

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
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Direct Testimony of David Schultz

On Behalf of

Magnum Midstream Energy Holdings, LLC

August 15, 2019

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

2 A. My name is David Schultz. My business address is 35 Lake Mist Drive, Sugar
3 Land Texas, 77479.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am an independent consultant contracted by Magnum Energy Midstream
6 Holdings, LLC, a subsidiary of Magnum Development, LLC (“Magnum”). I have been
7 hired to assist Magnum in its efforts to develop and build its proposed underground
8 natural gas storage cavern and associated pipeline at its Western Energy Hub located near
9 Delta, Utah.

10 **Q. Please describe your educational background.**

11 A. I hold a Bachelor of Arts degree from the San Diego State University.

12 **Q. Please describe your professional experience and background.**

13 A More than 35 years of my professional career has been focused in the natural gas
14 and power sectors. My most pertinent experience to this proceeding includes being a
15 Senior Vice President for LNG America where we sought to bring liquified natural gas
16 (“LNG”) as a fuel to marine and land-based markets in the US. Prior to that, I worked in
17 various senior management roles at AGL Resources, including the start-up of Pivotal
18 LNG where we focused on bringing LNG from the utility’s LNG and merchant plants to
19 land and marine uses. In that role, I was responsible for the operations of the Pivotal
20 LNG’s merchant LNG operations, sales and marketing, planning, evaluation, and design
21 decisions regarding the possible construction and operations of proposed LNG facilities
22 of a similar size to LDC peaking facilities. During my time at AGL and Pivotal, I

23 became intimately familiar with the safety of such LNG facilities, and their capital and
24 operating costs. This understanding applies to both new and existing utility and merchant
25 owned LNG facilities, where I came to be fully familiar with AGL's LNG utility
26 operations. Prior to that role at AGL Resources, I developed AGL's 18 BCF of working
27 gas capacity at Golden Triangle Storage Project near Beaumont, Texas on the Spindletop
28 Salt Dome. In that role, I became intimately familiar with the design and safety of
29 underground natural gas storage facilities, including permitting, construction, capital cost
30 and operating cost. Prior to that role at AGL I, was responsible for the development of a
31 nearly \$3.0 billion LNG Import facility in Virginia. A copy of my curriculum vitae is
32 attached as Magnum Exhibit 1.1.

33 Background Information

34 **Q. Can you please provide some background information on Magnum and the Western**
35 **Energy Hub?**

36 A. Magnum is focused on developing, under the umbrella of the Western Energy
37 Hub, multiple portfolio companies, which are in various stages of development: natural
38 gas storage, compressed air energy storage, crude and industrial gases (hydrogen and
39 helium) storage. Each of these portfolio companies take advantage of the unique salt
40 dome geological resource where underground caverns will be created for the storage of
41 the various products. The company is actively engaged in commercial discussions with
42 significant customers for each of its business verticals.

43 At the heart of Magnum's Western Energy Hub is the only known "Gulf Coast"
44 style domal-quality salt formation in the western United States, located near Delta, Utah.
45 Magnum and the Western Energy Hub was originally funded by Haddington Energy

46 Partners III, LP in 2008 to support a variety of projects centered around this large salt
47 body. With capital and support from Haddington Ventures LLC, Magnum has defined
48 the salt dome extent and key characteristics and has secured key assets for multiple
49 projects (land, minerals, water, etc.). Resources committed to date at the Western Energy
50 Hub have significantly de-risked both site development and the creation of salt storage
51 caverns, thus expediting and de-risking future underground storage cavern development
52 and related business opportunities.

53 The Western Energy Hub's site viability and business efficacy has been proven by
54 the successful development, commercialization, and continuing operation of Magnum
55 NGLs, LLC. In 2015 Magnum NGLs, LLC was sold to NGL Energy Partners
56 (NYSE:NGL). To date, five caverns have been developed at the Western Energy Hub
57 with approximately 6.1 million barrels of combined storage capacity, and significant
58 access to available rail and truck transportation. In March 2018, Magnum entered into a
59 new joint venture with NGL Energy Partners.¹

60 It should be noted that the Delta salt dome provides Utah a very unique
61 advantage. The project represents the only known large, domal-style salt structure in the
62 western United States suitable for natural gas storage with multi-turn capability. This
63 multi-turn capability allows storage service customers to withdraw and inject their full

¹ On March 1, 2018, NGL Energy Partners LP (NYSE:NGL) and Magnum Liquids, LLC, a portfolio company of Haddington Ventures LLC ("Haddington"), along with Magnum Development, LLC and other Haddington sponsored investment entities (collectively "Magnum") announced the formation of a joint venture to focus on the storage of natural gas liquids and refined products by combining NGL's Sawtooth Storage Facility ("Sawtooth", a natural gas liquids storage facility with 6.1 million barrels of capacity in five existing salt caverns, including rail and truck access to Western U.S. markets located southwest of Salt Lake City, Utah) with Magnum's refined products rights and adjacent leasehold. NGL will own approximately 67.6% of the joint venture and Magnum will own the remaining 32.4% at closing. Magnum will have an option to acquire an additional 21.6% interest from NGL under similar terms with an additional option to acquire NGL's remaining 46.0% interest within three years of closing.

