

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

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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

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**DIRECT TESTIMONY OF MICHAEL L. GILL  
FOR DOMINION ENERGY UTAH**

April 30, 2019

**DEU Exhibit 5.0**

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**I. INTRODUCTION**

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

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

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

6 A. I am employed by Dominion Energy Utah (Dominion Energy, DEU, or Company) as the  
7 Director of Engineering and Project Management. I am responsible for the High-  
8 Pressure (HP) Engineering, Intermediate High-Pressure (IHP) Engineering, Systems  
9 Engineering, Integrity Management, Survey, GIS, Records Management and Design  
10 Drafting Departments. My qualifications are included in DEU Exhibit 5.01.

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

13 A. Yes. I testified in docket number 18-057-03, and I have presented at numerous technical  
14 conferences before the Commission in a variety of matters.

15 **Q. Attached to your written testimony are DEU Exhibits 5.01 through 5.17. Were these**  
16 **prepared by you or under your direction?**

17 A. Yes, unless otherwise indicated. Where otherwise indicated, the exhibits are true and  
18 correct copies of what they purport to be.

19 **Q. What is the purpose of your testimony?**

20 A. The purpose of my direct testimony is to describe the on-system liquefied natural gas  
21 facility for which DEU seeks pre-approval in this docket (the DEU-owned LNG Facility)  
22 and to discuss the methodology the Company used to evaluate and preliminarily design  
23 the DEU-owned LNG facility. I address the preliminary design, costs, contracting and  
24 construction schedule associated with the DEU-owned LNG Facility. I also describe the  
25 cost of reinforcements required for each of the options offered in response to the  
26 Company's supply reliability request for proposal (RFP). Lastly, I discuss in detail the

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27 potential for the DEU-owned LNG to provide LNG to currently unserved remote  
28 communities in Utah.

29 **II. THE PROPOSED DEU-OWNED LNG FACILITY**

30 **Q. Please describe the DEU-owned LNG facility that the Company proposes to build.**

31 A. The proposed DEU-owned LNG Facility is a proposed on-system LNG storage facility  
32 near Magna, Utah. The preliminary specifications of the DEU-owned LNG facility call  
33 for construction of a 15-million-gallon LNG storage tank (Approximately 1,239,000  
34 Dth), an amine gas-pretreatment process, a liquefaction cold box, and gas vaporization  
35 facilities. The proposed liquefaction rate is 8.2 MMcfd (approximately 8,200 Dth/day)  
36 and the proposed vaporization rate is 150 MMcfd (approximately 150,000 Dth/day).

37 **III. DEU-OWNED LNG FACILITY DESIGN CONSIDERATIONS**

38 **Q. Did the Company retain a consultant to conduct analysis and preliminary design  
39 services related to the DEU-owned LNG Facility?**

40 A. Yes, in February 2016 DEU began preliminary analysis to determine if an on-system  
41 LNG facility was viable. It issued a request for proposal (Engineering RFP) for  
42 engineering services to conduct a site evaluation in order to determine potential sites for  
43 the construction of an LNG facility, as well as preliminary engineering and design for an  
44 LNG facility. DEU received responses to this Engineering RFP from 16 companies.

45 After evaluating the responses, the Company selected HDR Incorporated (HDR) located  
46 in Pooler, GA to conduct a site evaluation. HDR was founded in 1917 and is  
47 headquartered in Omaha, Nebraska. Currently, HDR employs more than 10,000  
48 employees and has more than 225 locations worldwide. HDR has over 35 years of  
49 experience in providing design and construction services for LNG facilities.

50 **Q. Has the Company selected a site for the DEU-owned LNG Facility?**

51 A. Yes. HDR provided site requirements and DEU's System Planning and Analysis group  
52 worked with HDR to identify sites for evaluation. The initial analysis resulted in four  
53 possible sites for the DEU-owned LNG Facility, based on each site's proximity to DEU

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54 High Pressure system, as well as its ability to meet state and federal regulatory  
55 requirements for vapor dispersion, thermal radiation and proximity to airport runways.  
56 The Company then reviewed each site to identify optimal location considering property  
57 availability, system operational impact, and project constructability. The Company  
58 ultimately purchased an option on property near Magna and commissioned HDR to  
59 complete a front end engineering design (FEED) study for this site.

