

-BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH-

**IN THE MATTER OF APPLICATION OF DOMINION
ENERGY UTAH TO INCREASE DISTRIBUTION
RATES AND CHARGES AND MAKE TARIFF
MODIFICATIONS**

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**DOCKET No. 22-057-03
Exhibit No. DPU 2.0 DIR**

Phase I – Direct Testimony

FOR THE DIVISION OF PUBLIC UTILITIES
DEPARTMENT OF COMMERCE
STATE OF UTAH

Direct Testimony of

Casey J. Coleman

August 26, 2022

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1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND BUSINESS ADDRESS.**

3 A. My name is Casey J. Coleman. I am employed by the Division of Public Utilities
4 (DPU) for the State of Utah. My business address is 160 East 300 South Salt Lake
5 City, UT 84114.

6 **Q. BRIEFLY OUTLINE YOUR EMPLOYMENT BACKGROUND.**

7 A. I have worked for the DPU for over twenty years, working as both a Utility Analyst
8 and Utility Technical Consultant. One of my primary responsibilities as Utility
9 Technical Consultant for the DPU has been testifying before the Public Service
10 Commission of Utah (Commission) on financial and policy issues.

11 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?**

12 A. I received a Bachelor of Science degree in Finance from Weber State University in
13 1996 and a Master of Business Administration from Utah State University in 2001.
14 In May of 2022, I received the Certified Rate of Return Analyst certification from the
15 Society of Utility and Regulatory Financial Analysts (SURFA).

16 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?**

17 A. Yes. I have testified before the Commission as an expert witness in a number of
18 telecommunications, water, and energy dockets, including Docket Nos. 02-049-82,
19 03-049-49, 03-049-50, 05-053-01, 05-2302-01, 07-2476-01, 08-2469-01, 10-049-16,
20 10-2521-01, 10-2526-01, 08-046-01, 15-042-01, 15-2302-01, 17-098-01, and 19-
21 057-02, 20-035-04. The most recent testimony I have filed with the Commission was
22 in Docket No. 21-035-53.

23 **SUMMARY**

24 **Q. BRIEFLY SUMMARIZE THE WORK AND INVESTIGATIONS THAT YOU HAVE**
25 **PERFORMED IN THIS MATTER.**

26 A. I have reviewed and analyzed the testimonies of Dominion Energy Utah (DEU or the
27 Company) witnesses Mr. Jordan K. Stephenson and Ms. Jennifer E. Nelson. Mr.
28 Stephenson provided testimony regarding DEU's cost of debt and its capital
29 structure. Ms. Nelson's testimony presents her analysis regarding the appropriate
30 return on equity (ROE) for DEU's natural gas operations in Utah, as well as an
31 assessment of its proposed capital structure to be used for ratemaking purposes.

32 I have also performed an independent estimation of cost of capital, particularly with
33 respect to the cost of equity¹ and an appropriate capital structure for DEU.

34 **Q. PLEASE SUMMARIZE AND DESCRIBE THE PURPOSE OF YOUR**
35 **TESTIMONY.**

36 A. In an earlier cost of equity order, the Commission, discussed how "applying models
37 requires judgment at each important step."² The Commission continued by stating
38 each "financial model analysis will provide a good framework for analysis and a
39 useful means of organizing relevant information, but not objective cost-of-equity
40 estimates. Assessments of other, including qualitative information is necessary."³ A
41 "Cost of Capital" primer prepared by the National Association of Regulatory
42 Commissioners (NARUC) for the United States Agency for International
43 Development (USAID) made the same point:

44 An ROE recommendation by a witness or an ROE decision by a regulator
45 requires both the application of financial models and the use of informed
46 judgment. An ROE based solely on judgment would be inappropriate, as
47 would be an ROE that relied solely on the mechanistic and arbitrary
48 application of financial models. In [our] opinion, it is common for regulatory
49 commissions to acknowledge that any financial model, no matter how
50 conceptually appealing and well-supported, needs to be supplemented with
51 informed judgment. Commissions are on a constant quest to balance the
52 theoretical with the practical.⁴

¹ Throughout my testimony, I interchangeably use the terms "ROE" and "cost of equity".

² See Utah Public Service Commission Report and Order Docket No. 02-057-02, page 19.

³ *Ibid.*, page 19.

⁴ National Association of Regulatory Utility Commissioners, A Cost of Capital and Capital Markets Primer for Utility Regulators, April 2020, page 20.

53 The purpose of my testimony is to provide the data and analysis that provides a
54 reasonable framework for rate-making purposes. I present evidence using generally
55 accepted valuation methods including: the Capital Asset Pricing Model (CAPM), the
56 Constant Growth Discounted Cash Flow (DCF) model, and a Risk Premium model.

57 My direct testimony also provides additional information, including a review of the
58 return on equity trend for natural gas distribution companies and a discussion on the
59 appropriate cost of debt and the appropriate capital structure for DEU.

60 Finally, I take the data and analysis I present and discuss how that information
61 should be applied in the Company's rate-making proceeding in this docket. My
62 testimony recommends an appropriate capital structure, an overall rate of return, and
63 a return on equity that DEU should be allowed the opportunity to earn.

64 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.**

65 A. I have concluded that the appropriate cost of equity for DEU is 9.30 percent. The
66 current market conditions support a reasonable range for cost of equity between
67 8.93 percent and 9.73 percent.

68 The DPU supports the Company's requested capital structure. To compensate DEU
69 as a natural gas distribution company, the Commission should approve the proposed
70 capital structure. The Company's long-term cost of debt calculation of 4.00 percent
71 as presented in Mr. Stephenson's direct testimony DEU Exhibit 3.33, is reasonable
72 for DEU.⁵

73 **Q. WHAT IS THE COMPANY'S FILED POSITION REGARDING THE COST OF**
74 **CAPITAL?**

75 A. In its filing dated May 2, 2022, the Company asked for cost of capital rates of return
76 as listed in Table 1.⁶

⁵ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Jordan K. Stephenson Exhibit 3.33.

⁶ *Ibid.*

77

Table 1

	Rate	Capital Structure	Weighted Rate
Common Stock	10.30%	53.21%	5.48%
Long-term Debt	4.00%	46.79%	1.87%
WACC		100.0%	7.35%

78
79
80
81

The 10.30 percent cost of equity recommended by DEU is outside a reasonable range, on the high side. The DPU’s proposed reasonable range for DEU’s cost of equity is 8.83 percent to 9.73 percent. I recommend that DEU’s authorized cost of equity should be 9.30 percent.

82
83
84
85

DPU Exhibit 2.02 DIR summarizes the capital structure and cost of capital point estimates supported by the DPU. The final weighted average cost of capital is 6.82 percent. Table 2 summarizes the capital structure and cost of capital point estimates supported by the DPU.

86

Table 2

	Rate	Capital Structure	Weighted Rate
Common Stock	9.30%	53.21%	4.95%
Long-term Debt	4.00%	46.79%	1.87%
WACC		100.0%	6.82%

87 **PRINCIPLES OF RATE REGULATION**

88 **Q. WHAT ARE THE PRINCIPLES GUIDING FAIR RATES OF RETURN IN THE**
89 **CONTEXT OF RATE REGULATION?**

90 A. For decades there has been a developing body of opinions regarding the fair rate of
91 return when dealing with rate regulation. Dr. James C. Bonbright, in his book
92 *Principles of Public Utility Rates*, offered some of the first ideas dealing with utility
93 regulation.⁷ Dr. Morin also outlines the principles guiding fair rates of return in his
94 book *New Regulatory Finance*.⁸ For almost two decades the DPU has been
95 discussing the fair rate of return in testimony filed with the Commission.⁹

96 In reviewing a number of different documents, some Direct Testimony of Harold
97 Walker III provided one of the most succinct and concise discussion of a fair rate of
98 return. I have included his summary below:

99 In a market system, competition generally determines the price of goods and
100 services. Public utilities are permitted to operate as monopolies or near
101 monopolies because: (1) the services provided by utilities are considered
102 necessities by society; and (2) capital-intensive and long-lived facilities are
103 necessary to provide utility service and the construction of multiple,
104 competitive networks of facilities would cost customers more. Generally,
105 utilities are required to serve all customers in their service territory at
106 reasonable rates determined by regulators. As a result, regulators act as
107 something of a substitute for a competitive free-market system when they
108 authorize rates for utility service.

109 Although utilities operate in varying degrees as regulated monopolies, they
110 must compete with governmental bodies, non-regulated industries, and other
111 utilities for labor, materials, and capital. Capital is provided by investors who
112 seek the highest return commensurate with the perceived level of risk; the
113 greater the perceived risk, the higher the required rate of return. In order for

⁷ For a general overview of the fair rate of return concept see, James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961), republished on the web (July 2005) Chapter 10 Criteria for a Fair Return and Chapter 15 The Fair Rate of Return:

⁸ See generally Roger A. Morin Ph.D., *New Regulatory Finance*, pages 14-18 (2006).

⁹ Division of Public Utilities, Docket No. 07-057-13 Direct Testimony, Dr. Artie Powell, March 31, 2008, lines 35—82.

Division of Public Utilities, Docket No. 07-057-13 Direct Testimony, Mr. Charles Peterson, March 31, 2008, lines 977—990.

Division of Public Utilities, Docket No. 17-098-01 Direct Testimony, Mr. Casey J. Coleman, 31, February 13, 2018 lines 2—4.

114 utilities to attract the capital required to provide service, a fair rate of return
115 should roughly equal an investor required, market-determined, rate of
116 return.¹⁰

117 **Q. WHAT CONSTITUTES A FAIR RATE OF RETURN?**

118 A. Mr. Walker continued to summarize the *Hope* and *Bluefield* cases as follows:

119 Two noted Supreme Court cases define the benchmarks of a fair rate of return. In
120 *Bluefield*,¹¹ a fair rate of return is defined as: (1) equal to the return on investments in
121 other business undertakings with the same level of risks (the comparable earnings
122 standard); (2) sufficient to assure confidence in the financial soundness of a utility
123 (the financial integrity standard); or (3) adequate to permit a public utility to maintain
124 and support a reasonable credit rating, enabling the utility to raise or attract
125 additional capital necessary to provide reliable service (the capital attraction
126 standard). The second case, *Hope*,¹² determined a fair rate of return be based upon
127 guidelines found in *Bluefield* as well as stating that: (1) allowed revenues must cover
128 capital costs, including service on debt and dividends on stock; and (2) the Federal
129 Power Commission was not bound to use any single formula or combination of
130 formulae in determining rates. Utilities are not entitled to a guaranteed return.
131 However, the regulatory-determined price for service must allow the utility a fair
132 opportunity to recover all costs associated with providing service, including a fair rate
133 of return.¹³

134 **Q. HOW HAVE REGULATORY COMMISSIONS GENERALLY DETERMINED A**
135 **FAIR RATE OF RETURN FOR A REGULATED UTILITY?**

136 A. Recently, Regulatory Research Associates (RRA), a group within S&P Global
137 Market Intelligence, gave a succinct overview of the regulatory process and how
138 various commissions have calculated a fair rate of return. The report states:

139 Historically, there have been two approaches in calculating ROE in
140 regulatory proceedings, a comparable earnings approach and a
141 market analysis. In a comparable earnings approach, similar
142 investments with similar risks are analyzed to determine an
143 appropriate ROE. The firms selected and the time period selected for
144 comparison purposes are subjective elements of this analysis. By
145 contrast, the market analysis involves more detailed calculations and
146 assumptions and relies on data from the broader securities market.

¹⁰ Palmetto Utilities, Inc. Docket No. 2019-281-S, Direct Testimony, Mr. Harold Walker, III, pages 4—5.

¹¹ *Bluefield Water Works & Improvement Company v P.S.C. of West Virginia*, 262 U.S. 679 (1923).

¹² *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591, 602-603, (1944).

¹³ Palmetto Utilities, Inc. Docket No. 2019-281-S, Direct Testimony, Mr. Harold Walker, III, pages 4—5.

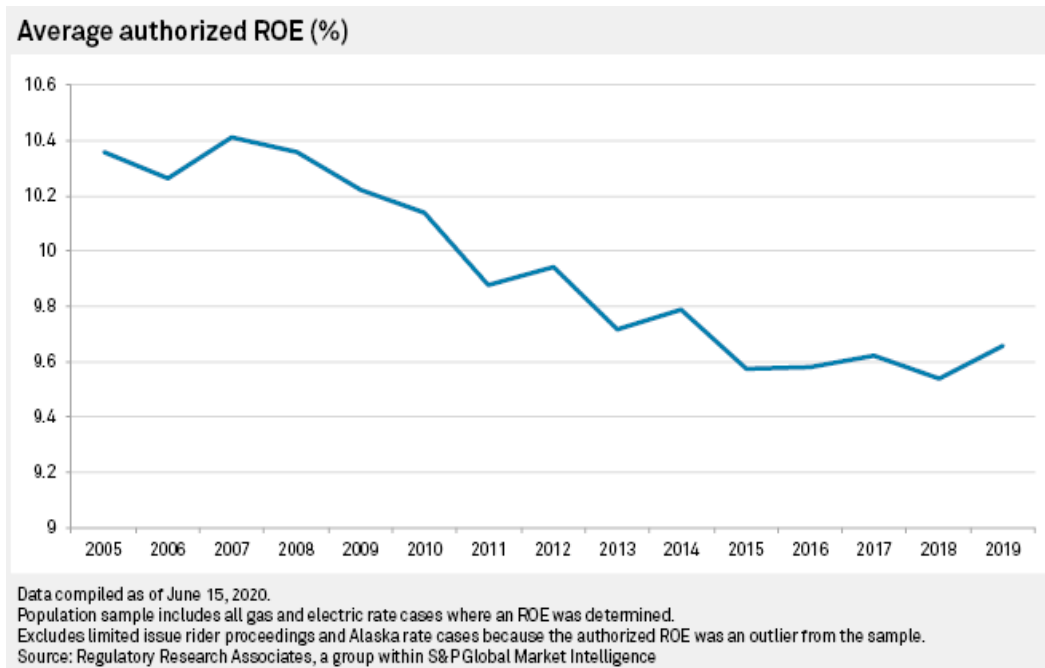
147 Two market-based methodologies favored in utility rate case testimony
148 are the discounted cash flow, or DCF, analysis, and the capital asset
149 pricing model, or CAPM, approach. These techniques are among the
150 select few consistently recognized by utility commissions.

