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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 DPU Exhibit 2.0 Dir Testimony and Exhibits Allen R. Neale
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**FOR THE DIVISION OF PUBLIC UTILITIES
DEPARTMENT OF COMMERCE
STATE OF UTAH**

DIRECT TESTIMONY AND EXHIBITS

OF

ALLEN R. NEALE

August 15, 2019

REDACTED

DPU Exhibit 2.0 DIR
Allen R. Neale
Docket No. 19-057-13
August 15, 2019

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REDACTED

DPU Exhibit 2.0 DIR
Allen R. Neale
Docket No. 19-057-13
August 15, 2019

EXHIBITS

- DPU Exhibit 2.1: Resume of Allen R. Neale
- DPU Exhibit 2.2: Summary of Recent Testimony of Allen Neale.
- DPU Exhibit 2.03 Schematic of the DEU distribution system showing locations where losses have historically occurred.
- DPU Exhibit 2.4: Illustration of Optimal Delivery Location
- DPU Exhibit 2.05: Illustrative Supply Demand Balance Example Under Force Majeure Scenarios and w/ LNG Facility (Volumes Only, MMBtu)

1 **I. INTRODUCTION AND QUALIFICATIONS**

2
3 **Q. Mr. Neale, please identify yourself for the record.**

4 A. My name is Allen R. Neale. I am a Consultant working in conjunction with Daymark
5 Energy Advisors (“Daymark”). My business address is Allen R. Neale c/o Daymark
6 Energy Advisors, 370 Main Street, Suite 325, Worcester, MA 01608.

7
8 **Q. On whose behalf are you testifying in this proceeding?**

9 A. I am submitting testimony on behalf of the Utah Division of Public Utilities (“Division”).

10
11 **Q. Are you the same Allen Neale who submitted testimony on behalf of the Division in**
12 **Docket 18-057-03 regarding the application by Dominion Energy Utah (“DEU” or**
13 **the “Company”) for approval of a voluntary resource decision to construct a**
14 **liquefied natural gas (“LNG”) to be directly connected to its distribution system?**

15 A. Yes, I am. However, my testimony today addresses DEU’s most recent version of this
16 application and related testimony filed on April 30, 2019 in this Docket No. 19-057-13
17 (the “Filing”). DEU initiated this docket exactly one year following its initial request for
18 approval in the prior docket, Docket No 18-057-03.

19
20 **Q. Please describe your educational background.**

21 A. I received a Master’s of Business Administration from Southern New Hampshire
22 College. I also have a Bachelor of Science in Engineering Technology in Mechanical
23 Engineering from Wentworth Institute.

24
25 **Q. Please summarize your employment experience and qualifications.**

26 A. I have over 25 years of experience in the natural gas distribution business in
27 Massachusetts. In 1973, I joined Essex County Gas Company (then Haverhill Gas) as a
28 Junior Engineer and subsequently held the following positions: Corrosion Engineer;

29 Supervisor of Distribution; Administrative Assistant; Vice President of Engineering,
30 Meter Shop and Production; and finally, Vice President of Gas Supply, Planning, Rates,
31 Regulatory, and Environmental Matters. As these various job titles indicate, I have a
32 broad range of experience at various levels within a gas distribution company, including
33 field work as a distribution system corrosion engineer and as a supervisor of distribution
34 overseeing main and service repair, replacement and new installations. Later, I was
35 placed in charge of Department of Transportation and Massachusetts Department of
36 Public Utilities Annual Reports for the company. My years as a Vice President provided
37 substantial management and executive decision-making experience as well as
38 involvement in rates and regulatory affairs. As described below, I have experience with
39 engineering design, procurement, operation and review of LNG facilities. In 1999,
40 following regulatory approval of the merger involving the Essex and the Boston Gas
41 Companies, I became the President of ARN Enterprises which owned and operated
42 CRW Finishing Company, a metal finishing business. A copy of my resume is attached
43 as Exhibit DPU 2.1.

44
45 **Q. Have you testified before this Commission?**

46 A. Yes. I previously offered testimony before this Commission in the first phase of this
47 project, Docket No. 18-057-03, which included direct testimony filed on August 16,
48 2018, and my appearance for cross examination and questions from the Commission
49 during the hearings held on October 1, 2018.

50
51 I have also offered testimony before other regulatory commissions as a subject matter
52 expert in gas engineering system operations and gas network analysis modeling in
53 support of local distribution company (LDC) accelerated capital replacement plans in
54 numerous proceedings, which were summarized in my testimony in Docket No. 18-057-
55 03. Since that time, I appeared as an expert witness in another docket before the
56 Maryland Public Service Commission on behalf of the Office of Peoples Counsel in:

- 57 • Baltimore Gas and Electric Company's application for a rate increase in Case No.

58 9484, in which I objected to the request for forward looking adjustments for
59 reliability because they were not known and measurable, among other issues
60 raised in that proceeding.

61

62 **Q. Please summarize your qualifications as a subject matter expert as it relates to the**
63 **engineering design and operation of an LNG facility.**

64 A. I have testified on numerous occasions before the Massachusetts Department of Public
65 Utilities during my tenure as an executive of the Essex Gas Company, where I oversaw
66 the design, procurement and installation of an upgrade to the existing LNG facility that is
67 directly connected to that company's distribution system.

68

69 In addition to the recent cases summarized above, I have also supported Public Counsel
70 for the State of Washington on cost-effectiveness and adequacy of service for Puget
71 Sound Energy's proposed Tacoma LNG facility, providing expert advice through a
72 phased review of the project, technical review sessions and settlement negotiations, with
73 the Final Order issued in WUTC UG-151663 on November 10, 2016.

74

75 In the majority of cases summarized above and in my testimony in Docket No. 18-057-
76 03, I have reviewed and submitted testimony on the appropriate specification and
77 usefulness of gas network analysis computer models used in many local gas utility
78 petitions to recover costs associated with infrastructure investments. These gas network
79 analysis models are similar to the system employed by the Company to support its
80 petition in the instant docket. My familiarity with these models allows me to assess from
81 an engineering perspective whether the proposed infrastructure project is likely to
82 achieve the specific improvement in system performance claimed in the petition.¹

83

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

¹ See discussion of the importance of network analysis to this Filing in Docket 18-057-03, Exhibit 2.0, lines 707-768.

85 A. I have been asked by the Division to review the process the Company followed to
86 evaluate the proposals received pursuant to the Supply Reliability Resource Request for
87 Proposals issued on January 2, 2019 (the “RFP”)² as compared to the Company’s
88 proposed on-system LNG facility, which DEU claims is necessary to meet its obligations
89 going forward to provide reliable supply to serve firm customers.