60 **Q. What were the main deliverables of the FEED study?**

61 A. The primary objective of the FEED study was to produce sufficient project definition so  
62 that concise engineering, procurement and construction (EPC) contract documents could  
63 be developed. The scope included preliminary sizing of all equipment and piping,  
64 development of process plans, preliminary site and grading plans, preliminary permitting,  
65 and preliminary site utility plans. By having concise documents and eliminating the  
66 unknowns from the project, the Company was able to develop a refined cost estimate and  
67 prepare the project for bidding. A copy of the FEED study without appendices is  
68 attached as DEU Highly Confidential Exhibit 5.02.

69 **Q. What is the role of the EPC contractor?**

70 A. An EPC contractor is responsible for the final engineering of the project, the procurement  
71 of all materials associated with the facility, and the construction of the facility. The final  
72 engineering documents are developed using the specifications, sizing, preliminary site  
73 plan, preliminary utility plan, and the processes detailed in the FEED study.

74 **Q. What size LNG facility did the Company analyze with the FEED study?**

75 A. After consultation with HDR and internal discussions with DEU's Gas Supply and  
76 System Planning and Analysis groups, the Company selected the following LNG facility  
77 sizing parameters for the FEED study evaluation:

78 \* Liquefaction Rate: 8.2 MMcfd (approximately 8,200 Dth/day)

79 \* Storage Capacity: 15 million gallons (1,239,000 Dth)

80 \* Vaporization Capacity: 150 MMcfd (approximately 150,000 Dth/day)

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81 The vaporization capacity of the DEU-owned LNG Facility was determined by DEU's  
82 Gas Supply and System Planning and Analysis Department as discussed in the pre-filed  
83 direct testimony of William F. Schwarzenbach. System Planning analyzed how much  
84 natural gas could reasonably be taken onto the Company's system at the specified sites,  
85 and determined that 150 MMcfd is the maximum volume that the current system could  
86 effectively utilize at each individual site. The chosen rate of vaporization coincides with  
87 the curtailed volumes of recent supply shortfalls. The tank size was selected both to  
88 achieve the capacity described above, and to minimize costs. The selected tank size is  
89 typical for a project of this nature. Larger or custom tanks would cost significantly more  
90 than the selected tank. The liquefaction rate was based on utilizing "standard" equipment  
91 sizing for a project of this nature as well as determining the rate in which the tank could  
92 be filled. Based on the selected liquefaction rate of 8.2 MMcfd, it would take  
93 approximately 100 days to fill the proposed LNG storage tank.

94 **Q. Please describe liquefaction.**

95 A. Natural gas can be converted into a liquid by cooling it to -260 degrees Fahrenheit.  
96 Before the gas enters the cooling process however, impurities and heavy hydro-carbons  
97 must be removed. The design presented in the FEED study contemplates utilizing an  
98 amine pre-treatment system to purify the gas. The FEED design has specified the use of  
99 a liquid nitrogen refrigeration system. The "liquefaction process" describes the entire  
100 process of cleaning, compressing, and cooling the gas into a liquid form. At the end of  
101 this process the liquefied gas stored in the tank is essentially 100% methane.

102 **Q. How is LNG converted back into a gaseous form that can be used by DEU's**  
103 **customers (vaporized)?**

104 A. LNG is converted back into a gaseous state by pumping LNG from the storage tank and  
105 heating the natural gas by passing it through a series of heat exchangers. Prior to putting  
106 the vaporized natural gas back into the distribution system it must be re-odorized. The  
107 "vaporization process" describes the entire process of pumping LNG from the storage  
108 tank, heating it and converting it back to a gaseous state, and re-odorizing it.

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109 **Q. In addition to capacity evaluation, did the FEED study evaluate different processes**  
110 **for the DEU-owned LNG Facility?**

111 A. Yes. The FEED study evaluated and recommended options for pre-treatment,  
112 liquefaction and storage of LNG at the Magna location. This included examining gas  
113 pre-treatment systems (amine vs. mol-sieve), liquefaction methods (nitrogen vs. mixed-  
114 refrigerant), compressor type (gas turbine vs. electric motor driven) and tank type (full  
115 containment vs. single containment). The Company and HDR worked together to  
116 analyze each of these criteria to determine the best solution for the project. Attached  
117 DEU Confidential Exhibits 5.03 through 5.06 contain white papers discussing these  
118 decisions.