151 Similar to the CAPM, the risk premium method, or RPM, measures a
152 company's cost of equity capital by adding a risk premium to a risk-
153 free long-term Treasury bond or yield on a utility bond similarly rated
154 by credit rating agencies. The risk premium is typically estimated using
155 a variety of approaches, some of which incorporate forward-looking
156 estimates of the cost of equity, and others that consider historical
157 estimates.¹⁴

158 **Q. DID RRA HAVE AN OPINION ABOUT THE TREND OF AUTHORIZED RETURNS?**

159 **A.** Yes. RRA created the chart showing the trend for average authorized ROE and also
160 stated:

161 Chart 1



162 Equity returns authorized in electric and gas utility rate cases have
163 generally trended downwards over the past 15 years consistent with
164 declining interest rates. In addition, the proliferation of automatic
165 adjustment and investment recovery mechanisms that reduce utility

¹⁴ S & P Global Market Intelligence RRA Regulatory Focus, The rate case process: establishing a fair rate of return for regulated utilities. June 29, 2020.

166 business risk have been cited, at times, as a contributing factor by
167 commissions in authorizing lower ROEs.¹⁵

168 The table above excludes ROEs determined in limited issue
169 proceedings and certain rate cases decided in the state of Alaska,
170 which represent outliers from the general sample. The Regulatory
171 Commission of Alaska typically awards much higher than average
172 ROEs to compensate utilities for the difficult terrain and environmental
173 conditions they face as well as regulatory lag associated with lengthy
174 rate case proceedings.¹⁶

175 **Q. WHAT HAS RRA OBSERVED FROM ITS DATA CONCERNING INDUSTRY ROE**
176 **AVERAGES AND THE VARIANCE IN THOSE AVERAGES?**

177 A. In the same report dated June 29, 2020, RRA explained:

178 RRA tracks trends in industry ROE averages and compares
179 commission authorized-ROEs to the industry average in the time
180 period it was established. In some cases, authorized ROEs have been
181 significantly above or below prevailing industry averages at the time
182 established.

183 The variance in authorized ROEs over the years has remained fairly
184 consistent, with the one standard deviation amounting to a range of
185 roughly 40-50 basis points above and below the industry average.
186 Statistically speaking, 68% of a sample population should occur within
187 one standard deviation of a normal distribution; returns above and
188 below one standard deviation could be viewed more significantly
189 different than the RRA average. For example, the majority of ROE
190 authorizations during a year when the average ROE was 9.5% would
191 roughly fall into the range of 9.0%-10.0%.¹⁷

192 **Q. WHAT IS THE AVERAGE ROE FOR NATURAL GAS UTILITIES AS OF**
193 **JULY 1, 2022?**

194 A. As DPU Exhibit 2.07 illustrates, S&P Global Market Intelligence calculated the
195 average ROE for natural gas utilities as of June 30, 2022. The information
196 provided by RRA shows each allowed rate of return decided by different state

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ *Ibid.*

197 commissions in 2020, 2021, and year-to-date 2022. The average rate of return
198 for 2022 is shown in Table 3:

199

Table 3

Category	Average Return on Equity
Mean First Half of 2022	9.33%
Litigated Mean	9.23%
Settled Mean	9.34%

200 Further information was provided in a recent report published by S&P Capital IQ
201 regarding the recent trend of ROE for natural gas utilities. In that report S&P stated:

202 For gas utilities, the overall average authorized return on equity in the first
203 half of 2022 fell to a historic low. Data gathered by Regulatory Research
204 Associates shows that in cases decided in the first half, the average
205 authorized ROE was 9.33 percent versus 9.56 percent in the full-year 2021.

206 At 9.33 percent, the average return on equity for gas utilities approved in
207 cases decided during the first half of 2022 is lower than any of the annual
208 averages in RRA's rate case database, which includes all major decisions
209 since 1980. Authorized returns have been weighed down by the low interest
210 rate environment of recent years. In 2022, interest rates have risen, however,
211 due to the U.S. Federal Reserve's policy efforts to rein in inflation. Headwinds
212 in terms of high inflation and growing fears of an impending recession may
213 weigh on utilities, regulators and rate case outcomes for the rest of the year.

214 While authorized ROEs for gas utilities are at an all-time low, they have been
215 in decline since the 1980s, consistent with the declining interest rate
216 environment. In addition, the proliferation of automatic adjustment and
217 investment recovery mechanisms that reduce the business risk of a utility has
218 often been cited by commissions as a contributory factor in authorizing lower
219 ROEs¹⁸

220 As the information from RRA shows, despite the COVID-19 pandemic and other
221 current economic considerations, state utility commissions have continued to lower

¹⁸ RRA Regulatory Focus, Gas ROE authorizations hit record low as recession fears grip US, published August 15, 2022.

222 authorized ROE for natural gas utilities. The lowering of ROE began in 2007 and
223 continues today.

224 **Q. WHAT IS THE VALUE IN KNOWING THE AVERAGE ROE FOR NATURAL**
225 **GAS UTILITIES?**

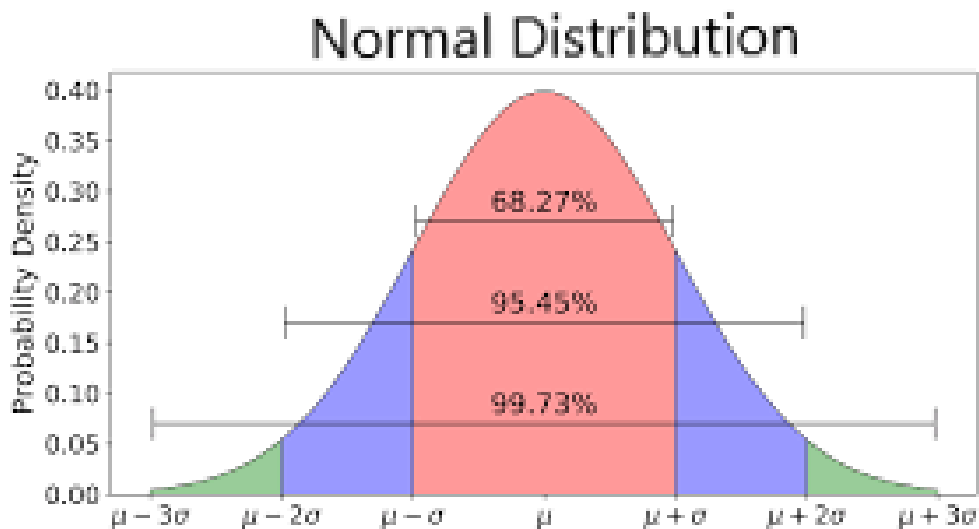
226 A. Knowing the average return on equity for natural gas utilities along with the variance
227 analysis done by RRA enables parties to calculate a reasonable range of ROE for
228 DEU. Because the average year-to-date ROE, as calculated by the DPU and RRA is
229 9.33 percent, using this data point and the 40-50 basis points in variance as
230 determined by RRA, the reasonable range for a natural gas utility would be 8.93
231 percent on the low end to 9.73 percent on the high end. Because the average does
232 not materially change for settled rate of return cases and litigated cases, the
233 appropriate range for DEU is 8.93 percent to 9.73 percent. If DEU were faced with
234 unique factors and circumstances, there may be cause to deviate from this. I have
235 not found any factors warranting that deviation.

236 **Q. MS. NELSON RECOMMENDED A ROE OF 10.3 PERCENT FOR DOMINION**
237 **ENERGY UTAH. WHAT DOES MS. NELSON'S RECOMMENDATION MEAN?**

238 A. Ms. Nelson and I have a fundamental disagreement about the relative riskiness of
239 DEU in relation to the other utility companies in the market. The cost of equity
240 approved by other commissions for regulated utility companies has been trending
241 downward, over the last few years. In the last rate case, the Commission approved a
242 cost of equity of 9.50 percent for DEU.

243 Ms. Nelson's conclusion that DEU's cost of equity should be in the range of 9.60
244 percent to 10.75 percent requires that investors would have to believe DEU is a risky
245 investment relative to other utilities. Generally, a rate increase to 10.3 percent would
246 mean either: (1) market conditions have significantly changed, or (2) DEU's risks
247 have increased since the last general rate case in 2019, and investors are requiring
248 a higher return because of the additional risks encountered by the Company.

249 Using RRA’s analysis noting that one standard deviation equals 40-50 basis points,
250 as described in lines 178 to 191 of my testimony, Ms. Nelson’s recommendation
251 would likely put DEU near the edge of or beyond two standard deviations from the
252 average. To accept Ms. Nelson’s recommendation, given a normal distribution, as
253 illustrated below, DEU should have an ROE, given the current conditions higher than
254 80-95% of companies in the distribution. To be that significant of an outlier, DEU
255 would need to have meaningfully different risks than most regulated gas utilities.



256

257 One point made by Ms. Nelson relates to the influence of economic conditions on
258 the required cost of capital and required ROE. She explains “[t]he required cost of
259 capital, including ROE, is a function of prevailing and expected economic and capital
260 market conditions.”¹⁹ She then outlines some of the economic conditions that have
261 changed since DEU filed its last rate case in 2019. Those changes include the
262 Global Covid-19 pandemic, the Federal Reserve’s tightening of its monetary policy,
263 and widening credit spreads between utility and treasury bonds and finally inflation

¹⁹ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson lines 877—878.

264 which is at the highest level in the last 40 years.²⁰ Ms. Nelson concludes that “[a]ll of
265 these factors indicate higher capital costs going forward.”²¹

266 The DPU agrees with Ms. Nelson that current economic conditions will have an
267 impact on the entire market. However what the appropriate ROE should be for DEU,
268 is a completely different question than the overall impact to the market. How all of
269 these economic conditions specifically impact DEU will determine if a higher or lower
270 ROE is needed to fairly compensate DEU for its capital costs. Later in my testimony,
271 I will discuss the current economic conditions and outline specifically the impacts to
272 DEU as a result of these changing conditions.

273 Another point stated by Ms. Nelson is, “[i]nvestors will provide funds to a firm only if
274 the return they *expect* is equal to, or greater than, the return they *require* to accept
275 the risk of investing capital in the firm”.²² Ms. Nelson, explains the concepts of risk
276 and how investors analyze their opportunity costs with their capital investments. Ms.
277 Nelson continues discussing risk when she discusses regulatory mechanisms and
278 concludes that “DEU’s regulatory mechanisms support its ability to recover costs in a
279 timely manner and render it comparable in risk to its peers. Therefore, there is no
280 reduction in DEU’s risk, or its ROE, on account of its regulatory mechanisms”²³

281 Even though Ms. Nelson understands the concept of risk to investors, she
282 recommends a rate of return that is significantly higher than the average allowed rate
283 of return earned by companies of comparable risk. To accept the proposed range
284 suggested by Ms. Nelson, implicitly, one must conclude that DEU is a higher risk
285 than the other subsidiaries of Dominion Energy and riskier than a comparable group
286 of regulated natural gas utilities. DEU is not riskier than other Dominion Energy
287 subsidiaries or comparable regulated natural gas utilities. Later in my testimony, I will
288 show how certain business and financial factors in the market today support the
289 argument that DEU is either less risky or faces the same level of risk as comparable

²⁰ *Ibid.*, lines 884—890.

²¹ *Ibid.*, line 891.

²² *Ibid.*, lines 146—148.

²³ *Ibid.*, lines 861—863.

290 utility companies. Nothing Ms. Nelson has provided in this case that would suggest
291 or demonstrate DEU is a riskier investment. Therefore, the proposed range or rates
292 suggested by Ms. Nelson are not supported by a comparison of known rates of
293 return for comparable alternative investments, and are not in the public interest.

294 Furthermore, the cost of equity ranges proposed by Ms. Nelson for DEU are not
295 consistent with published market returns. For example, the Company's proposal is
296 significantly higher than the 9.00 percent calculated by Duff and Phelps for the
297 returns of the total stock market.²⁴ A rate of return above 9.00 percent suggests that
298 DEU has a higher risk than average market investments. As explained in further
299 detail below, it is not reasonable to conclude that DEU has a greater investment risk
300 than the stock market and should require a higher return. I would instead submit that
301 a regulated utility is considerably less risky than the average stock in the market
302 because of the benefits of utility regulation and the impacts those benefits have to a
303 company's cash flow.

304 Also explained below, my testimony shows DEU, as a regulated utility, is less risky
305 than the entire stock market and does not have a higher risk than a comparable set
306 of utility companies. Nevertheless, because of the capital attraction element of utility
307 regulation, the DPU recommends a return of 9.30 percent, consistent with our
308 analysis and comparisons to a proxy group of companies.

