

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

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IN THE MATTER OF THE APPLICATION  
OF ENBRIDGE GAS UTAH TO INCREASE  
DISTRIBUTION RATES AND CHARGES  
AND MAKE TARIFF MODIFICATIONS

Docket No. 25-057-06

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**PHASE II REBUTTAL TESTIMONY OF**

**DAVID C. LANDWARD**

**FOR ENBRIDGE GAS UTAH**

October 16, 2025

**EGU Exhibit 6.0R**

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**I. INTRODUCTION**

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

3 A. My name is David C. Landward. My business address is 333 South State Street, Salt  
4 Lake City, Utah 84111.

5 **Q. Did you file direct testimony in this docket?**

6 A. Yes. I submitted direct testimony on behalf of Questar Gas Company dba Enbridge Gas  
7 Utah (“Enbridge Gas,” “EGU,” or the “Company”).

8 **Q. Attached to your written testimony is EGU Exhibits 6.04R, [Observed Annual  
9 Heating Degree Days from Salt Lake City Airport (1950–2024)]. Was this prepared  
10 by you or under your direction?**

11 A. Yes.

12 **Q. What is the purpose of your rebuttal testimony in this Docket?**

13 A. I address points raised in the direct testimonies of Mr. David Fields, witness for the  
14 Division of Public Utilities (“DPU”, “the Division”); and Mr. James Daniel, witness for  
15 the Office of Consumer Services (“OCS”, “the Office”). There are two general topics to  
16 which these points are connected: first, the proposal by Enbridge Gas Utah (“Enbridge  
17 Gas,” “EGU,” or the “Company”) to reset the time span for derivation of normal heating  
18 degree days (“NHDD”) from the 20-year period ending December 31, 2018 to the 10-  
19 year period ending December 31, 2024; second, computational resources required for the  
20 Company’s customer-specific weather normalization adjustment.

21           **II.     TIME SPAN FOR DERIVING NORMAL HEATING DEGREE DAYS**

22   **Q.     In his testimony, Mr. Fields asserts that the National Oceanic and Atmospheric**  
23           **Administration (“NOAA”) requires a 30-year baseline to derive normal heating**  
24           **degree days.<sup>1</sup> Is that assertion true?**

25   A.     No. NOAA does not require a 30-year baseline to establish reliability of the normal  
26           heating degree days (“NHDD”) derivation. In fact, Part 3 of the online NOAA document  
27           Mr. Fields references states: “NOAA also for the first time this year produced a set of 15-  
28           year Climate Normals (2006-2020) to meet the needs of specific sectors like energy and  
29           construction.”<sup>2</sup> NOAA further states in Part 4 of the same document: “If we compare the  
30           1991-2020 annual temperature Normals to the 20th-century average, *we see warming*  
31           *everywhere across the map.* No region in the U.S. is cooler than it was during the 20th  
32           century, and much of the West and Northeast are one to two degrees warmer.”<sup>3</sup> Clearly,  
33           NOAA recognizes that temperatures throughout the United States – the West in particular  
34           – are trending warmer; and that winter temperatures frequently observed 20 to 30 years  
35           ago may not be appropriate for NHDD derivation in some applications in sectors such as  
36           energy.<sup>4</sup>

37   **Q.     Does Mr. Fields oppose the Company’s proposed change to a 10-year baseline?**

38   A.     No. He does, however, recommend that interested parties “further study the issue.”<sup>5</sup>

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1 DPU Exhibit 9.0 Fields DIR Phase II at 6.

