options. I believe having an on-system resource would be a significant benefit for the Company and its customers.

Q. PLEASE EXPLAIN WHY YOU AGREE THAT AN ON-SYSTEM LNG FACILITY IS THE BEST SOLUTION.

A. In the DEU Supply Reliability Evaluation and Supply Reliability Risk Analysis, the Company identified the upstream risks that have the potential to disrupt the reliable delivery of off-system gas supplies to the Company's system. Examples of these types of risks include wellhead freeze-offs, processing plant and compressor station failures, power outages, plant shutdowns, mechanical failures and force majeure events. Additional threats exist to the pipelines that transport the off-system gas supplies to the DEU system, including natural forces events (landslides, flooding, earthquakes), human error, third-party excavation

damage, cyber-attacks, and pipeline integrity threats such as external corrosion, internal corrosion and stress corrosion cracking. The on-system LNG facility is the only alternative that gives the Company complete control over the mitigation of these upstream risks, and is therefore the most appropriate, secure, and dependable alternative to improve the reliability of supply to the Company's system. Conversely, the selection of any of the other options does not address or mitigate the identified risks and threats, but rather, perpetuates the legitimate risks and concerns relative to the reliability of supply deliveries during cold weather events.

Q. DO YOU HAVE EXPERIENCE WITH ON-SYSTEM LNG FACILITIES? IF SO, PLEASE DESCRIBE THAT EXPERIENCE.

A. Yes. In my previous employment with NW Natural I had significant experience with on-system storage facilities. NWN had the benefit of having two on-system LNG storage plants and underground storage. The on-system LNG plants were owned, operated and dispatched by NWN. The LNG plants, in conjunction with other on-system storage, provided NWN with significant benefits related to supply diversification and system reliability throughout the year, including during cold weather operating conditions. For example, the on-system LNG plants were part of the on-system supply portfolio used to maintain safe and reliable service to customers during numerous catastrophic failures of the upstream interstate pipeline system. As described earlier in my testimony, there were numerous occasions where the Company utilized one or both of the LNG plants (in conjunction with underground storage) to provide gas supplies and pressure support to the NWN system when off-system gas supplies transported by interstate pipelines failed to reach the Company's

system. These LNG facilities were invaluable in maintaining safe and reliable service to NWN firm customers.

The existence of on-system storage provided NWN with significant flexibility in responding to upstream supply interruptions that threatened the safety and reliability of service to customers. In addition, the Company also used LNG to respond to emergency situations and to reinforce the system during isolated events.

Q. PLEASE SUMMARIZE YOUR PRIMARY CONCLUSIONS AND RECOMMENDATIONS

A. DEU has an obligation to provide safe and reliable service to the Company's residential, commercial and industrial customers. Based on recent upstream supply disruptions experienced during winter cold weather events, DEU has identified legitimate concerns regarding the reliability of upstream, off-system supply resources to perform without interruption during winter cold weather events or on a Design-Peak-Day. The Company has prudently determined the need to obtain additional source(s) of gas to add to the gas supply portfolio to maintain system safety, reliability and adequate system operating pressures during a cold weather event. DEU has conducted a comprehensive Supply Reliability Risk Analysis to identify risks and threats to the reliable delivery of off-system gas to the Company's system. In addition, the Company has conducted a comprehensive Supply Reliability Evaluation to identify and objectively evaluate all reasonable alternatives to provide an additional source of supply to minimize the potential for service interruptions to sales customers. Based on these analyses, the Company has concluded that the most

beneficial option is to construct, own, and operate an on-system LNG facility. During my tenure at NWN, I had significant experience with on-system LNG facilities and concluded that on-system LNG storage was an invaluable resource to maintain the safe and reliable delivery of natural gas service to firm customers. There were numerous instances where the Company utilized one or both of the LNG plants to provide gas supplies and pressure support to the NWN system when off-system gas supplies failed to reach the Company's system. I have reviewed the DEU analyses and believe that the analyses are comprehensive, reasonable, objective and competently performed. I concur with the Company's conclusion that an on-system LNG facility would be the most prudent option for addressing system reliability issues, enhancing diversification of the Company's gas supply portfolio and improving the safety and reliability of service to firm customers during a cold weather event.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

State of Oregon)

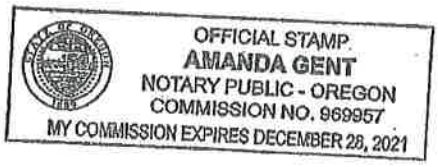
: ss.

County of Washington)

I, Bruce L. Paskett, 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.

Bruce L. Paskett

SUBSCRIBED AND SWORN TO this 29th day of April 2018.



Notary Public