309 **CURRENT ECONOMIC CONDITIONS**

310 **Q. MS. NELSON'S TESTIMONY OUTLINES SOME ECONOMIC CHANGES THAT**
311 **HAVE OCCURRED SINCE DEU FILED ITS LAST RATE CASE IN 2019. WILL**
312 **YOU COMMENT ON THESE ECONOMIC CHANGES AND HOW THEY**
313 **IMPACT DEU?**

314 A. Yes. Some of the economic conditions Ms. Nelson's discusses in her testimony are,
315 "dramatic shifts in the capital markets brought about by the global COVID-19
316 pandemic, volatility for both utility stocks and the broader market increased, the

²⁴ See DPU Exhibit 2.06 DIR.

317 Federal Reserve has begun tightening its monetary policy, credit spreads between
318 utility and Treasury Bonds have widened, and inflation is at its highest levels in the
319 last 40 years.”²⁵

320 COVID-19 Pandemic

321 The market conditions in early 2020 and 2021 as explained by Ms. Nelson were
322 dramatic and severe. There were a number of impacts felt in the capital markets like
323 an elevated volatility index, uncertainty over interest rates, and unprecedented
324 stimulus funds provided to the capital market by the federal government. Over the
325 past couple of years, investors have tried to adjust and determine how they will
326 invest their capital moving forward because of a number of financial impacts caused
327 by the pandemic. To adapt a quote by Chicken Little, the sky is not falling, it has
328 fallen. Because the sky has fallen, investors are determining what the lasting
329 impacts will be on the capital markets.

330 Over the time period discussed by Ms. Nelson, analysis has been done, articles
331 written, and theories formulated detailing how to invest and move forward in capital
332 markets after COVID-19.²⁶ Investors have adapted to the major event of COVID-19
333 and the current market situation reflects the investors’ current outlook on markets.
334 Because the financial models used are trying to determine a forward-looking rate for
335 DEU, most of the impact as a result of the pandemic will be factored into the current
336 market data. As noted before, stable utility stocks are often attractive to investors in
337 challenging times.

338 Volatility in the Broader Market

339 While discussing market volatility, it is helpful to review the VIX and what information
340 it is trying to capture and illustrate. “The VIX is a calculation designed to produce a

²⁵ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson lines 878—890.

²⁶ For a small sampling of articles written about investing after COVID-19 see the following:
<https://www.goldmansachs.com/insights/pages/gs-research/the-great-reset/report.pdf>
<https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-impact-of-covid-19-on-capital-markets-one-year-in>

341 measure of constant, 30-day expected volatility of the U.S. stock market, derived
342 from real-time, mid-quote prices of the S&P 500[®] Index (SPX) call and put options.
343 On a global basis, it is one of the most recognized measures of volatility—widely
344 reported by financial media and closely followed by a variety of market participants
345 as a daily market indicator.”²⁷

346 Additionally, as a way to support a higher ROE for DEU in her testimony, Ms. Nelson
347 points to a tripling of the Volatility Index (VIX) from 27.85 on February 25, 2020, to
348 82.69 on March 16, 2020.²⁸ While that tripling shows how uncertain the markets
349 were in 2020, in today’s economy things have significantly changed. In July of 2022,
350 the VIX index dropped below 19.79,²⁹ significantly lower than the time period
351 discussed by Ms. Nelson. Additionally, the 19.79 result is relatively closer to the
352 15.17 average in DEU’s last rate case.³⁰ Therefore the volatility that Ms. Nelson
353 indicates illustrates an increased need for a higher ROE is not applicable to DEU
354 today.

355 The trend in the last few months has been a declining VIX which means investors
356 are becoming more comfortable with the capital markets since the COVID-19
357 pandemic and are returning to pre-pandemic levels. The volatility is not as extreme
358 or severe as the picture painted by Ms. Nelson.

359 Even though the VIX is used to determine volatility in the market and the sentiment
360 of investors, the value of that information is muted for a regulated utility. The
361 structure of the index is looking at a very short investing horizon of 30 days. In utility

²⁷ CBOE Exchange “VIX https://www.cboe.com/tradable_products/vix/.”

²⁸ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson lines 902—903.

²⁹ Market Watch, VIX drops below 20 for the first time since April as S&P Retakes 4,200, published August, 10 2022. Accessed here: <https://www.marketwatch.com/story/vix-drops-below-20-for-first-time-since-april-as-sp-500-retakes-4200-2022-08-10>.

³⁰ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson line, 926.

362 rate proceedings, because the time frame of the capital investments is significantly
363 longer than 30 days the value of the VIX wanes.

364 Additionally, research has been done into the value of the VIX and what it is
365 predicting for investors. One study, found “because there has typically been an
366 excess of demand from market participants seeking the insurance-like
367 characteristics that options can provide, **there has been a discernable ‘premium’**
368 **in VIX**—otherwise said, VIX today more often than not **overstates** the level of actual
369 volatility experienced in the next 30 days.”³¹

370 Because the VIX is dealing with such a short 30-day time frame, reflective of the
371 entire market as a whole, and generally overstates the level of actual volatility, the
372 Commission should not put much value on the VIX index for predicting future market
373 conditions for a regulated utility.

374 Tightening Monetary Policy and Increasing Interest Rates

375 Generally and as far as it goes, the DPU agrees with Ms. Nelson when she states
376 the following:

377 Because the Cost of Equity is forward-looking, the salient issue is whether
378 investors see the likelihood of increased interest rates during the period in
379 which the rates set in this proceeding will be in effect.³²

380 Actions from the Federal Reserve over the last few months have led to a tightening
381 of monetary policy and an increase in the various treasury rates. As indicated in Ms.
382 Nelson’s testimony, the projected trend is for those rates to continue to increase
383 from a 30-day average of 2.20 percent as of February 28, 2022, to 3.40 percent on

³¹ S&P Dow Jones Indices, A Practitioner’s Guide to Reading VIX, December 2017 page 3. (Emphasis in the original)
<https://cdn.cboe.com/resources/vix/SandP%20A%20Practitioners%20Guide%20to%20Reading%20VIX.pdf>.

³² *Ibid.*, lines 1003—1005.

384 average over the five year period from 2023 to 2027.³³ She then argues “it is more
385 reasonable to give more weight to projected interest rates”.³⁴

386 Later in my testimony, I will discuss why it is unwise to give more consideration to
387 projected interest rates instead of using actual interest rates or historical rates. Even
388 if the Commission did believe it was important to give more weight to projected
389 interest rates, the increase in interest rates and tightening monetary policy at the
390 Federal Reserve, as detailed by Ms. Nelson is not as impactful as she argues.

391 The biggest reason is that many investors have adjusted their risk-free rate from an
392 actual rate to a normalized rate. This normalized rate reflects adjustments investors
393 are making as a result of the low interest rates that were supported by the monetary
394 policy of the Federal Reserve in the past. Kroll, a respected industry resource, has
395 recommended using a normalized risk-free rate of 3.5 percent when performing
396 various financial analysis. Kroll’s guidance “recommend[ed] using the spot 20-year
397 U.S. Treasury yield as the proxy for the risk-free rate. If the prevailing yield as of the
398 valuation date is higher than our recommended U.S. Normalized risk-free rate of
399 3.5% then the actual rate should be used. This guidance is effective when
400 developing USD-denominated discount rates as of June 16, 2022, and thereafter.”³⁵
401 Kroll went on to further explain that “[n]ormalized in this context means that in
402 months where the risk-free rate is deemed to be abnormally low, a proxy for a
403 longer-term sustainable risk-free rate is used.”³⁶

404 The DPU has been following the recommendation of Kroll and using the appropriate
405 normalized risk-free rate when developing discount rates and other financial
406 calculations for a number of years. Currently, the normalized rate recommended by
407 Kroll is 3.5 percent. The increase of interest rates as a result of the tightening
408 monetary policy can have an impact on utilities. The impact to the financial analysis

³³ *Ibid.*, lines 1007—1008.

³⁴ *Ibid.*, lines 1010—1011.

³⁵ Kroll Recommended U.S. Equity Risk Premium (ERP) and Corresponding Risk-free Rates (R_f); January 2008—Present. <https://www.kroll.com/-/media/cost-of-capital/kroll-us-erp-rf-table-2022.pdf>.

³⁶ *Ibid.*

409 done for these utilities will be minimal until the 20-year U.S. Treasury yield is above
410 3.5 percent. As shown in the information discussed by Ms. Nelson, the projected
411 rates for 2023 to 2027 are not estimated to be above 3.5 percent. So the financial
412 impact to DEU will be minimal and the need for a higher cost of capital as a result of
413 the tightening monetary policy is not supported.

414 Inflation

415 In Charles Dickens' *A Tale of Two Cities*, he starts off the book with the line "it was
416 the best of times, it was the worst of times." That classic line could be used to
417 describe the inflationary period of the financial markets right now. Inflation is higher
418 than it has been over the last 40 years. If inflation persists long term, financial
419 markets could see an impact moving forward. So, it could be the best or worst of
420 times depending on how inflation is managed in the coming months.

421 Inflation will impact the market and economy in a variety of ways. For DEU it is
422 important to look at inflation and how it could affect the company in the future. Below
423 I will outline some impacts of inflation and how those inflationary conditions might
424 impact DEU.³⁷

425 One of the biggest inflationary impacts to companies is the erosion of purchasing
426 power. This is inflation's primary and most pervasive effect. An overall rise in prices
427 over time reduces the purchasing power of consumers since a fixed amount of
428 money will afford progressively less consumption.

429 With a regulated utility, I do not see this reduction in purchasing power being as
430 significant as in other parts of the market for the following reasons:

- 431 1. Utility costs are considered a necessity. Consumers will cut in other areas
432 of spending before they would eliminate paying their utility bills. If inflation
433 does stay uncharacteristically high and consumers do begin to reduce the

³⁷ The ideas and comments come broadly from an article published by Investopedia. The 10 Common Effects of Inflation, June 17, 2022. <https://www.investopedia.com/articles/insights/122016/9-common-effects-inflation.asp>.

- 434 use of natural gas, the impact to DEU is significantly reduced because of
435 the conservation enabling tariff (CET);
- 436 2. Because DEU has the CET in place, if consumers do reduce consumption
437 because of inflation, the company will still collect its authorized per
438 customer revenue between rate cases. While the CET was developed as
439 a way to encourage conservation, or at least allow the Company to offer
440 conservation incentives, the CET still applies in an inflationary;
441 environment. The reduction in consumption by consumers because of
442 inflation looks the same as a reduction in consumption for conservation.
 - 443 3. Much of DEU's revenue comes through trackers, so changes in
444 commodity costs due to inflation will be reflected in those other
445 mechanisms;
 - 446 4. DEU has considered inflation in its request for increased labor expense in
447 the revenue requirement phase of the case.

448 Because utility payments are not considered discretionary purchases but a
449 necessity, and DEU's cash flows are stabilized because of the CET tariff, the
450 impacts of a reduction in purchasing power by DEU's customers as a result of high
451 inflation is not a major consideration. The most plausible way a reduction in
452 purchasing power could significantly impact DEU and its cash flows is if a significant
453 number of customers were simply unable to pay their utility bills. Currently, this
454 scenario does not seem likely, therefore, the financial risk to DEU is extremely low.

455 Another potential concern about inflation is that the Federal Reserve may continue to
456 raise interest rates. Governments and central banks have a powerful incentive to
457 keep inflation in check. In the U.S. and around the world over the past century, the
458 approach has been to manage inflation using monetary policy. When inflation
459 threatens to exceed a central bank's target, policy makers can raise the minimum
460 interest rate, driving borrowing costs across the economy higher by constraining
461 money supply.

462 As a result, inflation and interest rates tend to move in the same direction. By raising
463 interest rates as inflation rises, central banks can dampen the economy's risk
464 appetite, and the attendant price pressures. Suddenly the expected monthly
465 payments on that boat, or that corporate bond issue for a new expansion project,

466 seem a bit high. Meanwhile, the risk-free rate of return available for newly issued
467 Treasury bonds will tend to rise, rewarding savings.

468 Rising interest rates could impact a regulated utility in the cost of debt it must pay for
469 capital additions. The rising risk-free rate of return would filter through the various
470 financial models the DPU has used to determine the appropriate cost of capital for
471 DEU. As discussed earlier in my testimony, the rising risk-free rate will not have a
472 significant impact currently, because the Kroll risk-free rate used is a normalized
473 risk-free rate. Instead of using an actual risk-free rate, the recommendation was to
474 adjust the risk-free rate to a normalized rate of 3.5 percent. Part of the reasoning for
475 this normalization was to capture the target inflation rate of 2.0 percent plus an
476 additional borrowing cost of 1.5 percent.

477 A little inflation can be a symptom of a healthy economy and not something likely to
478 cause inflation expectations to rise. When inflation rates sharply accelerate and
479 remain high, as has been experienced in the last few months, expectations of future
480 inflation will eventually begin to rise accordingly. As those expectations rise, workers
481 start demanding larger wage increases and employers pass on those costs by
482 raising prices on output, setting off a wage-price spiral.

483 With a regulated utility, high inflation is a consideration for wage and cost of labor
484 increases. With DEU, the impacts of inflation are already considered in the general
485 rate case. As DEU Exhibit 3.08 shows, inflation and its impacts have already been
486 factored into the utility operating expenses for labor and non-labor categories. If the
487 Commission were to simply increase the ROE because of high inflation, without
488 looking at the underlying factors and data, it could be allowing a bigger impact to
489 revenues than is required by inflation. If the Commission accepts the adjustment
490 factors presented by DEU, it is already considering the impact of inflation on DEU by
491 allowing higher expenses adjusted for future inflation.

492 Because DEU has adjusted for wages and other non-labor costs in its rate case,
493 some of the major considerations for inflation have already been considered and
494 adapted to factor in inflation.

495 When looking at the ROE for DEU, the biggest consideration is how inflation can
496 impact stock returns. Rising inflation can be costly for consumers, stocks, and the
497 economy. As a general statement, stocks tend to be more volatile when inflation is
498 elevated, but specific sectors of the market will perform differently in high inflation
499 periods. Value stocks perform better in high inflation periods and growth stocks
500 perform better when inflation is low.³⁸ An investing article made this similar point.