119 **Q. What diameter size, pressure and length of pipeline would serve the DEU-owned**  
120 **LNG Facility?**

121 A. DEU's System Engineering department has indicated the DEU-owned LNG Facility  
122 should be connected to the Company's HP system via a 14-inch diameter HP line. This  
123 line would be approximately [REDACTED]

124 [REDACTED]  
125 [REDACTED] A schematic of the proposed piping layout is shown in DEU  
126 Confidential Exhibit 5.07.

127 **Q. Mr. Schwarzenbach and Mr. Platt have testified that other options to address**  
128 **supply shortfalls are vulnerable to force majeure and other disruptive events. Has**  
129 **the Company addressed such reliability concerns in the design of the DEU-owned**  
130 **LNG Facility?**

131 A. Yes, the Company and HDR have worked to design a facility that minimizes exposure to  
132 outages. All key components on the vaporization cycle (i.e. pumps, generators,  
133 compressors) have N+1 redundancy. N +1 redundancy refers to having capacity and  
134 functionality backup for critical systems within the facility. If, for example, a pump fails,  
135 an identical back up pump is available and ready to be placed into service. In addition,  
136 the plant buildings and tank will be built to the latest seismic codes and designed to

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137           withstand potential liquefaction of the supporting soils. Finally, the Company will design  
138           the inlet piping and metering to withstand major seismic events.

139   **Q.    Has the Company begun to obtain the necessary permitting for the DEU-owned**  
140   **LNG facility?**

141   A.    Yes. HDR has been assisting the Company in preliminary permitting of the project.  
142        HDR and Company representatives have had discussions with the Salt Lake County  
143        Planning Department regarding conditional use permit requirements, as well as the State  
144        Department of Environmental Quality regarding air emissions permitting. In addition,  
145        DEU had consultants prepare environmental Phase I and Phase II studies to evaluate the  
146        site for possible contaminants. There are no contaminants that would prevent DEU from  
147        purchasing the property. HDR has evaluated and cleared the project for impacts to  
148        threatened and endangered species, cultural resources, and waters of the U.S.

149   **Q.    What is the status of the property acquisition?**

150   A.    The Company and the property owner have entered into an option agreement whereby the  
151        Company could purchase the Magna parcel (Option Agreement). Under the terms of the  
152        Option Agreement the Company made a payment of [REDACTED]  
153        [REDACTED]  
154        [REDACTED]  
155        [REDACTED]. The Company will  
156        exercise this purchase option if the Commission approves the Application in this docket.

157   **Q.    What is the status of the EPC contract development?**

158   A.    The Company and HDR have developed contract documents that are ready for bid  
159        release, should the Commission approve construction of the DEU-owned LNG Facility.  
160        These include separate scope of work and contract documents for the design engineering  
161        and construction of the facility as well as the construction of the LNG storage tank. The  
162        scope of work documents provide the EPC contractors with the technical documentation  
163        of the project, while the contract documents outline the anticipated commercial terms.  
164        The draft contract documents are voluminous, but the FEED study contains a detailed  
165        description of the facilities to be constructed.



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166 **Q. Why didn't the Company request bids on the project from EPC contractors before**  
167 **filing a pre-approval application with the Commission?**

168 A. The Company prefers to obtain Commission approval in this docket before requesting  
169 bids on the project. The Company recognizes that bidding on projects like this one can  
170 be very expensive for the bidders. Preparation of these submittals can take months and  
171 cost in excess of \$50,000 per contractor. The Company did not want to subject potential  
172 bidders to that cost risk if the project had not yet received Commission approval. In  
173 addition, DEU wanted to request bids for the project with a defined construction  
174 schedule. Requesting bids for the project without Commission pre-approval would mean  
175 that a construction schedule could not be clearly defined. Because bidders would not  
176 know specifically whether the project would be approved and, if so, what the schedule  
177 would be, this uncertainty would likely lead to more expensive bids and may impact the  
178 quality of construction teams the EPC contractors would provide for the project. As a  
179 result, in lieu of obtaining bids, the Company obtained cost estimates that assume a  
180 specified schedule.