64 contracted volume multiple times per year. The number of times that the contracted
65 capacity can be cycled per year is called a “turn” and the number of turns per year is
66 determined by the amount of compression installed at the storage facility.² The number
67 of turns and attendant compression installed is based on the specific requirements of each
68 customer. The Western Energy Hub is in close proximity to critical gas and power
69 infrastructure allowing natural gas to be delivered by pipe to LDCs, power generators or
70 other end-use customers or burned as fuel in nearby power plants where the natural gas is
71 effectively delivered by wire.³

72 The uniqueness and value of the geologic salt feature at the Western Energy Hub
73 cannot be overstated. The dome is of world-class size and located in the center of
74 western energy infrastructure. In close proximity to this unique geologic feature, the
75 Western Energy Hub are pipelines (natural gas & refined products (UNEV), rail, highway
76 and power transmission lines that provide energy throughout the west. From this hub in
77 Utah, natural gas and power have the possibility to reach over 75 million people in 11
78 western states. This makes the Western Energy Hub a strategic asset for both the State of
79 Utah and the western United States. Utah has the ability to be the central player in the
80 current and future energy development in the west through the development of the
81 Western Energy Hub to its full potential.

82 Attached as Magnum Exhibit 1.2 is an aerial picture of the Western Energy Hub
83 with depictions of the various projects under development.

² DEU’s proposed LNG facility would require additional liquifiers—at a far greater cost—to match the capabilities of the Western Energy Hub.

³ Natural Gas delivered by wire means that instead of moving the natural gas via pipeline to a power plant near a load center the gas is consumed in a power plant near the storage facility and the power is moved by high voltage transmission to the load center.

84 **Q. Please provide more detail on Magnum’s Western Energy Hub natural gas storage**
85 **project.**

86 A. Magnum’s natural gas storage project is certificated by the Federal Energy
87 Regulatory Commission (“FERC”) to provide up to a combined 40,000,000 Dth of
88 working gas capacity in four caverns. The project is designed to allow multiple turns or
89 cycles per cavern each year providing a unique option for Dominion Energy Utah
90 (“DEU”) to meet its customers’ natural gas, supply and deliverability requirements with
91 nearly unlimited flexibility.

92 An approximately 60-mile natural gas header connecting the Western Energy Hub
93 to the interstate pipelines of Kern River Gas Transmission and/or Dominion Energy
94 Questar Pipeline is also permitted by FERC and is shovel-ready. Magnum holds a FERC
95 Section 7(c) certificate and all necessary BLM permits and the majority of the rights of
96 way to construct a header up to 36” in diameter, which will support potential
97 interconnections at the Goshen Hub, Magnum’s proposed WEST Header Project,⁴ the
98 Kern River Gas Transmission pipeline, Dominion Energy Questar Pipeline, Dominion
99 Energy Utah (LDC), and the IPP Power Plant, among others.

100 The high-turn capability of the Magnum’s Western Energy Hub natural gas
101 storage project provides system supply reliability services as well as peak day services
102 for pipelines, producers, local distribution companies, LNG exporters and power

⁴ On June 27, 2018, Magnum announced an open season for the Western Energy Storage and Transportation Header Project (WEST Header), a new ~650-mile large diameter interstate pipeline running from the Salt Lake City Valley and Goshen Hub in Utah to Las Vegas, Nevada, and along the California/Arizona border south to Yuma, Arizona. By connecting the Magnum Gas Storage Project with various production sources throughout the Rocky Mountain region and the Permian Basin, the WEST Header will enable Magnum to supply highly flexible, intra-day storage and transportation services to markets throughout the Western United States, including Southern California. For more information about the WEST Header, please visit www.westhp.com.

103 generators. A recent failure of an aging large gas storage reservoir in California⁵
104 illuminates the potential for large-scale power outages and demonstrates a need for high-
105 deliverability, multi-cycle storage services like those offered by the Western Energy Hub,
106 and the increasing penetration of renewable electric generation resources increases the
107 need for flexible gas storage options like those offered by the Western Energy Hub.⁶

108 **Q. What is Magnum's interest in this docket?**

109 A. Magnum intervened and filed testimony in DEU's LNG approval docket that was
110 before this Commission last year, Docket 18-057-03. It did so because Magnum's
111 natural gas storage project was among the options considered by DEU, and Magnum's
112 project was addressed at length in testimony and exhibits in that docket. While Magnum
113 has had, and hopes in the future to continue to have, a good working relationship with
114 DEU, Magnum filed testimony in that docket because its project offers numerous benefits
115 and opportunities for DEU and its customers beyond those available from the proposed
116 LNG facility and Magnum felt that it was necessary to clarify the record with respect to
117 various risks, costs and benefits relating to its project.

118 The Commission ultimately denied DEU's request for pre-approval of the LNG
119 project last year because DEU had not demonstrated that its LNG facility was the most
120 reasonable, lowest-cost alternative. In support of its decision, the Commission cited
121 Magnum's testimony that "a formal RFP process in which DEU states specifically its

⁵ A salt dome is vastly different from, and superior to, both an LNG facility and a depleted reservoir such as the one in California. Depleted reservoir gas storage is typically used to meet seasonal demand increases and, like LNG facilities, have a low fill/delivery rate, "meaning the natural gas that can be extracted each day is limited." See <http://naturalgas.org/naturalgas/storage/>. Depleted reservoir gas storage is, therefore, similar to an LNG facility and contrasts with Magnum's salt dome storage, which is a high-deliverable, multi-cycle facility.

⁶ See the Western Electricity Coordinating Council Wood Mackenzie Study, available at <https://westhp.com/wp-content/uploads/2018/06/Western-Interconnect-Gas-Electric-Interface-Study.pdf>

122 supply reliability objectives is necessary for DEU to learn what the market can provide to
123 meet its supply reliability concerns.” (Docket 18-057-03, Oct. 22, 2018 Order (“2018
124 Order”) at 15). The Commission further noted that DEU did not solicit “bids for a
125 resource that could provide essentially instantaneously 150,000 Dth/day of gas for eight
126 days to DEU’s distribution system.” (*Id.* at 15-16).

