

S. Morris Hadden
William C. Bovender
William C. Argabrite
Jimmie Carpenter Miller
Mark S. Dessauer
Gregory K. Haden
Michael L. Forrester
Stephen M. Darden
Edward J. Webb, Jr.
James N. L. Humphreys
Suzanne Sweet Cook
Michael S. Lattier
Scott T. Powers

Respond to:
Kingsport Office
Joseph B. Harvey
423-378-8854
jharvey@hdsdlaw.com

HUNTER·SMITH·DAVIS
SINCE 1916 LLP

Kingsport Office
1212 North Eastman Road
P.O. Box 3740
Kingsport, TN 37664
Phone (423) 378-8800
Fax (423) 378-8801

Johnson City Office
100 Med Tech Parkway
Suite 110
Johnson City, TN 37604
Phone (423) 283-6300
Fax (423) 283-6301

Leslie Tentler Ridings
Christopher D. Owens
Chad W. Whitfield
Jason A. Creech
Meredith Bates Humbert
Joseph B. Harvey
Rachel Ralston Mancil
Caroline Ross Williams
Marcy E. Walker
Karen L. Kane
Teresa Mahan Lesnak *
Michael A. Eastridge *
Jeannette Smith Tysinger *

* Of Counsel

www.hdsdlaw.com

KPOW.92585

April 28, 2016

VIA EMAIL & OVERNIGHT DELIVERY:

Herbert Hilliard, Chairman
c/o Sharla Dillon, Dockets & Records Manager
Tennessee Regulatory Authority
502 Deaderick Street, 4th Floor
Nashville, TN 37243



Re: Petition of Kingsport Power Company d/b/a AEP Appalachian Power General Rate Case
TRA Docket No.: 16-00001

Dear Chairman Hilliard:

Enclosed for filing in the above-referenced matter, please find the following:

1. Kingsport Power Company's Responses to Discovery Requests from Energy Freedom Coalition of America, LLC, and
2. Kingsport Power Company's Responses to Discovery Requests from The Alliance for Solar Choice and TenneSEIA.

The originals, copies and the disk containing the attachments are being shipped via overnight courier. Should there be any questions, please contact the writer.

Very sincerely yours,

HUNTER, SMITH & DAVIS, LLP

Joseph B. Harvey

Sharla Dillon, Docket Manager

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April 28, 2016

Enclosures

c: Monica L. Smith-Ashford, Esq.
David Foster
Charles Welch, Jr., Esq.
Henry Walker, Esq.
Thad B. Culley, Esq.
Michael J. Quinan, Esq.
Wayne Irvin, Esq.
James R. Bacha, Esq.
Hector Garcia, Esq.
William Castle
Larry Foust
William C. Bovender, Esq.

STATE OF Virginia)
CITY OF Richmond)

WILLIAM K. CASTLE, being first duly sworn upon oath, deposes and says that he is the Director, Regulatory Services VA/TN for Kingsport Power Company d/b/a AEP Appalachian Power, the Petitioner in the above-entitled action, and that he is authorized to make this Affidavit on its behalf; that he has read the foregoing Responses to Energy Freedom Coalition of America, LLC's First Set Discovery Requests, by him subscribed and knows the contents thereof; that there is no single person employed by or otherwise connected with Kingsport Power Company d/b/a AEP Appalachian Power, who has personal knowledge of all the facts and information requested herein; that said Responses to Energy Freedom Coalition of America, LLC's First Set Discovery Requests were prepared with the assistance and advice of counsel and the assistance of various employees and representatives of the corporation upon which he has relied; that the Responses to Energy Freedom Coalition of America, LLC's First Set Discovery Requests, set forth herein, subject to inadvertent or undiscovered errors, are based on, and therefore necessarily limited by, the records and information still in existence, presently recollected and thus far discovered in the course of the preparation of these Responses; that the foregoing Responses to Energy Freedom Coalition of America, LLC's First Set Discovery Requests are thus based upon corporate knowledge and are true and correct to the best of his knowledge and belief; that consequently, Kingsport Power Company d/b/a AEP Appalachian Power reserves the right to make any changes in the Responses if it appears at any time that omissions or errors have been made therein or that more accurate information is available; and that subject to the limitations set forth herein, the said Responses are true to the best of his knowledge, information and belief.

W. Castle

WILLIAM K. CASTLE

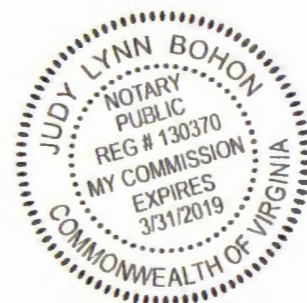
Sworn to and subscribed before me, this the 28th of April, 2016.

Judy Lynn Bohon

Notary Public

My Commission Expires:

March 31, 2019



**TENNESSEE REGULATORY AUTHORITY
PETITION OF KINGSPORT POWER COMPANY
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**Data Requests and Requests for the Production
of Documents by the Energy Freedom
Coalition of America (First Set)
To Kingsport Power Company**

Data Request EFCA 1-001:

Please provide any workpapers supporting or relating to Kingsport's cost allocation studies (described in the testimony and exhibits of Company Witnesses Buck) and rate design proposals (described in the testimony and exhibits of Company Witness Caudill).

Response EFCA 1-001:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-002:

With respect to the testimony of Company Witness Castle at page 5, lines 20-21, please provide any communications or written documents (including, but not limited to, letters, emails, reports, analyses or studies) relating to the Company's decision "to close its current Rider N.M.S. to new customers at the end of 2016."

Response EFCA 1-002:

The Company is not aware of any documents that are responsive to this request.

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**Data Requests and Requests for the Production
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Data Request EFCA 1-003:

With respect to the testimony of Company Witness Castle at page 6, lines 7-8, please provide any communications or written documents (including, but not limited to, letters, emails, reports, analyses or studies) which support or relate to the claimed "crosssubsidization that occurs with the current net metering construct."

