

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE PASS-THROUGH)
APPLICATION OF DOMINION ENERGY)
UTAH FOR AN ADJUSTMENT IN RATES) DOCKET NO. 17-057-20
AND CHARGES FOR NATURAL GAS)
SERVICE IN UTAH)

SURREBUTTAL TESTIMONY

OF

JEROME D. MIERZWA

FOR THE OFFICE OF CONSUMER SERVICES

May 31, 2018

EXETER
ASSOCIATES, INC.

10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

DIRECT TESTIMONY OF JEROME D. MIERZWA**I. INTRODUCTION**

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Jerome D. Mierzwa. I am a Principal and Vice President with Exeter
3 Associates, Inc. (“Exeter”). My business address is 10480 Little Patuxent Parkway,
4 Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public utility-
5 related consulting services.
6

7 Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS
8 PROCEEDING?

9 A. Yes. My direct testimony was submitted as OCS-1D on April 28, 2018.

10 Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

11 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of
12 Dominion Energy Utah (“DEU”) witnesses David C. Landward, Kelly B. Mendenhall,
13 and Michael L. Platt.

II. WITNESS: DAVID C. LANDWARD

14 Q. WHAT DOES MR. LANDWARD CONCLUDE CONCERNING THE
15 DESIGN DAY FORECAST MODEL PRESENTED IN YOUR DIRECT
16 TESTIMONY?
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18 A. Mr. Landward concludes that the model presented in my direct testimony reasonably
19 estimates design day demand if the proper values for the independent variables are
20 used.

21 Q. WHAT ARE THE CURRENT VALUES, OR CRITERIA, USED FOR THE
22 INDEPENDENT WEATHER VARIABLES IN THE COMPANY’S DESIGN
23 DAY MODEL?

24 A. The current design day weather criteria used in the Company's design day model are a
25 day with an average temperature of -5° F (70 HDD), a maximum windspeed of 47 MPH,
26 and a mean windspeed of 26 MPH.

27 Q. DID YOU RECOMMEND MODIFYING THE COMPANY'S CURRENT
28 DESIGN DAY WEATHER CRITERIA IN YOUR DIRECT TESTIMONY?

29 A. Yes. I recommended that a maximum windspeed of 17 MPH and a mean windspeed
30 of 9 MPH be used to forecast design day demands. I proposed no change to the -5°F
31 average day temperature criteria historically used by the Company.

32 Q. DOES MR. LANDWARD INDICATE HE COULD SUPPORT THE
33 DESIGN DAY WINDSPEED CRITERIA CHANGES RECOMMENDED IN
34 YOUR DIRECT TESTIMONY?

35 A. Yes, he does.

36 Q. EARLIER YOU INDICATED THAT MR. LANDWARD FOUND THAT
37 YOUR MODEL COULD REASONABLY ESTIMATE DESIGN DAY
38 DEMAND IF THE PROPER VALUES FOR THE INDEPENDENT
39 VARIABLES ARE UTILIZED. DOES MR. LANDWARD ANALYZE THE
40 IMPACT OF CHANGES TO THE INDEPENDENT VARIABLES USED IN
41 YOUR MODEL?

42 A. Yes. Mr. Landward has used the model presented in my direct testimony to evaluate
43 the impact of various changes to the design day HDD and prior day demand
44 independent variable values included in the model.

45 Q. BEFORE CONTINUING, WHAT WAS THE DESIGN DAY FORECAST
46 PRESENTED IN YOUR DIRECT TESTIMONY FOR THE 2017-2018
47 WINTER SEASON?

48 A. Based on design day weather criteria of 70 HDDs, a 17 MPH maximum windspeed,
49 and a 9 MPH average windspeed, I presented a design day forecast of 1,216,139 Dth
50 for the 2017-2018 winter season in my direct testimony.

51 Q. WHAT CHANGES TO YOUR DESIGN DAY FORECAST
 52 INDEPENDENT VARIABLE VALUE INPUTS DID MR. LANDWARD
 53 EVALUATE?

54 A. Mr. Landward performed evaluations of the following changes to the HDD and prior
 55 day demand design day model inputs included in my direct testimony, which resulted
 56 in various design day projections, as follows:

<u>Evaluated Change</u>	<u>Design Day Forecast</u> (Dth)
• A higher prior day demand of 1,036,693	1,252,964
• Higher prior day demand and 72 HDDs	1,288,361
• Consecutive days of 70 HDDs	1,295,850
• A 76 HDD event	1,330,247
• Consecutive days of 76 and 73 HDDs	1,377,137

57 Q. WHAT DOES MR. LANDWARD CONCLUDE FROM HIS VARIOUS
 58 ALTERNATIVE ANALYSES?

59 A. Mr. Landward concludes that, based on these various alternative analyses, the
 60 Company’s initial design day estimate of 1,342,345 Dth for the winter of 2017-2018
 61 falls within a reasonable range, notwithstanding his use of the Company’s current
 62 design day model, which I have shown to be flawed, and his design day windspeed
 63 criteria, which Mr. Landward no longer finds reasonable.