127 After the Commission’s ruling in the 2018 docket, DEU issued a new RFP this
128 year and invited Magnum to participate, which it did.

129 **Q. Did the 2019 RFP process conducted by DEU adequately address the deficiencies**
130 **identified in the 2018 process so as to provide a meaningful record from which the**
131 **lowest-cost option for meeting the reliability needs identified by DEU can**
132 **reasonably be determined?**

133 A. Unfortunately, no. The 2019 RFP process appeared to be less of a serious attempt
134 to identify the least-cost, least-risk resource to meet specified utility needs, and more of
135 an attempt to ensure that DEU’s desired LNG facility would be the only resource that
136 could meet DEU’s newly described needs.

137 **Q. Please explain.**

138 A. Before submitting a bid into the 2019 RFP, Magnum submitted several questions
139 to DEU in an effort to better understand DEU’s specific needs and to help tailor
140 appropriate RFP responses. DEU refused to provide meaningful information in response
141 to those requests. Magnum’s questions and the DEU responses are attached as Mangum
142 Exhibit 1.3. Because DEU refused to provide meaningful information—choosing to
143 focus on its role as a competitor to Magnum and other bidders instead of its proper role
144 of identifying the best and most cost-effective resource option for ratepayers—Magnum

145 and other bidders were effectively precluded from negotiating and tailoring specific
146 options in response to perceived utility needs.

147 Even more critically, DEU made a number of changes to its 2019 RFP process in
148 comparison to the 2018 process that appear designed primarily to ensure that DEU's
149 proposed LNG project—and that project only—would be identified as the preferred
150 option. In our view, not only were the goal-posts moved by DEU, the entire game was
151 moved to a new and undisclosed location. Among those changes were the following:

152 **1. Change in delivery location.** A very significant change from DEU's
153 2018 request for bids to its 2019 request for proposals ("RFP") was a change in the
154 required delivery location. In 2018, DEU identified the Bluffdale area as the optimal
155 delivery location (which Magnum believes is also consistent with DEU's 2019 IRP that
156 identifies that area as a primary area of system growth and development and declining
157 pressures).⁷ The 2019 RFP specifies different "optimal" delivery points that required
158 significant additional pipeline construction through highly populated areas—a restriction
159 that seriously disadvantaged projects like Magnum's, which utilizes a pipeline to deliver
160 the required services. Indeed, Magnum fears this was the express intent of this change.

161 Magnum has had many discussions with DEU over the past several years dating
162 back to the inception of the Western Energy Hub. Those discussions have addressed
163 several topics, but more recently have focused on DEU's growing concern about
164 addressing natural gas supply reliability issues, peak-hour deliverability, long-term firm

⁷ In March 2018, DEU requested that Magnum provide a proposal for system supply reliability and peaking gas delivered at Bluffdale. At a June 19, 2018, Technical Conference in last year's LNG docket, DEU employee Michael Platt confirmed that the proposed Bluffdale interconnection point was an optimal "null point" location for system supply deliveries due to its central location and DEU's ability to distribute supply in multiple directions.

165 storage, optionality for multiple receipt and delivery points, and potential equity
166 participation. At DEU’s request, Magnum has responded to several specific RFPs, and
167 has had numerous other follow-up discussions with DEU. In response to specific requests
168 from DEU, Magnum has provided responses to each of DEU’s requests, which identified
169 DEU’s “optimal” delivery locations—including Goshen, Payson, and Bluffdale. Having
170 previously received Magnum’s bids for and competitive information for delivery to those
171 prior “optimal” delivery locations, DEU has chosen a new “optimal” delivery location for
172 its 2019 RFP, now identifying that delivery location as “the DEU existing high-pressure
173 system with ability to connect to Feeder Line 13, Feeder Line 12, Feeder Line 33, or
174 Feeder Line 21-10.”⁸

175 **2. Change in timing requirements.** Another serious flaw of the 2019 RFP
176 process is in its timing requirements. In the 2018 docket, DEU identified a 4-year
177 engineering/construction cycle for its proposed LNG facility and also identified a
178 commercial operation date in November of 2022. Despite significant delays caused by
179 the ineffective 2018 process, the 2019 RFP continues to mandate a commercial operation
180 date in November 2022, while requiring bids to remain open through March 31, 2020.
181 Shortening the engineering/construction cycle from approximately 48 months to 32
182 months is unreasonable. In Magnum’s view, neither DEU’s proposed LNG facility, the
183 Magnum options, nor any other available alternative resources, could reasonably be
184 expected to be engineered, financed and completed in an efficient manner within such a
185 narrow timeframe. DEU refused to answer questions about timing contingencies, or the

⁸ See Dominion Energy Utah Supply Reliability Resource Request for Proposal (“RFP”), dated Jan. 2, 2019 RFP, at 2. A true and correct copy of the RFP is attached hereto as Magnum Exhibit 1.4.

186 likely timeline of its preferred LNG facility, leaving bidders without adequate
187 information to prepare meaningful cost and timeline proposals.

188 The timing requirements in the 2019 RFP are important, particularly given the
189 relative risks presented by the different projects bid into the 2019 RFP. The shorter the
190 engineering/construction cycle, the greater the risk of cost overruns, and DEU's
191 customers should not bear the risk of those cost overruns. If DEU had chosen Magnum
192 or another bidder offering a contract option, Magnum or another bidder would bear the
193 risk of cost overruns for the project. By contrast, DEU will seek to recover all costs—
194 including any costs it incurs above and beyond the estimated project costs—from its
195 ratepayers. DEU has not demonstrated a need for a commercial operation date of
196 November 2022 that justifies this increased risk to its customers. DEU's assertion that its
197 proposed LNG facility is the lowest-cost option is placed at risk by the construction
198 timeline. If DEU's application in this docket is approved, that approval should be
199 conditioned on DEU guaranteeing that it will not seek recovery of any costs incurred
200 above and beyond the estimated costs identified in its application.