2 Understanding Climate Normals, Nat’l Oceanic & Atmospheric Admin.,  
<https://www.noaa.gov/explainers/understanding-climate-normals>

3 *Id.*

4 *Id.*

5 DPU Ex. 9.0 at 7:146-147.

39 **Q. Mr. James Daniel, witness for the Office of Consumer Services (“OCS”, “the**  
40 **Office”), claims the Company’s justification for shortening the length of the time**  
41 **series used to derive NHDD from 20 years to 10 rests upon the AGA survey**  
42 **referenced in your direct testimony.<sup>6</sup> Is that accurate?**

43 A. No. The survey has been presented to show that this proposal is not unusual in the  
44 industry. It is not the foundation of the Company’s justification; rather, that justification  
45 is primarily justified through analytical support the Company has provided in direct  
46 testimony, showing that normalization to the current 20-year normal baseline weighs too  
47 heavily on bill increases and that a reset of the baseline using a 10-year normal is  
48 intended to bring bill increases and decreases into better balance.<sup>7</sup>

49 **Q. Does Mr. Daniels oppose the Company’s proposed change to a 10-year baseline?**

50 A. Yes. He recommends a 15-year baseline.<sup>8</sup>

51 **Q. How do you respond to Mr. Fields’ and Mr. Daniel’s recommendations?**

52 A. Both recommendations stem from the same concern: a ten-year period may not be wide  
53 enough to capture a sufficient range of heating degree days (“HDD”) to derive a  
54 representative average. In other words, the sample size may be too small. I agree that  
55 generally a larger sample size will provide a better estimate, provided the sample is  
56 unbiased.

57 This is the challenge with HDD in the Company’s region, indeed throughout the United  
58 States. The dynamic nature of the data over time is such that segments of the data are  
59 inherently biased. The reason is that HDD have been trending lower, meaning that  
60 temperatures are trending warmer. Trending means that data points on the left side of a  
61 set of sequential data become more or less likely to occur as the series progresses to the

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6 OCS Ex. 3.0 Daniel DIR Phase II at 10.

7 EGU Ex. 6.0 at 6-8.

8 OCS Ex. 3.0 at 10.

62 right side. In the HDD context, lower HDD, particularly in winter and shoulder months,  
63 are becoming more frequent over time.

64 **Q. Can you illustrate this point further?**

65 A. Yes. Exhibit 6.04R plots observed annual HDD derived from temperatures measured at  
66 the Salt Lake City International Airport from 1950 through 2024. It also plots NHDD  
67 derived from those temperatures at lengths of 20, 15, and 10 years, all ending with the  
68 year 2024. This aids in the visualization of the effect of the trend: as the length of time  
69 used for averaging decreases, so do the annual NHDD. At no point in the past 11 years  
70 (2014 – 2024) has an annual total of HDD reached the average annual HDD from the  
71 prior 11 years (2003 – 2013). The lowest annual HDD total through the 75-year period  
72 occurred in 2024.

73 While this relatively warm period appears small in contrast to the full 75-year period, it  
74 exceeds a full decade – a long time in the business of rate setting. During this 11-year  
75 span, as noted in my direct testimony, 78% of aggregate monthly weather normalization  
76 adjustments have been positive. This means that over three quarters of the time in the  
77 past 11 years, the Company has had to increase customer bills through the weather  
78 normalization adjustment to make up the difference between actual and normal  
79 consumption, as set on the current 20-year normal baseline (ending 2018). This is not the  
80 balance that weather normalization seeks. The Company’s challenge is to select a length  
81 of time that yields a midpoint of the HDD that customers are responding to – one  
82 providing a better balance of positive and negative adjustments. Herein lies the problem:  
83 That midpoint has been moving downward over time.

84 **Q. Why does EGU believe 10 years is the appropriate time frame?**

85 A. Both the 20-year and 15-year baselines plotted on the Exhibit 6.04R graphs are pulled  
86 upward by the annual HDD occurring prior to 2014 and exceeding a level of 6,000 HDD.  
87 In contrast, no annual HDD from 2014 forward have approached 6,000. Only 2019 saw a  
88 total in excess of 5,500 HDD; all remaining years in that period have been well below  
89 that level. The Company believes that this period is sufficiently long and stable to

90 represent the HDD that customers have acclimated to and provides an appropriate span  
91 for deriving a new normal baseline of 10 years.

