

Supply Reliability Technical Conference Docket 19-057-13



1

June 19, 2019



EXHIBIT Maanum3
WIT: Faust
DATE: 9-26-19
Karen Christensen RMR RPR

RFP Overview

- Prior to filing Docket 18-057-03, DEU explored and evaluated numerous alternatives to meeting its supply reliability needs
- In 2018, DEU issued an RFP to identify any additional alternatives
 - RFP sent out to all known regional supply providers, interstate pipelines, and storage facility operators
 - RFP was advertised in Platts Gas Daily newsletter
 - RFP was posted on the Dominion Energy website along with FAQs and other relevant information
- Office of Consumer Services and Division of Public Utilities provided input into the development of the RFP

Request for Proposal

Supply Reliability Resource
Salt Lake City, Utah

Dominion Energy Utah is soliciting proposals for a resource that will provide immediate natural gas supply to the distribution system serving the Salt Lake City, Utah, area in the event of supply disruptions.

Responses due:
March 1, 2019, by 2 p.m. (MST)

For more information, please visit:
DominionEnergy.com/UtahRFP



RFP Requirements

- Responses were due March 1, 2018 (extended to March 4, 2018)
- DEU required specific delivery locations, deliveries not subject to the NAESB cycles, and 30 minute delivery in order to meet the defined supply reliability needs
 - Without these requirements, responses may have been submitted that would not meet the need identified by DEU
 - Specific requirements are necessary to accurately compare alternatives

RFP Responses

- DEU received responses from 3 respondents
 - Two of these were new respondents
 - Prometheus Energy (2 proposals)
 - United Energy Partners (1 proposal)
 - One of the respondents had submitted prior proposals
 - Magnum Energy (3 proposals)
- Respondents did not indicate how they became aware of the RFP

RFP Interest

- All interest, questions, and responses were managed through the formal RFP process
- 4 potential respondents filled out the “Response Letter” attached to the RFP to indicate they would be responding to the RFP; one did not submit a bid
- 18 individuals representing various entities (shown below) attended the bidder’s conference held on January 14, 2019

In Person:

Thomas Quine – Northstar Industries
Randy Hull – Prometheus Energy
Ken Teague – Primoris Services
Brandon Martin – Dominion Energy
Judd Cook – Dominion Energy
Christine Wallat – Magnum Energy Midstream
David Cordon – Cosmodyne
Doug Wheelwright – Utah DPU
Eric Orton – Utah DPU
Jeff Einfeldt – Utah DPU

By Phone: (open line so others may have participated)

Shaun Wentz - OnQuest
Ed Rodriguez - OnQuest
Steve Cook - OnQuest
Sherri Zeller - Kiewit
Dean Girdis - Preload Cryogenics
William De Los Santos - Chart Energy & Chemicals
Esteban Lara - Kern River Gas Transmission
Bela Vastag – Utah OCS

RFP Notice

- DEU sent notice of the RFP to all known potential respondents
 - 81 – Regional natural gas supplier contacts
 - 7 – Storage service provider contacts
 - 6 – Interstate pipeline contacts
 - 3 – Industry business development contacts
- List of supply counterparties was developed through history of interactions from industry meetings, pipeline customer meetings, networking, etc.
 - This list is used for the annual supply RFP and daily supply purchasing
- DEU did not specifically follow up with any parties who did not express interest

RFP Criteria

- Price and non-price factors were weighted equally in the evaluation process
- DEU Exhibit 1.06 provides a summary of which options met each requirement and where there were identified risks
- With the reinforcements specified, all of the options can fulfill the operational requirements of the RFP.

NAESB Cycles

- NAESB nomination cycles are too restrictive for a supply reliability solution
- Re-nominating a higher amount in one of the intra-day cycles
 - Gas may not be available
 - Transportation may be constrained and not available
 - Delay from nomination/confirmation deadline and gas flow
- Analysis showed that deliveries must happen within 30 minutes to prevent loss of service to customers.