201 **3. Change in requested resource.** DEU's 2018 LNG filing asserted a need
202 for a resource to supply 150,000 Dth of gas per day for 8 full days in order to maintain
203 pressure for firm customers in the event of supply shortfalls or other system emergencies.
204 The Commission's Order in the 2018 docket chided DEU for its failure to initiate "a
205 formal RFP process in which DEU states specifically its supply reliability objectives."
206 (2018 Order at 15). In requesting approval of its LNG plant in the 2018 docket, DEU
207 asserted that it required delivery of 150,000 Dth/day of gas for eight days. The

208 Commission noted, however, that DEU had never solicited bids for delivery of “150,000
209 Dth/day of gas for eight days to DEU’s distribution system.” (*Id.* at 15-16).

210 Notwithstanding this express Commission language seeking specificity in DEU’s
211 solicitation, DEU’s 2019 RFP asked for a wide range of annual availability—between
212 750,000 and 1,500,000 Dth. Based on deliveries of 150,000 Dth/day, this equates to a
213 range of 5 to 10 days. This change makes DEU’s specific resource needs quite unclear.
214 Costs for facilities designed to supply 150,000 Dth/day for 5 days are very different than
215 those needed for 8 or 10 days. A meaningful RFP should specify the precise needs DEU
216 is attempting to address in order for proposals to be tailored to those specific needs. DEU
217 claimed that this change was intended to provide flexibility to respondents, but a
218 solicitation that does not clearly identify the utilities’ needs and goals makes it difficult
219 for respondents to tailor proposals in the most meaningful and cost-effective way.

220 **4. Refusal to discuss and tailor responses.** The RFP warns that anyone
221 who contacts DEU about an RFP proposal outside the RFP process is subject to
222 disqualification. Magnum carefully avoided such contacts, but on many occasions—
223 including in its RFP questions and in its bid—Magnum specifically requested
224 opportunities to meet with DEU throughout the RFP process to discuss DEU’s specific
225 needs and interests, including sole or joint ownership options for DEU. Had such
226 information been provided, Magnum would have been able to tailor its proposal to
227 DEU’s specific needs. DEU refused to respond to such requests, however, and Magnum
228 and other potential respondents were forced to guess as to DEU’s true needs, intentions,
229 and motivations. Magnum’s project can be designed in nearly limitless ways and, as
230 such, could be designed to meet virtually any of DEU’s stated design requirements.

231 Without knowing those design requirements, Magnum was forced to build in a number of
232 contingencies that raised the price of its bid, without any way to know whether those
233 contingencies were desirable to DEU or not. For these reasons, DEU's 2019 RFP process
234 appears designed less to flesh out all available alternatives in a meaningful and
235 comparative manner, and more to check off the "RFP box" so that DEU can proceed with
236 the resource preferred by its shareholders.

237 **5. Refusal to explain LNG impacts.** Magnum asked several questions
238 designed to help it better understand the timing, cost, contingency and other implications
239 of the new 2019 RFP on DEU's proposed LNG facility, so that Magnum could better
240 focus and target its proposal to meet similar timelines and needs. DEU refused to provide
241 any substantive information about its LNG alternative. This dearth of meaningful
242 information made it impossible for bidders to reasonably focus their own proposals in a
243 manner designed to permit meaningful evaluation and comparison of all proposals on a
244 fair and equal basis.

245 **Q. Do you believe that the involvement of the Commission or an independent evaluator**
246 **would have improved the RFP process?**

247 A. Yes. I am informed that, because its request for approval in this docket is
248 voluntary, DEU was not required by statute or rule to utilize an independent evaluator
249 ("IE") for the RFP and that the Commission was not involved in the process of designing
250 the RFP. The 2019 RFP would have yielded better and more certain results, however, if
251 an IE had been hired to ensure the fairness of the RFP and/or if this Commission and
252 stakeholders had been involved in the RFP design process. For example, Magnum had
253 numerous questions throughout the RFP process that DEU simply refused to answer. An

254 IE could have provided answers to those questions and ensured that those answers were
255 provided to all bidders. Similarly, the involvement of the Commission and other
256 stakeholders could have prevented the RFP's failure to adequately define the requested
257 resource and the imposition of an unrealistic timing requirement, as discussed above.

258 The manner in which DEU designed and ran the RFP doesn't appear to Magnum
259 to comply with what the Commission had in mind when, in its Order in the 2018 LNG
260 docket, it suggested that DEU initiate an RFP so that it "would have a more complete
261 record on which [the Commission] could consider whether [DEU's] selected supply
262 reliability resource option is in the public interest." (2018 Order at 16).

263 **Q. Do you continue to believe that the Magnum project can meet DEU's stated needs**
264 **on a more cost-effective basis than DEU's preferred LNG plant?**

265 A. Yes. Magnum's proven salt cavern storage resource in Utah, which is rare
266 outside the Gulf Coast, offers high-deliverability, multi cycle storage with proven
267 reliability. Its flexibility, including the number of available "turns," far exceeds that of
268 traditional storage reservoirs. It will be available year-round, offering multiple days of
269 supply reliability and/or peaking, as needed, as well as expeditious injectability for
270 recharging of caverns.