92 Certainly, longer spans of time with wider variance in HDD, even rare extremes, are  
93 crucial in applications such as procurement and design day planning. But weather  
94 normalization for rate setting and customer billing should be set on conditions that are  
95 common at the time rates are being set. And what is common now is lower than what  
96 was common prior to 2014. The future trajectory of the well-established warming trend  
97 in the region is unknown. It may well reverse at some point, and atypical periods of cold  
98 should certainly be expected going forward. But NHDD are effectively statements of  
99 recent past, not on uncertain expectations of the future.

100 **Q. Is the Company's approach desirable from a customer standpoint?**

101 A. Yes. Should an approval of the Company's proposal be followed by an extended period  
102 of temperatures frequently colder than the proposed 10-year normal, more frequent  
103 reductions in customer bills through the normalization adjustment would be the result.  
104 Conversely, if a normal baseline were to be set higher than what occurs in coming  
105 periods, a higher frequency of increases to bills would be the consequence. Although the  
106 Company would ultimately collect the targeted revenue in either case, surely the  
107 customer would prefer a downward adjustment more often.

108 Further, because the proposed 10-year normal is the midpoint over the last decade,  
109 forecasts of weather normalized usage will be truer to contemporaneous consumption.  
110 Setting a normal baseline too high insists customers should be using more gas on average  
111 than they typically have through a more recent period, and this insistence is carried into  
112 the forecast.

113 **Q. Why not adopt a 15-year span instead of one based on 10 years?**

114 A. As explained in the preceding response, the goal of weather normalization is to establish  
115 what is common, not what may be possible in a broader range. A 15-year span retains  
116 past annual HDD much higher than what has occurred since 2014. This biases the

117 average upward, lifting the NHDD baseline for normalization higher than where average  
118 HDD have during that span of time. While preferable to a 20-year baseline, it does not  
119 position the normalization target as a true midpoint for today's common HDDs. While  
120 higher HDD are expected in coming heating seasons, the last 14 years have established a  
121 lower level as typical and a better target for the goal of weather normalization. Should  
122 higher HDD return in greater frequency over time, a reset of a 10-year NHDD baseline in  
123 a subsequent general rate case will reflect their influence on common gas consumption.

124 **III. WEATHER NORMALIZATION AND COMPUTING RESOURCES**

125 **Q. Mr. Fields seeks clarity on whether the Company calculates a weather**  
126 **normalization adjustment each billing period for every GS customer.<sup>9</sup> Have you**  
127 **addressed this issue?**

128 A. Yes. Weather normalization is part of the monthly customer bill calculation. And as I  
129 state in my direct testimony: "the Company's billing system automates the calculation of  
130 the simple HDD factor and the normalization of usage for each GS customer."<sup>10</sup> Thus,  
131 the normalization adjustment is being calculated for each individual customer every time  
132 a bill is created. EGU also met with analysts from the DPU in the discovery phase of this  
133 case and explained and demonstrated this customer-specific process.

134 **Q. Mr. Fields claims that a customer-specific weather normalization adjustment raises**  
135 **concerns about potential computing inefficiencies and resource utilization.<sup>11</sup> Are**  
136 **such concerns justified?**

137 A. No. The Company has been successfully weather normalizing individual customer bills  
138 within its current billing software, Customer Care and Billing ("CCB") since 2004.  
139 During implementation, all billing functions, including the weather normalization  
140 adjustment, were tested exhaustively to verify accuracy and practicality. No more  
141 computational resources are required to calculate an individual customer's weather

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9 DPU Ex. 9.0 at 7.

10 EGU Ex. 6 0 at 4:85-87.

11 DPU Ex. 9.0 at 7.

142 normalization adjustment than to calculate any other charge applied to the customer's  
143 bill. In fact, the weather normalization adjustments calculated and summarized in Exhibit  
144 6.02<sup>12</sup> were produced from the full set of individual customer billing determinants, pulled  
145 directly from the billing system and processed on a simple desktop computer with no  
146 complications or inefficiencies.