90

91 Further, the Division has asked me to make a recommendation regarding whether the
92 proposed LNG Facility will meet the standard for this resource investment to be
93 considered least cost and in the public interest.

94

95 **Q. What exhibits are you sponsoring?**

96 A. In addition to this direct testimony, I am sponsoring the following Exhibits:

97

- DPU Exhibit 2.01: Resume of Allen R. Neale

98

- DPU Exhibit 2.02: Summary of Recent Testimony of Allen R. Neale

99

- DPU Exhibit 2.03: Schematic of the DEU distribution system showing locations
100 where losses have historically occurred.

101

- DPU Exhibit 2.04: Illustration of Optimal Delivery Location

102

- DPU Exhibit 2.05: Illustrative Supply Demand Balance Example Under Force
103 Majeure Scenarios and w/ LNG Facility (Volumes Only, MMBtu)

104

105

II. SUMMARY OF FINDINGS AND CONCLUSIONS

106 **Q. What findings do you reach for this Filing?**

107 A. Based on my review and analysis of this Filing, I find that DEU:

108

- 1) Issued an RFP that allowed for bidders to submit proposals that meet an objective set
109 of performance requirements, irrespective of the technology employed;

² A copy of the RFP is provided as DEU Exhibit 3.02 in this Docket.

- 110 2) Conducted a robust RFP process that allowed for an adequate number of bids to be
111 received from multiple bidders in a fair and reasonable manner;
112 3) Received proposals that met the requirements for vaporization and storage capacity
113 requested in the RFP, but that were not as competitive in terms of cost.;
- 114 4) Thoroughly evaluated these alternative bids and even adjusted certain missing cost
115 assumptions in a manner that was favorable to the bidder (rather than the Company),
116 but, despite this bidder's advantage, the proposed LNG facility appears to remain the
117 most cost-effective alternative;
- 118 5) Having shown that the proposed LNG facility meets the reliability concern,
119 nonetheless DEU continues to be obligated to maintain costs consistent with its
120 current estimates such that the LNG Facility remains the least cost alternative,
121 consistent with Utah Code §54-17-402(3)(b), which I believe DEU should be required
122 to demonstrate in the next rate case or in a single-issue cost review proceeding.

123

124 **Q. Please summarize your conclusions based on your findings.**

125 A. Based on my review and analysis of this Filing as summarized above, I conclude that the
126 Company:

- 127 1) Successfully issued an RFP that allowed for reliability resource bids to meet a
128 technology-independent requirement evaluated on an objective set of performance
129 requirements;
- 130 2) Conducted a robust RFP process that invited a comprehensive list of qualified bidders
131 to participate in a fair and reasonable process, resulting in multiple qualified bids
132 received from new as well as existing bidders;
- 133 3) Maintained the same design and cost characteristics of the proposed LNG facility as
134 in the prior docket, while allowing bidders flexibility to propose alternate delivery
135 point and volume, resulting in multiple cost-effective bids received;
- 136 4) Demonstrated that the proposed LNG facility appears to remain the most cost-
137 effective option compared to the alternative bids received;

138

139 **Q. Please summarize your remaining concerns with this Filing for the Commission.**

140 A. Despite having determined that the Company has conducted a robust RFP process to
141 solicit alternative solutions to its reliability needs, and that DEU's network analysis
142 model shows the Proposed LNG Facility utilizes the full 150,000 Dth/d of the design
143 vaporization capacity at the required operating pressure to provide reliable service at peak
144 hours of the gas day, I have these four remaining concerns:

145

146 1) The need for this resource should be evaluated on the basis the risk and cost of an
147 outage that would affect current on-system customers, rather than justified with the
148 potential to support satellite locations at some point in the future, as satellite facility
149 sizing and costs estimates provided remain approximate at best and do not recognize
150 the economic decision each customer must make who is currently served by propane.

151

152 2) This Filing should exclude consideration of risks that the Company assumes in its
153 normal course of business, e.g., regulatory lag, credit risk and the need to have
154 sufficient gas supply to meet its obligation as the supplier of last resort.³

155

156 3) The Filing continues to assume that the Proposed LNG Facility is intended to provide
157 reliability to both firm sales customers and Transportation only customers.
158 Transportation customers are responsible for assuring reliability of their own supply
159 and the proposal does not address how the transportation customers will pay for this
160 service.

161

162 4) Control of the proposed Facility should remain with firm customers if they are to be
163 expected to pay for this service through rates, and not be at risk of being replaced
164 with near-equivalent contract or physical assets with similar but not identical flexible
165 service and reliability characteristics.

³ Docket 18-057-03, DPU Exhibit 2.0 Direct Testimony of Allen Neale, pp. 8-9, lines 233-237.

166

167 **III. BURDEN OF PROOF**

168 **Q. Please summarize the burden of proof DEU is required to meet for this Filing?**

169 A. Under Utah Code there are two provisions under which the Company may request
170 approval of a resource decision, with the major distinction between the two being a
171 request for pre-approval prior to the implementation of the resource decision under Utah
172 Code Section 54-17-402 versus a request for cost recovery in rates after the project is in
173 service in the Company's next general rate case.⁴

174

175 The request for pre-approval was filed under Utah Code Section 54-17-101 *et seq.*, and
176 requires the filing be sufficient to allow the Commission to determine that the proposed
177 resource is in the public interest under the provisions of subsection (3)(b) as enumerated
178 below.⁵

179

180 (3) In ruling on a request for approval of a resource decision, the
181 commission shall determine whether the decision:

182 (a) is reached in compliance with this chapter and rules made in
183 accordance with Title 63G, Chapter 3, Utah Administrative
184 Rulemaking Act; and

185 (b) is in the public interest, taking into consideration:

186 (i)

187 (A) whether it will most likely result in the acquisition,
188 production, and delivery of utility services at the lowest
189 reasonable cost to the retail customers of an energy utility located
190 in this state;

191 (B) long-term and short-term impacts;

192 (C) risk;

193 (D) reliability;

194 (E) financial impacts on the energy utility; and other factors
195 determined by the commission to be relevant.