- a. With respect to the claimed "cross-subsidization that occurs with the current net metering construct," did Kingsport consider any other rate proposals (including, but not limited to, rate schedules, rate structures, fees or surcharges) to address this issue? If so, please provide any communications or written documents (including, but not limited to, letters, emails, reports, analyses or studies) which support or relate to such other rate proposals.
- b. How does the proposed Rider N.M.S.-2 "reduce or eliminate the claimed crosssubsidization"? Please provide any workpapers or other calculations which support or relate to this reduction or elimination of claimed cross-subsidization.

Response EFCA 1-003:

The Company is not aware of any documents that are responsive to this request.

- a. No.
- b. The Company's net metering customers use the Company's power supply and delivery system every day of the year. Therefore they are using the Company's infrastructure and should make a cost based contribution to the fixed costs of that infrastructure.
The Company's net metering customers currently can reduce their total net monthly billing kWh to zero through current billing period netting; or through the use of their bill as if it were a battery to net current billing period delivered usage with prior period banked customer generation. When they do this, they avoid paying the majority of the Company's fixed infrastructure costs that they utilized because they are predominantly included in the current kWh charge. By using a demand charge to collect these fixed infrastructure costs, as cost causation would suggest, the customer's kW demand that they register each billing period when they use the Company's power supply and delivery system is used as the basis for the fixed cost contribution that the same customer had previously avoided even though they utilize the Company's infrastructure every day.
Additionally, See the Company's response to CPAD 1-159 ("CPAD 1-159 Supplemental Attachment 2 nms customer calcs.xls") and the Company's response to TASC 1-012. The response to TASC 1-012 shows that the service charge does not fully recover the fixed charges for the customer who only pays the service charge. The spreadsheet provided in response to CPAD 1-159 shows the difference in the recovery of costs under the proposed and current net metering riders. The differences in recovery between the two net metering riders is the reduction of the current subsidization.

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Data Request EFCA 1-004:

With respect to the testimony of Company Witness Castle at page 6, lines 8-11, please provide any workpapers or other calculations which support or relate to the "large portion of fixed charges" that are effectively avoided by customers served on a tariff not having a demand charge.

- a. What are the total "fixed charges" associated with serving a customer on Rider N.M.S.? Please provide any workpapers or supporting calculations with respect to such fixed charges.
- b. What is a "large portion" of these fixed charges? Please provide any workpapers or supporting calculations with respect to the determination of such "large portion."

Response EFCA 1-004:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

- a. The proposed fixed cost per residential customer resulting from the Company's cost of service study is \$85.64 per customer per month.

See Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx for the supporting calculations and figures. The \$85.64 represents the residential class non-energy revenue requirement divided by the total number of bills in the test year.

- b. The \$11.00 service charge represents approximately 12.8% of fixed costs. The remaining 87.2% of fixed costs are recovered through the \$9.44 demand rate in Tariff R.S.-D. and through the energy rate in Tariff R.S. 87.2% is a large portion.

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To Kingsport Power Company**

Data Request EFCA 1-005:

With respect to the testimony of Company Witness Castle at page 6, line 11, please provide any workpapers or other calculations which support or relate to the "avoided fixed costs that must be recovered from other customers. "

a. With respect to the claimed "avoided fixed costs that must be recovered from other customers," did Kingsport consider any other rate proposals (including, but not limited to, rate schedules, rate structures, fees or surcharges) to address this issue? If so, please provide any communications or written documents (including, but not limited to, letters, emails, reports, analyses or studies) which support or relate to such other rate proposals.

Response EFCA 1-005:

See the Company's response to EFCA 1-3 and EFCA 1-4.

a. No.

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**Data Requests and Requests for the Production
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Data Request EFCA 1-006:

With respect to the development of its Rider N.M.S.-2, did Kingsport consider or review (1) similar rate filings or proposals from other utilities, (2) precedent from other jurisdictions, or (3) reports, studies or analyses, that address or relate to the claimed cross-subsidization that occurs under net metering tariffs lacking a demand meter or that value excess generation at the "fully delivered cost"? If so, please provide a copy of any such rate filings or proposals, orders from other jurisdictions constituting such precedent, or such reports, studies, or analyses.

Response EFCA 1-006:

As part of normal job duties, Company personnel are generally aware of reports, filings and studies on the net metering topic. The development of the Company's Rider N.M.S.-2 utilized this general industry knowledge, but no specific report, filing or study.

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**Data Requests and Requests for the Production
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Data Request EFCA 1-007:

With respect to the testimony of Company Witness Castle at page 6, lines 12-13, please provide any workpapers or other calculations which support or relate to the "fixed infrastructure" utilized by participating customers.

Response EFCA 1-007:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year fixed costs included in the rate design of the demand charge of proposed Tariff R.S.-D. are summarized on the "Demand Rate" tab of TAC - Attachment 3 – KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

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**Data Requests and Requests for the Production
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Coalition of America (First Set)
To Kingsport Power Company**

Data Request EFCA 1-008:

With respect to the testimony of Company Witness Castle at page 11, lines 13-14, please provide the basis for the statement that excess generation will effectively be valued "at the Company's cost to purchase that generation from other sources." Please provide any workpapers or other calculations which support or relate to "the Company's cost to purchase that generation from other sources."

- a. How is "the Company's cost to purchase that generation from other sources" calculated?
- b. Does such calculation include all costs associated with procuring and delivering such generation from other sources? Please explain, and include any workpapers or other calculations which support or relate to such costs.

Response EFCA 1-008:

The Company assumes you are referring to page 6 lines 13 and 14.

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 - KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year energy costs included the rate design of the Company's proposed Tariffs are summarized on the "COS Revenue" tab of TAC - Attachment 3 - KgPCo Rate Design.xlsx. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

- a. The Company purchases its power supply from its affiliate Appalachian Power Company (APCo) at FERC approved rates. For a summary of the test year APCo-Kingsport power bills, see Staff Informal 1-24 DRB - Workpaper 8 - JCOS - KgPCo Pwr Bill 2014 Annual Smry.xls provided in the Company's response to Staff Informal 1-24.
- b. The energy revenue requirement included in the Company's proposed tariff rates includes the variable costs of providing generation service and some energy related PJM RTO transmission costs that are reflected in APCo's FERC approved rates to Kingsport. It does not include any distribution costs. See the first portion of this answer for the supporting workpapers and calculations.