271 Magnum' project offers economical, all-inclusive, safe, reliable "bolt on" options
272 that would resolve both supply reliability and peak-hour concerns. Magnum's proposal
273 would allow up to 2 billion cubic feet of natural gas storage (more if needed) and would
274 deliver the quantities of gas needed for supply reliability and/or peaking hour demands at
275 a cost that will save ratepayers millions of dollars compared to the LNG options. Natural

276 gas stored in Magnum caverns can be delivered to any of several strategic points of
277 receipt and delivery.

278 The Magnum facilities would allow DEU to adjust deliverability and peak hour
279 requirements as needed for day-to-day operational needs and in response to supply
280 reliability and peak hour demands. Magnum offers significant flexibility in terms of the
281 scope and design of the facilities, including options for DEU to participate as an equity
282 partner. Magnum's project is shovel ready, with all current necessary regulatory
283 approvals in hand,⁹ and could be operational within 24-36 months following execution of
284 definitive agreements. Moreover, Magnum's strategic location offers access to
285 significant utility infrastructure, as well as protections against force majeure disruptions
286 such as earthquakes. Magnum offered DEU significant optionality, given the flexibility
287 of its high-deliverability, multi-cycle salt cavern storage.

⁹ Magnum does not hold the regulatory permit from Goshen to Bluffdale. As such, extending the Magnum Header (Magnum Header Extension) beyond the Goshen Hub to Bluffdale would require additional FERC regulatory approval, which Magnum proposes to accomplish via an amendment to its existing FERC 7(c) certificate.

288

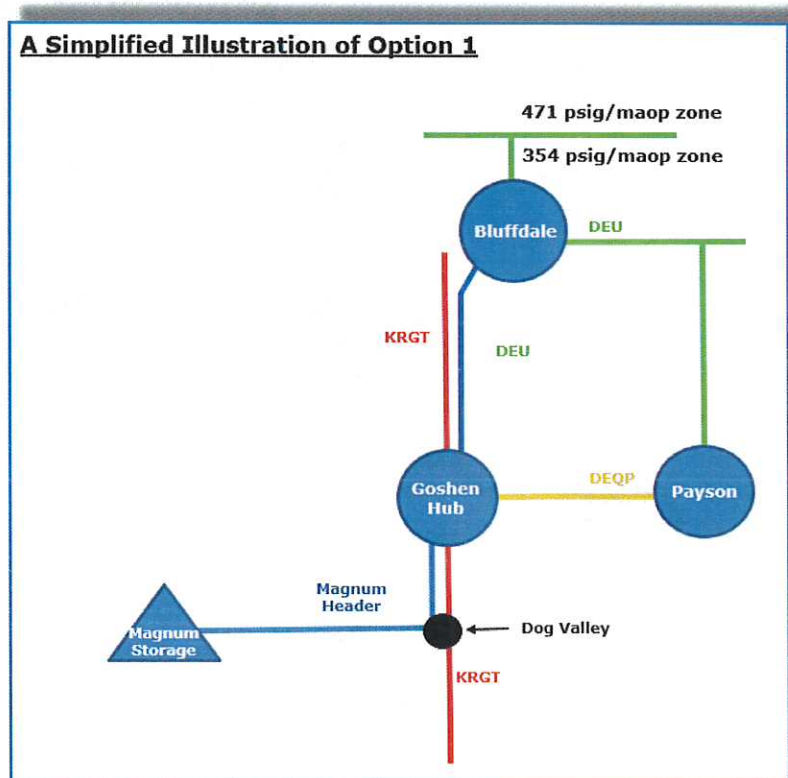
Comparison of Magnum and LNG Options

289 **Q. Please describe in general terms Magnum's bid in response to DEU's 2019 RFP and**
290 **explain how it compares to the LNG options.**

291 A. In response to the RFP, Magnum submitted a proposal with three options. The
292 two primary options are described herein as Option 1 and Option 2.

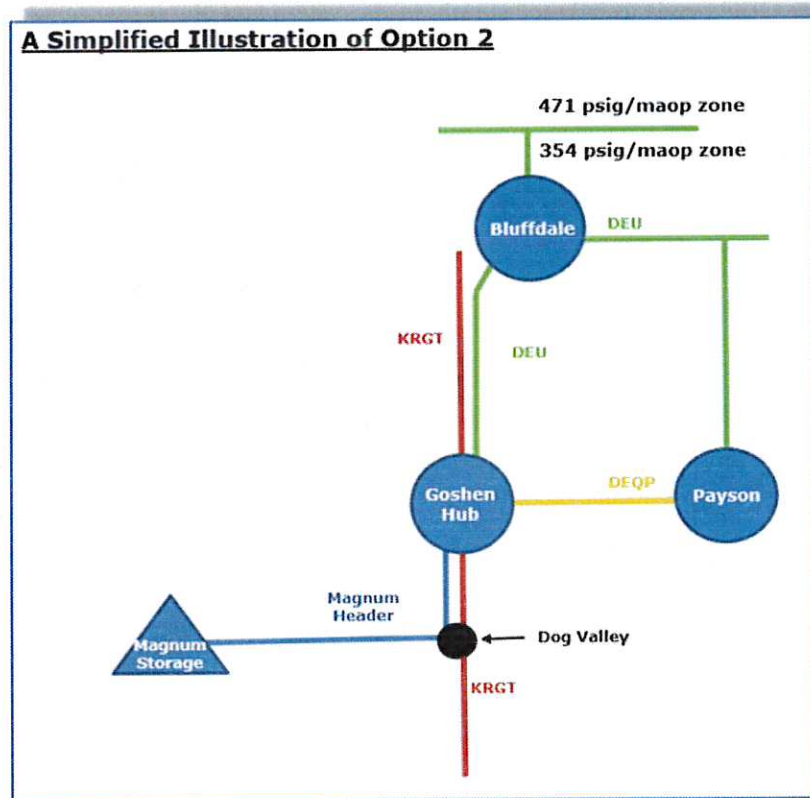
293 In Option 1, Magnum proposes to construct, own and operate the Magnum
294 Header Extension between the Magnum Header delivery point at Goshen Hub and a
295 delivery point on the DEU system at or near Bluffdale, Utah. Option 1 also includes a
296 provision where Magnum will fund the cost of upgrading DEU's system that will allow
297 for supplies to access the 471 psig/MAOP zone in the northern part of DEU's Wasatch
298 Front system. In Option 2, Magnum proposes that DEU construct, own and operate the
299 DEU System Extension between the Magnum Header delivery point at Goshen Hub and
300 a delivery point on the DEU system at or near Bluffdale, Utah.