181 **Q. How much will the DEU-owned LNG Facility cost?**

182 A. The updated total estimated cost for the LNG project is [REDACTED], including the cost  
183 of the EPC contractors, materials, real property, and the Company's internal costs (Labor,  
184 Overhead, AFUDC, and inflation). These costs are summarized more thoroughly in the  
185 direct testimony of Kelly B Mendenhall.

186 **Q. How did the Company determine the cost of the proposed DEU-owned LNG**  
187 **Facility?**

188 A. The Company used two processes to estimate the final cost of the DEU-owned LNG  
189 Facility. First the Company engaged HDR to prepare an estimate based on the results of  
190 the FEED study. This estimate utilized estimated costs from suppliers and vendors, as  
191 well as the Company's in-house engineering and estimating expertise. The Company  
192 also hired EPC contractor Northstar Energy (Northstar) to prepare an estimate based on  
193 the statement of work (SOW) and contract documents prepared as part of the FEED  
194 study.

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195 Northstar was created in 1996 by former natural gas utility engineers and industry  
196 managers. They are headquartered in Methuen, MA. Northstar provides turnkey EPC  
197 services to natural gas customers across the country and has extensive LNG experience.  
198 Both of these estimates were prepared in 2018 and submitted as part of Docket No. 18-  
199 057-03. Review of these estimates show good correlation between the HDR estimate and  
200 the Northstar estimate (approximately 1.5% difference). Due to this close correlation  
201 between estimates, the Company elected only to update the more conservative (i.e. higher  
202 cost) HDR estimate for purposes of the Application in this docket. HDR updated  
203 material and labor costs and adjusted 2017/18 cost estimates for inflation. The updated  
204 cost estimate has been attached as DEU Highly Confidential Exhibit 5.08. Also, as I  
205 discussed above, the price for purchasing the real property has been negotiated and is  
206 [REDACTED] Mr. Mendenhall discusses the remaining elements of the total project cost  
207 in his direct testimony.

208 **Q. Please explain how labor and overhead were calculated?**

209 A. This project will require labor allocation from employees in engineering, right of way,  
210 legal, construction support and IT. DEU Exhibit 5.09 provides an estimate of the  
211 capitalized labor and associated labor overhead for the employees that are anticipated to  
212 work on this project. The total for labor and labor overhead amounts to approximately  
213 \$5,835,000.

214 **Q. If the Commission approves this project, what is the anticipated schedule for  
215 construction?**

216 A. The DEU-owned LNG Facility would be in service in 2022 in time for the for the 2022-  
217 2023 winter heating season. If the Company receives Commission pre-approval for the  
218 decision to construct the DEU-owned LNG Facility, the schedule would be as follows:

219 Bid Project: Late 2019

220 Award Project: 1<sup>st</sup> or 2<sup>nd</sup> Quarter 2020

221 Finalize Property Purchase: 1<sup>st</sup> Quarter 2020

222 Construct Project: 2<sup>nd</sup>/3<sup>rd</sup> Quarter 2020-3<sup>rd</sup>/4<sup>th</sup> Quarter 2022

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223

**IV. RFP EVALUATION**

224 **Q. Were you involved in the preparation and evaluation of the Company's RFP?**

225 A. Yes. I was part of the project team that determined the requirements of the Company's  
226 RFP as well the evaluation of the submitted proposals.

227 **Q. What entities submitted proposals in response to the Company's RFP?**

228 A. The Company received responses from three entities. Magnum Energy Midstream LLC  
229 responded with [REDACTED]

230 [REDACTED] Prometheus Inc. [REDACTED]

231 [REDACTED]. United Energy Partners  
232 LLC proposed [REDACTED] A

233 thorough description of these projects can be found in the direct testimony of Mr.  
234 Schwarzenbach.

235 **Q. What were the main requirements of the RFP?**

236 A. The RFP sent to prospective bidders is attached as Exhibit 3.02 to Mr. Schwarzenbach's  
237 Direct Testimony. In summary, the Company sought proposals that would provide a  
238 supply reliability resource that is capable of delivering up to 150,000 Dth/day at a  
239 delivery pressure between 650 and 720 psig. Additionally the Company identified an  
240 optimal delivery location (Optimal Delivery Location) and indicated that for proposals  
241 outside of this location, any necessary additional costs for DEU system reinforcements  
242 that would be required to achieve the needed system benefit as part of the evaluation.  
243 Last the Company indicated that all proposals would be evaluated against the DEU-  
244 owned LNG Facility.