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Data Request EFCA 1-009:

With respect to the testimony of Company Witness Castle at page 6, lines 7-11, in calculating the claimed "cross- subsidization" that occurs when excess generation is valued at the fully delivered cost or retail rate, did the Company take into account costs that are avoided, or benefits that are produced, by having such excess generation produced on the customer's side of the meter rather than delivered by the Company (e.g., avoided T&D infrastructure costs; avoided line losses; benefits of increased system resilience and increased power quality; environmental benefits associated with reduced greenhouse gas (GHG) emissions from distributed energy resources versus the Company's generating portfolio; and demand- induced benefits through the reduction in wholesale power prices due to reduction in peak loads)? If so, please provide any workpapers or other calculations which support or relate to the inclusion of such costs that are avoided, or benefits that are produced, by having such excess generation produced on the customer's side of the meter rather than delivered by the Company. If not, please explain why such avoided costs, or benefits produced, were not considered by the Company in determining the claimed "cross- subsidization" that occurs when excess generation is valued at the fully delivered cost or retail rate.

Response EFCA 1-009:

The financial cost of PJM transmission losses are included in the Company's power supply costs and the rate design revenue targets are adjusted for distribution losses in the class cost of service study. To the extent that a N.M.S. 2 customer reduces kWh usage or kW demand, they will be compensated for these items in the costs they avoid.

Additionally, the Company has designed its proposed charges in this case on the basis of its verifiable costs and accepted rate design principles. It neither assigns, nor subsequently seeks recovery of, subjective or non-verifiable costs, avoided costs or benefits allegedly associated with the provision of its services.

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 - KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-010:

With respect to the testimony of Company Witness Buck at page 26, Table 4, the "Going Level ROR" for the Residential Class improves from -9.96% to a "Proposed ROR" of -0.33% under the Company's proposal.

- a. Please describe the impact of the introduction of a demand charge for Rider N.M.S.-2 and Tariff R.S.-D. on this improvement in ROR. Please provide any supporting calculations or workpapers.
- b. What would the "Proposed ROR" for the residential class be without the introduction of a demand charge for Rider N.M.S.-2 and Tariff R.S.-D.? Please provide any supporting calculations or workpapers.
- c. Please describe the impact of the reduction in the energy rate for excess generation to "the Company's cost to purchase that generation from other sources" (Castle, page 6, lines 13-14) in Rider N.M.S.-2 and Tariff R.S.-D. on this improvement in ROR. Please provide any supporting calculations or workpapers.
- d. What would the "Proposed ROR" for the residential class be without the reduction in the energy rate for excess generation "to the Company's cost to purchase that generation from other sources" (Castle, page 6, lines 13-14) for Rider N.M.S.-2 and Tariff R.S.-D. Please provide any supporting calculations or workpapers.

Response EFCA 1-010:

- a. Per the Company's proposal, all residential test year net metering customers would remain on Tariffs N.M.S and RS. Therefore, there is no impact on the proposed ROR shown on page 26 of Company witness Buck's testimony.
- b. See the Company's response to part a.
- c. See the Company's response to part a.
- d. See the Company's response to part a.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-011:

With respect to the testimony of Company Witness Buck at page 26, Table 4, the "Going Level ROR" for the Small General Service Class improves from 15.91 % to a "Proposed ROR" of 19.51 % under the Company's proposal. Please describe the impact of the introduction of a demand charge for Rider N.M.S.-2 and Tariff S.G.S.-D. on this improvement in ROR. Please provide any supporting calculations or workpapers.

- a. What would the "Proposed ROR" for the residential class be without the introduction of a demand charge for Rider N.M.S.-2 and Tariff S.G.S.-D.? Please provide any supporting calculations or workpapers.
- b. Please describe the impact of the reduction in the energy rate for excess generation to "the Company's cost to purchase that generation from other sources" (Castle, page 6, lines 13-14) in Rider N.M.S.-2 and Tariff S.G.S.-D. on this improvement in ROR. Please provide any supporting calculations or workpapers.
- c. What would the "Proposed ROR" for the residential class be without the reduction in the energy rate for excess generation to "the Company's cost to purchase that generation from other sources" (Castle, page 6, lines 13-14) for Rider N.M.S.-2 and Tariff S.G.S.-D. Please provide any supporting calculations or workpapers.

Response EFCA 1-011:

Per the Company's proposal, all SGS test year net metering customers would remain on Tariffs N.M.S and SGS. Therefore, there is no impact on the proposed ROR shown on page 26 of Company witness Buck's testimony.

- a. The Company assumes the question meant to seek the Proposed ROR for the SGS tariff. See the Company's response above.
- b. See the Company's response above.
- c. The Company assumes the question meant to seek the Proposed ROR for the SGS tariff. See the Company's response above.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-012:

With respect to the testimony of Company Witness Buck at page 26, Table 4, the "Going Level ROR" for the Medium General Service Class improves from 10.07% to a "Proposed ROR" of 14.59% under the Company's proposal. Please describe the impact of the introduction of a demand charge for Tariff M.G.S. on this improvement in ROR. Please provide any supporting calculations or workpapers.

a. What would the "Proposed ROR" for the residential class be without the introduction of a demand charge for Tariff M.G.S.? Please provide any supporting calculations or workpapers .

Response EFCA 1-012:

The introduction of a demand charge for tariff M.G.S. had no effect on the improvement in ROR because the Company would have proposed a higher energy rate to compensate for the lack of a demand charge. The Company designs rates to recover its revenue requirement through a combination of demand and energy rates.

a. The Company assumes the question meant to seek the Proposed ROR for the MGS class. See the response above.

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**Data Requests and Requests for the Production
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Data Request EFCA 1-013:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the statement in Mr. Castle's testimony regarding the claimed "cross-subsidization that occurs with the current net metering construct." (Page 6, lines 7-8) Please identify what elements, calculations or findings in the CCOS support or relate to Mr. Castle's statement.

Response EFCA 1-013:

The cross subsidization referred to by Company witness Castle is the result of the current rate design of Tariffs N.M.S. and RS.