301 The Magnum Proposal for Option 1, as illustrated below, includes construction of
302 the Magnum Header Extension to the proposed interconnection point with DEU at or
303 near Bluffdale. This option will allow for DEU-owned natural gas supplies to be
304 delivered directly into the DEU system at Bluffdale on a firm basis, with the flow
305 controlled at the interconnection point under the direct supervision of DEU and Magnum
306 Gas Control. With this option, Magnum will provide for a Firm No-Notice service that
307 will be available intra-day and outside of the standard NAESB nomination cycles,
308 whenever DEU needs to balance supply in its system and at a pressure necessary to
309 effectuate delivery of the service for which DEU has contracted.



310

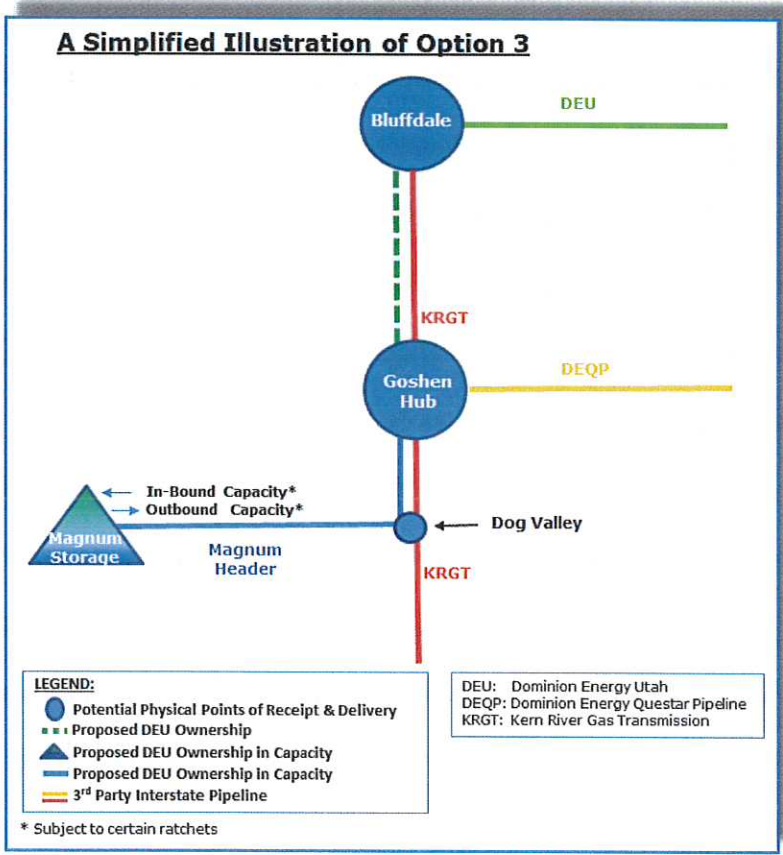
311 Option 2, as illustrated below, allows for DEU-owned natural gas supplies to be
312 delivered directly into the DEU system at Goshen on a firm basis, with the flow
313 controlled at the interconnection point under the direct supervision of DEU and Magnum
314 Gas Control. Magnum will provide for a Firm No-Notice service that will be available
315 intra-day and outside of the standard NAESB nomination cycles, whenever DEU needs to
316 balance supply in its system and at a pressure necessary to effectuate delivery of the
317 service for which DEU has contracted.



318 Both Option 1 and Option 2 provide a seamless, Firm Wheeling (transportation)
319 Service combined with a Firm No-Notice Service. This seamless service provides DEU
320 with a one stop solution for managing its intra-day flexibility needs and for meeting its
321

322 critical supply reliability requirements. Magnum believes it was the only Respondent
323 under the DEU RFP able to provide and manage the intra-day flexibility required by
324 DEU.

325 Magnum’s proposal also included a third option pertaining to prospective
326 ownership options for DEU in various aspects of the Magnum Project. As illustrated
327 below, Option 3 provides DEU the opportunity to hold 100% ownership in the Magnum
328 Header Extension (DEU builds, owns and operates Bluffdale to Goshen), inbound and
329 outbound of firm wheeling capacity in the Magnum Header, and firm storage capacity in
330 a Magnum Gas Storage cavern.



331

332 For each of the above options, Magnum will provide DEU's requested Total
333 Annual Supply Availability of 1,500,000 Dth. Magnum will also provide an additional
334 500,000 Dth over and above DEU's requested Total Annual Supply Availability of
335 1,500,000 Dth for a total of 2,000,000 Dth as a supplemental benefit to DEU.