⁴ DEU Exhibit 1.0 Direct Testimony of Kelly Mendenhall, page 12, lines 283-288

⁵ https://le.utah.gov/xcode/Title54/Chapter17/C54-17-S402_1800010118000101.pdf

196

197

198

199

200

201

202

The Filing also must comply with the Commission’s Rules. Rule 746-440-1 states that the Filing Requirements for a Request for Approval of a Resource Decision (must include) “...Sufficient data, information, spreadsheets, and models to permit an analysis and verification of the conclusions reached and models used by the Energy utility.”⁶

203

IV. COMMISSION ORDER IN DOCKET 18-057-03

204

Q. Did DEU comply with the Commission’s decision in Docket 18-057-03?

205

A. Based on my review of the Commission’s Order dated October 22, 2018 (the “Order”), the Commission denied the application because the record was insufficient and withheld pre-construction cost recovery assurance available under Part 4 of The Energy Resource Procurement Act without foreclosing DEU from constructing the facility and seeking to treat the construction costs as prudently constructed utility rate base.⁷

206

207

208

209

210

211

Q. What specific conclusions in the Commission’s Order have bearing on this testimony?

212

A. The Commission made two findings critical to determine that the applicant has met the Burden of Proof under Utah Code and one observation that is related to my findings summarized below. These are:

213

214

215

- Consistent with my recommendation in Docket 18-057-03, the Commission denied DEU’s application because there was insufficient information for all cost-effective alternate options to conclude that construction of the proposed LNG facility would be in the public interest.⁸

216

217

218

219

- The Commission found that DEU had not adequately supported its request for approval to construct the LNG Facility because it did not follow the common industry

220

⁶ <https://rules.utah.gov/publicat/code/r746/r746-440.htm#T3> , section (1)(f)

⁷ Order, Synopsis, top page.

⁸ Order, Section B.iii., p. 18.

221 practice of requesting proposals from the market to address the risk it seeks to
222 mitigate, and, as a result, could not make a lowest reasonable cost determination at
223 that time.⁹

- 224 • The Commission observed that construction costs are ultimately reviewable as having
225 been prudently incurred in a utility rate base proceeding.
226

227 **V. SCOPE OF REVIEW**

228 **Q. Have you reviewed the Company's filing and all discovery in this proceeding?**

229 A. I have reviewed the Company's Filing submitted April 30, 2019, including the public and
230 confidential Direct Testimony and Exhibits of witnesses Faust, Gill, Mendenhall, Platt
231 and Schwarzenbach. In addition, I and my colleagues at Daymark, have reviewed the
232 Company's public and confidential responses to DPU discovery sets 1 through 3.
233

234 **VI. OVERVIEW OF THE LNG FACILITY**

235 **Q. Please briefly summarize the proposed LNG Facility.**

236 A. The Company has proposed to construct, own and operate an on-system LNG storage
237 facility to be located near [BEGIN CONFIDENTIAL] [REDACTED] [END
238 CONFIDENTIAL] that will include a 15 million-gallon LNG storage tank, an amine gas-
239 pretreatment process, a liquefaction cold box, and gas vaporization facilities. The
240 proposed liquefaction rate is equivalent to approximately 82,000 Dth/d and the proposed
241 vaporization rate is 150 MMcfd or approximately 150,000 Dth/day.¹⁰
242

243 **Q. When has DEU indicated this proposed Facility would begin service?**

244 A. DEU's Filing anticipates the facility would be in-service in time for the 2022-2023 winter

⁹ Order, Section B.i., p. 16.

¹⁰ Docket 18-057-03, DEU Exhibit 5.0, Direct Testimony of Michael Gill, page 2, lines 26-30.

245 heating season.¹¹ The Company has indicated that it will be unlikely to completely fill
246 the facility prior to that winter but will still have sufficient supply to sustain a single
247 event involving a loss of 150,000 Dth during that time period. DEU plans to have full
248 use of the facility for the following 2023-2024 winter season.¹²

249
250 **Q. Please briefly summarize the objective for the proposed LNG Facility?**

251 A. The Company states in its Filing that its current portfolio can meet the Design Peak Day
252 requirements if all gas supply in its portfolio is delivered. However, with this Filing the
253 Company has expanded the problem it is trying to address to include two concerns:

- 254 1) DEU must be prepared to address a shortfall situation that could result in
255 residential customer outages because it has experienced upstream supply
256 reductions on days when temperatures in its service territory were above its
257 Design Day criterion of -5 degrees F at the Salt Lake City Airport:
258 - as a result, January 6, 2017, DEU experienced upstream pipeline supply
259 disruptions, leaving it with inadequate supply for firm sales customers and
260 it was unclear how long the disruption would last, and when average
261 temperature exceeded Design Day temperature by 10 degrees F (i.e., on
262 this day, average temperatures were warmer than Design Day criterion).¹³
263 - The Company provided an updated listing of supply cuts for the most
264 recent 2018-2019 winter, which shows these cuts have continued to occur
265 and at mean temperatures above the Design Day temperature.¹⁴
266
267 2) The Company has identified “optimal” locations on its distribution system that
268 will allow delivery to serve both the north and south areas of its service territory,
269 but to do so the delivery pressure must meet a high delivery pressure threshold of

¹¹ DEU Exhibit 5.0, Direct Testimony of Michael Gill, page 8, lines 216-217

¹² DEU Response to DPU 3.17.

¹³ DEU Exhibit 2.0, Direct Testimony of Tina Faust, page 4, lines 78-97, and Footnote 1.

¹⁴ DEU response to DPU 1.02 Attachment 1 (Cuts 2011 TO 2019).xls and Attachment 1.pdf.

270 720 psig, requiring the construction of a new feeder line to that location.

271

272 **Q. What evidence does the Company provide that it continues to correctly size the**
273 **Proposed LNG Facility to match this shortfall?**

274 A. The Company provided documentation in Docket No. 18-057-03 showing the dates when
275 supply shortfalls occurred and the temperature on those since 2011, which it updated
276 through the winter of 2018-2019 for this filing. A chart showing range in magnitude of
277 these cuts confirms that while many were below 50,000 Dth, eight instances ranged
278 between 100,000 Dth/d and 150,000 Dth/d.¹⁵

279

280 **Q. Did your evaluation of the Company's Network Analysis model support the sizing of**
281 **the proposed LNG facility?**

282 A. Yes, it did. I reviewed the Company's Network Analysis as part of my review for Docket
283 No. 18-057-03, which I describe in more detail in my direct testimony in that
284 proceeding.¹⁶ My observation of the Company's network analysis model showed that a
285 resource delivering gas supply at a high delivery pressure added at a critical location on
286 the distribution system will raise pressures elsewhere on the existing distribution system
287 on high demand days can utilize the full 150,000 Dth/d of the proposed LNG facility
288 output. However, Network Analysis by itself is not sufficient to determine whether the
289 Proposed LNG Facility is in the public interest because it is also necessary to compare
290 the cost of this facility to other viable alternatives, which is the purpose of conducting a
291 robust RFP process.