See the Company's response to CPAD 1-159, specifically CPAD 1-159 Attachment 1. Net metering customers continue to use the energy delivery system, require Kingsport to plan for their peak usage, and cause Kingsport to incur generation costs via the PPAR with APCo. A net metering customer who has sized his system to equal his annual electricity consumption, can effectively avoid paying all but the monthly customer service charge, which does not fully cover any customer's pro rata share of fixed costs. Thus, those costs must now be paid by non-net metering customers, creating cross-subsidization.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-014:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the statement in Mr. Castle's testimony regarding the need to incorporate demand meters so that "participating customers will be charged for the fixed infrastructure they utilize." (Page 6, lines 12-13) Please identify what elements, calculations or findings in the CCOS support or relate to Mr. Castle's statement.

Response EFCA 1-014:

See the Company's response to EFCA 1-13 and EFCA 1-3b.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-015:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the statement in Mr. Castle's testimony regarding the need to value customers' excess generation "at the Company's cost to purchase that generation from other sources." (Page 6, lines 13-14) Please identify what elements, calculations or findings in the CCOS support or relate to Mr. Castle's statement.

Response EFCA 1-015:

See the Company's response to EFCA 1-8.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-016:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the basis for including demand charges in proposed Tariff R.S.-D. Please identify what elements, calculations or findings in the CCOS support or relate to the inclusion of demand charges in proposed Tariff R.S.-D.

Response EFCA 1-016:

The fixed infrastructure costs to be recovered through the proposed R.S.-D. demand charge are a direct result of the classification process within Company witness Buck's CCOS.

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year fixed costs included in the rate design of the demand charge of proposed Tariff R.S.-D. are summarized on the "Demand Rate" tab of TAC - Attachment 3 – KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

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**Data Requests and Requests for the Production
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To Kingsport Power Company**

Data Request EFCA 1-017:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the basis for including demand charges in proposed Tariff S.G.S.-D. Please identify what elements, calculations or findings in the CCOS support or relate to the inclusion of demand charges in proposed Tariff S.G.S.-D.

Response EFCA 1-017:

The fixed infrastructure costs to be recovered through the proposed S.G.S.-D. demand charge are a direct result of the classification process within Company witness Buck's CCOS.

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year fixed costs included in the rate design of the demand charge of proposed Tariff S.G.S.-D. are summarized on the "Demand Rate" tab of TAC - Attachment 3 – KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

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**Data Requests and Requests for the Production
of Documents by the Energy Freedom
Coalition of America (First Set)
To Kingsport Power Company**

Data Request EFCA 1-018:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the basis for including demand charges in proposed Tariff M.G.S. Please identify what elements, calculations or findings in the CCOS support or relate to the inclusion of demand charges in proposed Tariff M.G.S.

Response EFCA 1-018:

The fixed infrastructure costs to be recovered through the proposed M.G.S. demand charge are a direct result of the classification process within Company witness Buck's CCOS.

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year fixed costs included in the rate design of the demand charge of proposed Tariff M.G.S.. are summarized on the "MGS" tab of TAC - Attachment 3 – KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

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Data Request EFCA 1-019:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the basis for an energy charge in proposed Tariff R.S.-D. that is less than the energy charge in proposed Tariff R.S. Please identify what elements, calculations or findings in the CCOS support or relate to the reduced energy charge in proposed Tariff R.S.-D.

Response EFCA 1-019:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 - KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The 3.826 cents per kWh proposed kWh rate in tariff R.S.-D. is the energy related revenue requirement divided by the kWh billing determinants.

The 9.248 cents per kWh included in the kWh rate in tariff R.S. is the energy related revenue requirement and all fixed infrastructure costs not recovered through the proposed basic service charge, divided by the kWh billing determinants.

The Company's proposed demand charge for tariff RS-D is designed to recover the difference between the 9.248 and 3.826 cents per kWh as cost causation would suggest.

The CCOS classified these fixed infrastructure costs as being demand related and allocated them to the responsible classes based on their demands. Net metering customers continue to use the energy delivery system, require Kingsport to plan for their peak usage, and cause Kingsport to incur generation costs via the PPAR with APCo as their peaks are included in the 12 monthly peaks that cause the Company to incur costs and were utilized in the CCOS. A net metering customer who has sized his system to equal his annual electricity consumption, can effectively avoid paying all but the monthly customer service charge, which does not fully cover any customer's pro rata share of fixed costs. Therefore, fixed costs should be collected from these customers through a combination of fixed and demand charges, while the kWh rate should be based on the variable costs of providing generation supply.

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Data Request EFCA 1-020:

With respect to the Company's Class Cost of Service Study (KgPCo Exhibit No. 3 (DRB)) (CCOS), please explain how any calculations or findings support or relate to the basis for an energy charge in proposed Tariff S.G.S.-D. that is less than the energy charges in proposed Tariff S.G.S. Please identify what elements, calculations or findings in the CCOS support or relate to the reduced energy charge in proposed Tariff S.G.S.-D.

Response EFCA 1-020:

See the Company's response to EFCA 1-19. The same rationale holds true for Tariff SGS.

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Data Request EFCA 1-021:

With respect to the testimony of Company Witness Caudill at page 10, lines 1-2, please explain the basis for the statement that the Company is proposing "an improvement to the language related to customer excess generation" in Rider N.M.S.-2. Please describe how the language was changed, and how the language change constitutes an "improvement."

a. Why was an "improvement" necessary? Please provide any communications or written documents (including, but not limited to, letters, emails, reports, analyses or studies) relating to the decision to "improve" the language related to customer excess generation.

Response EFCA 1-021:

Company witness Caudill meant for the following redlined change to Tariff N.M.S. to be a clarifying improvement to the tariff language. The Company believes it makes the language less ambiguous. It also makes the language similar to APCo's Virginia tariff.

The Net Metering Period shall be defined as each successive 12-month period beginning with the first meter reading date following the date of interconnection of the RF Generator with the Company's facilities. Any Excess Generation at the end of a Net Metering Period shall be carried forward to the next Net Metering Period only to the extent that the Excess Generation does not exceed the customer's billed consumption for the current net metering period, adjusted to exclude accumulated billing credit carried forward and applied from the previous net metering Period.

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Data Request EFCA 1-022:

With respect to KgPCo Exhibit No. 1 (TAC) at page 1, the Company indicates that it has 69 average monthly customers served under S.G.S.-N.M. How many residential customers are currently served under Rider N.M.S.?

