BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

Phase II Direct Testimony of Kevin C. Higgins

on behalf of

UAE

Docket No. 22-057-03

September 15, 2022

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EXHIBITS

DIRECT TESTIMONY OF KEVIN C. HIGGINS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Kevin C. Higgins. My business address is 111 East Broadway, Suite 1200, Salt Lake City, Utah, 84111.

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

A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies is a private consulting firm specializing in economic and policy analysis applicable to energy production, transportation, and consumption.

Q. Are you the same Kevin C. Higgins who prefiled Phase I direct testimony on behalf of the Utah Association of Energy Users Intervention Group ("UAE") in this proceeding?

A. Yes, I am.

II. OVERVIEW AND CONCLUSIONS

Q. What is the purpose of your Phase II direct testimony in this proceeding?

A. My testimony addresses Dominion Energy Utah's ("DEU") class cost-of-service study, the appropriate rate spread among classes, and rate design for the Transportation Service ("TS"), Interruptible Sales ("IS"), and Transportation Bypass Firm ("TBF") classes. The absence of comment on my part regarding other issues does not signify support for (or opposition to) the Company's filing with respect to the non-discussed issues.

Q. Please summarize your conclusions and recommendations.

A. My testimony offers the following recommendations:

1) While I don't believe it is necessary to split up the TS class in order to improve alignment with cost, I have utilized DEU's recommended TS Small ("TSS"), TS Medium ("TSM"), and TS Large ("TSL") groupings in my cost-of-service analysis.

2) I correct the depiction of current Distribution Non-Gas ("DNG") revenue among the TSS, TSM, TSL, and TBF classes.

3) I support DEU's use of Design-Day demand to allocate demand-related costs and concur with DEU that interruptible customers should not be allocated peak demand responsibility.

4) I recommend that the Throughput weighting for Allocation Factor 230 (the weighted Design-Day/Throughput allocator) be based on the system load factor, consistent with the guidance provided in the Gas Distribution Rate Design Manual ("NARUC Manual") published by the National Association of Regulatory Utility Commissioners.

5) I recommend that the allocation of large-diameter intermediate high-pressure ("IHP") mains incorporate a Distribution Design-Day component, instead of allocating these costs solely on Distribution Throughput. I recommend weighting the Distribution Throughput component of this factor in a manner that is

consistent with the allocation of the feeder-line system, i.e., based on system load factor.

6) DEU appropriately recommends that the cost of its Magna liquified natural gas ("LNG") facility be allocated to firm sales customers only. However, the Company's cost-of-service study understates the rate base associated with the LNG facility and overstates the rate base associated with its non-LNG plant. My recommended cost-of-service study corrects this error so that the LNG facility rate base can be appropriately allocated to firm sales customers.

7) The Commission should consider implementing a rate mitigation plan among the new TS classes that would limit the extent of any rate reduction to the TSS class while mitigating the increases on TSL and TSM.

8) I recommend that any reduction in the volumetric revenue requirement for the TSS, TSL or IS class compared to DEU's proposal be applied on an equal percentage basis to each of DEU's proposed volumetric rates for the respective class.

9) I recommend that the TBF volumetric rates be calculated by applying an equal percentage discount to the TSL volumetric rate for each block in order to achieve the targeted TBF volumetric revenue requirement.

III. CLASS COST-OF-SERVICE STUDY

Q. What is the purpose of conducting class cost-of-service analysis?

A. Class cost-of-service analysis is conducted to assist in determining appropriate rates for each customer class. The analysis involves assigning revenues, expenses, and rate base to each customer class. Through this process, each class is allocated a share of responsibility for the utility's costs, and the revenue change needed for each customer class to produce an equalized rate of return is identified.

Q. What class cost-of-service information is presented by DEU?

A. The Company's class cost-of-service results are presented in the Direct Testimony of DEU witness Mr. Austin C. Summers. The Company also made its cost-of-service model available to the parties in this case.[1]

Splitting Up the TS Class

Q. What is DEU's proposal to split up the TS class?

A. The Company proposes to divide the TS class into three classes: TS Small ("TSS") for customers using up to 25,000 Dth/year, TS Medium ("TSM") for customers using between 25,000 and 250,000 Dth/year and TS Large ("TSL") for customers using over 250,000 Dth/year.[2] DEU proposes that the same firm demand charge, administrative fees, and basic service fees[3] apply to all TS classes, but proposes different volumetric blocking and rates for each TS class.