245 **Q. Why did the Company indicate the additional costs for system reinforcements  
246 would be included in the evaluation?**

247 A. Reinforcements may be necessary to ensure that the RFP proposals met the Company's  
248 system needs. In the Company's prior pre-approval docket, Allen Neale, the Division of  
249 Public Utilities expert witness, asserted that the Company had failed to provide a clear

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250 “apples to apples” comparison between proposals. He further argued that in order to  
251 provide a reliable comparison the proposals would need to provide equivalent system  
252 benefits and that costs would have to be added to the proposals that required Company  
253 reinforcements to achieve like-system results. In his testimony Mr. Neale states, “And  
254 while I say another source may work, in my opinion it would take work on the  
255 distribution system. And I want to make sure those costs get fully reflected so that  
256 everybody understands what the real cost difference is.” Allen R. Neale, Hearing  
257 Transcript, Vol. 2, at 389, Docket 18-057-03. In its Order in Docket 18-057-03 (Order),  
258 the Commission cited a lack of such an “apples to apples” cost and system benefit  
259 comparison as a contributing factor in the decision to deny the Company’s pre-approval  
260 application in Docket 18-057-03.

261 **Q. Did DEU add additional reinforcement costs to any of the respondent’s proposals?**

262 A. Yes. All three of the respondents offered proposals that would require some level of  
263 Company reinforcements to achieve equivalent system benefits as the DEU-owned LNG  
264 Facility. Attached DEU Highly Confidential Exhibit 5.10 shows the additional  
265 reinforcement costs attributed to each proposal in the Company’s “apples to apples”  
266 comparison. It should be noted, that [REDACTED]  
267 [REDACTED] The Company took these costs into account for its evaluation and only  
268 attributed the net costs of Company reinforcements to that proposal.

269 **Q. How did the Company determine the required system reinforcements?**

270 A. As more fully described in Michael Platt’s testimony, the Company conducted gas  
271 network modeling to determine the reinforcement requirements that would need to be  
272 constructed to mitigate shortfalls at all gate stations along the Wasatch Front. The  
273 Company then determined the most cost-effective reinforcement option and used those  
274 costs in its financial analysis.

275 **Q. Did the Company perform cost estimates of the reinforcement requirements?**

276 A. Yes, under my direction, the Company engineering department evaluated reinforcement  
277 costs where necessary, and, in the case where multiple solutions were possible, applied  
278 the least-cost reinforcement scenario to the option.

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279

**V. ANCILLARY BENEFITS**

280 **Q. What are ancillary benefits and did the Company address these benefits in its RFP?**

281 A. In Docket No. 18-057-03, the Commission indicated that “[w]e conclude that the ability  
282 of the LNG Facility to serve remote, currently unserved locations could qualify as a  
283 relevant factor under our required analysis . . . .” October 22, 2018 Order; Docket No.  
284 18-057-03 at 19. Accordingly, in its RFP the Company indicated that it would be  
285 evaluating “Other Factors Determined to Be Relevant.” The RFP asked respondents to  
286 indicate whether the proposed resource could provide benefits such as an opportunity to  
287 extend service to remote, currently unserved locations; energy resiliency to governmental  
288 or other entities; or other additional services such as peak-hour transportation or no-  
289 notice transportation services. The Company treated any additional service that could be  
290 offered by the respondent as an “ancillary benefit” of the respondent’s base proposal (i.e.  
291 supply reliability resource) if it included sufficient detail.