Response EFCA 1-022:

S.G.S.-N.M. stands for "not metered" not, "net metering".

There are currently 9 residential customers on Rider N.M.S.

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Data Request EFCA 1-023:

With respect to KgPCo Exhibit No. 1 (TAC) at page 1, the customers served under S.G.S.-N.M. would experience a 10.43% increase under the Company's proposal (column 5). What estimated increase would residential customers currently served under Rider N.M.S. receive if they were served under the Company's proposed Rider N.M.S.-2? Please provide supporting calculations.

Response EFCA 1-023:

S.G.S.-N.M. stands for "not metered" not, "net metering".

Per the Company's proposal, the 9 current residential Rider N.M.S. customers will have the option to continue to take service under Rider N.M.S. or Rider N.M.S.-2.

See the Company's response to CPAD 1-159 for the answer to the hypothetical scenario posed in this request and the supporting calculations.

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Data Request EFCA 1-024:

Identify each individual responding to these interrogatories and requests for production of documents. Affirm that the individual is authorized by Kingsport to respond on the Company's behalf.

Response EFCA 1-024:

No individual responded to these interrogatories. Responses were provided by and on behalf of the Company.

STATE OF Virginia)
CITY OF Richmond)

WILLIAM K. CASTLE, being first duly sworn upon oath, deposes and says that he is the Director, Regulatory Services VA/TN for Kingsport Power Company d/b/a AEP Appalachian Power, the Petitioner in the above-entitled action, and that he is authorized to make this Affidavit on its behalf; that he has read the foregoing Responses to The Alliance for Solar Choice and TenneSEIA's First Set Discovery Requests, by him subscribed and knows the contents thereof; that there is no single person employed by or otherwise connected with Kingsport Power Company d/b/a AEP Appalachian Power, who has personal knowledge of all the facts and information requested herein; that said Responses to The Alliance for Solar Choice and TenneSEIA's First Set Discovery Requests were prepared with the assistance and advice of counsel and the assistance of various employees and representatives of the corporation upon which he has relied; that the Responses to The Alliance for Solar Choice and TenneSEIA's First Set Discovery Requests, set forth herein, subject to inadvertent or undiscovered errors, are based on, and therefore necessarily limited by, the records and information still in existence, presently recollected and thus far discovered in the course of the preparation of these Responses; that the foregoing Responses to The Alliance for Solar Choice and TenneSEIA's First Set Discovery Requests are thus based upon corporate knowledge and are true and correct to the best of his knowledge and belief; that consequently, Kingsport Power Company d/b/a AEP Appalachian Power reserves the right to make any changes in the Responses if it appears at any time that omissions or errors have been made therein or that more accurate information is available; and that subject to the limitations set forth herein, the said Responses are true to the best of his knowledge, information and belief.

W. K. Castle

WILLIAM K. CASTLE

Sworn to and subscribed before me, this the 28th of April, 2016.

Judy Lynn Bohon
Notary Public

My Commission Expires:

March 31, 2019



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Data Request TASC/TenneSEIA 1-001:

Please provide the following information regarding the existing Tariff N.M.S.:

- (a) Total number of customers for each rate class taking net metering service as of January 1, 2016;
- (b) Total nameplate capacity of net metering facilities, listed separately for each rate class taking net metering service;
- (c) Sum of all kWh delivered to residential net metering customers ("Channel 1" measurement) for each month of 2015;
- (d) Sum of all kWh supplied by residential net metering customers to the grid ("Channel 2" measurement) for each month of 2015; and
- (e) Number of applications received for net metering service for each month from January 2014 to March 2016.

Response TASC/TenneSEIA 1-001:

- a.

RS (Residential Service)	9 (1 via special contract pre NMS tariff)
MGS (Medium General Service)	3 (1 via special contract pre NMS tariff)
LGS (Large General Service)	2 (both via special contract pre NMS tariff)
PS (Public Schools)	1 (via special contract pre NMS tariff)
- b.

RS	62.2 kW AC
MGS	67.8 kW AC
LGS	64.0 kW AC
PS	5.0 kW AC
- c.

Jan	16524
Feb	18536
Mar	12502
Apr	7380
May	7404
Jun	10702
Jul	12483
Aug	14338
Sep	11644
Oct	9473
Nov	11235
Dec	14562

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Response TASC/TenneSEIA 1-001: (continued)

d.

Jan	2098
Feb	2297
Mar	2377
Apr	4656
May	5154
Jun	3830
Jul	2513
Aug	3257
Sep	4454
Oct	4179
Nov	3715
Dec	2871

e.

Jan 2014	2
Feb 2014	0
Mar 2014	0
Apr 2014	0
May 2014	0
Jun 2014	1
Jul 2014	1 (additional capacity to existing system)
Aug 2014	0
Sep 2014	0
Oct 2014	0
Nov 2014	0
Dec 2014	0
Jan 2015	0
Feb 2015	0
Mar 2015	0
Apr 2015	0
May 2015	0
Jun 2015	0
Jul 2015	1
Aug 2015	1 (additional capacity to existing system)
Sep 2015	1 (additional capacity to existing system)
Oct 2015	0
Nov 2015	0
Dec 2015	0
Jan 2016	2
Feb 2016	0
Mar 2016	0

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Data Request TASC/TenneSEIA 1-002:

Refer to the Company's response to Discovery Request No. 159 of CAD's first set of discovery to the Company, pages 1 through 29 of CPAD 1-150 Attachment 1_Redacted.pdf. The following questions or requests refer to the bill data presented for the residential customer account with a meter number "650352195."

- (a) Please describe the process the Company undertakes to maintain and track the amount of excess generation created at the end of monthly billing period and how the Company reconciles and applies those excess kWh credits in future billing periods.
- (b) On page 7, please confirm that the third meter reading of "Metered Usage" of "6.700 KW" refers to the measurement of the customer's maximum demand over the service period and indicate the interval over which the customer's maximum demand was determined (e.g., instantaneous maximum demand, 15-minute average of maximum demand, 30-minute average of maximum demand, or 60-minute average of maximum demand).