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[1] The cost-of-service model is a component of DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022.
[2] Direct Testimony of Austin C. Summers, lines 108-112.
[3] Different basic service fees apply based on meter capacity.

Q. What is your response to DEU's proposal?

A. While I don't believe it is necessary to split up the TS class in order to improve alignment with cost, I have utilized DEU's recommended TSS, TSM, and TSL groupings in my cost-of-service analysis. The Company also provided an alternate breakpoint between TSM and TSL in response to a scenario requested by UAE as part of the cost-of-service Task Force following the last general rate case.[4] While I appreciate DEU's willingness to provide this alternative analysis, I have accepted DEU's proposed TSS, TSM, and TSL groupings for the purpose of my analysis.

Correction to TS and TBF Current DNG Revenue

Q. Do you have any initial corrections to DEU's cost-of-service study?

A. Yes. DEU's depiction of current DNG revenue for the individual TSS, TSM, TSL, and TBF classes is inconsistent with the current revenue for these classes shown in its rate design.[5] While this has only a negligible impact on the revenue requirement for each class, it distorts the depiction of the *change* in revenue required for each class to achieve its full cost of service. The sum of the current DNG revenue for the TSS, TSM, TSL, and TBF classes combined in DEU's cost-of-service study is very close to the combined rate design current revenue for these classes, but the current revenue for the individual classes is inconsistent.

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[4] Direct Testimony of Austin C. Summers, lines 670-678.

[5] *See* DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, COS Sum TS Split tab, numbered row 3 compared to the current revenues on the Rate Design tab.

I corrected this depiction of current DNG revenue for TSS, TSM, TSL, and TBF as an initial step so that the impact of each of my other cost allocation recommendations can be accurately reflected. I set the current DNG revenue for TSS, TSM, and TSL to exactly match the rate design current DNG revenue for each class. I then attributed the balance of the TS and TBF combined current DNG revenue to the TBF class, a result which approximates TBF's rate design current DNG revenue.[6] This correction is revenue neutral on a total system basis and has a minimal impact on the total revenue requirement for each class. The results of DEU's cost-of-service study at DEU's revenue requirement incorporating this correction are shown in UAE Exhibit COS 2.2, page 1, Table 2.

Demand-Related Cost Allocation Generally

Q. Do you support DEU's use of Design-Day usage to allocate demand-related costs?

A. Yes. I concur with DEU that it is appropriate to allocate demand-related costs based on Design-Day usage and that interruptible customers should not be allocated peak demand costs.[7] The demand-related infrastructure put in place by DEU is designed to ensure that firm customers can continue to receive service on an extremely cold day. Since the Design-Day capacity is built to meet firm requirements on extremely cold days, peak-related costs should be allocated in a

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[6] The TBF current DNG revenue in my cost-of-service study is $30,061 less than its current DNG rate design revenue. It is reasonable for a small difference to exist for this class because of assumed rate migration to TBF.

[7] Direct Testimony of Austin C. Summers, pp. 11-15.

manner that reflects the expected usage on the Design-Day. I also agree with Mr. Summers' reasoning that interruptible load will be curtailed in an actual Design-Day event and, therefore, should not be assigned peak demand responsibility.[8] However, I disagree with several aspects of the Company's cost-of-service analysis, which are discussed in the following subsections of my testimony.

Design-Day / Throughput Weighting in Allocation Factor 230

Q. What is Allocation Factor 230?

A. As described in DEU Exhibit 4.02, page 1, Allocation Factor 230 is used to allocate the feeder system, compressor station, and measuring and regulating station costs. Allocation Factor 230 is designed to be a weighted blend of Design-Day and Throughput factors, presumably because these facilities are viewed as providing both peak-related and throughput-related services. The weighting proposed by DEU for Allocation Factor 230 is 60% Design-Day and 40% Throughput. DEU also uses Allocation Factor 230 to allocate the FT1-L (Lakeside) revenue credits to customer classes.