501 Investors try to anticipate the factors that impact portfolio performance and
502 make decisions based on their expectations. Inflation is one of the factors that
503 may affect a portfolio. In theory, stocks should provide some hedge against
504 inflation, because a company's revenues and profits should grow with inflation
505 after a period of adjustment. However, inflation's varying impact on stocks
506 tends to increase the equity market volatility and risk premium. High inflation
507 has historically correlated with lower returns on equities.³⁹

508 Regulated Utilities have generally been an area investors shift their capital towards
509 in market recessions because of the relatively safe and stable cash flows and
510 consistent returns.

511 **CONCERNS WITH DOMINION ENERGY UTAH'S ANALYSIS**

512 **Q. DO YOU HAVE ANY CONCERNS OR DISAGREEMENTS WITH THE**
513 **COMPANY'S INFORMATION RELATED TO ITS COST OF CAPITAL**
514 **CALCULATION?**

515 A. Yes. Although the approaches used by Ms. Nelson to estimate the cost of equity in
516 this case are generally consistent with previous general rate cases filed by DEU and
517 some are similar to the approaches used in my analysis, I have identified the
518 following areas of concern and disagreement with Ms. Nelson's analysis and
519 testimony.

520 1. The biggest concern the DPU has is the significant potential for flawed data when
521 using forward-looking projections to estimate the cost of equity. The DPU is highly

³⁸ Review of Finance. "Another Look at the Stock Return Response to Monetary Policy Actions" page 324. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.462.1476&rep=rep1&type=pdf>.

³⁹ Investopedia Inflation's Impact on Stock Returns, July 22, 2022.

<https://www.investopedia.com/articles/investing/052913/inflations-impact-stock-returns.asp>.

522 uncomfortable with the use of projected growth rates to calculate the ROE for DEU.
523 Calculating an appropriate ROE for a company is already difficult and requires a
524 solid framework of analysis from a variety of ROE estimation models and judgment
525 at each important step. Although ratemaking encompasses both art and science, if
526 the inputs or assumptions of the model are flawed, then the analysis and judgment
527 will also be flawed.

528 In a rate making proceeding where even small percentages can have significant
529 impacts, there should be caution in the use of forward-looking projections. The
530 longer the horizon with the projections the greater the likelihood of flawed
531 assumptions and judgment which would over or understate the correct ROE for
532 DEU. The DPU is not comfortable trying to project that far into the future to set the
533 appropriate return on equity for DEU.

534 The Commission in past rate cases has generally avoided using data points that
535 include projected calculations or assumptions and used the best data available at
536 the time of the general rate case. The Commission should place little if any weight or
537 merit to models that are using forward-looking⁴⁰ assumptions when there is current
538 data available.

539 2. The DCF model calculations in DEU 2.02 Constant Growth DCF and 2.03
540 Quarterly DCF do not use the 75 percent earnings growth and 25 percent dividend
541 growth calculation as ordered in the 2002 Questar General Rate Case.

542 This is inconsistent with the Commission's order in that case. Using the 75 percent
543 earnings growth and 25 percent dividend growth calculation, as ordered by the
544 Commission, considers the fact that while the model is theoretically about dividends
545 and not earnings, it also reflects that dividend growth is related to earnings growth.

⁴⁰ The DPU recognizes that at times the Commission has used "forward-looking" information. An excellent example is using a forward-looking test year. The major difference is that a forward-looking test year is allowed by statute, reviewed by the parties and agreed upon as part of the general rate case. Additionally, the future projections are being made by DEU on its business. There is a higher level of comfort with this type of projection where costs, rate base, and other items are easier to control by the company. DEU has zero control of the risk-free rate, future stock prices, future dividend yield, etc. Each of those items are controlled by the financial markets.

546 Implicit is the concept that differences between dividend growth and earnings growth
547 rates in the near-term have a greater effect on the cost of equity than any such
548 differentials in the far future. Therefore, in addition to being ordered by the
549 Commission, this weighting scheme is reasonable and has been used as part of my
550 analysis.

551 3. Ms. Nelson's DCF analysis in DEU Exhibit 2.02, 2.03 and 2.04 includes growth
552 rate projections from *Value Line*, Yahoo! Finance, and Zacks. While the DCF model
553 is dependent on an estimate for growth rates, it appears Ms. Nelson is using the
554 projected rates in the future, instead of the historical growth rates. Additionally, Ms.
555 Nelson adjusts the dividends paid by the companies to determine a future pay-out.
556 Using these projected analyst estimates in addition to a projected dividend rate
557 undermines a major premise of the DCF models. This premise is that only one
558 assumption or calculation must be made while the rest of the data needed is readily
559 available to the interested parties. By projecting dividends and using forecasted
560 growth rates, the possibility of the model being inaccurate is increased. Each point
561 of data is projected, which increases the possibility the results of the model will be
562 inaccurate.

563 As stated earlier, projected growth rates increase the possibilities of inaccuracies
564 and, therefore, are not usually in the public interest and should not be included in the
565 analysis for the ROE of DEU. The Commission should give no weight to these
566 calculations.

567 4. Ms. Nelson's CAPM model calculation includes an Equity Risk Premium that
568 does not appear to use a generally accepted methodology that has been published
569 and peer reviewed like other financial theories. As I will discuss in detail later, the
570 Equity Risk Premium calculated by Ms. Nelson over-estimates the market risk
571 premium leading to a higher CAPM cost of equity result for DEU. The Commission
572 should use an Equity Risk Premium from established, and well-known sources.

573 5. Ms. Nelson's CAPM analysis uses projected risk-free rates. Later in my
574 testimony, evidence will be provided that shows the error in trying to project risk-free
575 rates and why those projected risk-free rates should not be considered.

576 6. In her attachment DEU Exhibit 2.06 Risk Premium, Ms. Nelson uses the Blue
577 Chip Near-Term Projected Forecast March 1, 2022, and Blue Chip Long-Term
578 Projected Forecast December 1, 2021, to calculate the ROE for DEU. As stated
579 before, forward-looking interest projections are not generally in the public interest
580 and should be excluded from the analysis. The primary model point the Commission
581 should use in its measured judgment of ROE is the analysis that uses the current 30-
582 day average of 30-year U.S. Treasury bond yield.

583 **CAPITAL STRUCTURE**

584 **Q. WHAT IS REQUIRED TO DEVELOP AN OVERALL RATE OF RETURN FOR A**
585 **PUBLIC UTILITY?**

586 A. The first step in developing an overall rate of return is to select the capital structure
587 ratios. Next, the cost or rate for each capital component, debt and equity, is
588 determined. The overall rate of return is the product of weighting each capital
589 component by its respective cost of capital. This procedure results in DEU's overall
590 rate of return and weighted average cost of capital (WACC) being weighted properly
591 to reflect the amount of capital and cost of capital for both debt and equity.

592 **Q. WHAT CAPITAL STRUCTURE RATIO IS APPROPRIATE TO USE TO**
593 **DEVELOP DEU'S OVERALL RATE OF RETURN?**

594 A. The DPU recommends using the capital structure proposed by DEU witness Mr.
595 Jordan K. Stephenson. The DPU recognizes the proposed equity portion is higher
596 than other natural gas distribution companies and higher than the ratios followed by
597 DEU in the past. In the last rate case, DEU was allowed a capital structure of 55
598 percent equity and 45 percent debt. The 53.21 percent equity is a decrease from the
599 general rate case in 2019. With low interest rates, it is prudent for DEU to continue to

600 finance much of its capital purchases with the relatively low debt in the capital
601 markets.

602 **Q. IS THERE A SET OF REGULATORY AND FINANCIAL PRINCIPLES USED TO**
603 **DETERMINE THE APPROPRIATE CAPITAL STRUCTURE FOR COST OF**
604 **CAPITAL PURPOSES?**

605 A. Yes. There is a general set of regulatory and financial principles used in deciding the
606 capital structure issue for cost of capital purposes that are consistent with both
607 regulatory and financial theories:⁴¹

608 1. It is generally preferable to use a utility's actual capital structure in developing
609 its rate of return. However, in deciding whether a departure from this general
610 preference is warranted in a particular case, it is appropriate to first look to the
611 issue of whether the utility is a financially independent entity.⁴² In determining
612 whether a utility is a financially independent entity or self-financing, it is
613 important to look to whether the utility: (1) has its own bond rating; (2) provides
614 its own debt financing; and (3) debt financing is not guaranteed by a parent
615 company.

616 2. When a utility issues its own debt that is not guaranteed by the public or
617 private parent and has its own bond rating, regulatory and financial principles
618 indicate to use a utility's own capital structure, unless the utility's capital
619 structure is not representative of the utility's risk profile or where use of the
620 actual capital structure would create atypical results. Regulatory and financial
621 principles require the analyst to determine whether the actual capital structure
622 is atypical when compared with the capital structure approved by the
623 Commission for other utilities that operate in the same industry (i.e., water

⁴¹ See generally Roger A. Morin Ph.D., *Utilities Cost of Capital*, 14-18 (1984).

⁴² See generally *Fundamentals of Financial Management*, 7th Edition, chapters 5, 8, 9, and 12.

624 utility, gas distribution utility, telecommunications company, etc.), as well as
625 those of proxy utility companies that operate in the same industry.⁴³

626 3. If a utility does not provide its own financing, public utility commissions often
627 look to another entity. Generally, public utility commissions use the actual
628 capital structure of the entity that does the financing for the regulated utility as
629 long as it results in just and reasonable rates. This generally means using a
630 parent company.

631 Once the capital structure is determined for the regulated utilities, public utility
632 commissions should determine where to set the utility's return based upon how the
633 utility's risk compares with that of other utilities that operate in the same industry (i.e.
634 water utility, gas distribution utility, etc.). The risk analysis begins with the
635 assumption that the utility generally falls within a broad range of average risk, absent
636 highly unusual circumstances that indicate an inconsistently high or low risk as
637 compared to other utilities that operate in the same industry. Generally, financial risk
638 is the function of the amount of debt in an entity's capital structure used for the cost
639 of capital purposes. When there is more debt, there is more risk, everything else
640 being equal.⁴⁴

641 **Q. CAN YOU DISCUSS HOW THE FINANCIAL PRINCIPLES OUTLINED ABOVE**
642 **APPLY TO DEU?**

643 A. Yes. DEU is a wholly owned subsidiary of Dominion Energy (Dominion). Even
644 though DEU is wholly owned by Dominion, DEU obtained debt independent of the
645 parent company.⁴⁵ Using these guiding principles, it would seem reasonable at first
646 glance to use the actual capital structure of DEU in this proceeding. This is a higher
647 equity position than DEU has historically requested. Other than the general rate case

⁴³ For a comprehensive overview of the regulatory process and the issues involved, see Howe, K.M. and Rasmussen, E.F. *Public Utility Economics and Finance*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., (1982).

⁴⁴ See generally Kahn, Alfred E. *The Economics of Regulation Principles and Institutions Volume 1 and Volume II*, The MIT Press (1988).

⁴⁵ Dominion Energy Utah Docket No. 22-057-03, May 2, 2022, Direct Testimony of Jordan K. Stephenson Exhibit 3.33.

648 in 2019, the equity portion of the capital structure of DEU was closer to 51 percent
649 equity. The higher equity portion will allow DEU to maintain its favorable credit
650 ratings and allow DEU to reasonably manage its financing costs.

651 A higher equity portion in the capital structure means the overall revenues of DEU
652 will be higher, everything else being equal. These higher revenues will increase the
653 cash flow position of DEU. The cash flow of a company is an important criteria used
654 by credit rating agencies to establish the appropriate credit ratings.

655 **COST OF DEBT**

656 **Q. DO YOU HAVE A COMMENT ABOUT THE COST OF DEBT INCLUDED IN**
657 **THE APPLICATION?**

658 A. Yes. The information in DEU Exhibit 3.33 calculated the cost of debt for DEU. Using
659 the information provided, the DPU has reviewed the debt and agrees that the cost of
660 debt for DEU should be 4.00 percent.

661 **COST OF COMMON EQUITY**

662 **Q. WILL YOU REMIND THE READER OF THE RETURN ON EQUITY AMOUNT**
663 **THE DPU IS RECOMMENDING FOR THIS CASE?**

664 A. Yes. I have completed and included the calculations for the various models and
665 recommend that the appropriate cost of equity for DEU is 9.30 percent. The DPU's
666 recommendation is within the calculated range of 8.93 percent to 9.73 and is based
667 on an evaluation of the DCF, CAPM, and Risk Premium models. The reason for this
668 recommendation will be addressed later in my testimony. The recommended range
669 is just and reasonable to the ratepayers and to DEU and is comparable with the 9.33
670 average authorized rate of return for natural gas distribution companies in 2022.⁴⁶
671 The results of the DPU's calculations are summarized in DPU Exhibit 2.01 DIR.

⁴⁶ Please see DPU Exhibit 2.07 Past Allowed ROR.

672 **DIVISION OF PUBLIC UTILITIES' ANALYSIS**

673 **An Overview of Common Cost of Equity Models**

674 **Q. WHAT METHODS DID YOU LOOK AT TO ESTIMATE THE CURRENT**
675 **MARKET COST OF EQUITY FOR DEU?**

676 A. I used similar models to those used in previous rate cases before the Commission
677 and similar to those used in Ms. Nelson's analysis. I have included a Constant
678 Growth Discounted Cash Flow or DCF model. Within the model, I have considered
679 the growth rates from multiple sources. I have included multiple risk premium models
680 (RPM), including the capital asset pricing model (CAPM), and the Bond-Yield-Risk-
681 Premium approach.