64 Q. WHAT IS YOUR RESPONSE TO THE FIRST ALTERNATIVE
 65 ANALYSIS PRESENTED BY MR. LANDWARD IN WHICH HE HAS
 66 INCREASED THE PRIOR DAY DEMAND INPUT VALUE?

67 A. The prior day demand input value used in the design day forecast presented in my direct
 68 testimony was the same value used by Mr. Landward in the Company’s model. Based
 69 on evidence presented by Mr. Landward in his rebuttal testimony, I can accept the use
 70 of the higher prior day demand value recommendation included in his rebuttal
 71 testimony.

72 Q. WHAT ARE THE IMPLICATIONS OF INCLUDING THE HIGHER PRIOR
73 DAY DEMAND IN YOUR FORECAST OF DESIGN DAY DEMANDS?

74 A. Use of the higher prior day demand recommended by Mr. Landward would increase
75 my forecasted design day demand from 1,216,139 Dth to 1,252,964 Dth, or by 36,825
76 Dth. In my direct testimony I found that the Company's model overstated design day
77 demands by 126,206 Dth. Adjusting my initial finding to reflect the higher prior day
78 demand input value reduces the overestimate to 89,381 Dth (126,206 Dth less 36,825
79 Dth).

80 In my direct testimony I estimated that based on the Company's claimed need
81 for peak hour services, my recommended design day forecast would reduce DEU's
82 need for peak hour services by 44,000 Dth. In addition, as discussed in my direct
83 testimony and subsequently in my Surrebuttal Testimony in more detail, DEU's
84 claimed need for peak hour service also appears overstated because the Company has
85 not adequately considered line pack.

86 In his rebuttal testimony DEU witness Michael L. Platt claims that the reduced
87 design day forecast presented in my direct testimony would reduce the need for peak
88 hour services by 40,000 Dth, from 340,000 Dth/day to 300,000 Dth/day. This suggests
89 that the Company's need for peak hour service is 25 percent of total design day
90 requirements (300,000 Dth/1,216,139 Dth). Based on the Company's claims, a design
91 day forecast of 1,252,964 Dth would suggest a peak hour service requirement of
92 313,000 Dth, and the need for peak hour service would be reduced by 27,000 Dth/day
93 (340,000 Dth/day – 313,000 Dth), rather than 40,000 Dth/day.

94 Q. WHAT IS YOUR RESPONSE TO THE REMAINING ALTERNATIVE
95 ANALYSES PRESENTED BY MR. LANDWARD?

96 A. Mr. Landward's alternative analyses which he claims shows that the Company's design
97 day projections fall within a range of reasonableness appear to suggest that the -5°F
98 design day temperature criteria historically used by the Company is no longer

99 reasonable. A day with an average temperature of -5° F or colder has not been observed
100 in DEU's service territory since 1963, 55 years ago. Mr. Landward's alternative
101 analyses suggests that use of -5° F is no longer reasonable because to determine the
102 range of reasonableness he has used temperatures as cold as -11° F and -8° F from as
103 far back as 1933 to determine the zone of reasonableness. . As subsequently explained,
104 use of temperatures observed 85 years ago in developing a design day forecast is
105 inconsistent with observed industry practice.

106 Q. MR. LANDWARD CLAIMS THAT AN AMERICAN GAS ASSOCIATION
107 ("AGA") SURVEY OF DESIGN DAY TEMPERATURE CRITERIA USED
108 BY GAS UTILITIES INDICATED THAT THREE UTILITIES USE THE
109 COLDEST TEMPERATURES EVER RECORDED FOR ESTIMATING
110 DESIGN DAY DEMAND, SUGGESTING THIS WOULD JUSTIFY THE
111 USE OF A TEMPERATURE COLDER THAN THE 70 HDDS
112 CURRENTLY USED BY THE COMPANY. WHAT IS YOUR
113 RESPONSE?