Q. What is your disagreement regarding the weighting DEU used for Allocation Factor 230?

A. Allocating costs for particular facilities on both a peak basis and a throughput basis is an application of a method generally referred to as the "Average and

[8] Direct Testimony of Austin C. Summers, p. 12.

Peak" method.[9] In using the Average and Peak method, the weighting assigned to the Average, or Throughput component should be no greater than the system load factor.[10] This is because the Throughput component is intended to allocate costs that are associated with base-load-type usage, and system load factor is a generally-accepted standard for measuring the portion of facilities associated with the provision of base load service. The use of system load factor for this weighting is clearly prescribed in the NARUC Manual.

The 40% weighting assigned by DEU to Throughput in the composition of Allocation Factor 230 exceeds DEU's load factor and thus overstates the reasonable assignment of cost responsibility to Throughput. While the 40% weighting used by DEU is consistent with the Commission's Order in Docket No. 19-057-02, it is not tied to any system utilization metric, and is highly subjective. In contrast, my recommended weighting is based on a nationally recognized standard, which DEU accepted in its rebuttal filing in its last general rate case.[11] Based on DEU's Design-Day demand of 1,459,679 Dth and normalized annual throughput of 172,905,622 Dth, the system load factor is approximately 32.5%.[12]

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[9] The term "Average" in "Average and Peak" refers to average use, and this component is allocated to classes based on Throughput (Factor 220 in DEU's cost-of-service study). The "Peak" component is apportioned to classes based on the Design-Day factor (Factor 210 in DEU's cost-of-service study).

[10] See, for example, the discussion of the Average and Peak Demand Method in the NARUC Manual (June 1989), pp. 27-28, included in UAE Exhibit COS 2.1. The NARUC Manual specifies that the system's load factor is used to determine the capacity costs associated with average use and apportioned to classes on an annual volumetric basis.

[11] Docket No. 19-057-02, Rebuttal Testimony of Austin C. Summers, lines 72-78.

[12] $(172{,}905{,}622 \div 365) \div 1{,}459{,}679 = 32.45\%$.

Q. What do you recommend to the Commission regarding the appropriate Throughput weighting?

A. I recommend that the Throughput weighting for Allocation Factor 230 be based on DEU's system load factor of 32.5%. This produces a weighting for Allocation Factor 230 of 67.5% Design-Day / 32.5% Throughput. This weighting is more consistent with the proper application of the Average and Peak method upon which Allocation Factor 230 is based.

Q. Have you applied your recommended 67.5 % Design-Day / 32.5% Throughput weighting elsewhere in the Company's cost-of-service study?

A. Yes. DEU uses a weighted Design-Day / Throughput factor to allocate the cost share of the TBF discount to other classes.[13] TBF is a firm transportation rate schedule that is charged less than its fully allocated cost of service and is intended to provide an incentive for these customers to remain on DEU's distribution system, thus reducing the likelihood that these customers will connect directly to an interstate pipeline and bypass the DEU system. The TBF class is set to recover 60% of its full revenue requirement based on DEU's proposal.[14]

DEU utilizes a modified version of Allocation Factor 230 that excludes the TBF class to allocate to the non-TBF classes the portion of costs that would otherwise be recovered from the TBF class. For consistency, I have incorporated

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[13] To allocate the TBF discount to the non-TBF classes, Allocation Factor 230 is modified to exclude the TBF class.

[14] Direct Testimony of Austin C. Summers, lines 411-414.

my recommended 67.5% Design-Day / 32.5% Throughput weighting into the allocation of funding the TBF discount.

Q. Do you present the results of the cost-of-service study incorporating your proposed weighting for Allocation Factor 230 in an exhibit?

A. Yes, these results are shown in UAE Exhibit COS 2.2. In Table 1 on page 1 of that exhibit, columns (c) and (d) present the DNG rate revenue change by class that would be necessary for each class to earn an equalized rate of return at DEU's proposed revenue requirement. Columns (e) and (f) include the impact of the TBF discount described above. I also incorporate the correction to DEU's depiction of current DNG revenues for the TSS, TSM, TSL and TBF classes discussed above.