Gate Station Shortfalls

- Supply shortfalls have historically occurred at upstream locations not specific gate stations but could affect the volumes and pressures at any gate station(s) along the Wasatch front
- A supply reliability resource must be able to maintain system pressures and volumes in the face of a supply shortfall impacting any of the gate stations
- DEU has historically purchased gas supply delivered to the following stations:
 - Hunter Park gate station
 - Riverton gate station
 - Payson gate station
 - Wecco/Central gate stations
 - Foothill gate station
- The purchased quantity varies
- Gas supply is often available at these locations, however availability becomes limited as demand increases in Utah and locations south (NV and CA)
- Availability on a “peak day” (design day) is unknown

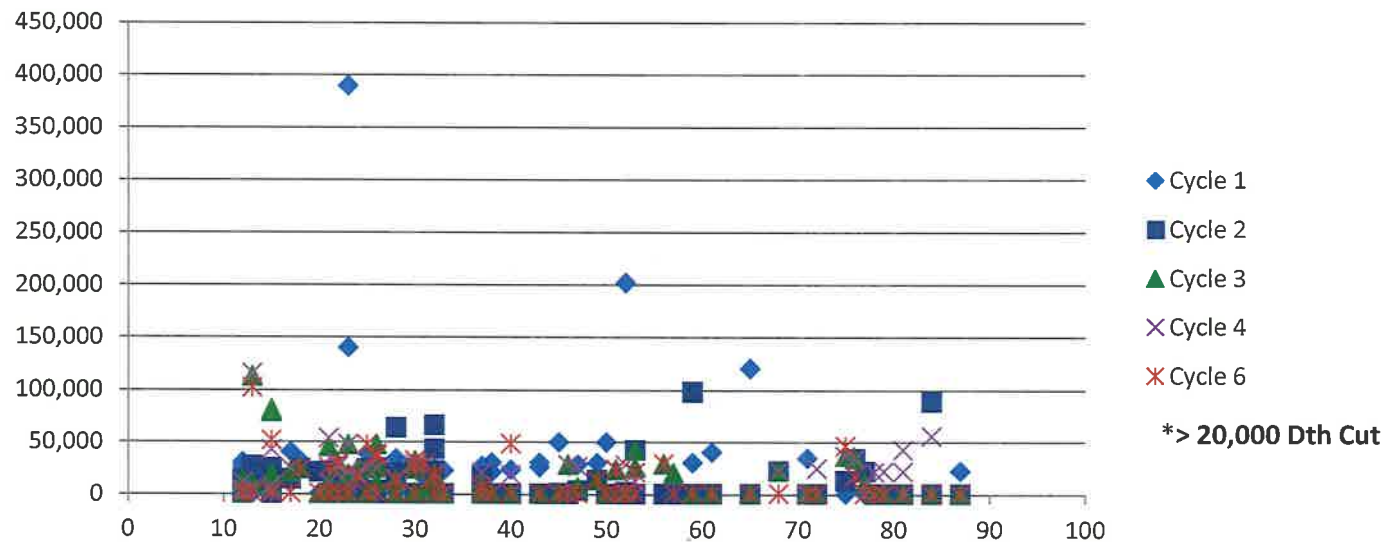
Clay Basin and Kern River No-Notice Transportation

- DEU evaluated a hypothetical proposal for utilizing additional Clay Basin capacity as part of its prior analysis of options associated with Docket 18-057-3
 - This option was not the lowest-cost or most reliable option to meet DEU's supply reliability needs
 - An updated analysis was not completed because DEQP did not submit a proposal as part of the RFP
- DEU did not evaluate a No-Notice Transportation option only on Kern River because this service does not currently exist and was not proposed as a response to the RFP

2011-2019 DEU Supply Cuts on DEQP

- DEU supply only, none of these are representative of supply reductions for Transportation customers

Supply Cuts vs. Mean Temp (2011-2019)*



Supply Cuts

- The supply cut graph notes the cycle of the cut
- Any cuts that last for multiple cycles will show a data point for each cycle
- Cuts remaining in cycle 6 were cuts that lasted the full day
- The amount of the cuts is also shown in the graph