292

293 **Q. Do these cuts represent supply purchased by Transportation customers?**

¹⁵ DEU response to DPU data request 1.17, which includes a legend on the right-hand side indicating the cycle for which the cut occurred; several of these cuts between 100,000 Dth/d and 150,000 Dth/d occurred for the earliest cycles 1 and 2, allowing for an attempt to be replaced for a later cycle; however almost half of them occurred on an intra-day basis.

¹⁶ Docket No. 18-057-03, DPU Exhibit 2.0, Direct Testimony of Allen Neale, Section VIII, lines 770 – 768.

294 A. No, they do not. In response to DPU discovery requests, DEU confirmed that the
295 historical experience of supply cuts included only those recorded on Dominion Questar
296 Pipeline and only those related to supply for firm sales customers. No supply cuts related
297 to third-party supplies for Transportation customers were included.¹⁷

298 **VII. OVERVIEW OF THE RFP PROCESS**

299 **Q. Please briefly summarize the RFP process followed by the Company.**

300 A. The Company issued an RFP on January 2, 2019 with responses due by March 1, 2019,
301 following receipt of notices of intent to bid on February 1, 2019 and a public question
302 and answer session (both in-person and by phone) held on February 15, 2019.¹⁸ The
303 process followed by DEU for this procurement was the same one it uses for other
304 procurements it has conducted and DEU clarified that responses would be compared to a
305 self-build option already under consideration, the proposed LNG Facility in this Filing.¹⁹

307 **Q. Did you have an opportunity to review the RFP document prior to its release to
308 bidders and did you indicate any concerns with it?**

309 A. Yes, at the request of the DPU, I reviewed the RFP document on December 13, 2018 and
310 indicated a concern with the Operational Requirement that the proposed resource provide
311 delivery of supply on an as-needed basis within a 10-minute to 30-minute window
312 following DEU exercising its call option.²⁰

314 **Q. Please explain the nature of your concern regarding this Operational Requirement
315 for this window for response time.**

316 A. I was pleased to see that DEU had made plans to issue this all-source RFP to allow for
317 bids from alternative suppliers based on performance characteristics independent of the

¹⁷ Supply Reliability Technical Conference held 6/19/2019, slide 11.

¹⁸ DEU Exhibit 3.02, Section C. Due Dates, page 2.

¹⁹ DEU Exhibit 3.02, Section A. Purpose and Scope, para 4, page 1, and DEU Exhibit 1.0 Redacted Direct Testimony of Kelly Mendenhall, page 6, lines 133-136.

²⁰ DEU Exhibit 3.02, Section 3.a., page 2.

318 technology used. In the case of the self-build option, the technology is LNG that is stored
319 in a super-cooled liquid state that, when called upon, has to be returned to a gaseous state
320 in order to be injected into DEU's distribution system. My experience with LNG
321 facilities suggests that this transformation from liquid to gas is a multi-step process that
322 likely would take at least 30 minutes.²¹ Regardless, this is a technology dependent
323 operational requirement, which contradicts the intent of the all-source RFP and might
324 limit the number of viable bids received.

325

326 **Q. Did DEU respond to your concern at any point during this proceeding?**

327 A. DEU did not revise the RFP for this requirement, but it did acknowledge to me verbally that
328 the window for LNG withdrawal and injection into the distribution system could exceed this
329 30-minute upper limit.²²

330

331 **Q. In your opinion, did DEU complete a robust and competitive RFP process?**

332 A. Yes, in my opinion, the RFP process followed was both robust and competitive. I measure the
333 robustness of the RFP by the following:

- 334 1) The design parameters and operational requirements to be met are clearly stated and
335 allow for reasonable variations;
- 336 2) Multiple bids from the same respondent allowed;
- 337 3) The number of qualified bidders who:
- 338 a. received the RFP;
- 339 b. participated in the public bidders' conference on January 14, 2019;
- 340 c. were new respondents compared to the prior RFP issued for the prior docket;
- 341 d. ultimately responded to the RFP with qualified bids.

342

²¹ Calling upon an LNG facility, whether as part of the normal daily supply plan or to respond to a sudden loss of pressure, still requires at least 30 minutes to reduce the temperature of the stored gas in its super-cooled liquid state immediately upon withdrawal, allowing conversion to a gaseous state ready for delivery into the distribution system.

²² Supply Reliability Technical Conference presentation held on June 19, 2019, discussion regarding slide 3.

343 **Q. How did you confirm whether DEU's process met the threshold for your metrics for**
344 **a successful RFP?**

345 A. DEU responded to discovery requests posed by the DPU on my behalf that confirmed:

- 346 a. A total of 81 regional natural gas supplier contacts and seven storage service
347 provider contacts received the RFP, based on a list of contacts used for DEU's
348 annual and daily supply purchasing events; in addition, the RFP was advertised
349 in the trade press and posted on DEU's website.
- 350 b. A total of 18 individuals representing five non-DEU suppliers attended the
351 bidders conference in person, with other interested parties on the phone.
- 352 c. Two of the three respondents were new;
- 353 d. The three respondents submitted a combined total of six bids, with Magnum
354 submitting three proposals, and new respondents Prometheus and UEP
355 submitting two and one proposals, respectively.

356 These results tell me that three respondents, including two new bidders, found the RFP
357 process sufficiently clear and flexible to prepare multiple bids.^{23,24}

358

359 **Q. Your assessment above suggests the metric for a competitive RFP process is related**
360 **only to participation by multiple bidders and performance characteristics. Do you**
361 **also take cost into consideration?**

362 A. Yes, I do consider cost to be an equally important criterion. DEU provided Highly
363 Confidential Exhibit 1.06 that presents a summary of each bid and a comparison of the
364 proposed costs. This summary shows that the closest alternative to the proposed LNG facility

365 was [BEGIN CONFIDENTIAL] [REDACTED]

366 [REDACTED].

367

²³ Supply Reliability Technical Conference held 6/19/2019, slides 4, 5 and 6.

²⁴ Please note that my direct testimony in Docket No. 18-057-03 includes a confidential detailed description of the Magnum Energy Storage project that would be built were one of Magnum's bid options selected pursuant to this RFP.

368 Q. Please briefly summarize [REDACTED].

369 A. [REDACTED]

370 [REDACTED]

371 [REDACTED]

372 [REDACTED]²⁵ [REDACTED]

373 [REDACTED]

374 [REDACTED]

375 [REDACTED]

376 [REDACTED]

377 [REDACTED]

378 [REDACTED]

379 Q. [REDACTED]

380 [REDACTED]?