682 **Q. PLEASE BRIEFLY DESCRIBE THE DCF MODEL.**

683 A. The DCF model assumes that the value of ownership in a common stock is based
684 upon the returns the stockholder expects to receive into perpetuity. It incorporates
685 the current dividend and the prospects for growth in that dividend over time. Among
686 other things, the model assumes the expected price-to-earnings ratio for the
687 company's stock will remain constant at the current level. The DCF model assumes
688 a constant growth rate "g". That is, "g" will adequately serve as a surrogate for the
689 growth in dividends for all periods of time in the future. The formula used is:

690
$$k_e = D_0^*(1+g)/P_0 + g$$

691 Where: k_e is the cost of common equity
692 D_0 is the current dividend
693 P_0 is the current stock price
694 g is the (constant) growth rate
695

696 **Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE DCF MODELS?**

697 A. Briefly, the strengths of the models are their simplicity and ease of application,
698 particularly in the single-stage version of the model. DCF models are derived directly
699 from the financial theory that the price of common stock is equal to the present value
700 of the expected future cash flow to stockholders. Two of the three principal

701 components of the model are directly observable in the market: the dividend and the
702 stock price. The future growth rate is necessarily an estimate and thus can be
703 controversial. The single-stage model can be faulted because of its assumption that
704 there is a single growth rate, usually derived from relatively short-term growth
705 forecasts that will apply to the company into the indefinite future (theoretically
706 forever). Non-constant and multi-stage DCF models use changing growth rates in
707 future periods and sometimes changing discount rates, but they are increasingly
708 complex. Moreover, without knowledge of future events there is no reason to
709 conclude that multi-stage DCF models are more accurate than single stage models
710 unless there is a known anomaly in the short term.

711 **Q. AS YOU MENTIONED EARLIER, IN THE 2002 QUESTAR GAS GENERAL**
712 **RATE CASE, THE COMMISSION ADOPTED A 75 PERCENT WEIGHTING ON**
713 **EARNINGS GROWTH ESTIMATES AND 25 PERCENT WEIGHTING ON A**
714 **DIVIDEND GROWTH ESTIMATE. DO YOU HAVE ANY COMMENTS ON THIS**
715 **WEIGHTING?**

716 A. Yes. For a DCF model, this weighting appears reasonable. It gives consideration to
717 the fact that the model is theoretically about dividends and not earnings, but also
718 reflects that dividend growth is related to earnings growth. Also implicit is the
719 concept that differences between dividend growth and earnings growth rates in the
720 near-term have a greater effect on the cost of equity than any such differentials in
721 the long-term. I believe the current weighting is reasonable and should continue to
722 be used.

723 **Q. PLEASE BRIEFLY DESCRIBE THE CAPITAL ASSET PRICING MODEL.**

724 A. The CAPM is a type of risk premium model. CAPM grew out of theoretical work in
725 modern portfolio theory in the 1960s. Modern portfolio theory has shown that
726 diversified portfolios could reduce the variability in the value of those portfolios and
727 that a risk factor called “beta” could be used to estimate the relative variability of a
728 portfolio to the market portfolio. The theory of CAPM is that the cost of equity is
729 equal to the risk-free rate plus a market risk premium adjusted by the beta risk

730 factor. The market risk premium is the additional return over the risk-free rate that a
731 portfolio of all risky investments, i.e. the “market,” would expect to earn. One of the
732 theoretical underpinnings of CAPM is that investors through a diversified portfolio
733 could virtually eliminate risk specific to a particular investment such that if the
734 investor were sufficiently diversified, he would only face the risk of the market, which
735 is also called systematic risk. Beta is a measure of the volatility of an investment’s
736 value compared to the market as a whole and will indicate to an investor how a given
737 investment will affect the systematic risk of his portfolio. Under CAPM theory
738 investors are not rewarded for the specific risks of a particular investment because
739 these risks can be diversified away. The only reward the investor receives is the
740 systematic risk, represented by the beta that an investment brings with it to the
741 portfolio.

742 The calculation of the CAPM cost of equity for a company is straight forward and is
743 based upon readily available information. This model is widely taught in the
744 academic literature and is widely used in industry.⁴⁷

745 The formula for the CAPM is as follows:

746 $k_e = RFR_0 + \beta * (MS - RFR)$
747 Where: k_e is the cost of common equity
748 RFR_0 is the current risk-free rate
749 β is beta, the risk adjustment factor
750 (MS-RFR) is the market risk premium which can be
751 decomposed into two factors: The overall market
752 return, MS, and the RFR that is compatible with the
753 way the MS was estimated.

⁴⁷ Modern portfolio theory and the capital asset pricing model are discussed in detail in texts on corporate finance and investment valuation. See, for example:

Brealey, Richard A., Stewart C Myers and Franklin Allen. (2006). *Principles of Corporate Finance 8th ed.* New York: McGraw-Hill Irwin.
Brigham, Eugene F. and Joel F. Houston. (2007). *Fundamentals of Financial Management 5th ed.* Mason, Ohio: Thomson South-Western.
Damodaran, Aswath. (2002). *Investment Valuation.* New York: John Wiley & Sons, Inc.
Parcell, David C. (1997). *The Cost of Capital – A Practitioners Guide.*

754 **Q. PLEASE BRIEFLY DISCUSS THE STRENGTHS AND WEAKNESSES OF THE**
755 **CAPITAL ASSET PRICING MODEL.**

756 A. The strengths include a firm theoretical basis for the model, its relative simplicity,
757 and intuitive appeal. The model is widely taught and widely used in corporate
758 America. The downside of the model is that there is little consensus on how each of
759 the factors are developed and how the model is implemented.

760 Different analysts will likely choose different risk-free rates, which will affect the
761 outcome. Academics sometimes favor using a Treasury bill rate as the most nearly
762 true risk-free security, while practitioners favor longer-term bond rates to match the
763 apparent holding period of the asset. Beta is calculated in various ways using
764 different base periods, market proxies, and other measurement differences, such as
765 the frequency of the observations and even the day of the week the observations are
766 made. Some services offer “adjusted” betas that “correct” the calculated or “raw”
767 beta to account for the apparent tendency of betas to revert to a mean over time.
768 The available services assume that the mean the betas revert to is the market beta,
769 which is 1.0.

770 Perhaps the most hotly debated factor is the market risk premium, which is the
771 premium return investors demand from stocks over the risk-free rate. Some
772 practitioners support the use of the arithmetic average of the difference between
773 historical stock market returns (with the Standard & Poor’s 500 Index as a proxy)
774 and long-term (approximately 20 years) treasury bond returns since 1926 as
775 popularized by Ibbotson Associates over the last 30 years or so.⁴⁸ This approach has
776 been criticized by academics and others on a number of grounds. Some say the
777 historical time period is too long, reaching back to a much different economy than we
778 have today. Others have cited technical problems with the data Ibbotson compiled.
779 One technical problem is referred to as “survivor bias.” Survivor bias refers to the
780 fact that the underlying Ibbotson data is composed of successful companies, losers
781 are not included. Studies indicate that this bias inflates the Ibbotson-based market

⁴⁸ Stocks, Bonds, Bills, and Inflation (SBBI), any edition, published annually by Ibbotson Associates.

782 risk premiums by about 1 to 2 percentage points.⁴⁹ Another issue is the use of
783 arithmetic averages versus geometric averages. Ibbotson Associates, Brealey,
784 Myers, and Allen among others, argue that arithmetic averages produce the
785 appropriate unbiased estimates of returns. The use of arithmetic averages
786 significantly overstates the actual returns an investor would have received over a
787 long historical period of time, a time period in which the geometric average
788 accurately reflects the actual experiences of investors. For this reason and others,
789 some experts advocate geometric returns.⁵⁰ In short, there is great dispute about
790 how the market risk premium should be estimated. For my analysis, I have used the
791 Duff and Phelps data because it is readily available and widely used.

792 Empirical studies of stock returns have turned up anomalies that have suggested
793 flaws in the CAPM. To correct for these anomalies (and save the basic theoretical
794 construction) additional factors have been specified for the model such as the Fama-
795 French five-factor model or add-ons to the model such as adjustments for size or
796 industry. None of these adjustments have avoided controversy. The practical
797 implementation of the CAPM has resulted in controversy and disagreement. Despite
798 these problems, the CAPM is widely used and has an established theoretical basis.
799 The fact of its widespread use necessitates that an analyst at least consider the
800 CAPM in evaluating a cost of equity problem.

801 **Comparable (Proxy) Companies**

802 **Q. WHAT ARE THE “COMPARABLE COMPANIES” YOU REFERRED TO AND**
803 **HOW WERE THEY CHOSEN?**

804 A. One of the first steps in the estimate of cost of equity is the selection of publicly
805 traded “comparable,” or “proxy” companies. These proxy companies’ market returns
806 and characteristics should be studied in order to infer from them what the

⁴⁹ Brigham, Eugene F. and Joel F. Houston. (2007). *Fundamentals of Financial Management* 5th ed. Mason, Ohio: Thomson South-Western. p. 272.

⁵⁰ For a discussion of geometric versus arithmetic averages, see Damodaran Aswath. (2002). *Investment Valuation*. New York: John Wiley & Sons, Inc. pp. 161-162 and PPC’s *Guide to Business Valuations*, Volume 1, paragraph 502.8, Practitioners Publishing Company, Fort Worth Texas, February 2006.

807 appropriate cost of equity should be for DEU. The selection and use of comparable
808 companies is critical since DEU itself is not an independent, publicly traded
809 company. Even if DEU were publicly traded it would be advisable to compare it with
810 closely related companies in its industry.

811 The Company's witness, Ms. Nelson, chose six companies as cited in her
812 testimony.⁵¹ In Ms. Nelson's analysis, she excluded South Jersey Industries (SJI)
813 and Southwest Gas Holdings (SWX) because they had been involved in merger
814 activities. Both companies were involved in a merger in 2022. Because many of the
815 models are using historical information to determine the appropriate Cost of Capital,
816 the historical information of SJI and SWX before the merger can be helpful in the
817 cost of capital analysis. In doing its analysis, the DPU included both of these
818 companies. Additionally, Chesapeake Utilities Corp. (CPK) was also excluded by
819 Ms. Nelson because 60% of its revenues were not from natural gas revenues. A
820 Value Line report dated May 27, 2022, states that 67.4 percent of the revenues of
821 CPK come from regulated utilities.⁵² Because CPK appears to be above the 60
822 percent threshold, the DPU has included this company in its proxy group.

823 **Application of Cost of Equity Models**

824 **1. DCF Models**

825 **Q. PLEASE DESCRIBE HOW YOU DEVELOPED THE DCF MODEL.**

826 A. First, I calculated the current dividend yield for each of the comparable companies.
827 The dividend was based upon information provided by Value Line. I used a 30-
828 trading day average closing price from June 3, 2022, to July 18, 2022.⁵³ The 30-
829 trading day average closing price was used to smooth out random fluctuations that
830 might exist in the stock price data. The historical price information was obtained from
831 Yahoo! Finance. Next, I took earnings and dividend growth rates from the latest

⁵¹ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson Lines 246—305.

⁵² Value Line Chesapeake Utilities Corp. Company Report published May 27, 2022.

⁵³ Casey J. Coleman Direct Testimony Exhibit 2.03 DIR.

832 Value Line reports for each comparable company as well as the latest updates on
833 Value Line's web-site accessed May 27, 2022. This information was combined with
834 the consensus earnings growth estimates reported by Zack's, Yahoo, and Value
835 Line.

836 Second, I considered several different growth rate estimates for the DCF models.
837 First, I calculated growth rates based upon a weighted-average method by applying
838 a 75 percent weight to the average earnings growth rate from Value Line, Zack's,
839 and Yahoo!, and a 25 percent weight to the dividend growth rate (from Value Line) in
840 compliance with the Commission's decision in the 2002 Questar Gas General Rate
841 Case. DPU Exhibit 2.03 DIR provides the calculation of the DCF model using the
842 Value Line earnings and dividend growth rates and the 30-day average stock price.
843 This calculation results in an estimated cost of capital range for all the proxy group
844 companies of 5.05 percent to 11.13 percent with an average of all the proxy group
845 companies at 8.25 percent. When calculating the average of all companies, the
846 information for Northwest Natural Gas was excluded because its dividend growth
847 rate was an outlier and skewed the results downward.

848 DPU Exhibit 2.03 DIR provides the same calculation of the DCF model using the
849 average of Zacks, Yahoo, and Value Line reported earnings growth rates and the
850 30-day average stock price. The DCF model using the 30-day average stock price
851 and the average earnings and dividend growth rates calculates an estimated cost of
852 capital range for the proxy group of companies of 6.35 percent to 10.12 percent with
853 an average of all the proxy group of companies excluding Northwest Natural Gas at
854 9.40 percent. Because the projected dividend growth rate of Northwest Natural Gas
855 was an outlier, the ROE for the company was not included in the average. The
856 results from the DCF models along with the other models are summarized on DPU
857 Exhibit 2.01 DIR.

858 **2. CAPM Results**

859 **Q. HOW DID YOU DEVELOP YOUR CAPM MODELS?**

860 A. I looked at the CAPM model using different risk-free rates, time periods, betas, and
861 market risk premiums. I did this to look at how the variable factors affect the outcome
862 of the CAPM estimate. As stated earlier, there is no consensus on precisely how the
863 components of the CAPM should be estimated.