Peak Hour Services

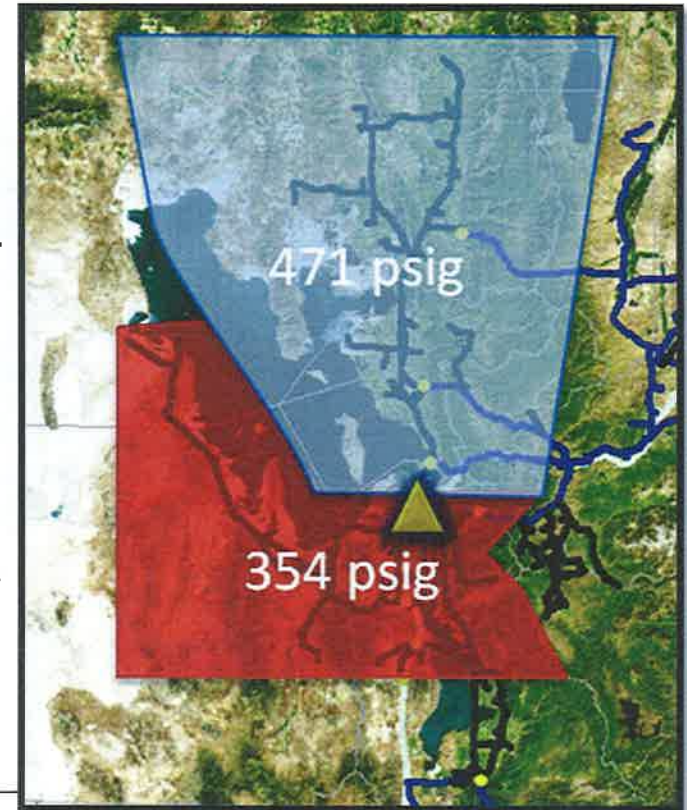
- The proposed LNG Facility could provide peak hour services by providing supply during the peak hours of days where hourly demand exceeds the RDC on the upstream pipelines
 - DEU would utilize standard pipeline capacity when available
 - Usage would be limited to minimal days, small volumes, and available LNG
 - On a design day, if the LNG facility were needed for supply reliability, the facility would flow at max liquefaction (withdrawal) for all hours of the day including the peak hours