381 A. [REDACTED]

382 [REDACTED]

383 [REDACTED]

384 [REDACTED]

385 [REDACTED]

386 [REDACTED]

387 [REDACTED]

388 Q. [REDACTED]?

389 A. [REDACTED]

390 [REDACTED]

391 [REDACTED]

392 [REDACTED]

393 [REDACTED]

394 [REDACTED]²⁶

²⁵ Highly Confidential DEU Exhibit 1.06 – Supply Evaluation Matrix.

²⁶ FDR 1.01 dated July 25, 2019

395
396 [REDACTED]
397 [REDACTED]
398 [REDACTED]
399 [REDACTED]
400 [REDACTED]
401 [REDACTED]
402 [REDACTED]²⁷ [END CONFIDENTIAL]

403 **VIII. IMPORTANCE OF NON-COST CRITERIA: FLEXIBILITY AND**
404 **OPTIMAL DELIVERY LOCATION**

405 **Q. Besides meeting performance characteristics stipulated in the RFP, what other non-cost**
406 **factors should be considered?**

407 A. A key non-cost factor to be considered in this proceeding is flexibility, which in this case
408 means the ability to have a supply reliability resource that feeds into DEU’s distribution
409 system at a central point that allows for bi-directional flow both north and south provides both
410 daily and long-term flexibility. The Optimal delivery location is identified as the point at
411 which the proposed DEU high pressure system bisects the service territory near Glendale.
412 The Company identified the “Optimal” location for delivery to bidders in Section D.2. of the
413 RFP, explaining that the proposed resource should provide delivery into the DEU existing
414 high-pressure system with ability to connect to Feeder Lines (“FL”) 12, 13, 33 or 21-10. and
415 in the map on the accompanying Attachment D.

416
417 **Q. Please explain any other reasons why the Glendale location is important.**

418 A. As illustrated in Data Request No. 2.03 Attachment 1, the Glendale location indicated by the
419 large gold triangle is important because it also bisects the service territory into two halves that

²⁷ DEU Exhibit 3.0, Confidential Direct Testimony of William Schwarzenbach, page 9, lines 203-206, and confidential slides 36 and 37 from Supply Reliability Technical Conference held on June 19, 2019.

420 operate at two different system average operating pressures: 471 psig to the north of the
421 triangle, and 354 psig to the south. A copy of the map documenting this service territory
422 division between two different average operating pressure areas is provided as Data Request
423 No. 2.03 and shown below as DPU Exhibit 2.03.

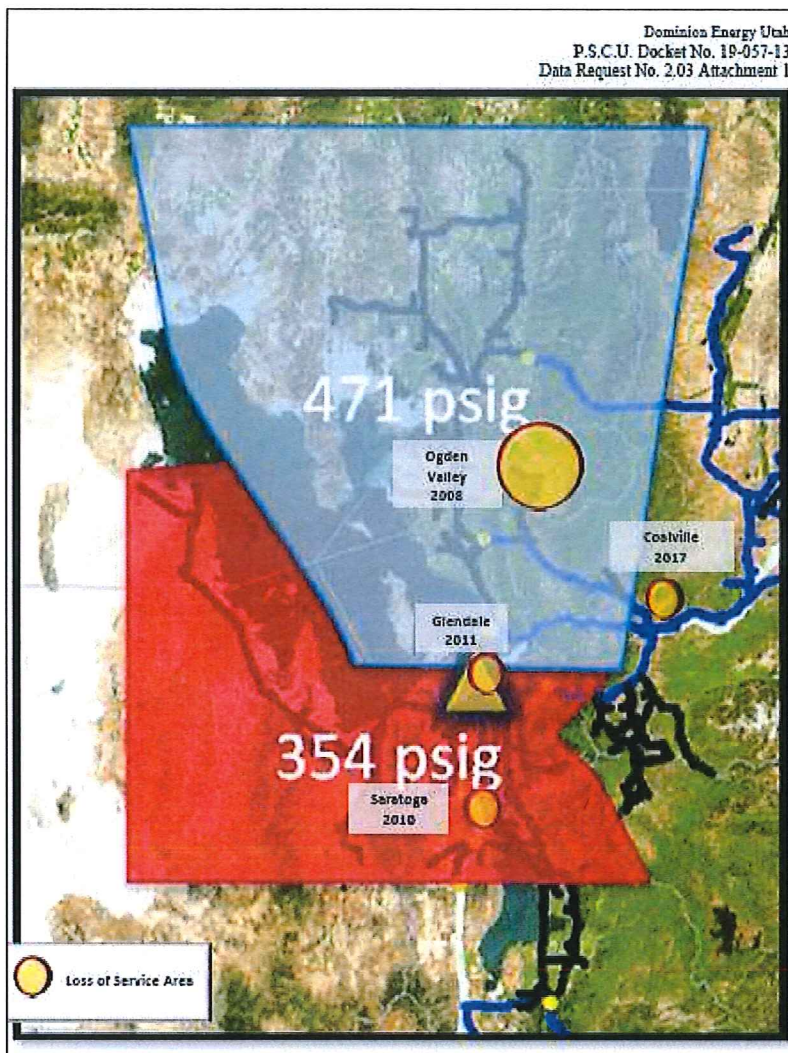
424

425

426

427

DPU Exhibit 2.03 Schematic of the DEU distribution system showing locations where losses have historically occurred.