Table 2 on page 1 of UAE Exhibit COS 2.2 presents the results of DEU's cost-of-service study for comparison purposes. Table 2 also incorporates the correction to current DNG revenues so that it is directly comparable to Table 1. Table 3 on page 1 presents the impact on the cost-of-service results of using my recommended Design-Day/Throughput weighting for Allocation Factor 230.

Page 2 of UAE Exhibit COS 2.2 presents this same information at an overall revenue requirement that incorporates the adjustments totaling ($39,865,719) recommended in my Phase I direct testimony.

Large Diameter IHP Mains Allocation

Q. What are large diameter IHP mains?

A. According to Mr. Summers, these mains are intermediate-high pressure main lines greater than 6 inches in diameter. Mr. Summers explains that these large diameter IHP main lines installed within the IHP system are typically designed to move gas from the high-pressure feeder-line system to the smaller distribution lines.[15]

Q. How does DEU allocate the cost of large diameter IHP mains?

A. DEU allocates these costs to classes using the Distribution Throughput factor, which is based on the annual volumes delivered through the IHP distribution system.[16]

Q. Do you believe it is appropriate to allocate the cost of large diameter IHP mains solely based on distribution throughput?

A. No. The large diameter IHP mains are designed to meet a Design-Day scenario as well as to deliver volumes of gas to the small-diameter mains. I therefore recommend that allocation of large diameter IHP mains incorporate a peak-related component based on the Distribution Design-Day, which represents the Design-Day load expected to be delivered through the IHP system.

[15] Direct Testimony of Austin C. Summers, lines 252-258.
[16] This method excludes customers directly connected to the feeder-line system or Upstream Pipeline. *See* Direct Testimony of Austin C. Summers, lines 252-269; DEU Exhibit 4.04.

Q. How have you calculated your recommended allocation factor for large diameter IHP mains?

A. I used the Distribution Design-Day information provided by DEU in discovery[17] to calculate a weighted Distribution Design-Day / Distribution Throughput allocation factor.[18] I used the same 67.5% / 32.5% weightings that I recommend for Allocation Factor 230 to weight the Distribution Design-Day and Distribution Throughput components, respectively.[19]

Q. What is the impact of your large diameter IHP mains allocation recommendation on the cost-of-service results?

A. These results are shown in UAE Exhibit COS 2.2, pages 3 and 4. Table 7 on page 3 of that exhibit presents the results of the cost-of-service study using my recommendations regarding Allocation Factor 230 (discussed above and shown in Table 1 on page 1 of UAE Exhibit COS 2.2) and large diameter IHP mains allocation, at DEU's proposed revenue requirement. Table 8 on page 3 shows the incremental impact of my recommended large diameter IHP mains allocation. Page 4 of this exhibit presents this same information at the revenue requirement recommended in my Phase I direct testimony.

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[17] DEU Response to UAE Data Request 3.02, UAE 3.02 Attachment 1, included in UAE Exhibit COS 2.4.
[18] This allocation factor is included in 22-057-03 UAE Direct RR & COS Model, COS Alloc Factors TS Split tab, and is numbered "260."
[19] It would also be reasonable to apply a 28.4% weight to Distribution Throughput (71.6% to Distribution Design-Day) based on the load factor for load connected to the IHP system. I am using my recommended Allocation Factor 230 weightings for the sake of simplicity.