336 **Q. Has Magnum performed a cost comparison of the Magnum RFP responses to the**
337 **cost of DEU's proposed LNG facility in this Docket?**

338 A. Magnum has not had an opportunity to perform a comparison of the costs of its
339 proposals in response to DEU's RFP to the cost of DEU's proposed LNG facility because
340 Magnum did not receive unredacted information from DEU in time to allow it to perform
341 such a comparison. Magnum filed its Petition to Intervene in this docket on July 26,
342 2019 and submitted a data request to DEU that same day, requesting production of
343 Confidential and Highly Confidential materials. Certain persons representing Magnum,
344 including myself, agreed to the confidentiality conditions to receive confidential and
345 highly confidential information from DEU. Magnum did not receive any confidential or
346 highly confidential materials until the afternoon of Monday, August 12, 2019. The
347 unredacted materials did not provide necessary information regarding the cost
348 of DEU's proposed LNG facility. After discussions between counsel for Magnum and
349 DEU, Magnum received certain high-level information related to the cost of the proposed
350 LNG facility late in the afternoon on August 14, 2019. This information came too late
351 for Magnum to determine whether it can conduct a comparison of the costs of the
352 proposed LNG facility with Magnum's proposals, let alone to perform any such
353 comparison.

354 Magnum believes that the Commission should have before it in this Docket the
355 most comprehensive record as possible, without DEU providing its LNG cost estimates
356 to Magnum in a manner for Magnum to perform its own comparison the Commission has
357 only DEU's cost comparison analysis. Magnum will evaluate the information it has
358 received and may continue to seek access to additional cost information that would allow
359 it to submit its analysis of comparative costs in future testimony.

360 **Q. Please summarize the advantages of the Magnum proposals.**

361 A. Magnum offers numerous available strategic points of receipt and delivery for
362 DEU. The Magnum facilities will be available year-round, with resources that provide
363 multiple days of supply reliability and peaking, flexible nominations that can be adjusted
364 as needed to address peak hour deliverability requirements and day-to-day operational
365 needs, and supply reliability during shortfalls or curtailments of upstream pipelines. The
366 location of the Magnum caverns ensures safety and protection against earthquakes and
367 other force majeure disruptions. High-deliverability, multi-cycle salt cavern storage is a
368 proven, reliable and desirable natural gas storage option that offers flexibility and
369 multiple turns compared to traditional reservoir storage or an LNG facility. Expeditious
370 injectability allows a quick recharge of caverns. Additionally, the Magnum project
371 provides funding for Utah schools through partnership with SITLA, is permitted and
372 "shovel ready." All-in-all, Magnum offers multiple options that would represent a win-
373 win for DEU and its ratepayers, Utah residents, and Magnum.

374 **Q. Does Magnum's offer of a long-term contract present a reduced risk to DEU's**
375 **customers compared to DEU's proposed LNG facility, which would be in rate base**
376 **for the lifetime of the facility?**

377 A. Yes. As noted above, Magnum offered a 25-year fixed-price contract to meet the
378 requirements of DEU's 2019 RFP. This structure represents a reduced risk to DEU's
379 ratepayers as compared to the proposed LNG plant for several reasons.

380 **Risk of Cost Overruns.** In the event that the cost to provide the required
381 services is higher than anticipated, the structure of Magnum's bid would require Magnum
382 to bear those increased costs whereas the increased costs to build the proposed LNG
383 facility will be borne by DEU's ratepayers so long as they are prudent. DEU's ratepayers
384 are not at risk of paying for cost overruns with Magnum's project, but are at risk of
385 paying for cost overruns for the proposed LNG facility.

386 **Risk of Lack of Demand.** DEU claims the need for supply reliability based on
387 certain growth projections. If growth does not materialize in the way that DEU
388 projects—such as an economic downturn or changes in growth patterns—then the need
389 for supply reliability may also not materialize. For this reason, Magnum's project
390 presents less risk to DEU's ratepayers because it is for a 25-year contract, rather than the
391 lifetime of the proposed LNG facility. Magnum's bid provides all of the functionality of
392 the proposed LNG facility in the event that growth does materialize, but unlike with the
393 proposed LNG facility, the risk is limited to a 25-year contract, after which DEU would
394 have the option to renew the contract based on information available at that time.

395 **Risk of Change in Demand.** DEU claims that the proposed LNG facility best
396 meets the supply reliability needs of its ratepayers based on part on DEU's assertion that
397 it connects at the "optimal" delivery location—between the northern and southern
398 portions of DEU's Wasatch Front delivery system. As DEU noted in the June 19, 2019
399 technical conference, the northern portion of DEU's Wasatch Front system has larger

400 pipes than the southern portion and, therefore, requires a higher volume of gas than the
401 southern portion.¹⁰ DEU asserts that the “optimal” delivery location is between the two
402 systems, so that a single solution can serve both the northern and southern portions of its
403 system. This is short-sighted, because it requires a facility that is over-engineered if the
404 supply-reliability needs are all on the southern end of the Wasatch Front system. DEU
405 has stated in its recently-filed IRP that the fastest growth is occurring on the southern
406 portion of the Wasatch Front system.¹¹

407 Any proposed solution that connects at what DEU now refers to as the “optimal”
408 delivery point must be large enough to provide the high-volume of gas required to supply
409 the high-volume pipes in the northern end of that system. However, if the supply
410 reliability issues are in the southern end of the system rather than the north, then DEU’s
411 ratepayers will be paying for an over-sized system. Magnum’s proposal allows for
412 interconnections at multiple delivery points, including in the southern portion of the
413 Wasatch Front delivery system where DEU expects the greatest growth. If this expected
414 growth requires the supply reliability functionality in the south, but not in the north, then
415 the sizing and location requirement for the proposed LNG facility will have resulted in a
416 cost to DEU’s ratepayers that they need not have paid. Magnum’s project can
417 interconnect at various points to serve growth as it materializes and, as a result, there is
418 little or no risk of an oversized LNG project or of requiring an interconnection point that
419 increases costs unnecessarily.