428

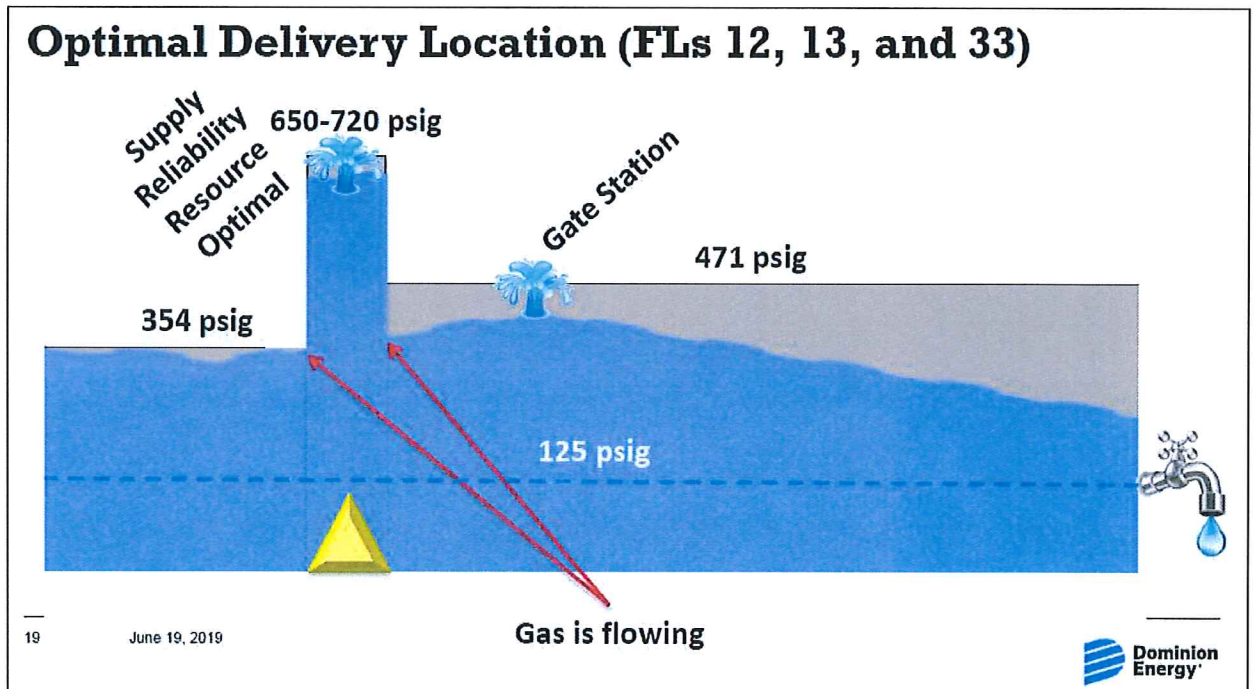
429

430

The fact that Glendale corresponds to the requested FL 12, 13 delivery locations in the RFP is

431 confirmed by comparing Data Request No. 2.03, Attachment 1 to the illustration provided at
432 in the slide presentation accompanying the Supply Reliability Technical Conference on June
433 19, 2019. Slide 19 from this presentation is a conceptual version of the map that confirms FLs
434 12, 13 and 33 are located near the high-pressure system at the division point between the
435 higher and lower pressure segments of the existing distribution system. A copy of this slide
436 illustration is shown below as Exhibit 2.04:

437
438 **DPU Exhibit 2.04: Illustration showing Optimal Delivery Location in relation to FL**
439 **locations specified in the RFP and the two separately regulated average system pressure**
440 **operating areas.**
441



442
443
444 **Q. What is the importance of this Optimal Delivery Location for bid evaluation purposes?**
445 **A.** The importance of this Optimal Delivery Location means that bidder proposals that do not
446 come close enough to this location and/or do not include sufficiently reinforced facilities to
447 flow into the high-pressure distribution system will have to have their cost proposals adjusted

448 to allow the gas supply to flow to this location. For example, responses that propose delivery
449 to Bluffdale, which is located in 354 psig operating system area, would not be able to supply
450 gas to the 471 psig operating system area because it would not operate at sufficient pressure to
451 flow gas that far north without significant project upgrades and system reinforcement.²⁸

452

453 **Q. What incremental costs are associated with this Optimal Delivery Location outside of**
454 **the bids received?**

455 A. The Company confirmed that no gate station exists within the identified Optimal Delivery
456 Location area, so one will have to be constructed.

457

458 **Q. Are there other benefits to having a supply resource at this location?**

459 A. Yes, in addition to being able to flow gas bi-directionally and addressing potential for loss of
460 service either to the south or the north of Glendale,²⁹ once constructed the proposed LNG
461 facility could be used to accommodate major maintenance that requires shutting in a gate
462 station for a short period of time.³⁰ This is an ancillary benefit that is more pertinent to
463 current customers than the prospect of constructing satellite LNG facilities to serve future
464 customers currently located in outlying areas .

465

466 **Q: How important are cost and non-cost criteria in the evaluation of resource options the**
467 **Company considered?**

468 A: As I summarized in by direct testimony in Docket No. 18-057-03, any benefit-cost
469 analysis includes some effort to account for quantifiable and non-quantifiable costs and
470 benefits. When considering which resource option is best for the Company's portfolio, it
471 is important to consider non-cost criteria that can either add value or create risk. I have

²⁸ Supply Reliability Technical Conference presentation on June 19, 2019, slide 17 (no physical page number).

²⁹ DEU's response to Data Request No. 2.03 Attachment 1 includes a map that shows the years when Loss of Service Area events occurred, including Glendale in 2011, as indicated by a gold circle, with the diameter of the circle presumably indicated the relative size of the loss.

³⁰ DEU's response to Data Request No. 2.01 Attachment 1 shows the location and names of existing gate stations and the feeder lines (FL) and main lines (ML) to which they are interconnected.

472 identified the added value of bi-directional flow to serve the system as a whole and help
473 minimize maintenance costs over time. While the Company, for example, considered
474 credit-worthiness of each bidder, which I consider to be outside the scope of my review.
475

476 **IX. SATELLITE LNG FACILITIES AS AN ANCILLARY BENEFIT**

477 **Q: Do you remain concerned that the Company continues to evaluate an alternative based**
478 **on its ability to support Satellite LNG facilities?**

479 A: Yes. As in the prior docket, the Company continues to hypothesize the ability of the
480 proposed LNG facility to support Satellite LNG facilities as an *ancillary* benefit and thus
481 another kind of non-price criteria.³¹ It also included reference to potential ancillary
482 benefits as a part of its preliminary evaluation of other bids received.³²
483

484 **Q. Has your view of Satellite LNG facilities as an ancillary benefit changes with this Filing?**

485 A. No, it has not. Previously, I flagged concerns about unspecified costs associated with,
486 e.g., the required schedule for trucked LNG delivery to fill each Satellite LNG facility,
487 the required satellite storage capacity, as well as the time required to refill the main LNG
488 facility. And there is nothing in this Filing providing confidence that all of the costs
489 associated with this ancillary benefit can be reasonably estimated. In fact, the Company
490 itself concludes “LNG satellite design is still very preliminary” and in response to
491 discovery confirmed that any estimates it has provided to-date are based on 20%
492 contingency around estimates that are expected to be accurate within +/- 50%.³³
493

494 **Q: What do you conclude from your review of the Company’s claim to ancillary benefits**
495 **associated with satellite LNG facilities in its Filing?**

496 A: I find that:

³¹ DEU Exhibit 3.0, Redacted Direct Testimony of William Schwarzenbach, page 27, lines 622-627.

³² DEU Exhibit 1.06, Supply Reliability Preliminary Evaluation Matrix.