Magna LNG Facility Allocation

Q. Please describe the Magna LNG facility.

A. The Magna LNG facility is an on-system LNG storage and liquification facility which was preapproved in Docket No. 19-057-13.[20] According to the Direct Testimony of Mr. Kelly B. Mendenhall, the Commission approved the project costs of approximately $210.2 million in that docket, but the project is now expected to cost $218.6 million, plus additional Thermal Exclusion Area costs.[21] DEU expects that the facility will be in service on October 28, 2022.[22]

Q. How does DEU propose to allocate the costs of the LNG facility?

A. DEU allocates these costs to firm sales customers only, using a new "Firm Sales less NGV" allocation factor. This allocation factor allocates costs between the General Service and Firm Sales Service classes based on Throughput.[23]

Q. Do you agree that the cost of the LNG facility should not be allocated to transportation customers?

A. Yes. As Mr. Mendenhall's Direct Testimony in Docket 19-057-13 explained:

> This facility is being built and used for the sole benefit of sales customers. As a result, none of these costs will be allocated to transportation customers. As transportation customers are responsible for their own supply reliability they will not have access to this facility during a supply disruption.[24]

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[20] Docket No. 19-057-13, Order Issued October 25, 2019.
[21] Direct Testimony of Kelly B. Mendenhall, pp. 8-10. My cost allocation recommendations do not impact the Thermal Exclusion Area component of costs.
[22] DEU Response to OCS Data Request 3.05, included in UAE Exhibit COS 2.4.
[23] DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, COS Alloc Factor TS Split tab; DEU Response to OCS Data Request 6.08, included in UAE Exhibit COS 2.4.
[24] Docket No. 19-057-13, DEU Exhibit 1.0, lines 449-452.

It is entirely appropriate that transportation customers be excluded from the allocation of these costs.

Q. Does DEU's cost-of-service study properly identify the costs of the LNG facility so that these costs can be appropriately allocated?

A. No. DEU's cost-of-service study understates the rate base associated with the LNG facility by approximately $63.3 million and overstates the rate base associated with its non-LNG plant by the same amount. Table KCH-1, below, is an estimate of the LNG-related rate base included in DEU's revenue requirement, compared to the rate base that is treated as LNG-related in the cost-of-service study. This is shown in greater detail in UAE Exhibit COS 2.3.

Table KCH-1
Comparison of LNG Plant Rate Base Balances

Rate Base Components	**Based on DEU Rev. Req. (a)** [25]	**Identified in COS (b)** [26]	**Error in COS (b) – (a)**
Gross Plant	$218,063,414	$203,886,326	($14,177,088)
Accumulated Depreciation	($3,444,026)	($40,481,826)	($37,037,800)
ADIT	($3,914,671)	($16,045,091)	($12,130,419)
Net Rate Base	$210,704,716	$147,359,410	($63,345,306)

According to Mr. Mendenhall's Direct Testimony, DEU has included $218.6 million in LNG facility capital expenditures in its revenue requirement.[27]

[25] *See* UAE Exhibit COS 2.3 for a detailed calculation of these amounts.
[26] DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022 – Gross Plant: COS Detail TS Split tab, numbered rows 980 and 985; Accumulated Depreciation/Amort. (Accounts 108 & 111) and ADIT (Accounts 282 & 283), Dist Plant tab, Excel rows 5 and 6.
[27] Direct Testimony of Kelly B. Mendenhall, p. 10 table.

Since $1 million of this total represents projected 2023 capital expenditures, average 2023 LNG gross plant is $218.1 million.[28]

However, the gross plant identified as LNG-related in DEU's cost-of-service study is $203.9 million, consisting of $189.4 million of LNG Plant in Account 364 and $14.5 million of LNG Land in Account 364.1.[29] It appears that this error occurred because DEU *understated* the December 31, 2021 gross balance of its LNG-related plant by $14.2 million and *overstated* its non-LNG gross plant by the same amount.[30]

At the same time, DEU has *overstated* the accumulated depreciation associated with its LNG plant and *understated* the accumulated depreciation associated with its non-LNG plant. DEU's cost-of-service study attributes $40.5 million in accumulated depreciation to its LNG plant,[31] despite the fact that less than a full year of accumulated depreciation will accrue during the average 2023 test year, based on the expected October 2022 in-service date.

This error occurs because DEU uses its *gross* distribution plant balances to allocate its total distribution accumulated depreciation, as well as its distribution accumulated deferred income taxes ("ADIT") and distribution regulatory liabilities. Since the gross LNG plant included in DEU's cost-of-service study

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[28] This consists of $186.8 million in cap. ex. through 2021, $30.7 million in 2022, and $500,000 in 2023 (average). See DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, 101_106 PROJECTION tab, and DEU Response to OCS Data Request 8.20, included in UAE Exhibit COS 2.4.