864 **Q. PLEASE DESCRIBE THE MARKET RISK PREMIUM YOU USED.**

865 A. The primary source of the risk premiums used was from Duff and Phelps
866 Recommended U.S. Equity Risk Premium (ERP) and Corresponding Risk-free Rate
867 (R_1); The ERP was updated December 7, 2020, and the (R_1) was updated June 16,
868 2022. The current guidance was for a normalized 20-year U.S. Treasury yield (R_1) of
869 3.50 percent, with a recommended ERP of 5.50 percent.

870 **Q. WHAT BETA ESTIMATE DID YOU USE?**

871 A. I have calculated the CAPM using the beta from Value Line and the average beta as
872 reported by Zacks, and Yahoo! Finance. The Value Line beta is adjusted to
873 converge toward 1.0 whereas the other betas are not adjusted. The Value Line
874 formula is $(\text{adj beta}) = .66 * (\text{raw beta}) + .34$. The individual beta estimates for each
875 company can be seen in DPU Exhibit 2.04 DIR. Using each of these estimates, the
876 mean beta is 0.59.

877 **Q. AS PART OF YOUR CAPM ANALYSIS YOU USE A MARKET RISK PREMIUM**
878 **CALCULATED BY DR. ASWATH DAMODARAN. CAN YOU EXPLAIN THE**
879 **USE OF THIS MARKET RISK PREMIUM?**

880 A. Yes. Dr. Damodaran is a Professor of Finance at the Stern School of Business at
881 New York University. His research interests are in valuation, portfolio management,
882 and applied corporate finance. His papers have been published in the Journal of
883 Financial and Quantitative Analysis, the Journal of Finance, the Journal of Financial
884 Economics, and the Review of Financial Studies. He has written four books on
885 equity valuation (*Damodaran on Valuation*, *Investment Valuation*, *The Dark Side of*
886 *Valuation*, *The Little Book of Valuation*), and two on corporate finance: (*Corporate*
887 *Finance: Theory and Practice*, *Applied Corporate Finance: A User's Manual*).

888 Dr. Damodaran has calculated the average historical equity risk premium for stocks
889 minus the U. S. Treasury Bonds at 5.43 percent for a trailing 12-month period with
890 adjusted payout or 5.10 percent trailing 12-month cash yield.⁵⁴

891 **Q. WHAT WERE THE RESULTS FOR YOUR CAPM CALCULATION?**

892 A. As seen in DPU Exhibit 2.05 DIR, I calculated a variety of different returns. First I
893 used the Duff and Phelps (R_1) of 3.50 percent and ERP of 5.50 percent. Following
894 the CAPM inputs as described earlier, I used a number of different Beta estimates to
895 determine a return on equity for DEU. The first calculation was a return on equity
896 using the average beta for all analysts, then the average beta for the specific
897 calculated betas for Value Line, Zacks, and Yahoo Finance. Using this procedure, I
898 calculated a range of returns from 5.99 percent to 8.30 percent and an average of
899 6.77 percent.

900 The same methodology was used replacing the Duff and Phelps ERP with those
901 calculated by Dr. Damodaran. The results of this effort are a range of returns starting
902 at 5.15 percent and going to 7.28 percent. The average of all rates resulting from my
903 CAPM analysis is 5.87 percent.

904 **Q. YOUR CALCULATION OF THE CAPM IS SIGNIFICANTLY DIFFERENT FROM**
905 **THE CALCULATION USED BY THE COMPANY. CAN YOU EXPLAIN THE**
906 **DIFFERENCES?**

907 A. Yes. The major differences in the CAPM model between the DPU and Ms. Nelson
908 are a result of a different Market Risk Premium⁵⁵ or Equity Risk Premium (ERP). Ms.
909 Nelson performs her own risk premium calculation. Her calculation arrives at an
910 estimated required market return of 12.33 percent using an average of Large
911 Company Stock Returns from 1926 - 2021. The biggest flaw of this calculation is Ms.
912 Nelson's use of total market returns instead of an equity premium. For the CAPM

⁵⁴ Damodaran, Aswath, Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2019 Edition (April 14, 2019). Available at: SSRN: <https://ssrn.com/abstract=3378246> or <http://dx.doi.org/10.2139/ssrn.3378246>.

⁵⁵ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Ms. Jennifer E. Nelson DEU Exhibit DEU 2.05 CAPM Hist Rm.

913 analysis, the theory is returns need to be determined using an equity risk premium
914 not the total return of the stock market. Because she uses total returns of the stock
915 market, her CAPM method will significantly overstate the ROE. Because of this flaw,
916 it is incorrect to consider the calculations presented. Even if one did not believe
917 using the total market returns was erroneous, Ms. Nelson's market risk premium is
918 significantly higher than the Duff and Phelps or Damodaran estimates.

919 The calculation done by Ms. Nelson for her ERP is higher than the total return for the
920 market as calculated by Duff and Phelps or Damodaran. A total market return for
921 Duff and Phelps would be 9.00 percent, while the total market return for Dr.
922 Damodaran would be 8.57 percent.

923 As stated previously, I believe using the calculated risk premiums, as shown in Ms.
924 Nelson's Direct Testimony DEU Exhibit DEU 2.05 CAPM Hist Rm, is unsupported.
925 The analysis done by Ms. Nelson has not been accepted by the Commission in any
926 other rate case. Additionally, to my knowledge, this method has not been published
927 in any journal or academic publication that would allow the results to be vetted and
928 reviewed for accuracy. Because of these two facts, the DPU believes the
929 Commission should not give any weight to the CAPM analysis done by Ms. Nelson.

930 Additionally, the bulk of the analysis done by Ms. Nelson in her second CAPM
931 model, shown on DEU Exhibit 2.06 CAPM Mkt DCF, uses projected rates for the
932 risk-free rate and the ERP. The Commission has not used projected rates when
933 determining the appropriate risk-free rate or ERP, subsequently, any analysis done
934 by Ms. Nelson using projected rates should not be considered.

935 **Q. WHY ARE YOU SO STRONGLY OPPOSED TO PROJECTED INTEREST**
936 **RATES WHEN CALCULATING AN ROE?**

937 A. The current market situation makes it difficult to accurately and comfortably
938 determine where rates are heading in the future. Historically, analysts have seldom
939 been right when projecting interest rates. Analysts seldom project decreasing

940 interest rates, so the projections are biased to begin with. Additionally, analysts tend
941 to have much more optimistic predictions of the future that seldom happens.

942 As recently as 2020, the Federal Reserve indicated where they were projecting
943 interest rates in the next couple of years. In an article in the Wall Street Journal
944 dated June 11, 2020, Mr. Jerome Powell is quoted as saying "[w]e're not thinking
945 about raising rates. We're not even thinking about thinking about raising rates."⁵⁶
946 Two years later, as a way to deal with a variety of economic factors, the Federal
947 Reserve has raised interest rates, and is projected to continue to raise rates until
948 inflation cools. In the current economic conditions, interest rates are moving
949 dramatically from month to month with little certainty as to where those interest rates
950 will settle in the future. As stated before, the DPU has used normalized risk-free
951 rates to deal with the uncertain interest rate environment. Another way to smooth out
952 these significant swings, is to use historical rates. The DPU feels it is a better
953 analysis tool to use historical interest rates that incorporate a number of different
954 years and economic scenarios which will smooth out the significant variations in
955 interest rates.

956 Additionally, analysts have seldom been accurate when trying to project and
957 determine future interest rates. A quick search into the information available on how
958 accurate analysts have been when predicting interest rates shows that analysts are
959 woefully incorrect. In one article, Mr. Eisen states "[y]es, 100 percent of economists
960 were dead wrong about yields."⁵⁷ In a report published by the Wall Street Journal,
961 Mr. Ip explains that "[e]conomists got the decade all wrong and they are trying to
962 figure out why."⁵⁸ As the information shows, economists, analysts, and even the
963 Federal Reserve Chairman have rarely got the future interest rate projections right. If
964 the Commission were to accept projected interest rates, it would begin its framework

⁵⁶ Timiraos, N. (June 11, 2020) Fed Officials Project No Rate Increases Through 2022. *Wall Street Journal* Retrieved from <http://online.wsj.com>.

⁵⁷ Ben Eisen, "Yes, 100% of economists were dead wrong about yields" *Market Watch*, October 22, 2014. <https://www.marketwatch.com/story/yes-100-of-economists-were-dead-wrong-about-yields-2014-10-21>.

⁵⁸ Ip, G. (December 14, 2019) Economists Got the Decade All Wrong. They're Trying to Figure Out Why. *Wall Street Journal* Retrieved from <https://www.wsj.com/articles/economists-got-the-decade-all-wrong-theyre-trying-to-figure-out-why-11576346400?mod=searchresults&page=1&pos=3>.

965 of analysis with flawed and erroneous data, causing the ROE analysis to be flawed
966 and erroneous. Because of this fact, the Commission should not use projected
967 interest rates as recommended by Ms. Nelson.

968 **Q. WOULD THE MAJORITY OF PUBLISHED METHODS USED TO CALCULATE**
969 **AN EQUITY RISK PREMIUM SUPPORT MS. NELSON'S CALCULATED RISK**
970 **PREMIUM?**

971 A. No. In the financial literature, there are a variety of different ways to calculate the
972 ERP or market risk premium. When looking at these studies, a general consensus is
973 that the appropriate ERP would be in the range of 3 percent to 6 percent depending
974 on which risk-free rate was used by analysts. Below is a list of opinions of an
975 appropriate ERP.

976 *Principles of Corporate Finance*, 11th ed., takes no official position on
977 the exact ERP. But the authors believe that a range of 5 percent to 8
978 percent premium over T-Bills is reasonable for the United States
979 (equivalent to a premium over long-term government bonds of
980 approximately 3.5 percent to 6.5 percent).⁵⁹

981 *Valuation: Measuring and Managing the Value of Companies*, 6th ed.,
982 notes that "Although many in the finance profession disagree about how
983 to measure the market risk premium, we believe a range around 5
984 percent is appropriate. Historical estimates found in most textbooks
985 (and locked in the minds of many), which often report numbers near 8
986 percent, are too high for valuation purposes, because they compare the
987 market risk premium versus Treasury bills (very short-term bonds) and
988 are biased by the historical strength of the U.S. market."⁶⁰

989 Statista, an investment data portal, states: "[t]he average market risk
990 premium in the United States remained at 5.6 percent in 2020. This
991 premium has hovered between 5.3 and 5.7 percent since 2011."⁶¹

992 **Q. WHAT CONCLUSION CAN BE GAINED FROM REVIEWING THESE EQUITY**
993 **RISK PREMIUM MODELS?**

⁵⁹ Richard A Brealey, Stewart C. Meyers, and Franklin Allen, *Principles of Corporate Finance*, 11th ed., (New York: McGraw-Hill/Irwin, 2014), pg. 167.

⁶⁰ McKinsey & Company Inc., Tim Koller, Marc Goedhart, and David Wessels, op. cit, pg.: 292.

⁶¹ See <https://www.statista.com/statistics/664840/average-market-risk-premium-usa/>.

994 A. Even though there are a number of methods used in the financial literature to
995 determine an ERP, the methods of the individual authors conclude the appropriate
996 ERP is close to 5.00 percent. That is important for this case because Ms. Nelson's
997 ERP calculation ranges from 12.33 percent to 15.06 percent. Ms. Nelson's ERP
998 calculation is 247 percent to 301 percent higher than the consensus of finance
999 professionals. Ms. Nelson's ERP calculation is not reasonable or in the public
1000 interest.

1001 **3. Risk Premium Method**

1002 **Q. CAN YOU PLEASE DESCRIBE THE RISK PREMIUM MODEL USED BY THE**
1003 **DPU?**

1004 A. The value of a company's equity can be estimated by adding its risk premium to the
1005 yield-to-maturity on the company's long-term debt. The equity risk premium is
1006 essentially the return that stocks are expected to receive in excess of the risk-free
1007 interest rate. The normal historical equity risk premium for all equities has been
1008 approximately 6 percent. In general, an equity's risk premium will be between 5 and
1009 7 percent.⁶² The RPM Equation states that the required return on an equity equals
1010 the yield of the company's long-term debt plus the equity's risk premium.

1011 As DPU Exhibit 2.06 shows, the DPU used the ERP and (R_1) as calculated by Duff
1012 and Phelps as a baseline for the total market risk premium of 9.00 percent. Because
1013 Dominion Energy Inc. has a bond rating of BBB+, by S&P and Fitch's, as well as a
1014 bond rating of Baa1 by Moody's, the DPU looked at Moody's Baa Bond Yield to
1015 establish a range for a Baa1 bond. The Baa Bond Yield was 5.27 percent. Each of
1016 these bond yields were subtracted from the total market return of 9.00 percent to
1017 Estimate the Market Risk Premium of 3.73 percent for DEU. To determine the cost of
1018 equity, I added the appropriate premium to DEU's current long-term borrowing Rate
1019 of 4.25 percent to arrive at a cost of equity of 7.98 percent.

⁶² See <https://courses.lumenlearning.com/boundless-finance/chapter/approaches-to-calculating-the-cost-of-capital/>.

1020 Exhibit 2.06 includes the same calculation but uses the ERP identified by Dr.
1021 Damodaran of 5.27 percent. Following the same construct as described above, the
1022 DPU calculated a return on equity of 7.55 percent.

1023 With this data, the ROE for the Bond Risk Premium method would be in the range of
1024 7.55 percent to 7.98 percent.