³³ DEU response to DPU 1.13 and Supply Reliability Technical Conference June 19, 2019, slide 34.

497

498

i. it is not clear whether the Company will in fact experience the hypothesized growth in the identified communities,

499

500

ii. the stated need for the Proposed LNG Facility is to serve a deficiency to meet *current* demand in a specific area of the distribution system under peak day conditions, and

501

502

503

iii. the refill schedule for the Proposed LNG Facility as described in the Filing may preclude servicing any satellite facilities, which would rely upon trucked LNG from the Proposed LNG Facility for refill through the winter.

504

505

506

507

Therefore, I find that service to remote communities should not be expressly provided as a non-cost criterion used in the evaluation of the Proposed LNG Facility in this docket.

508

509

510

Q. What do you recommend for the evaluation of the ancillary benefit associated with the potential for satellite LNG facilities in this Filing?

511

512

A. I conclude, based on my findings above, that service to remote communities yet to be interconnected to the Company's distribution system would have to be – and is more appropriately -- addressed in a future docket where the Company would have the ability to present multiple resource options to serve those communities. One of these could comprise alterations to the Proposed LNG Facility, should it be approved by the Commission in this docket. Therefore, I recommend that service to remote communities should not be expressly considered as a non-cost criterion to evaluate the Proposed LNG Facility.

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519

X. OTHER CONCERNS

520

Q. Do you have any additional concerns that you believe should be addressed with this Filing?

521

522

A. Yes, I have two additional concerns. The first is the risk that Transportation customers will benefit from the service provided by the proposed LNG facility without equitably

523

524 sharing in the costs because DEU plans to recover costs through rates charged to firm
525 sales customers. The second is the risk that DEU may decide, after such cost recovery is
526 approved, to transfer ownership of this facility to an affiliate or even a third party in
527 exchange for a performance contract to provide service of a similar nature and term.

528

529 **Q. Please briefly describe your concern with potential for cross subsidization of the**
530 **Transportation customer class by firm residential customers.**

531 A. My concern is that even though the Company has confirmed in this filing that the
532 proposed LNG Facility will be built and used for the sole benefit of sales customers and
533 none of the associated costs will be charged to Transportation customers,³⁴ it may instead
534 become a no-cost remedy to offset supply loss among Transportation customers.

535

536 The Company has stated in both this Filing and last year's docket that it is trying to solve
537 a potential supply shortfall on days when cold weather events approach Design Peak Day
538 temperatures that would leave it with insufficient gas supply to serve firm customers.

539 However, the Company also acknowledges that it has few effective tools to prevent
540 Transportation customers from contributing to a potential shortfall that would be
541 addressed by the proposed LNG Facility, which DEU summarizes as follows:

542

543 a) The Company confirmed all Transportation customers are required to have telemetry
544 installed on their meters allowing DEU the ability to monitor daily imbalances,

545 b) The daily imbalance charge is a mere \$0.08/Dth for volumes outside of a 5% range.

546 c) Outside the 5% tolerance range DEU applies a \$5/Dth premium to the Daily cost of
547 gas on the first 10% of the Daily imbalance, and \$25 thereafter.

548 d) DEU expressed its preference to continue to manage Transportation customer
549 imbalances through penalties, which has resulted in increasing numbers of customers
550 being penalized and total penalties exceeding \$1.3 million in 2017.³⁵

³⁴ DEU Exhibit 1.0 Redacted Direct Testimony of Kelly Mendenhall, p. 18, lines 449-450.

³⁵ Supply Reliability Technical Conference presentation on June 19, 2019, slides 22-26.

551

552 **Q. If DEU is imposing penalties on Transportation customers, why do you remain**
553 **concerned about the potential for cross subsidization?**

554 A. I remain concerned about the potential for cross-subsidization because:

- 555 • EU did not confirm whether it has collected penalties imposed in a timely manner
556 or how much remains outstanding;
- 557 • The meager premiums imposed suggest that flaunting the rules is probably less
558 expensive than the Transportation customer trying to hold its own third-party
559 supplier to account; and
- 560 • The Company's description of this process, specifically item d) above, does not
561 inspire confidence that it assigns staff to monitor Transportation Customer
562 overtakes on a contemporaneous basis, or if it simply allows accumulated deficits
563 to be reviewed only by the accounting department for purposes of adding a
564 penalty line item to the invoice at the end of the billing cycle. If the latter is the
565 case, then it is possible that members of the gas management team may only
566 infrequently be made aware of a potentially significant deficit within this
567 customer class.

568

569 Further, by not having the ability to physically shut-off Transportation customers whose
570 third-party gas supply was confirmed as having been cut or not delivered, and instead
571 simply relying on penalties as a deterrent, DEU is putting the entire system at risk for an
572 event similar to the expressed purpose it cites as the need for the proposed LNG facility.

573

574 **Q. What do your observations above lead you to conclude regarding the potential for**
575 **cross subsidization and the value of the Proposed LNG Facility to Transportation**
576 **customers?**

577 A. I conclude that taken together, the Company's observations suggest that its approach to
578 Transportation customer management creates conditions that would enable cross
579 subsidization once the proposed LNG facility is approved and constructed.

580

581

Today, Transportation customers may be able to experience shortfalls of their own supplies and incur only a penalty, but the true value for relying upon the proposed LNG facility's output should be higher because it is more firm than third party supply that may not meet even the upstream interstate pipeline's criterion for firm supply. But this higher value may not be fully represented in the penalties currently charged.

586

587 **Q. Can you illustrate your concern with an example?**

588

A. Yes, my simple arithmetic example below illustrates how, even though the Company states that Transportation customers will not have access to the proposed LNG facility during a supply disruption,³⁶ changes in volumes delivered can result in cross-subsidization of Transportation customers by firm sales customers:

589

590

591

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594

Exhibit 2.05 Illustrative Supply/Demand Balance Example Under Force Majeure Scenarios

595

Exhibit 2.05: Supply Demand Balance under Force Majeure Scenarios and w/ LNG Facility (Volumes Only, MMBtu)								
		Supply Resource Type:	Peak Day Supply Entitlement	Planning Supply-Demand Balance Surplus / (Deficit)	Force Majeure Scenarios (volumes are confirmed deliveries)		Post-FM Scenario Supply-Demand Balance Surplus / (Deficit)	
					#1: Firm Sales Supply: 150,000 Dth/d Cut	#2: Transportation Third-Party Supply 50% Cut	#1: Firm Sales Supply	#2: Transportation Third-Party Supply
		Pipeline	800,000		650,000	650,000	(150,000)	(150,000)
		Underground Storage	200,000		200,000	200,000	-	-
		LNG (proposed)			150,000	150,000	150,000	150,000
Peak Day Customer Needs								
Firm Sales	1,000,000	Firm Transport						
Firm Transportation	100,000	3rd Party Supply	100,000	-	100,000	50,000	-	(50,000)
System Total	1,100,000	Total	1,100,000	-	1,100,000	1,050,000	-	(50,000)
Force Majeure 1 Event: Lose 200,000 firm sales supply from upstream P/L source; no cuts from Trans. Cust Suppliers: LNG covers the needs.								
Force Majeure 2 Event: Lose 200,000 from P/L source and 50,000 loss from Trans. Cust.Supplier: LNG can not cover and system fails.								