Supply Reliability Risk Report

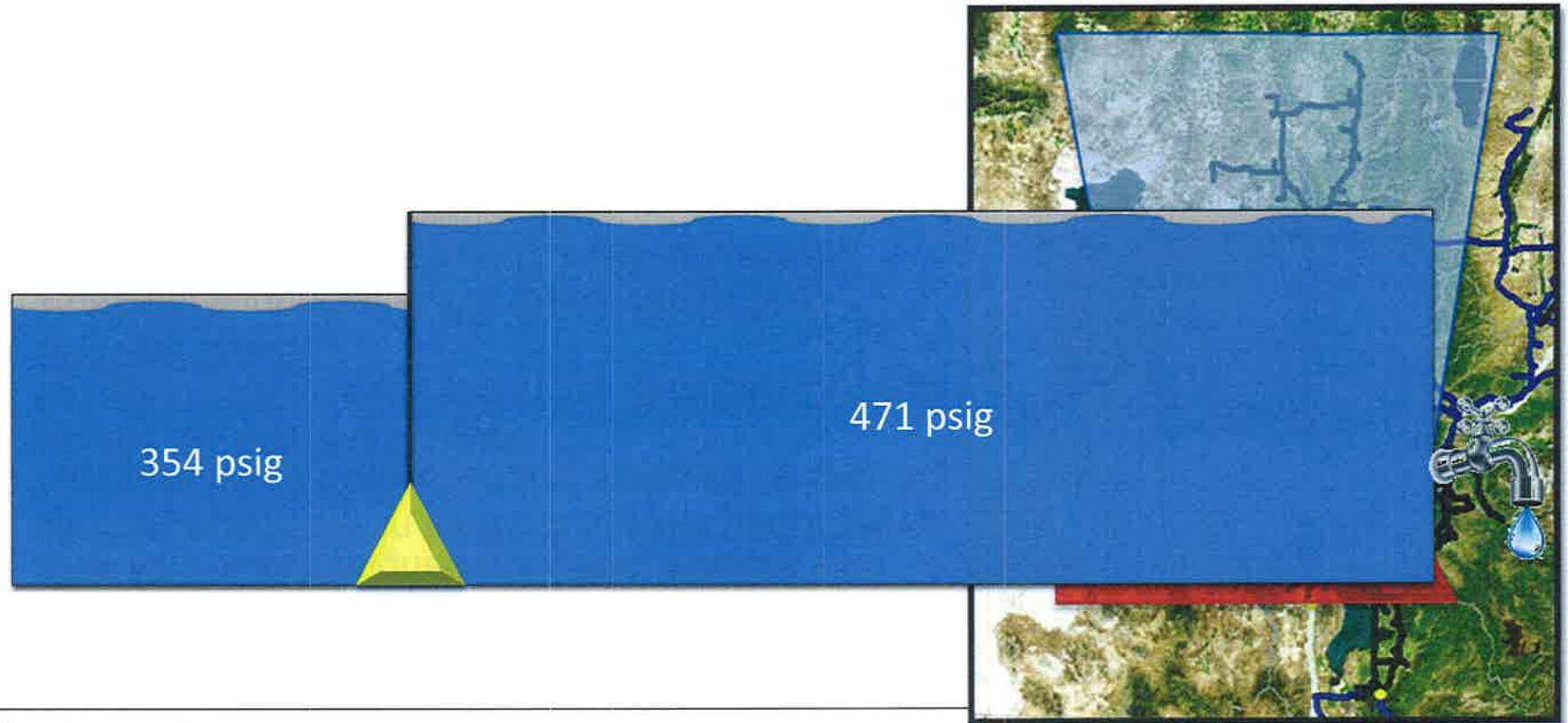
- Initially prepared - February 2018/updated in April 2019
- Purpose - to summarize the risks
- Authors - Mike Platt, Will Schwarzenbach, Mike Gill, and Tina Faust
- Distribution – Docket 18-057-03 and 19-057-13

Optimal Delivery Location

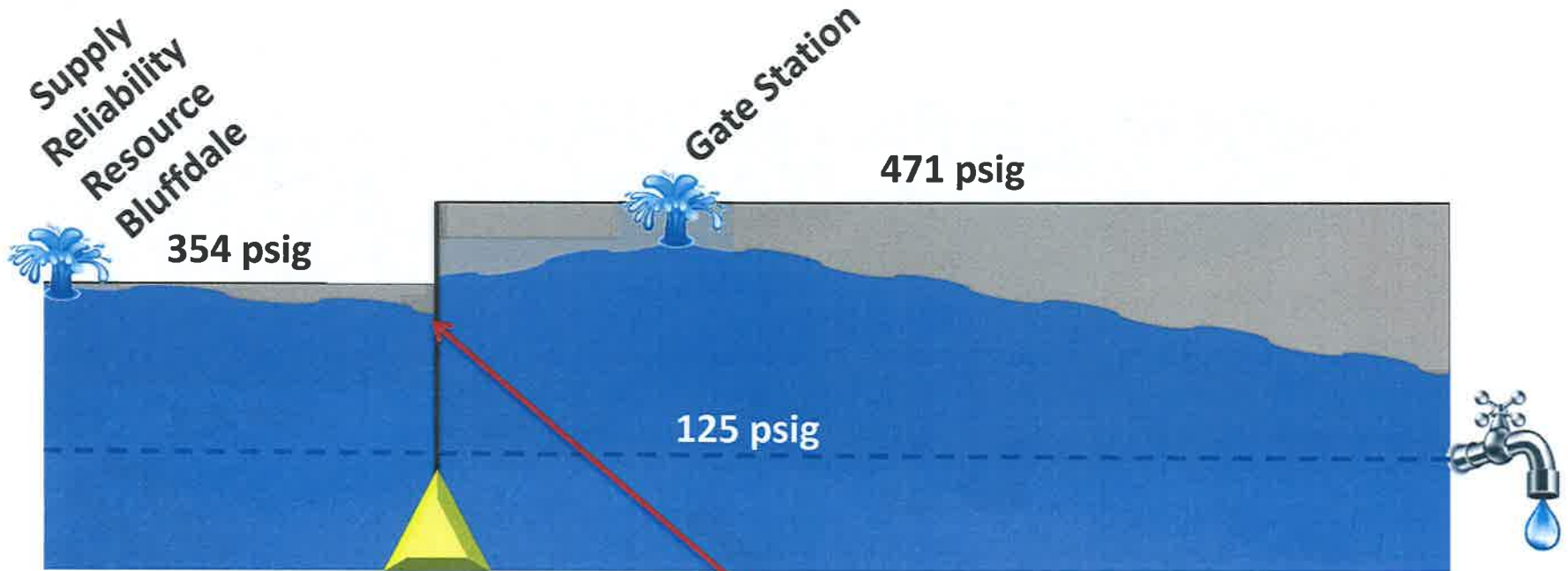
- This RFP was designed to collect services with similar capabilities in terms of system performance
- No parameters have changed between Docket No. 18-057-03 and this Docket
- No gate stations exist within the identified Optimal Delivery Location
- Potential supply reliability resources located outside the Optimal Delivery Location cannot mitigate all shortfall scenarios
- This triangle signifies the location where pressures are separated and regulated from a 471 psig MAOP area to a 354 psig area