Response TASC/TenneSEIA 1-002:

a) The Company's billing system generates bills for any positive "net" usage for the month (kWhs delivered to the customer less kWhs received from the customer). However, when kWhs received are greater than kWhs delivered, a "bank" of excess generation needs to be accumulated. Because the billing system cannot track this excess generation or apply it to subsequent bills, the Company's billing group has a designated employee responsible for maintaining a spreadsheet with tabs for each net metering customer. With the input of monthly meter readings, the spreadsheet can calculate kWhs delivered and received, net kWhs, excess kWhs, and billing kWhs (see example shown on TASC 1-2 Attachment 1). After the account has billed, the spreadsheet is consulted to determine if a customer has any banked kWhs that could be used to offset those kWhs billed. If so, the account is manually re-calculated to credit the customer for that excess generation. Current month read date and readings are then entered on the spreadsheet to continue the process of tracking excess generation.

Additionally, each customer's account is reviewed and excess generation is reconciled each 12 months following the net metering start date (defined to be the first meter reading following interconnection). As specified in Tariff N.M.S. and/or the Net Metering Special Contract, any excess energy at this time is carried forward to the next 12 month period only to the extent that the number of kWhs of excess generation is not greater than the total kWhs billed to the customer during the same period.

Regarding meter, the customer did not purchase any kWhs during this past net metering period. They were therefore not eligible to retain their bank of 220 kWhs beyond the annual review in February 2016 in accordance with Tariff N.M.S. and as stated above. The Company has recently learned that this customer has installed additional capacity (amount still unknown) without the

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Response TASC/TenneSEIA 1-002: (continued)

Company's knowledge. The Company is working with the customer to secure an application for review of the additional capacity after the fact.

b) 6.700 kW is the customer's maximum demand for the billing period measured as the single highest 15-minute integrated peak.

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Data Request TASC/TenneSEIA 1-003:

n reference to Mr. Castle's Testimony, page 6 (lines 7-8), please provide all workpapers and analysis relied upon by Mr. Castle to support his opinion that "cross-subsidization" may be occurring with the "current net metering construct" and that the proposed rider will reduce or eliminate the alleged cross-subsidy.

Response TASC/TenneSEIA 1-003:

See "CPAD 1-159 Supplemental Attachment 2 nms customer calcs.xls" and the response to TASC 1-012. The response to TASC 1-012 shows that the service charge does not fully recover the fixed charges for the customer who only pays the service charge. The spreadsheet provided in response to CPAD 1-159 shows the difference in the recovery of costs under the proposed and current riders.

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Data Request TASC/TenneSEIA 1-004:

In reference to Mr. Castle's testimony, page 6 (lines 11 through 13), please specifically identify and describe the "fixed infrastructure" costs that the residential demand charge (Tariff R.S.-D) is developed to recover and distinguish, with detail and specificity, the types of fixed costs recovered by the demand charge from the types of costs recovered by the monthly fixed customer charge.

Response TASC/TenneSEIA 1-004:

As described in the response to TASC 1-012, the fixed costs recovered by the monthly service charge are a portion of the total fixed costs incurred by the Company. Recovery of the remaining fixed charges is sought through a demand charge, consistent with how costs are recovered in other rate classes. The sum of both recoveries cover the "fixed infrastructure" costs. The types of fixed costs are detailed in the class cost of service study provided in response to Staff Informal 1-24 in the file "Staff Informal 1-24 BC-COS Rev Alloc - 2015-DRB Exhib 1-5 - Final.xlsm". Those costs are summarized on the tab "3-a CCOS".

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Data Request TASC/TenneSEIA 1-005:

In reference to Mr. Castle's testimony at page 6 (lines 13 through 14), when a net metering customer supplies electricity to the grid (i.e., through Channel 2) and receives a kWh credit that will later be applied to offset deliveries by the utility to the customer, does the Company account for the creation of the kWh credit as a purchase of power from the customer that and then recover that costs through its fuel clause or other recovery mechanism? If so, please provide the total dollar amount and the number of purchased kWh passed through the fuel clause or other mechanism to compensate net metering customers for the years 2013, 2014 and 2015.

Response TASC/TenneSEIA 1-005:

No.

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Data Request TASC/TenneSEIA 1-006:

In reference to Mr. Castle's testimony at page 6 (lines 14 through 15), what is the current value of "environmental attributes" associated with renewable net metered generation in the Company's service territory?

Response TASC/TenneSEIA 1-006:

Company witness Castle is referring to Renewable Energy Credits (RECs) when he mentions "environmental attributes" on page 6 of his testimony. RECs, which constitute 1 MWh, or 1,000 kWh of renewable energy, have different values in different state compliance markets. Depending on what PJM state compliance market the REC were sold into, a solar REC generated in TN currently could be worth approximately \$10-\$15.

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Data Request TASC/TenneSEIA 1-007:

In reference to Mr. Castle's testimony at pages 5-6, generally, does the Company intend to allow existing net metering customers to continue taking service under that tariff into perpetuity? If so, does the right to remain on the existing net metering tariff terminate when the current customer is no longer the customer of record on the "grandfathered" net metering account or is that right assignable to future customers that may take service at the situs?

Response TASC/TenneSEIA 1-007:

In this proceeding the Company is proposing to close the tariff to new customers as of 12/31/2016.

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Data Request TASC/TenneSEIA 1-008:

In reference to Mr. Castle's testimony at pages 5-6 and proposed Tariff R.S.-D attached to Mr. Caudill's direct testimony, please provide all workpapers and any analysis performed to determine the proper amount of the demand charge in Tariff R.S.-D. Please identify all inputs and assumptions used to establish customer billing determinants for that Rider to ensure that the demand charge would be designed to appropriately collect the designated fixed charges and would not significantly over-collect or under-collect revenue from the affected customers.

- (a) Does the Company have a projection of the number of residential customers that will voluntarily take service under a demand-metered electric service schedule?
- (b) What is the basis for imposing a 250-customer limit on participation in Tariff R.S.-D?
- (c) Does the Company consider Tariff R.S.-D to be a pilot program or experimental tariff for residential customers that do not net meter?
- (d) Please describe, with specificity and detail, the Company's plan to educate residential customers choosing to net meter or otherwise take service under Tariff R.S.-D about how to effectively manage the level of electrical demand to avoid negative bill impacts.
- (e) Does the Company intend to make Tariff R.S.-D, or another tariff featuring a demand-charge component, the default tariff for residential service at any point in the future?
- (f) Does the Company have a projection of the number of residential customers that will take service under this Tariff by virtue of participating in net metering?