[29] DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, COS Detail TS Split tab, numbered rows 980 and 985.

[30] DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, 101_106 PROJECTION tab, Excel rows 51 and 56 show LNG-related cap. ex. of $186.8 million through 2021. However, the 2021 LNG Plant and LNG Plant-Land balances, Excel rows 14 and 15, sum to $172.6 million instead of $186.8 million.

[31] DEU Exhibit 4.20 Summers Testimony - Electronic Model 5-2-2022, Dist Plant tab, Excel rows 5 and 6.

represents 5.4% of its total Utah distribution plant, DEU assigns 5.4% of its total Utah distribution accumulated depreciation to the LNG facility, dramatically overstating the actual accumulated depreciation attributable to the LNG plant. It is important that the LNG-related rate base be separately accounted for so that these costs can be properly allocated.

Q. What are the consequences of understating LNG-related rate base in the cost-of-service study?

A. DEU's understatement of LNG-related rate base shifts the understated portion of LNG-related rate base to non-LNG-related rate base, where it is allocated, in part, to transportation customers. This cost shift is improper. For example, by overstating LNG-related accumulated depreciation by $37 million, DEU understates accumulated depreciation for non-LNG-related plant by the same amount, causing non-LNG rate base to be overstated.

Q. Have you corrected the LNG-related rate base in your cost-of-service study?

A. Yes, I have increased the LNG-related rate base to be consistent with the amounts shown in Table KCH-1, column (a), above. I have also decreased the non-LNG distribution rate base by the same amount such that this adjustment is neutral on a total revenue requirement basis.[32] This correction also decreases the amount of distribution regulatory liabilities attributed to the LNG facility, which is appropriate since DEU has not demonstrated that these regulatory liabilities are associated with the LNG facility. I also made a minor adjustment to depreciation

[32] It is possible that correcting this error may have minor revenue requirement impacts resulting from DEU's mis-categorization of LNG versus non-LNG rate base.

expense allocation to ensure that the depreciation expense that is directly attributable to the LNG plant is allocated consistent with the underlying plant.

Q. What is the impact of your correction to LNG-related and non-LNG-related rate base?

A. These results are shown in UAE Exhibit COS 2.2, pages 5 and 6. Table 11 on page 5 of that exhibit presents the results of the cost-of-service study incorporating all of my cost allocation recommendations at DEU's proposed revenue requirement. Table 12 of page 5 presents the incremental impact of the correction to LNG-related and non-LNG-related rate base at DEU's proposed revenue requirement. Table 13 on page 5 presents the cumulative impact of all of my cost allocation recommendations (again using DEU's proposed revenue requirement), which is also shown in Table KCH-2, below. Page 6 of UAE Exhibit COS 2.2 presents this same information at the revenue requirement recommended in my Phase I direct testimony.

Cost Allocation Summary

Q. Please summarize the cost-of-service results incorporating your allocation recommendations.

A. These results are summarized in Tables KCH-2 and KCH-3, below. Table KCH-2, columns (c) and (d), present the DNG rate revenue change by class that would be necessary for each class to earn an equalized rate of return at DEU's proposed revenue requirement. Columns (e) and (f) include the impact of the TBF discount.

Table KCH-3 presents this same information at the revenue requirement recommended in my Phase I direct testimony.

Table KCH-2
Cost-of-Service Results with UAE COS Recommendations
At DEU Proposed Revenue Requirement

		DNG Revenue Change to Achieve Equalized ROR		**DNG Revenue Change Plus TBF Discount**	
Class (a)	**Current DNG Revenue** (b) [33]	$ Increase/ (Decrease) (c)	% Increase/ -Decrease (d)	$ Increase/ (Decrease) (e)	% Increase/ -Decrease (f)
GS	$383,506,941	$58,720,760	15.31%	$62,164,190	16.21%
FS	$2,822,045	$1,067,136	37.81%	$1,120,286	39.70%
IS	$264,568	($64,683)	-24.45%	($62,378)	-23.58%
TSS	$14,170,736	($2,005,261)	-14.15%	($1,810,250)	-12.77%
TSM	$12,873,715	$2,526,733	19.63%	$2,795,681	21.72%
TSL	$10,685,465	$5,597,144	52.38%	$5,937,867	55.57%
TBF	$6,473,467	$4,159,771	64.26%	($148,300)	-2.29%
NGV	$2,605,568	$510,089	19.58%	$514,593	19.75%
Total	$433,402,504	$70,511,689	16.27%	$70,511,689	16.27%