292 **Q. Why is the Company considering ancillary benefits in its evaluation?**

293 A. The Company recognizes that, in the analysis of the lowest-reasonable-cost solution to  
294 meet its supply reliability needs, ancillary benefits may provide current or future value  
295 that should be considered as part of the analysis. Including an analysis of ancillary  
296 benefits allows the Company to more fully compare and contrast similarly-priced options,  
297 and more fully determine the best resource option. [REDACTED]

298 [REDACTED]

299 [REDACTED]

300 [REDACTED]

301 [REDACTED]

302 [REDACTED]

303 **Q. Did all the participants identify ancillary benefits in their proposals?**

304 A. [REDACTED]

305 [REDACTED]

306 [REDACTED]

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307 [REDACTED]

308 [REDACTED]

309 [REDACTED]

310 **Q. Did the Company attribute any costs or financial benefits to respondent proposals**  
311 **in regards to providing ancillary benefits during its evaluation of the RFP?**

312 A. [REDACTED]

313 [REDACTED]

314 [REDACTED]

315 [REDACTED]

316 [REDACTED]

317 **Q. Would the DEU-owned LNG Facility provide any ancillary benefits?**

318 A. Yes. The DEU-Owned LNG Facility would allow the Company to provide service to  
319 certain remote communities at a greatly reduced cost when compared with the cost of  
320 traditional pipeline extensions. To provide LNG service to remote communities the  
321 Company would need to construct satellite vaporization facilities and truck LNG to these  
322 sites. Additionally, as more fully described in the direct testimony of Mr.  
323 Schwarzenbach, the DEU-owned LNG Facility could provide a limited peak-hour  
324 service.

325 **Q. What is a satellite vaporization facility?**

326 A. A satellite vaporization facility consists of on-site storage tanks and gas vaporization  
327 facilities. LNG would be created at and shipped from the main DEU-owned LNG facility  
328 and stored in on-site storage tanks located in the remote communities. As gas is needed,  
329 LNG would be pumped from these tanks and vaporized back into gaseous form. The gas  
330 would then be odorized and placed into the community's distribution system.

331 **Q. What additional measures would the Company need to undertake to be able to**  
332 **provide services to remote communities?**

333 A. To serve remote communities the Company would need to develop trucking facilities at  
334 the DEU-owned LNG Facility. The Company has estimated the cost, in 2019 dollars, to

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335 construct these facilities at approximately [REDACTED]. DEU Highly Confidential  
336 Exhibit 5.11 is the study developed by HDR and the Company that defines the proposed  
337 site layout, process flow, equipment layout and cost estimate for this expansion. It  
338 should be noted that the cost for this expansion is not included in the estimated cost of the  
339 DEU-owned LNG Facility. If the Company elected to pursue this option, it would seek  
340 Commission approval in a separate docket and include costs associated with the trucking  
341 facility and constructing satellite vaporization facilities in the remote communities.

342 **Q. Are there ancillary benefits if an LNG trucking terminal was constructed at the**  
343 **DEU-owned LNG Facility?**

344 A. Yes. The Company could utilize LNG trucks to keep areas in-service during construction  
345 activities. This would provide the Company more flexibility in timing projects as the  
346 LNG trucks could be used as a temporary gas supply source.

347 Additionally, the Company could use LNG trucks to hold customers during un-planned  
348 outages. Hypothetically, if the outage the Company experienced in Coalville, Utah in  
349 January 2017 had been prolonged, the Company could have mobilized LNG trucks to  
350 restore service to the community until normal supplies were restored.

351 **Q. How would the Company anticipate providing LNG to these communities without**  
352 **negatively impacting the amount of LNG available for a supply disruption event?**

353 A. As LNG is stored in a tank, the lighter hydrocarbons vaporize and are removed as boil-off  
354 gas. If left long enough, the BTU content of the remaining LNG can reach levels where  
355 it is too high for use. This phenomenon is referred to as “weathering”. To avoid  
356 weathering, LNG operators must typically utilize approximately 1/3 of the stored LNG  
357 every year. For the DEU-owned LNG facility, this would mean approximately 5 million  
358 gallons of LNG would need to be used on an annual basis. It is this volume of LNG that  
359 the Company would use to serve remote communities.

360 **Q. What communities could the Company serve using the DEU-Owned LNG Facility?**

361 A. The Company could serve the communities of Kanab, Green River, Utah and Wendover,  
362 Utah, and perhaps other areas with satellite LNG facilities at a lower cost than extending  
363 pipeline infrastructure to those areas.