Response TASC/TenneSEIA 1-008:

See the Company's response to CPAD 1-013 for the load research study which produced the kW demand billing units used in the design of proposed Tariff R.S.-D.

See also the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 - KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year fixed costs included in the rate design of the demand charge of proposed Tariff R.S.-D. are summarized on the "Demand Rate" tab of TAC - Attachment 3 - KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

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Response TASC/TenneSEIA 1-008: (continued)

The demand rate in proposed tariff R.S.-D. is designed based on the Company's verifiable test year accounting costs and the class demands from the test year load research study. It will collect an average amount of fixed costs incurred by the Company to provide service to a residential customer based on a customer's peak demand kW usage.

- a. No.
- b. The 250 customer limitation for customers that are not net-metering is intended to allow for the Company to manage the need to change meters and limit the potential cost of such meter change-outs.
- c. No.
- d. The Company has not developed a marketing or customer education plan at this time. The development of such material is premature given that the proposed tariff has not been approved and could change as part of the normal rate case process.
- e. Not at this time, but if the Company were to deploy the metering infrastructure needed to roll out a three part rate to the entire residential class, yes it would be possible that the Company would propose to make RS-D or a similar three part rate tariff the standard offering.
- f. No.

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Data Request TASC/TenneSEIA 1-009:

In reference to Mr. Castle's testimony at page 6, what is the precise dollar amount of the cross-subsidy that the Company is seeking to "reduce" or "eliminate" with proposed rider N.M.S.-2? Please provide a detailed description of the method used to determine the dollar amount of the alleged cross-subsidy for net metering customers.

Response TASC/TenneSEIA 1-009:

The cross subsidy that proposed tariff NMS-2 is designed to reduce or eliminate in the proposed Residential tariff rates is as much as 0.05421 \$/kWh. This is the amount of fixed infrastructure costs included in the Company's proposed residential kWh charge for tariff R.S. See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx. This does not include energy costs or the fixed cost recovery from the proposed \$11 per month per customer service charge.

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Data Request TASC/TenneSEIA 1-010:

Please provide any load research study or similar analysis that shows that residential net metering customers, as a separate class, are imposing costs above that which would have been incurred had net metering customers remained within the residential class and took service on the same tariffs as non-net metered customers.

Response TASC/TenneSEIA 1-010:

See the Company's response to CPAD 1-159 as well as TASC 1-11, TASC 1-14, TASC 1-18 and TASC 1-24.

The Company's net metering customers use the Company's power supply and delivery system every month of the year. Therefore they are using the Company's infrastructure and should make a cost based contribution to the fixed costs of that infrastructure. Per the Company's proposal, only new residential net metering customers beginning January 1, 2017 will be subject to the three part rate design of Tariff R.S.-D.

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Data Request TASC/TenneSEIA 1-011:

Please provide any data or analyses performed by the Company that distinguish the cost-causing characteristics of residential net metering customers from other residential customers that do not engage in net metering.

Response TASC/TenneSEIA 1-011:

The load shape of a residential net metering customer is different than that of other residential customers. This difference in load shape which reflects the partial requirements nature of a net metering customer is a cost-causing characteristic that distinguishes the net metering customers. See the Company's response to CPAD 1-13 for the load research study for the residential class. The residential class average total load factor is 23.85% while the total load factor of the Company's 9 residential net metering customers is 8.32%, based on the information provided in response to CPAD 1-159.

Furthermore, net metering in conjunction with the Company's current residential tariff (two part rate) disregards appropriate cost causation principles as current residential net metering customers are paying for a small fraction of the costs they cause by simply being connected to the Company's power supply and delivery system which they are using every day. This is evidenced in the Company's response to CPAD 1-159 which shows that residential net metering customers took delivery of kWh and registered demands on the Company's system every month of the year. These customers used the Company's power supply and delivery system every month, if not every day, of the year but paid significantly less of the fixed costs associated with the same supporting infrastructure than non-net metered residential customers did.

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Data Request TASC/TenneSEIA 1-012:

The testimony of Company witness Caudill at page 6, lines 9-12 states that "metering for these rate classes registers kWh consumption but does not have the ability to register demand due to historical costs for such meters. Without separate demand charges in these rate classes, the majority of fixed distribution costs are recovered through volumetric energy charges." The testimony at page 7, lines 8-9 states that "it is appropriate to collect fixed costs through a demand charge, wherever possible."

(a) Please explain why the proposed service charge for Tariff R.S.-D. (\$11.00) is the same as the service charge for Tariff R.S. (\$11.00), notwithstanding the proposed introduction of a demand charge (\$9.44 per kW) in Tariff R.S.-D. Please provide any supporting calculations showing the recovery of fixed costs under a tariff schedule without a demand charge versus a tariff schedule with demand charges. What portion of fixed costs is recovered through the proposed service charge of \$11.00 under Tariff R.S.-D.? What portion of fixed costs is recovered through the proposed demand charge of \$9.44 per kW?

(b) Please explain why the proposed service charge for Tariff S.G.S.-D. (\$20.20) is greater than the proposed service charge for Tariff S.G.S. (\$12.60), notwithstanding the proposed introduction of a demand charge (\$15.10 per kW) in Tariff S.G.S.-D. Please provide any supporting calculations showing the recovery of fixed costs under a tariff schedule without a demand charge versus a tariff schedule with demand charges. What portion of fixed costs is recovered through the proposed service charge of \$20.20 under Tariff S.G.S.-D.? What portion of fixed costs is recovered through the proposed demand charge of \$15.10 per kW?