114 A. Mr. Landward is correct that the AGA survey indicates that three gas utilities use the
115 coldest temperature ever recorded to develop their design day forecast. However, the
116 AGA survey does not indicate how far back in time the coldest temperature was
117 recorded, or the period over which temperature data is available. That is, the coldest
118 temperatures experienced by the three utilities may have occurred in the last 30 years.
119 Therefore, the AGA survey does not affirmatively justify use of a temperature colder
120 than 70 HDD.

121 What the AGA survey does indicate is that for the 18 gas utilities that do discuss
122 the period reviewed to select their design day criteria, 15 of 18 utilities, or over 80
123 percent, use the coldest temperature observed over approximately the most recent 30
124 years. If DEU were to follow this approach, it would use a design day temperature
125 criteria of -4° F. What the survey further indicates is that the use of the coldest day in

126 the last 30 years to project design day demands is a standard industry practice, that the
127 use of such a temperature criteria provides for sufficient reliability of service, and that
128 use of more extreme criteria is not cost justified.

129 Q. MR. LANDWARD CITES THE EXPERIENCE IN ARIZONA SEVERAL
130 YEARS AGO WHERE A TEMPERATURE EVENT WITH A 1 IN 60
131 YEAR PROBABILITY OF OCCURRENCE WAS EXPERIENCED AND
132 40,000 CUSTOMERS LOST SERVICE TO JUSTIFY THE USE OF A HIGH
133 DESIGN DAY FORECAST. WHAT IS YOUR RESPONSE?

134 A. In my direct testimony I explained the concept of enhanced degree days (EDDs) which
135 combines the impact of temperature and windspeed on customer heating requirements
136 into a single independent variable. Daily temperature and windspeed data is available
137 for DEU's service territory since 1941, or the last 77 years. Within the last 77 years,
138 the day in DEU's service territory with the highest observed EDDs was January 12,
139 1963 when 77 EDDs were experienced. The EDDs associated with my recommended
140 design day weather criteria is 82 EDDs. Therefore, based on actual temperatures and
141 windspeeds, my recommended design day weather criteria has a less than 1-in-77 year
142 probability of occurrence, which is even more unlikely than the 1-in-60 year event
143 experienced in Arizona.

144 Q. MR. LANDWARD PRESENTS AN ALTERNATIVE APPROACH TO
145 EVALUATE THE REASONABLENESS OF THE COMPANY'S DESIGN
146 DAY FORECAST. BRIEFLY DESCRIBE THIS APPROACH AND HIS
147 FINDINGS.

148 A. Mr. Landward's alternative approach entails selecting several high demand days and
149 subtracting from the actual demands experienced on those days non-heat sensitive (base
150 load) usage to determine heat sensitive usage. He then divides heat sensitive usage by
151 actual HDDs experienced on those days to determine usage per HDD, and multiplies
152 heat sensitive usage per degree day by the Company's current 70 HDD design day to

153 develop a projection of what heat sensitive usage would have been at 70 HDD on those
154 days. He then adds back base load usage to arrive at what he contends is an estimate
155 of what usage would have been had a 70 HDD design day been experienced on those
156 select days. Based on this analysis, Mr. Landward concludes that the Company's
157 design day forecast falls within a range of reasonableness.

158 Q. WHAT IS YOUR RESPONSE TO MR. LANDWARD'S ALTERNATIVE
159 APPROACH AND HIS CONCLUSION?

160 A. First, Mr. Landward concedes that his alternative approach is not a rigorous approach
161 and he would not recommend using it to estimate a final design day demand forecast.

162 Second, the most recent day selected for analysis under Mr. Landward's
163 alternative approach is December 30, 2014. On this day, Salt Lake City experienced
164 53.67 HDDs, a maximum windspeed of 12 MPH, and an average windspeed of 5.4
165 MPH. However, as indicated by the newspaper articles attached to my testimony as
166 Exhibit 1S.1, windspeeds in other areas of DEU's service territory were much higher
167 than those in Salt Lake City and would have contributed to higher usage per HDD
168 levels and distorted the analysis presented by Mr. Landward.

169 Finally, the best way to evaluate the predictive capability of the design day
170 forecast model presented in my direct testimony would be to compare actual demands
171 by DEU's sales customers on the coldest days with the projected demands on those
172 days. Such a comparison is presented below and indicates that the model included in
173 my direct testimony provides reasonable projections of sales customers' demands
174 under conditions that approach my recommended design day criteria. In fact, my model
175 slightly over forecasted actual demands on these days.