1025 **Q. WHAT ARE THE DRAWBACKS OF USING THE RPM APPROACH?**

1026 A. Estimating the value of an equity using the RPM approach has its drawbacks.
1027 SURFA explained the weaknesses of the risk premium method as follows:

- 1028 1. The premium in effect is very subjective. One has to first estimate the
1029 prospective cost of debt (either long-term or short-term), then estimate
1030 the appropriate risk premium to add to this debt cost;
- 1031 2. The use of historic risk premiums contain the implicit assumption that
1032 future risk premiums will mirror historic premiums. In addition, the
1033 period of time chosen over which to measure the risk premium is
1034 subjective; and
- 1035 3. The risk premium method does not recognize the specific risk of the
1036 subject company, since it essentially results in the same cost of
1037 common equity for the same class of companies.⁶³

1038 **Q. WHAT ARE THE RESULTS OF THE DPU'S CALCULATION USING THE**
1039 **BOND YIELD RISK APPROACH?**

1040 A. This approach estimated higher cost of equity rates than the CAPM model but lower
1041 than the DCF model. This result is not entirely surprising because the CAPM model,
1042 with the lower beta values and risk-free rates, generally calculates the lowest cost of
1043 equity. Because the RPM approach is looking at corporate bond rates, the model will
1044 calculate a higher cost of equity than the CAPM model.

⁶³ Society of Utility and Regulatory Financial Analysts, David C. Parcell, *The Cost of Capital—A Practitioners' Guide*, 2020 Edition, page 180.

1045 **4. Risk Premium Results**

1046 **Q. WHAT DO THE RISK PREMIUM RESULTS SUGGEST TO YOU?**

1047 A. The risk premium results are low compared to the other models used and to recent
1048 commission orders. I believe the CAPM model is returning low values due to the
1049 favorable low interest rate environment caused by the current monetary policy, and
1050 how dependent the CAPM model is on beta values in its calculation. Even when a
1051 normalized risk-free rate is used in the financial model, as has been done by the
1052 DPU, the results remain low. This is a by-product of utilities being a low-risk
1053 investment as compared to the entire market which produces a lower beta value.

1054 **Q. YOU DID NOT INCLUDE ANY ADJUSTMENTS TO YOUR CAPM**
1055 **CALCULATION. CAN YOU EXPLAIN WHY?**

1056 A. Yes. The main reason is that any other adjustments either do not apply to DEU or
1057 have not been accepted by the Commission. My analysis provides the return on
1058 equity following basic CAPM theory. There are a number of ways to adjust the
1059 CAPM, (i.e., Empirical CAPM, adjustments for size premiums, etc.). However, to
1060 provide the greatest level of clarity for the Commission to consider, no adjustments
1061 to CAPM were made.

1062 Another reason I did not include any adjustments is that each approach is filled with
1063 its own set of issues and controversies. The existence of the small cap effect is
1064 disputed by some researchers, such as Dr. John Kania.⁶⁴ Others, like Brigham and
1065 Houston, suggest that the effect might be less than one finds in Ibbotson Associates'
1066 publications.⁶⁵

⁶⁴ Kania, John J. "The small firm risk premium remains largely a myth," Shannon Pratt's Business Valuation Update, Vol. 9, No. 11, November 2003. The essence of Dr. Kania's argument is that "smallness" is incorrectly specified as market capitalization, i.e. the market value of a company's stock. When other measures of size such as revenues or total assets are used, the size effect vanishes.

⁶⁵ Brigham, Eugene F. and Joel F. Houston, Fundamentals of Financial Management Concise 3rd Ed., Harcourt College Publishers, Orlando FL, 2002. Brigham and Houston conclude (p. 491) "In general, the cost of equity appears to be one or two percentage points higher for small firms (those with market values less than \$20 million) than for large NYSE firms with similar risk characteristics."

1067 **Q. YOU DO NOT BELIEVE ANY ADJUSTMENTS ARE NECESSARY TO THE**
1068 **CAPM CALCULATION, YET MS. NELSON INCLUDES AN EMPIRICAL CAPM**
1069 **CALCULATION. LET’S SUPPOSE YOU DID FEEL ADJUSTMENTS TO THE**
1070 **CAPM MODEL WERE WARRANTED. WOULD YOU THEN ACCEPT MS.**
1071 **NELSON’S ANALYSIS REGARDING THE EMPIRICAL CAPM?**

1072 A. Simply put, no. Ms. Nelson uses an ERP that she calculated. As described above,
1073 the DPU does not agree with this approach. The Empirical CAPM used returns that
1074 were based on the CAPM formula followed by Ms. Nelson. If the ERP results are
1075 flawed for the CAPM calculation, then the same ERP results will be flawed for the
1076 Empirical CAPM results. Due to this fundamental flaw, the DPU cannot accept the
1077 Empirical CAPM rates recommended by Ms. Nelson.

1078 **RATE CASE HISTORY IN OTHER STATES**

1079 **Q. WHAT HAS BEEN THE GENERAL TREND IN OTHER STATES REGARDING**
1080 **THE ALLOWED RATE OF RETURN FOR REGULATED NATURAL GAS**
1081 **UTILITIES?**

1082 A. For years, the DPU has included in testimony the fact that allowed rates of return
1083 have been declining.⁶⁶ As presented earlier in my testimony, research done by RRA
1084 clearly shows a declining trend for average authorized ROE since 2005.

1085 **Q. WHAT IS THE CURRENT APPROVED RATE OF RETURN (AROR) BY OTHER**
1086 **STATE COMMISSIONS FOR EACH OF THE REGULATED UTILITIES UNDER**
1087 **THE DOMINION OWNERSHIP?**

1088 A. The DEU⁶⁷ provided the following information on allowed rates of return.

⁶⁶ Division of Public Utilities, Docket No. 13-057-05, Douglas D. Wheelwright Surrebuttal Testimony, lines 92—98.

⁶⁷ Dominion Energy Utah’s response to Division of Public Utilities Data Request No. 2.1, Docket No. 22-057-03.

State	AROR
Gas LDC Ohio	10.38%
Gas LDC Utah	9.50%
Gas LDC Wyoming	9.35%
Gas LDC North Carolina	9.60%
Gas LDC West Virginia	9.54%
Electric Virginia	9.35%

1089 If the Commission were to accept the 10.3 percent ROE suggested by Ms. Nelson,
1090 as the above table represents, DEU would have a higher ROE than every company
1091 in Dominion except for the company in Ohio. The 10.38 percent AROR in Ohio is an
1092 outlier because the company has not had a general rate case for a number of years.

1093 **Q. CAN YOU EXPLAIN THE IMPLICATIONS OF THE 9.35 PERCENT AROR IN**
1094 **THE WYOMING STATE STIPULATION?**

1095 A. Yes. In August 21, 2020 Questar Gas Company in Wyoming stipulated to an ROE of
1096 9.35 percent. Even though the ROE for Dominion Energy in the State of Wyoming
1097 was a stipulated amount, a couple inferences can be made. First, the 9.35 percent
1098 was not an increase over the existing rate. Despite many of the current unknowns in
1099 the market, *i.e.* impacts from COVID-19, changing Federal policy, interest rate
1100 changes, etc., the company, regulators, and other interested parties did not feel it
1101 was in the public interest to raise the ROE. Second, despite the 9.35 ROE being the
1102 lowest ROE for any Dominion Energy subsidiary, the Company agreed to the terms
1103 outlined in the stipulation.

1104 This stipulation goes contrary to the arguments being made by Ms. Nelson that DEU
1105 is riskier and therefore needs a premium to adequately compensate investors for the
1106 additional risk of investing in DEU.

1107 **COMMENTS ON THE COST OF EQUITY RESULTS**

1108 **Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT MS. NELSON'S**
1109 **TESTIMONY?**

1110 A. Yes. As discussed earlier, inherent in the rates proposed by Ms. Nelson for DEU, is
1111 the belief the Company has risks greater than a comparable set of companies, or for
1112 the entire market. The DPU believes DEU is not riskier than the market, or a
1113 comparable set of companies. Ms. Nelson's ROE goes contrary to what industry
1114 analysts have said about the Company concerning the level of risk. In DPU witness
1115 Mr. Douglas Wheelwright's Direct Testimony⁶⁸ in a prior docket, he provided the
1116 following information about Questar Gas Company from Standard and Poor's
1117 research report dated January 23, 2013:

1118 The rating on Questar Gas Co. (QGC) reflect the consolidated credit
1119 profile of its parent, U.S. natural gas company Questar Corp. (A/Stable
1120 A-1). The ratings on Questar Corp. include what Standard and Poor's
1121 Rating Services considers an "excellent" business risk profile and an
1122 'intermediate' financial risk profile.Supportive regulation, a growing
1123 service area with a mostly residential customer base, low operating
1124 risks and lack of competition characterize the utility's excellent
1125 business risk profile. The business risk profile also benefits from strong
1126 access to gas supply and storage and from its relationship with
1127 Wexpro, the company's cost-of-service exploration and production
1128 operation that provides natural gas to the QGC utility at cost plus a
1129 fixed return.

1130 QGC's constructive relationship with the Utah Public Service
1131 Commission, which covers more than 95% of its customer base, has
1132 resulted in a supportive rate design that provides stable cash flows
1133 largely insulated from fluctuations in gas prices, weather, and usage.
1134 QGC also has a decoupling mechanism and an infrastructure tracker to
1135 recover about \$45 million per year associated with replacement of high-
1136 pressure feeder lines. Its relationship with Wexpro, which minimizes
1137 gas supply risk with cost-of-service natural gas reserves, provides an
1138 operational advantage over other gas utilities.⁶⁹

1139 From this information, Mr. Wheelwright concluded that Questar Gas has lower risk
1140 than most other natural gas distribution companies.

1141 More recently, S&P Global Ratings had this to say about Questar Gas Company:

⁶⁸ Division of Public Utilities, Docket No. 13-057-05, Direct Testimony of Douglas D. Wheelwright, lines 679—704.

⁶⁹ Standard & Poor's Research, Questar Gas Co., January 23, 2013.

1142 **Business Risk**

1143 Our business risk assessment of QGC reflects the utility's low-risk regulated
1144 natural distribution business, above-average size, and its effective
1145 management of regulatory risk.

1146 QGC effectively manages regulatory risk through a credit-supportive rate
1147 design, the use of multiple cost recovery mechanisms including a fuel cost
1148 adjustment, a weather normalization adjustment, decoupling, and an
1149 infrastructure cost tracking adjustment. QGC's cash flows are generally stable
1150 and largely insulated from fluctuations in gas prices, weather, and usage.
1151 Furthermore, most of the customer base is residential and commercial,
1152 providing an additional measure of cash flow stability. The company's
1153 business risk profile is marginally offset by lack of business or regulatory
1154 diversity.

1155 QGC has access to gas supply (over half of the utility's supply) due to its
1156 relationship with Wexpro, a cost-of-service exploration and production
1157 operation company providing natural gas to QGC at cost plus a fixed return.

1158 **Financial Risk**

1159 We assess the company's financial measures using our medial volatility
1160 financial benchmarks, reflecting the company's steady cash flow and rate-
1161 regulated utility operations and effective regulatory management.

1162 Under our base scenario, which includes annual capital spending averaging
1163 about \$300 million and modest customer growth, we expect financial
1164 measures to consistently reflect the higher end of the range for the
1165 company's financial risk category. Specifically, we expect FFO to debt of
1166 about 19 percent to 21 percent.⁷⁰

1167 From the above statements, a logical conclusion is Questar Gas Company, and now
1168 DEU, are perceived to be a lower risk than other utility companies or the market in
1169 general.

1170 Additionally, because DEU has an Infrastructure Tracker and CET pricing, these
1171 mechanisms allow the revenue streams of DEU to be more consistent and not
1172 affected by seasonality, temperature swings, and some of the impacts of inflation. As
1173 a general rule, more consistent cash flows correlate with a lower risk investment.

⁷⁰ Dominion Energy Utah, Docket No. 22-057-03, Response to FEA Data Request 1.15 Attachment 2, page 3.

1174 One of DEU's own witnesses testified in 2019 to the positive benefits of these
1175 revenue mechanisms. As Mr. Mendenhall discussed, "the Infrastructure Tracker is
1176 viewed favorably by the credit agencies, and is one of the reasons why [DEU] has
1177 been able to maintain its positive credit rating."⁷¹ Mr. Mendenhall continued, "the
1178 lower set of risks faced by DEU because of the Infrastructure Tracker is definitely
1179 seen as a positive by Moody's."⁷²

1180 Capital Expenditures

1181 Ms. Nelson has discussed the significant capital expenditure program of DEU.⁷³
1182 Over the last few years, DEU has invested in an LNG plant, expanding into new
1183 territories, as well as maintaining the integrity of the required infrastructure of a
1184 natural gas monopoly. Other than the normal capital expenditures to maintain the
1185 integrity of the system, DEU obtained approval from the Commission to expend the
1186 capital for the various projects. Because these projects were approved by the
1187 Commission before construction was started, and the capital expenditures will be
1188 included in the Infrastructure tracker, these capital expenditures are a very low risk
1189 to the utility.

1190 Additionally, capital expenditures become risky if the Company has difficulty in
1191 raising capital to finance those capital additions. Generally, investors expect a
1192 certain level of equity to be invested into the regulated utility to maintain the
1193 company's rate base. While capital expenditures could be a risk (if a company is not
1194 able to raise capital to economically finance those capital additions), discontinuing
1195 capital expenditures could be just as damaging to a regulated utility.

1196 With the capital costs of a utility at attractive rates, compared to historical rates, a
1197 prudent choice for a regulated utility is to continue raising capital when it is relatively
1198 inexpensive and invest the proceeds from that capital into long term projects.

⁷¹ Dominion Energy Utah, Docket No. 19-057-02, Direct Testimony Kelly Mendenhall, lines 423—425.

⁷² *Ibid.* lines 429—436.

⁷³ Dominion Energy Utah, Docket No. 22-057-03, May 2, 2022, Direct Testimony of Jennifer E Nelson lines 855—860.