Optimal Delivery Location



Optimal Delivery Location

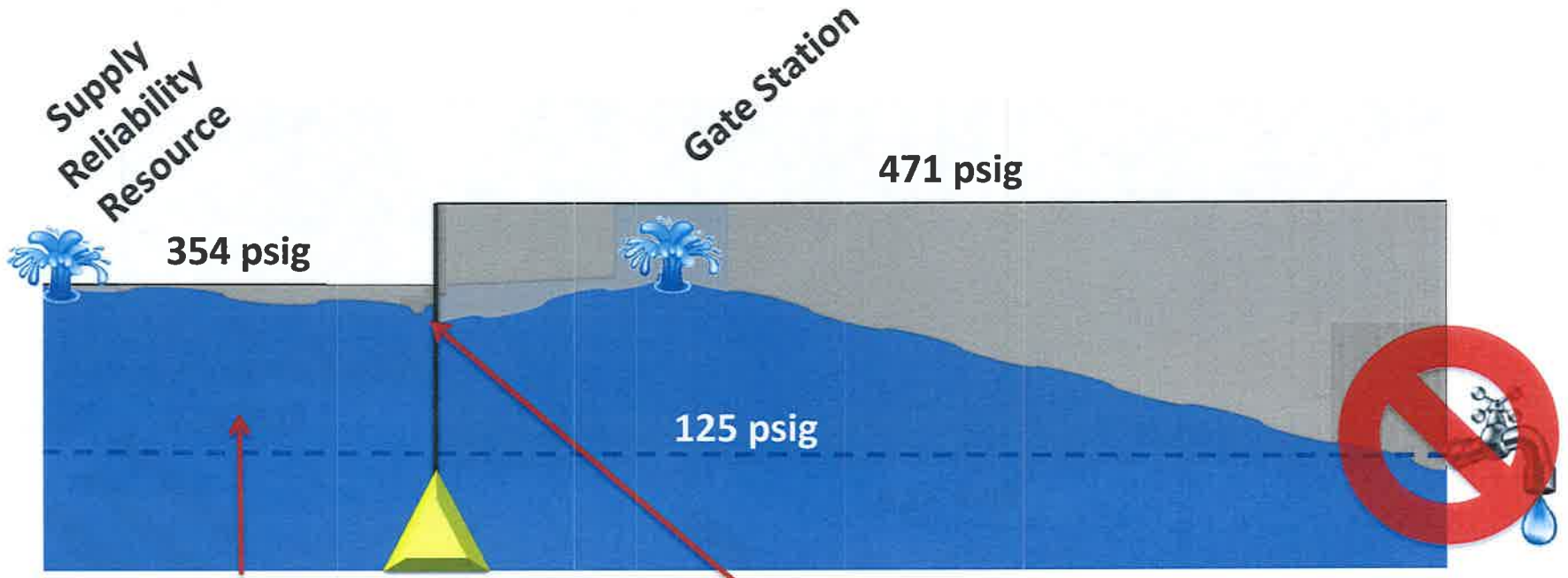


Bluffdale is not an Optimal Delivery Location due to the fact that gas will not flow north at sufficient pressure