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364 **Q. How did the Company determine that these communities could be served with LNG**  
365 **at a lower cost than traditional pipeline extensions?**

366 A. The Company retained HDR to conduct pre-FEED studies to determine the cost and  
367 viability of constructing satellite LNG facilities to serve these communities. The pre-  
368 FEED studies included evaluation of site specific vapor dispersion and thermal radiation  
369 requirements, as well as cost estimates to provide utility service, tanks, vaporization  
370 facilities, fire protection, and buildings. HDR also evaluated the trucking frequency and  
371 cost and the overall operating costs of the facilities.

372 In order to compare those costs to the cost of extending the Company's pipeline  
373 infrastructure to each of those communities, the Company developed cost estimates for  
374 serving these same communities via pipeline.

375 The pre-FEED studies are attached in DEU Highly Confidential Exhibits 5.12 through  
376 5.14. The Company's cost estimates for constructing pipelines to each of those  
377 communities are attached as DEU Exhibits 5.15 through 5.17.

378 The comparison of capital expenditures is shown in the table below:

Capital Cost Estimates for Serving Remote Rural Communities		
Community	Satellite LNG	Pipeline
Kanab	██████████	\$133.1 Million
Green River	██████████	\$60.9 Million
Wendover	██████████	\$154.7 Million

379

380 **Q. Why did the Company conduct the pre-FEED studies to estimate the construction**  
381 **costs of satellite LNG facilities in these locations?**

382  
383 A. The Company conducted the pre-FEED studies and pipeline estimates to address  
384 concerns raised in the Order, and to provide the information required to consider  
385 providing service to remote, currently unserved communities in its analysis.

386 The ability to serve remote communities in Utah with LNG is a tangible benefit of the  
387 DEU-owned LNG Facility. While the Company briefly discussed this benefit in Docket  
388 No. 18-057-03, it did not provide the necessary detail needed for the Commission to  
389 consider it as a relevant factor.



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390 In the Order, the Commission stated, “DEU has presented information in testimony that  
391 the LNG facility would provide the opportunity to extend service remote, currently  
392 unserved, locations at a lower cost than building pipeline facilities; however, neither the  
393 costs of such service extensions, nor the cost of building alternative facilities to serve  
394 such areas are part of the record. We conclude that the ability of the LNG facility to  
395 serve remote, currently unserved locations could qualify as a relevant factor under our  
396 required analysis, but we find the record in this proceeding is insufficient to consider that  
397 factor” October 22, 2018 Order, Docket No. 18-057-03, at 19.

398 By conducting the pre-FEED studies and developing pipeline costs, the Company is  
399 providing the relevant detailed information.

400 **Q. Could you please summarize your testimony?**

401 A. To determine the best solution for its supply reliability needs the Company conducted a  
402 detailed and complete RFP process to determine the lowest reasonable cost solution that  
403 meets the Company’s and customers’ needs. After a thorough review of the options  
404 proposed, the Company determined that its DEU-owned LNG Facility is the most  
405 effective and lowest-reasonable cost solution for Company’s supply reliability needs.  
406 The Company has conducted extensive due diligence in developing the scope and costs  
407 associated with the proposed project by completing both pre-FEED and FEED studies on  
408 the facility with its consultant HDR.

409 The Company also developed “apples to apples” costs comparisons of all proposals to  
410 capture the true cost to customers of each proposal. The comparison included costs for  
411 any needed system reinforcement on options provided in response to the Company’s  
412 RFP. These reinforcements were determined by the Company’s System Engineering  
413 Department and estimated by the Company’s Engineering Department estimator.

414 The DEU-owned LNG Facility provides ancillary benefits that include the ability to  
415 provide a more economical way to serve remote communities in Utah. The Company has  
416 developed pre-FEED studies for construction of an LNG trucking terminal and satellite  
417 vaporization facilities in three communities. The studies show that these communities  
418 could be served with LNG at a fraction of the cost of traditional pipeline construction.  
419 For all these reasons, the DEU-owned LNG Facility is the lowest-reasonable cost

DIRECT TESTIMONY OF  
MICHAEL L. GILL

420 resource to safely and reliably serve our customers and to provide necessary natural gas  
421 service to our outlying unserved Utah communities. Approval of the Company's  
422 application in this matter is just, reasonable and in the public interest.

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

424 A. Yes.


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

I, Michael 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 Platt

SUBSCRIBED AND SWORN TO this 30th day of April, 2019.



  
\_\_\_\_\_  
Notary Public