¹⁰ See Supply Reliability Technical Conference materials at 15 (showing 471 psig MAOP zone to north and 354 psig MAOP zone to south).

¹¹ See Docket 19-057-01, Integrated Resource Plan, filed June 13, 2019 at 4-5 (“Saratoga Springs, Lehi, and Eagle Mountain are some of the fastest growing communities in DEU’s service territory.”) See also *id.* at 5-3 to 5-4 (noting that Saratoga Springs, Lehi, and Eagle Mountain “are some of the fastest growing communities in DEU’s service territory.”)

420 **Q. Does Magnum’s proposal provide peak hour services that are superior to the peak**
421 **hour services that could be provided by the proposed LNG facility?**

422 A. Yes. DEU seeks approval of the proposed LNG facility for supply reliability
423 purposes. DEU does *not* seek approval of the proposed LNG facility as a mechanism to
424 provide peak hour services. DEU states in its testimony in this docket, however, that the
425 proposed LNG facility can provide some level of peak hour services. To the extent that
426 this Commission intends to consider the peak hour services of the proposed LNG facility,
427 the Commission should consider the fact that Magnum’s peak hour services are far
428 superior to those that the proposed LNG facility could provide.

429 The ability of the proposed LNG facility to provide peak hour services will be
430 limited based on the volume in the tanks at the time that peak hour services are required.
431 The supply reliability services that the proposed LNG facility would provide are most
432 needed during the peak heating season. To the extent that the proposed LNG facility is
433 used to provide supply reliability services during the peak heating season, its ability to
434 provide peak hour services is diminished. Refilling the LNG facility can take quite a long
435 time, and the LNG facility can only turn only once per year.

436 By contrast, and as discussed above, Magnum’s facility can turn multiple times
437 per year. The Magnum facility’s high turn capability allows it to provide more gas more
438 often than the proposed LNG facility. As a result, the Magnum facility has a far greater
439 ability to provide both supply reliability services and peak hour services than does the
440 proposed LNG facility.

441 **Q. Is there anything additional or substantive you would like to supplement to**
442 **Magnum’s response to DEU’s 2019 RFP?**

443 A. Shortly after Magnum’s proposal to DEU in the 2019 RFP, Magnum
444 Development announced along with Mitsubishi Hitachi Power Systems an initiative to
445 launch the Advanced Clean Energy Storage (ACES) project in central Utah to develop
446 1,000 megawatts of clean energy storage in central Utah.¹² The ACES project will
447 incorporate 100% clean energy storage, deploying utility-scale technologies, which
448 include renewable hydrogen, compressed air energy storage, large-scale flow batteries,
449 and solid oxide fuel cells. Renewable hydrogen, which is a zero carbon resource
450 produced via electrolysis from excess wind, solar and hydro power can be injected into
451 the natural gas stream to increase the level of renewable natural gas essential to a clean
452 initiative. The Magnum header system into Bluffdale would be able to deliver renewable
453 natural gas into the heart of DEU’s system. The Magnum proposal is compatible with
454 renewable hydrogen unlike DEU’s proposed LNG project which is not be compatible
455 with renewable hydrogen.

456 The Magnum proposal would assist Dominion Energy with their sustainability
457 initiative and “reducing carbon intensity” as stated in their Environmental Policy
458 Statement Dominion Energy “sets targets for enhanced environmental performance as
459 part of our sustainability initiatives”. This reinforces the unique nature of the Western

¹² See <https://magnumdev.com/wp-content/uploads/2019/05/NEWS-RELEASE-MHPS-Magnum-Partnership-05-30-19-FINAL.pdf>

460 Energy Hub and the potential for Utah to play a strong role in western energy markets if
461 the Hub develops.¹³

462 **Q. Do you have any other comments?**

463 A. Magnum would love an opportunity to work with DEU and its customers and
464 regulators to develop a timely, cost-effective, safe and reliable high-deliverability, multi-
465 cycle salt cavern storage facility and associated storage and no-notice services to resolve
466 DEU's supply reliability and/or peak-hour requirements. We appreciate this opportunity
467 to better explain the nature and cost of the services that Magnum can provide.

468 The Western Energy Hub provides a unique opportunity for the growth of energy
469 infrastructure western United States. Storage and/or the production of energy at the
470 Western Energy Hub, in its various forms, will help to shape the economic flow and use
471 of energy across the west. As the demand for energy, in form (renewables), in fuel
472 (natural gas and hydrogen) and in time of use change due to technology advancements
473 and lower costs, Utah, due to nature's delivery of a salt dome near Delta, is poised to be
474 at the critical crossroads for the western energy future. To illustrate this point, simply
475 look to the announcement in May of this year where Mitsubishi Hitachi Power Systems
476 and Magnum joined with The Honorable Gary Herbert, regarding an initiative to launch
477 the Advanced Clean Energy Storage (ACES) project in at the Western Energy Hub. In
478 the world's largest project of its kind, the ACES initiative will develop 1,000 megawatts
479 of 100 percent clean energy storage, thereby deploying technologies and strategies
480 essential to a decarbonized future for the power grid of the Western United States.

¹³ See <https://www.dominionenergy.com/library/domcom/media/community/environment/environmental-policy-statement.pdf?la=en>

481 DEU, the Commission, Magnum, and other western energy infrastructure owners,
482 operators, and regulators will in the coming years see the advantages that the Western
483 Energy Hub brings to their individual and collective futures.

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

485 **A. Yes.**