Gas is not flowing

(DPU Set 1 - Questions 7, 8, and 19
DPU Set 2 – Questions 1 and 2)

Optimal Delivery Location

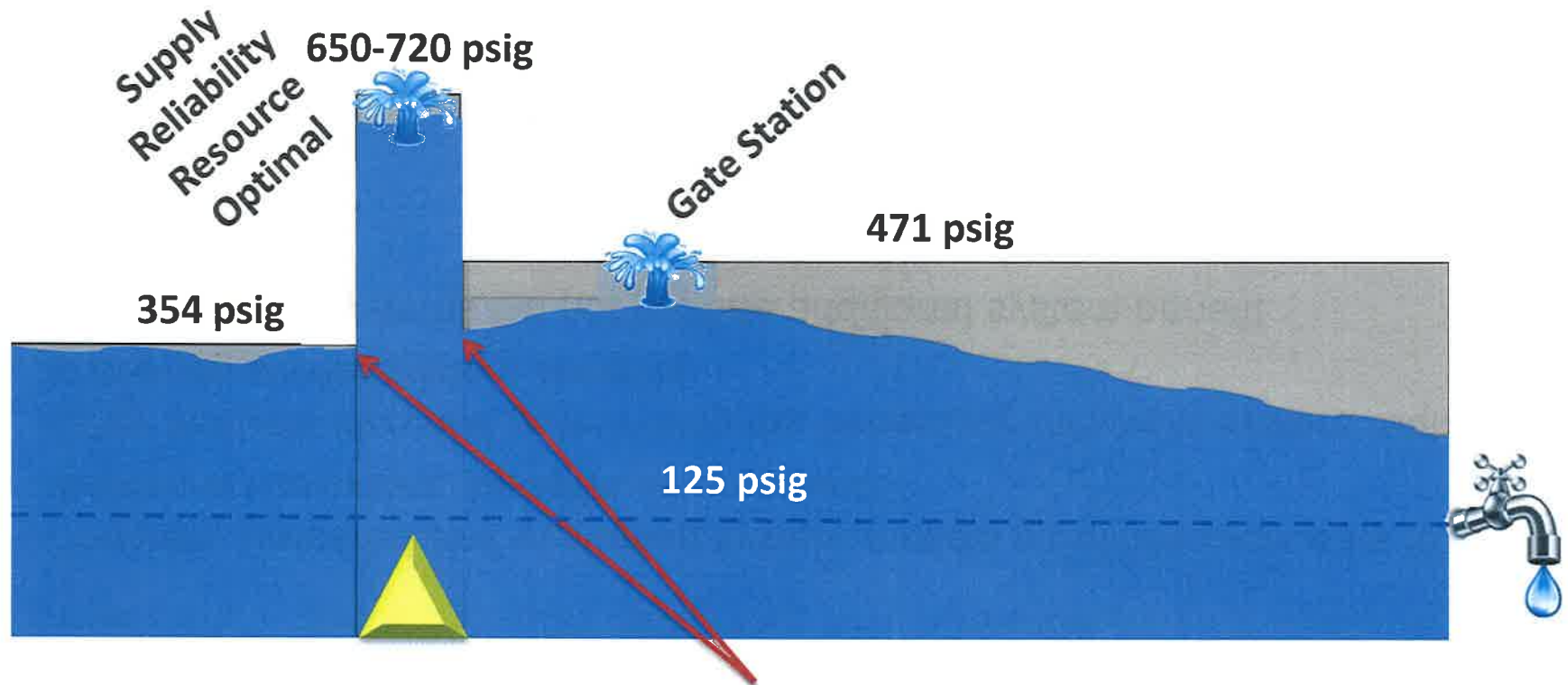


Reducing pressure loss in this portion of the system has minimal benefit

Gas is flowing

(DPU Set 1 - Questions 7, 8, and 19
DPU Set 2 – Questions 1 and 2)