Table KCH-3
Cost-of-Service Results with UAE COS Recommendations
At UAE Recommended Revenue Requirement

		DNG Revenue Change to Achieve Equalized ROR		**DNG Revenue Change Plus TBF Discount**	
Class (a)	**Current DNG Revenue** (b) [34]	$ Increase/ (Decrease) (c)	% Increase/ -Decrease (d)	$ Increase/ (Decrease) (e)	% Increase/ -Decrease (f)
GS	$383,506,941	$23,575,338	6.15%	$26,748,329	6.97%
FS	$2,822,045	$756,516	26.81%	$805,492	28.54%
IS	$264,568	($78,853)	-29.80%	($76,729)	-29.00%
TSS	$14,170,736	($2,938,143)	-20.73%	($2,758,449)	-19.47%
TSM	$12,873,715	$1,306,995	10.15%	$1,554,820	12.08%
TSL	$10,685,465	$4,310,276	40.34%	$4,624,239	43.28%
TBF	$6,473,467	$3,313,903	51.19%	($655,821)	-10.13%
NGV	$2,605,568	$399,938	15.35%	$404,088	15.51%
Total	$433,402,504	$30,645,970	7.07%	$30,645,970	7.07%

[33] Reflects a redistribution of Current DNG Revenue among the TSS, TSM, TSL and TBF classes based on the rate design current revenue for each of these classes.
[34] *Id.*

IV. REVENUE ALLOCATION CONSIDERATIONS

Q. The class cost allocations presented in Tables KCH-2 and KCH-3 show that certain classes would receive substantial rate reductions if their rates were set equal to cost, whereas other classes would receive substantial increases. Should the Commission consider any form of rate mitigation in this case?

A. Yes. It would not be unreasonable for the Commission to limit the extent to which rate reductions are approved for any customer class in the interest of applying the principle of gradualism to classes experiencing significant rate increases. As is evident by comparing Tables KCH-2 and KCH-3, the degree of rate impact to specific classes will vary with the overall revenue requirement that is ultimately approved by the Commission. It will also vary depending on the cost allocation method approved by the Commission. But under any revenue requirement, it is clear that the break-up of the TS class would result in a major redistribution of revenue deficiencies among TS customers at parity, with the new TSS class showing a substantial revenue sufficiency and the new TSL class (and to a lesser extent, the TSM class) showing a substantial deficiency. In light of these impacts, the Commission should consider implementing a rate mitigation plan among the new TS classes that would limit the extent of any rate reduction to the TSS class while mitigating the increases on TSL and TSM.

V. TS, IS AND TBF RATE DESIGN

Q. Do you have any concerns with DEU's proposed rate design for the TS classes?

A. Yes, I have several concerns. As a threshold matter, DEU's proposed volumetric rates for TSS and TSM do not reflect a logical relationship between the two classes.

For TSS, DEU proposes three volumetric blocks, with Block 1 applying to the first 200 Dth of a customer's monthly usage, Block 2 applying to the next 1,800 Dth, and Block 3 applying to usage over 2,000 Dth. This means that the first 2,000 Dth of a TSS customer's monthly usage would be billed under a combination of Blocks 1 and 2, with 10% billed under Block 1 (200/2,000) and 90% under Block 2 (1,800/2,000). The average proposed rate for the first 2,000 Dth of monthly usage for a TSS customer is $0.81139/Dth.[35]

For TSM, DEU proposes two volumetric blocks, with Block 1 applying to the first 2,000 Dth of a customer's monthly usage and Block 2 applying to usage over 2,000 Dth. DEU's proposed rate for TSM Block 1 is $1.20760/Dth, which is approximately 49% more than the average proposed rate for the first 2,000 Dth of monthly usage under TSS. Table KCH-4, below, illustrates this disparity for a hypothetical customer using 2,000 Dth in a month billed under DEU's proposed rates for TSS compared to TSM.