596

597

598

As can be seen from the highlighted value of -50,000 Dth under Scenario #2 in this

³⁶ DEU Exhibit 1.0 Redacted Direct Testimony of Kelly Mendenhall, p. 18, lines 450-452.

599 example, the system cannot maintain a supply/demand balance when both the Firm Sales
600 and Transportation customers sustain upstream supply cuts. Under this scenario, all
601 upstream firm sales resources are on, but upstream pipeline delivered supplies are short
602 by the amount of the proposed LNG facility's maximum vaporization capacity.

603

604 When third party supply also incurs a cut of 50,000 Dth, the total system has a 50,000
605 Dth deficit that could result in an outage because additional gas may not be available³⁷ –
606 in other words, the very event that the proposed LNG facility is intended to prevent. And
607 presumably, third party suppliers are kept whole under the Company's preferred
608 operating plan with slice of system capacity that includes some LNG --- perhaps as much
609 as 8% of the total peak day requirement.³⁸

610

611 **Q. What do you recommend should be done to minimize cross subsidization risk?**

612 A. I recommend that the Company conduct an allocated class cost of service study prior to
613 its next rate case. And based on the results of that study, DEU should develop a
614 Transportation customer tariff that provides for firm rates to receive back-up supply or
615 standby service that recognizes costs associated with all firm sales supplies, including the
616 cost of the Proposed LNG Facility if it is approved.

617

618 **Q. Please briefly describe your concern with preserving the full benefit of the Proposed
619 LNG Facility, in the event this Filing is approved by the Commission.**

620 A. Having demonstrated the value of an on-system storage facility that should be able to
621 respond rapidly to changes in supply and/or demand, I am concerned that at some point in
622 the future it could be subject to transfer of control to a non-regulated service affiliate in
623 exchange for a service contract that imperfectly approximates the physical delivery of
624 daily and seasonal quantities, e.g., less firm or missing the intra-day control benefit.
625 Aside from control issues, it would be inequitable to have ratepayers bear the risks of

³⁷ DEU Response to DPU 3.01.

³⁸ DEU Response to DPU 1.18.

626 construction and financing, while an affiliate reaps significant benefits from the facility.

627

628 I am also concerned that this Proposed LNG Facility could be used to make both on-
629 system and off-system sales to non-firm customers and interstate pipelines (as a pressure
630 support service) rather than being preserved to meet the non-cost criteria of maintaining
631 reliable service for firm sales customers, as required under the burden of proof discussed
632 above.

633

634 **Q. Are you aware of any instance where such a transfer of control and service**
635 **substitution has taken place?**

636 A. No. However, I am aware of an attempt to do so that was unsuccessful. I participated as
637 an expert witness in a case involving a request by NStar Gas to agree to a revised contract
638 for service from the Hopkinton LNG facility, located in Hopkinton Massachusetts. The
639 Company's request was denied, as can be seen in the final order in D.P.U. 14-64.

640

641 **Q. How would you propose to minimize this risk?**

642 A. My recommendation would be to condition any approval of the Proposed LNG Facility
643 on a commitment by DEU to:

- 644 i. retain ownership and control of this asset and to prohibit transfer or sale of the
645 facility or its capacity and deliverability to any third party without prior review
646 and approval by the Commission; and
647 ii. affirmatively designate the facility as a material strategic resource asset under the
648 terms of the recent Merger Agreement, as discussed in my findings above.

649

650 **XI. CONCLUSIONS AND RECOMMENDATIONS**

651 **Q. Please summarize your conclusions based on your review of the Filing.**

652 A. Based on my review and analysis of this Filing as summarized above, I conclude that the

653 Company:

- 654 1) Successfully issued an RFP that allowed for reliability resource bids to meet a
655 technology-independent requirement evaluated on an objective set of performance
656 requirements;
- 657 2) Conducted a robust RFP process that invited a comprehensive list of qualified bidders
658 to participate in a fair and reasonable process, resulting in multiple qualified bids
659 received from new as well as existing bidders;
- 660 3) Maintained the same design and cost characteristics of the proposed LNG facility as
661 in the prior docket, while allowing bidders flexibility to propose alternate delivery
662 point and volume, resulting in multiple bids cost-effective bids received;
- 663 4) Demonstrated that the proposed LNG facility appears to remain the most cost-
664 effective option compared to the alternative bids received;
- 665

666 **Q. Please summarize your recommendations for the Commission**

667 A. Based on my findings and conclusions discussed above, I respectfully recommend that
668 the Commission do the following:

- 669 1. Find that the RFP was conducted in a fair and reasonable manner and provides
670 sufficient information to complete the record for alternatives to be considered.
- 671 2. Find that the RFP and this Filing meet the burden of proof that the proposed LNG
672 facility is in the public interest.
- 673 3. Hold DEU to the obligation to maintain construction, operating and maintenance
674 costs consistent with its current estimates such that the proposed LNG facility
675 remains the least cost alternative, consistent with Utah Code §54-17-402(3)(b),
676 and reviewed in the next rate case or in a single-issue cost review proceeding.
- 677 4. Require the Company to reserve consideration of the benefits of Satellite facilities
678 to be supplied by the proposed LNG Facility for a future proceeding when it can
679 provide more accurate cost estimates than documented in this Filing.
- 680 5. Require the Company to evaluate recovering an appropriate share of the cost of
681 the Proposed LNG Facility from Transportation only customers based on a future

682 allocated cost of service study to be conducted as part of the next rate case; and
683 6. Require the Company to designate the Proposed LNG Facility as a materially
684 strategic resource under the provisions of the Merger Agreement approved in
685 Docket No. 16-057-01 to assure that it will not transfer ownership and/or control
686 of the proposed LNG Facility to any affiliate of DEU without prior review and
687 approval by the Commission.

688

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

690 A. Yes.