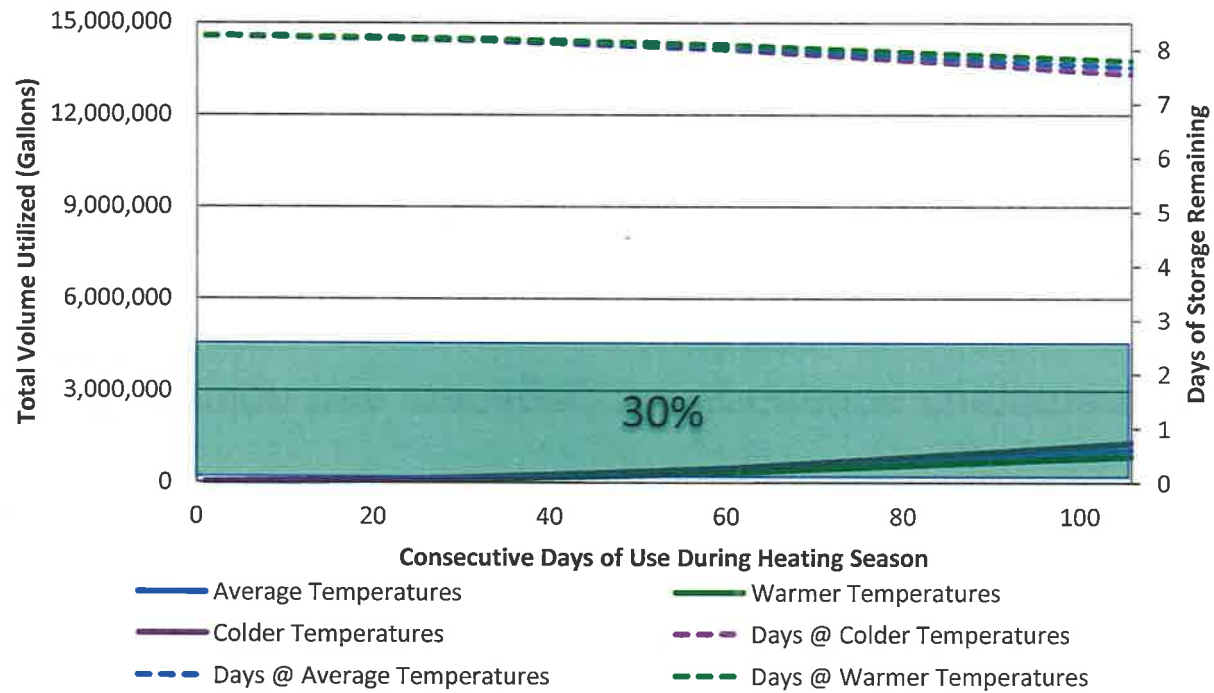
Optimal Delivery Location (FLs 12, 13, and 33)



Tangible System Benefits

- Company prepared and evaluated system models on all the proposals to determine the system benefits as proposed
- Other analysis included determining the necessary minimum system required to provide similar system benefits
- The minimum systems did not provide additional system benefit

Satellite Demand and Impact



DPU Set #1 Question #9

- 9.a. The reference “Transportation Customers” refers to Firm and Interruptible customers.
- 9.b. DEU’s tariff does not provide standby or backup service to transportation customers.
- 9.c. Historically, Dominion has managed transportation customers usage through penalties and fees.
- 9.d. Daily vaporization can be compared to known daily supply cuts.
- 9.e,g,h. All transportation customers are required to have telemetry installed on their meter.
- 9.f. DEU has limited means of controlling customer’s receipt of system supply.