147 The concerns are entirely speculative and are devoid of any evidentiary underpinnings  
148 (they were never raised during discovery). They are not rooted in an understanding of  
149 EGU's billing system functions, capabilities, and hardware resources. CCB billing  
150 algorithms are executed on powerful database servers with hardware resources more than  
151 adequate to execute them. These functions are tested frequently, and any anomalies  
152 arising from resource constraints would be easily detected.

153 **Q. Mr. Fields further questions whether a more consolidated normalization approach**  
154 **could potentially improve the process by optimizing computing resources.<sup>13</sup> What is**  
155 **your opinion?**

156 A. Normalization at the customer level is preferable to normalization at the class level. The  
157 customer-level algorithm effectively customizes the normalization to individual sites by  
158 calculating unique adjustment factors from each customer's current billing period.  
159 Should a material change to a customer's consumption occur during the period, perhaps  
160 from the installation of a high-efficiency appliance, that change will be reflected  
161 immediately in the customer's next weather-normalized bill.

162 Normalization of aggregate usage would blend individual consumption profiles into a  
163 class-wide result, and resulting revenue adjustments would then be spread uniformly  
164 across the class. Consequently, individual customers would not reap the full reward in  
165 non-gas distribution charges of individual efficiency improvements. While a top-down  
166 adjustment such as this is an alternative approach employed by some utilities, it is not the  
167 approach the Company has adopted. Hypothetically, if computing inefficiencies were to

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12 25-057-06 EGU Exhibit 6.02 Weather Normalized Revenues - Landward 5-1-2025  
13 DPU Ex. 9.0 at 7.

168 be manifested in the implementation of the customer-level approach, the Company would  
169 solve them at the hardware level rather than simply abandoning its current normalization  
170 method.

171 **Q. Mr. Fields states that the DPU expects the Company to outline and implement**  
172 **appropriate updates to its weather normalization calculation, "...demonstrating a**  
173 **commitment to efficiency and best practices in data processing for weather**  
174 **normalization."**<sup>14</sup> **Is this expectation reasonable or justified?**

175 A. No. Again, the concerns motivating this expectation are based on speculation about the  
176 potential of computing inefficiency surrounding the customer-specific weather  
177 normalization adjustment. The Division is asking the Company to outline revisions to its  
178 normalization solution, successfully implemented for decades – with repeated  
179 Commission approval – with the aim of solving a problem that has not been shown to  
180 exist. Neither Mr. Fields nor anyone from the DPU qualified to make such an assessment  
181 has undertaken to do so. No rationale is offered beyond Mr. Fields's view that the  
182 weather normalization operation is data intensive.

183 The Company's billing system software and hardware configuration has been developed  
184 and maintained by professionals in information technology, all well equipped to detect,  
185 assess, and address any limitations that may interfere with or jeopardize the integrity of  
186 billing functions or data. Specialists among these personnel have been made available for  
187 interview by Division analysts in the past; they can be made available again to answer  
188 questions on the hardware configurations, procedures to test their efficacy, and measures  
189 undertaken to ensure proper billing system function and data integrity. This is a much  
190 more productive and responsible path to addressing the question than the one proposed  
191 by Mr. Fields.

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<sup>14</sup> DPU Ex. 9.0 at 7:161-164.

192 **Q. Please summarize your testimony.**

193 A. For the reasons set forth in my direct testimony and as further explained in this rebuttal  
194 testimony, EGU's proposed change to a 10-year time span to derive NHDD is well-  
195 supported, and the Commission should adopt this new baseline. In addition, the  
196 Company's method for calculating GS customer-specific weather adjustments is  
197 appropriate, efficient, and has proven successful for decades. No further action is  
198 required on this topic.

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

200 A. Yes.

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

I, David C. Landward, being first duly sworn on oath, state that the answers in the foregoing written testimony are true and correct to the best of my knowledge, information, and belief. Except as stated in the testimony, the exhibits attached to the testimony were prepared by me or under my direction and supervision, and they are true and correct to the best of my knowledge, information, and belief. Any exhibits not prepared by me or under my direction and supervision are true and correct copies of the documents they purport to be.

  
David C. Landward

SUBSCRIBED AND SWORN TO this 16th day of October, 2025.

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