[35] ([$1.28083 × 200] + [$0.75923 × 1,800]) ÷ 2,000 = $0.81139.

Table KCH-4
Monthly Base Volumetric Bill for Customer Using 2,000/Dth/Month
Under DEU Proposed TSS Rates Compared to TSM Rates

Volumetric Blocks	Rate	Monthly Usage (Dth)	Monthly Volumetric Bill
TSS Proposed Rates			
Block 1 - First 200 Dth	$1.28083	200	$256
Block 2 - Next 1,800 Dth	$0.75923	1,800	$1,367
Block 3 - Over 2,000 Dth	$0.21016	0	$0
Total		2,000	$1,623
TSM Proposed Rates			
Block 1 - First 2,000 Dth	$1.20760	2,000	$2,415
Block 2 - Over 2,000 Dth	$0.65853	0	$0
Total		2,000	$2,415

This means that a customer using 2,000 Dth/month (a relatively large TSS customer or a relatively small TSM customer) would pay far less under DEU's proposed TSS rates than under DEU's proposed TSM rates for the same level of usage.

Q. What conclusions do you draw regarding this TSS and TSM rate design issue?

A. This issue is a consequence of breaking up the TS class and using a declining block rate structure to recover each class's revenue requirement without reflecting the declining marginal cost of delivering incremental volumes of gas in the cost-of-service study. I do not believe that this issue can be remedied without maintaining a single class for small and medium TS customers or overhauling DEU's cost allocation approach.

As I mentioned previously, I have accepted DEU's proposed TS class groupings as the basis for my analysis. However, I am highlighting this issue to demonstrate one of the pitfalls of splitting up the TS class.

Q. Do you have any other observations regarding DEU's proposed rate design?

A. Yes. DEU's rate design model calculates volumetric rates within each applicable class based on a predefined absolute differential between each volumetric block. This means that if the class volumetric revenue requirement is reduced from DEU's proposal, each of DEU's proposed class volumetric rates is reduced on an equal cents-per-Dth basis in the model.[36] For certain classes, these mechanics may result in an extremely low, or even negative, rate for the highest-usage block (i.e., tailblock) at a lower revenue requirement. In particular, the resulting tailblock rates for the TSS, TSL, IS, and TBF classes may be extremely low or negative if DEU's proposed class revenue requirement is reduced.

Q. What do you recommend regarding the calculation of volumetric rates if the revenue requirement is reduced from DEU's request?

A. I recommend that the reduction in the class volumetric revenue requirement compared to DEU's proposal be applied on an equal percentage basis to each of DEU's proposed volumetric rates for the TSS, TSL and IS classes. This will result in an equal percentage reduction to each of DEU's proposed volumetric

[36] For GS, the volumetric block differential is applied separately to the Summer and Winter rates. I have not made any rate design changes to the GS class.

rates within these classes and will avoid an outsized reduction in the tailblock rates.[37]

Q. Do you have any recommendations regarding TBF rate design?

A. Yes. I recommend that the TBF volumetric rates be calculated by applying an equal percentage discount to the TSL volumetric rate for each block in order to achieve the targeted TBF volumetric revenue requirement. This will resolve the TBF tailblock rate issue discussed above and establish a consistent relationship between the TBF and TSL rate structures. My TBF rate design recommendation will ensure that eligible TBF customers receive a proportionate discount relative to the standard TSL rate.

Q. Does this conclude your direct Phase II testimony?

A. Yes, it does.

[37] This recommendation is reflected in the Rate Design tab of 22-057-03 UAE Direct RR & COS Model, and can be activated on the UAE Adjustments tab. The proportionate approach could also be applied to TSM; however, DEU's absolute differentials are less of a concern for TSM because, unlike TSS, TSL, and IS, TSM is only proposed to have two blocks, neither of which is a "low-cost" tailblock.