Transportation Customer Imbalance Management

Monthly Supply Imbalances - +/- 5% monthly tolerance, resolved at month end

Daily Imbalance Charge - \$0.08/Dth charge for volumes outside of a 5% range

Restrictions on Daily Imbalance (Operational Flow Order) – Greater of \$1 or difference in monthly and daily market index prices

Hold Burn to Scheduled Quantity

\$5 plus daily cost of gas/Dth up to 10% imbalance, \$25 plus daily cost of gas/Dth thereafter

DEU reserves the right to take any action reasonably necessary to restrict deliveries or usage in order to maintain a balanced distribution system when required for system integrity

Five Year Summary – Winter Restrictions November - March

	5% Draft Limit	No Draft	+/- 5% Limit	Other	Total
2013/2014	58	1		1	60
2014/2015	12		7	1	20
2015/2016			10		10
2016/2017		1	9		10
2017/2018			11		11
2018/2019		10	15	2	27

Five Year Summary – Interruptions (Hold to Burn)

December 5, 2013

3 Hour Interruption

150 of 272 customers penalized \$133,770

December 31, 2014

21 Hour Interruption

72 of 446 customers penalized \$500,884

January 6, 2017

23 Hour Interruption

275 of 733 customers penalized \$1.3 million

TS Customer Meetings

- DEU holds a customer meeting prior to the winter season
- Discuss nominations, interruptions, penalties
- Provide updates on issues relevant to the TS class

Supply from TS Customers

- Historically, customers sold gas to DEU when interrupted
 - Nickel waiver program
 - Later, just obligated to sell by tariff
- Current tariff
 - No obligation for TS Customers to sell gas to DEU
 - Not reliable source of supply

Supply from TS Customers

- 48 interruptible customers
- 957 total transportation customers
- Total TS annual usage is 98,191,233 MDTH
- Top 5 interruptible usage is 1,746,837 MDTH = 1.7% of total
- TS Customers are not required by DEU to have alternate fuel resources
 - Some are required by other agencies

LNG Facility Locations

- 49 CFR Part 193 requires a setback distance of 1 mile
- Location of proposed LNG Facility near Magna is more than 5 miles away from an airport runway
- No FAA approval required
- The potential satellite facilities will be designed in accordance with applicable code requirements

LNG Plant Staffing

Day Shift Only

- One Facility Manager
- One Mechanical Engineer
- One Electrical Engineer
- One Mechanical Maintenance
- One E&I Maintenance

24/7 Coverage – 3 Shifts

- Two Operators per shift – total of 8 people
- Four people per operator position: 3 shifts plus one person off/cover vacation

LNG Usage Without Disruptions

- It is anticipated that the proposed facility would be held in reserve until mid-February and then be used as needed for price-optimization until the facility is 70% full.

Boil-Off Gas Discussion

- Boil-off occurs inside the LNG storage tank and is independent of the vaporization rate of the facility
- The LNG Facility boil off gas will be delivered into the system during vaporization cycles and recycled as LNG during liquefaction cycles
- The insulation system identified in the FEED allows a maximum of 0.07% per day

LNG Satellite Facilities - Trucking

	Kanab	Green River	Wendover
Average Annual Deliveries	160	32.5	50
Average Monthly Deliveries	13.4	2.7	4.2
Coldest Month Deliveries	34.3	6.9	10.7
Warmest Month Deliveries	3.8	0.8	1.2
Average Daily Deliveries	0.44	0.1	0.14

LNG Satellite Facility Cost Estimates

- LNG satellite design is still very preliminary
- +/- 50% estimate is due to the level of detail in preliminary analysis
- 20% contingency applies to line items within the estimate

REDACTED

Magnum Option 2 Costs

REDACTED

REDACTED

Costs to liquefy, store and vaporize natural gas

Assumptions:

\$ [REDACTED] in Fixed operating expenses

\$ [REDACTED] in Variable operating expenses

Tank is filled from empty to full (1,272,453 Dth)

Eight days of vaporization at 150,000 Dth/Day

9.33% Annual Carrying Cost

$$\begin{aligned} \$ [REDACTED] / 1,272,454 \text{ Dth} &= \$ [REDACTED] / \text{Dth} \\ &+ \$ [REDACTED] \text{ Gas Cost} \\ &+ \$ [REDACTED] \text{ Carrying Cost} \\ &= \$ [REDACTED] / \text{Dth} \end{aligned}$$