1199 Because this is a shrewd management choice, a significant capital expenditure
1200 program does not make DEU riskier.⁷⁴

1201 Regulatory Risk

1202 The DPU agrees with Ms. Nelson when she illustrates the idea that the regulatory
1203 environment is a key component when considering the risks of a company:

1204 The regulatory environment significantly affects both the access to and
1205 the cost of capital. Regulatory decisions regarding the authorized ROE
1206 and capital structure have direct consequences for the subject utility's
1207 internal cash flow generation, and therefore the financial metrics
1208 reviewed by ratings agencies in their ratings assessments. Because
1209 credit ratings are intended to reflect the ability to meet financial
1210 obligations as they come due, the ability to generate the cash flows
1211 required to meet those obligations (and to provide an additional
1212 amount for unexpected events) is of critical importance to both debt
1213 and equity investors.⁷⁵

1214 The regulatory environment is one of the most important issues
1215 considered by both debt and equity investors in assessing the risks
1216 and prospects of utility companies. From the perspective of investors,
1217 the authorized return should enable the Company to generate the
1218 cash flow needed to meet its near-term financial obligations, make the
1219 capital investments needed to maintain and expand its system, and
1220 maintain sufficient levels of liquidity to fund unexpected events. This
1221 financial liquidity must be derived not only from internally generated
1222 funds, but also by efficient access to external capital. Because utilities
1223 are capital intensive enterprises, it is essential that the ROE
1224 authorized in this proceeding enable DEU to continue to invest the
1225 capital necessary to meet its obligation to serve in a variety of market
1226 environments, as well as maintain confidence in Utah's regulatory
1227 environment among credit rating agencies and investors.⁷⁶

1228 In evaluating the regulatory risk faced by DEU, Ms. Nelson looks at specific
1229 mechanisms used by utilities to construct an image of the regulatory environment in
1230 Utah. Listed below is a quick summary of the percentages for each category.⁷⁷

⁷⁴ *Ibid.* lines 855—860.

⁷⁵ *Ibid.* lines 804—811.

⁷⁶ *Ibid.* lines 864—875.

⁷⁷ *Ibid.* lines 816—827.

- 1231 ▪ Fuel and Energy Cost Recovery 100%
- 1232 ▪ Capital and Infrastructure Replacement Cost Recovery 96%
- 1233 ▪ Revenue Stabilization 88%
- 1234 ▪ Cost Recovery Associated with Efficiency and Conservation 63%
- 1235 ▪ Partially or Fully Forecasted Test Year 54%

1236 The list of comparable regulatory mechanisms demonstrates that many of these
1237 recovery mechanisms are becoming the industry standard. Because DEU’s
1238 regulatory environment allows for these cost recovery mechanisms they are not
1239 riskier than the proxy companies. Ms. Nelson agreed with this statement when she
1240 said, “there is no reduction in DEU’s risk, or its ROE, on account of its regulatory
1241 mechanisms”.⁷⁸

1242 **Q. HOW DOES RRA RATE THE UTAH PUBLIC SERVICE COMMISSION?**

1243 A. On May 19, 2020, the RRA Regulatory Focus published updated information
1244 regarding each state and how the RRA rates the regulatory environment for each
1245 utility. RRA’s evaluations are assigned from an investor perspective and indicate the
1246 relative regulatory risk associated with the ownership of securities issued by each
1247 jurisdiction’s energy utilities. Each evaluation is based upon consideration of the
1248 numerous factors affecting the regulatory process including gubernatorial
1249 involvement, legislation, and court activity, and may be adjusted as events occur that
1250 cause RRA to modify its view of the regulatory risk for a given jurisdiction.

1251 According to RRA, “[a] rating in the average category would imply a relatively
1252 balanced approach on the part of the governor, the legislature, the courts, and the
1253 commission when it comes to adopting policies that impact investor and consumer
1254 interests.”⁷⁹ In RRA’s report, the Commission receives a rating of “Average 2.”

1255 A June 8, 2020, report published by RRA, discussed the regulatory environment
1256 when dealing with credit metrics. The report stated that:

⁷⁸ *Ibid.*, lines 862—863.

⁷⁹ See S&P Global Market Intelligence RRA Regulatory Focus: State Regulatory Evaluations May 19, 2020.

1257 S&P Global Ratings conducts periodic assessments of each regulatory
1258 jurisdiction in the U.S. and Canada where a rated utility operates as a
1259 reference when determining a utility's regulatory advantage or
1260 regulatory risk. S&P Global Ratings' analysis covers quantitative and
1261 qualitative factors, focusing on regulatory stability, tariff-setting
1262 procedures and design, financial stability, and regulatory
1263 independence and insulation. The presence of utility regulation, no
1264 matter where in the spectrum of [S&P Global]'s assessments,
1265 strengthens the business risk profile and generally supports utility
1266 ratings.⁸⁰

1267 The report claims the regulatory environment in the State of Utah as Highly Credit
1268 Supportive.

1269 DEU has not provided any compelling evidence that the regulatory environment in
1270 Utah is risky or unfavorable to its utility operations. Instead, the utility benefits from a
1271 balanced regulatory approach in Utah. The balanced, or lower risk regulatory
1272 environment, does not merit a risk premium to the ROE of DEU.

1273 **Q. DOES YOUR ANALYSIS IMPLY THAT DEU DESERVES A PREMIUM COST**
1274 **OF EQUITY COMPARED WITH THE AVERAGE OF COMPARABLE**
1275 **COMPANIES?**

1276 A. No, there is no such indication. When looking at the rates for Dominion Energy, the
1277 appropriate cost of equity would be at the average rate or lower because of the lower
1278 risks of DEU. There is no factual reason that would push DEU into a premium cost of
1279 equity environment.

1280 **FAIR RATE OF RETURN**

1281 **Q. WILL YOU DISCUSS HOW A COST OF EQUITY OF 9.30 PERCENT IS**
1282 **REASONABLE GIVEN YOUR ANALYSIS?**

1283 A. Yes. Over numerous pages of my testimony, I have provided results from different
1284 financial models that attempt to estimate the appropriate cost of equity for DEU. This
1285 is what I would term as the "framework" aspect of rate making. Careful consideration

⁸⁰ See S&P Global Ratings Credit Research U.S. and Canadian Utility Regulatory Updates and Insights: June 2020.

1286 has been taken to follow each model and theory as accurately as possible. In this
1287 process, inherent warts and flaws will trickle into the theories. No method is perfect
1288 and each evaluation provides its own set of results. After extensive analysis, my
1289 research comes up with a cost of equity in the range of 8.93 percent to 9.73 percent.
1290 There is a very significant range of rates from each of the different models. My
1291 suggested rate of 9.30 percent falls just about at the mid-point of the suggested
1292 range.

1293 Rate making is not a simple process of observing the results calculated by the
1294 models and determining the appropriate cost of equity for a utility. A well thought out
1295 approach weighing the appropriate shortfalls of each model and the specific risks of
1296 the company is necessary to determine an acceptable rate of return. I have
1297 attempted to blend the data calculated to determine a fair and reasonable rate that
1298 will allow for additional investment capital for DEU while balancing the costs
1299 consumers must pay to cover those costs. The reasoning behind my
1300 recommendation is as follows.

1301 The financial model that calculated the lowest return on equity was the CAPM. The
1302 range of rates varied from 5.15 percent 7.28 percent. The Commission generally has
1303 not put a lot of weight on a CAPM model. I would agree with the Commission
1304 because of the current market conditions; I would be uncomfortable using CAPM
1305 rates exclusively. It is not surprising that the CAPM analysis calculates the lowest
1306 cost of equity for DEU. One of the important inputs in the model is the risk-free rate.
1307 With interest rates considerably lower than in the past, a model that uses the risk-
1308 free rate as a major component of the calculation will have a lower result than other
1309 models. Because of this weakness, I place some value on the results of CAPM with
1310 the understanding that the risk-free rate might be skewing the returns downward.

1311 The average market return using the Bond Yield plus Risk Premium method was a
1312 7.77 percent return on equity. Of all the models, this model is the one that I put the
1313 least amount of credibility and weight. It is acceptable as an additional point of

1314 reference, however, with so many variables and assumptions, it is difficult to feel
1315 entirely confident that the model is providing accurate results.

1316 The model I place the most weight on for calculating the return on equity is the DCF
1317 model. Because two of the three inputs are easy to calculate from readily available
1318 market data, this model has the least number of assumptions and calculations. Also,
1319 there are a number of reputable agencies that are calculating growth rates that can
1320 be used in the model. My results using the DCF model provided a range of 5.67
1321 percent to 11.13 percent with an average of 8.25 percent return on equity.

1322 **Q. SINCE A ROE OF 9.30 PERCENT IS HIGHER THAN MANY OF YOUR**
1323 **CALCULATIONS, HOW CAN YOU BE COMFORTABLE WITH THAT**
1324 **RECOMMENDATION?**

1325 A. There are a number of factors that go into this recommendation. My comfort is
1326 uneasy but I have chosen the point in the range to account for a gradual approach
1327 seemingly favored by the Commission. There has been a long-standing discussion
1328 dealing with the fair rate of return versus the cost of equity for utility companies.
1329 Steven G. Kihm argues that “determining a reasonable return on equity is a
1330 judgment call, one that reflects the regulator’s broad perspective on public policy
1331 matters. That requires one to look beyond economic concepts, such as the cost of
1332 equity, to find proper returns.”⁸¹

1333 NARUC explained the balancing of interests regulators deal with each day when
1334 making ROE decisions. It stated:

1335 It is typical for regulatory commissions to be confronted with the
1336 perpetual challenge of having a record consisting of multiple ROE
1337 methodologies from multiple ROE witnesses representing multiple
1338 parties. Amid the plethora of evidence before it, the regulatory
1339 commission is charged with considering and weighing all the evidence
1340 and determining a specific authorized ROE for use in developing
1341 tariffs. The ‘weighing’ part is challenging and can be different in each
1342 commissioner’s reasoning, but the task at hand for commissioners is

⁸¹ Steven G. Kihm, “The Proper Role of the Cost-of-Equity Concept in Pragmatic Utility Regulation” *The Electricity Journal* Volume 20 Issue 10(2007): 26.

1343 to agree to an authorized ROE that is within the range or zone defined
1344 by the evidence.⁸²

1345 As a utility regulator, the recommendation must take into consideration the data, but
1346 also blend public policy matters. In previous rate cases, the Commission appears to
1347 be using the concept of gradualism in setting the allowed rate of return for regulated
1348 utilities. Recommending a significant drop in rates could be detrimental for a
1349 regulated utility. The DPU has attempted to blend the market constraints with the
1350 appropriate policy decisions.

1351 **Q. WAS THERE ANYTHING ELSE GUIDING THE DPU'S RECOMMENDATION**
1352 **OF 9.30 PERCENT?**

1353 A. Yes. Dr. John C. Bonbright discusses his conviction that when calculating the cost of
1354 equity capital for any given company the only such cost that can be determined with
1355 confidence is a *minimum or partial cost*.⁸³ He continues, explaining "[h]ence, if the
1356 minimum estimated cost is to be used in the determination of a computed 'overall
1357 cost of capital,' the resulting computation should be subject to a material,
1358 'judgement-reached' enhancement in order to give reasonable assurance of full-cost
1359 coverage."⁸⁴

1360 Dr. Bonbright believes the calculated rates should act as a minimum or partial cost
1361 when determining the fair rate of return. If there is a logical minimum threshold of
1362 allowed rates of return, then there would also be a maximum level for utility
1363 companies.

1364 In the *Hope* and *Bluefield* cases, in the DPU's opinion, the courts established the
1365 basis of a capital attraction standard as well as other standards for a fair rate of

⁸² National Association of Regulatory Utility Commissioners, A Cost of Capital and Capital Markets Primer for Utility Regulators, April 2020 page 20.

⁸³ James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961), republished on the web (July 2005) Page 255:
<http://www.terry.uga.edu/bonbright/publications>.

⁸⁴ James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961), republished on the web (July 2005) Page 255:
<http://www.terry.uga.edu/bonbright/publications>.

1366 return for utility companies. When considering a fair rate of return, utility regulators
1367 are expected to provide returns that must be similar to returns currently earned on
1368 investments in other equally risky business enterprises. For a regulated natural gas
1369 utility that would mean the fair rate of return would be very similar to allowed rates of
1370 return in other states. As shown earlier in my testimony, the average rate of return
1371 for similar companies with a similar risk to DEU, is 9.33 percent. Using these two
1372 theories as a guiding principle, I was able to determine the appropriate range for
1373 DEU's cost of capital at 8.93 percent to 9.73 percent. Because of policy
1374 considerations, the DPU's own evaluation of current market risks and DEU's
1375 individual risk profile, the DPU recommends a cost of equity for DEU of 9.30 percent.

1376 **CONCLUSIONS AND RECOMMENDATIONS**

1377 **Q. DO YOU BELIEVE YOUR CONCLUSIONS AND RECOMMENDATIONS**
1378 **ARRIVE AT JUST AND REASONABLE RESULTS THAT ARE IN THE PUBLIC**
1379 **INTEREST?**

1380 A. Yes.

1381 **Q. CAN YOU SUMMARIZE YOUR FINAL CONCLUSIONS AND**
1382 **RECOMMENDATIONS?**

1383 A. Based on my analysis, the appropriate cost of equity for DEU is 9.30 percent with an
1384 overall weighted average cost of capital of 6.82 percent. The DPU's recommended
1385 ROE and its cost of capital estimate is just and reasonable and in the public interest
1386 and, in part, will result in just and reasonable rates. For all the reasons stated herein,
1387 the Commission should reject DEU's proposed cost of equity and weighted average
1388 cost of capital, which is not in the public interest.

1389 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

1390 A. Yes it does.