<u>Date</u>	<u>HDD</u>	<u>Sales Demand</u>		<u>Variance</u>	
		<u>Actual</u> (Dth)	<u>Projected</u> (Dth)	<u>Quantity</u> (Dth)	<u>Percent</u> (%)
January 6, 2017	60.54	974,095	1,000,011	25,916	2.6
January 5, 2017	57.00	917,532	930,921	13,389	1.4
December 31, 2015	53.88	869,856	888,888	19,032	2.1

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III. WITNESS: KELLY B. MENDENHALL

177 Q.

WHAT IS MR. MENDENHALL'S RESPONSE TO YOUR FINDING THAT
THE COMPANY'S DESIGN DAY FORECAST MODEL IS FLAWED?

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179 A.

Mr. Mendenhall acknowledges that I have raised some important points for
consideration going forward, but that the Commission should evaluate the prudence of
the Company's actions given the information available at the time the Company made
its decisions to enter into contracts for firm peak hour service. He claims at the time
the Company made its contracting decisions its design day forecast model was sound
and that no parties had taken issue with the model.

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185 Q.

WHAT IS YOUR RESPONSE TO MR. MENDENHALL?

186 A.

As I explained in my direct testimony the Company's model was flawed and its design
day weather criteria were unreasonable when the Company made its firm peaking
service contract decisions. The fact that no parties had taken issue with the model and
weather criteria does not change this. In addition, although no party may have raised
issues concerning the model or the weather criteria does not excuse DEU from knowing
that the model was flawed and the weather criteria were unreasonable. A utility should
have performed assessments of its model and weather criteria as discussed in my direct
testimony which would have revealed the model was flawed and the weather criteria
were unreasonable.

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IV. WITNESS: MICHAEL L. PLATT

196 Q.

IN YOUR DIRECT TESTIMONY YOU INDICATED THAT THE COMPANY HAS NOT JUSTIFIED THE NEED FOR 350,000 DTH OF PEAK HOUR SERVICE BECAUSE IT DID ADEQUATELY CONSIDER THE IMPACT OF LINE PACK. WHAT WAS MR. PLATT'S RESPONSE TO YOUR CLAIM?

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201 A.

Mr. Platt has claimed that the Company already uses all the line pack on its system that can reasonably be used when determining its peak hour service requirements.

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203 Q.

WHAT IS YOUR RESPONSE TO MR. PLATT'S CLAIM?

204 A.

Mr. Platt has failed to address the substance of my claim. As I indicated in my direct testimony and as indicated in the response to OCS 4.04 in Docket No. 17-057-09, the Company has the ability to use approximately 180,000 Dth of line pack to partially address its peak hour service needs. In the response to OCS 4.03 in Docket No. 17-57-09, the Company claimed that without the ability to use line pack, its peak hour service requirement would be closer to 450,000 Dth. With the use of line pack (180,000 Dth/day), Kern River peak hour service (100,000 Dth/day), and the acquisition of DEQP peak hour service (250,000 Dth/day), the Company will have resources of 530,000 Dth/day to meet peak hour demands. This exceeds the claimed requirement of 450,000 Dth/day. Mr. Platt has failed to address why an additional 80,000 Dth/day (530,000 Dth/day – 450,000 Dth/day) of peak hour service is required.

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V. SUMMARY

216 Q.

PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

217 A.

It is my understanding that the determination of prudence of the Company's peak hour service agreements with Kern River and DEQP are to be addressed in this proceeding. As explained in my surrebuttal testimony, the Company's claimed need for peak hour services are overstated by 27,000 Dth/day because the design day demand upon which

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221 the Company's projected need for peak hour service is overstated by 89,381 Dth. It
222 also appears that the Company's need for peak hour services is overstated by an
223 additional 80,000 Dth/day because the Company has not adequately accounted for the
224 use of line pack. Therefore, in total, it appears that the Company's need for peak hour
225 service is overstated by 107,000 Dth/day.

226 Furthermore, as just explained, the Company's forecasted design day demands
227 are overstated by 89,381 Dth. This indicates that the capacity resources acquired by
228 the Company to meet design day demands exceed the capacity resources maintained
229 by the Company, and that customers are likely paying for more resources, such as
230 upstream pipeline capacity, than are necessary to serve their needs. In addition to
231 addressing DEU's acquisition of peak hour services in this proceeding, the Commission
232 should address any excess capacity maintained by DEU either in this proceeding or in
233 a later phase of this docket since the Company's application includes these excess
234 resources.

235 Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

236 A. Yes, it does.