(c) Please explain why the proposed service charges for Tariff M.G.S. (changing from \$21.50 to \$40.00 for secondary and changing from \$93.85 to \$94.00 for primary) are increasing, notwithstanding the proposed introduction of a demand charge (\$2.08 per kW for secondary and \$2.02 per kW for primary) in Tariff M.G.S. Please provide any supporting calculations showing the recovery of fixed costs under a tariff schedule without a demand charge versus a tariff schedule with demand charges. For secondary service, what portion of fixed costs is recovered through the proposed service charge of \$40.00 under Tariff M.G.S.? What portion of fixed costs is recovered through the proposed demand charge of \$2.08 per kW? For primary service, what portion of fixed costs is recovered through the proposed service charge of \$94.00 under Tariff M.G.S.? What portion of fixed costs is recovered through the proposed demand charge of \$2.02 per kW?

Response TASC/TenneSEIA 1-012:

a) Fixed costs are those not classified as "energy" in the COS Revenue summary used in rate design for the proposed tariffs. The proposed \$11.00 service charge does not collect the full amount of fixed costs. In Tariff R.S. the remaining fixed costs are recovered through the energy rate. In Tariff R.S.- D. the remaining fixed costs are recovered though the demand rate with no fixed costs recovered in the energy rate. No energy related costs are included in the proposed

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Response TASC/TenneSEIA 1-012: (continued)

service or demand charges. See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx, specifically tabs RS and Demand Rate. The \$11.00 service charge collects approximately 12.8% of fixed costs. The remaining 87.2% of fixed costs are recovered through the \$9.44 demand rate in Tariff R.S.-D. and through the energy rate in Tariff R.S..

b) The \$20.20 service charge in Tariff S.G.S.-D. is a composite rate for Tariffs S.G.S., M.G.S.-Sec and P.S.. The demand charge proposed in Tariff S.G.S.-D. is a composite demand rate that collects the remaining fixed costs above the fixed costs collected through the service charge for those three tariffs. No energy related costs are included in the proposed service or demand charges. See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx, specifically the "Demand Rate" tab. The \$20.20 service charge collects approximately 12% of the fixed costs of those tariffs. The remaining 88% of fixed costs are recovered through the \$15.10 demand rate in Tariff S.G.S.-D..

c) The service charges do not collect the full amount of fixed costs. The remaining fixed costs are recovered through the demand and energy rates. See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx, specifically tab MGS. The secondary service charge collects approximately 9.4% of fixed costs and the primary service charge collects approximately 9.5% of fixed costs. The secondary demand charge collects approximately 12% of fixed costs and the primary demand charge collects approximately 5.9% of fixed costs. The remaining fixed costs are recovered through the energy rates.

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Data Request TASC/TenneSEIA 1-013:

With respect to proposed Tariff R.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 11), please provide workpapers or calculations which support or relate to the proposed service charge of \$11.00 per customer.

Response TASC/TenneSEIA 1-013:

See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx.

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Data Request TASC/TenneSEIA 1-014:

With respect to proposed Tariff R.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 11), please provide workpapers or calculations which support or relate to the proposed energy charge of 3.826 cents per kWh.

- (a) Please reconcile the energy charge of 9.248 cents per kWh under proposed Tariff RS. with the proposed energy charge of 3.826 cents per kWh under proposed Tariff R.S.-D. Please identify each element or rate component that was subtracted from 9.248 cents per kWh in order to arrive at the 3.826 cents per kWh rate, and explain the basis for such subtraction.
- (b) Please explain how the 3.826 cents per kWh rate effectively values the excess generation "at the Company's cost to purchase that generation from other sources." (Castle, page 6, lines 13-14)
- (c) In calculating the 3.826 cents per kWh energy charge under proposed Tariff R.S.-D., did the Company take into account costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company (e.g., avoided T&D infrastructure costs; avoided line losses; benefits of increased system resilience and increased power quality; environmental benefits associated with reduced greenhouse gas (GHG) emissions from distributed energy resources versus the Company's generating portfolio; and demand-induced benefits through the reduction in wholesale power prices due to reduction in peak loads)? If so, please provide any workpapers or other calculations which support or relate to the inclusion of such costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company. If not, please explain why such avoided costs, or benefits produced, were not considered by the Company in determining the proposed energy charge of 3.286 cents per kWh.

Response TASC/TenneSEIA 1-014:

- a. See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx.

3.826 cents per kWh is the energy related revenue requirement divided by the kWh billing determinants.

9.248 cents per kWh includes the energy related revenue requirement and all fixed infrastructure costs not recovered through the proposed basic service charge, divided by the kWh billing determinants.

The Company's proposed demand charge for tariff RS-D is designed to recover the difference between the 9.248 and 3.826 cents per kWh.

- b. 3.826 cents per kWh represents the adjusted test year accounting costs of providing energy supply to the residential class.

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Response TASC/TenneSEIA 1-014: (continued)

c. The Company has designed its proposed charges in this case on the basis of its verifiable costs and accepted rate design principles. It neither assigns, nor subsequently seeks recovery of, subjective or non-verifiable costs, avoided costs or benefits allegedly associated with the provision of its services.

The financial cost of PJM transmission line losses is included in the 3.826 cents per kWh.

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Data Request TASC/TenneSEIA 1-015:

With respect to proposed Tariff R.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 11), please provide workpapers or calculations which support or relate to the proposed demand charge of \$9.44 cents per kW.

- (a) Please explain how the proposed demand charge of \$9.44 per kW results in "participating customers being charged for the fixed infrastructure they utilize." (Castle, page 6, lines 12-13)
- (b) In calculating the proposed demand charge of \$9.44 per kW under proposed Tariff R.S.-D., did the Company take into account costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company (e.g., avoided T&D infrastructure costs; avoided line losses; benefits of increased system resilience and increased power quality; environmental benefits associated with reduced greenhouse gas (GHG) emissions from distributed energy resources versus the Company's generating portfolio; and demand-induced benefits through the reduction in wholesale power prices due to reduction in peak loads)? If so, please provide any workpapers or other calculations which support or relate to the inclusion of such costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company. If not, please explain why such avoided costs, or benefits produced, were not considered by the Company in determining the proposed demand charge of \$9.44 per kW.

Response TASC/TenneSEIA 1-015:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx.

- a. See the Company's response to CPAD 1-159, specifically CPAD 1-159 Attachment 1. The Company's net metering customers use the Company's power supply and delivery system every month of the year. Therefore they are using the Company's infrastructure and should make a cost based contribution to the fixed costs of that infrastructure.

The Company's net metering customers currently can reduce their total net monthly billing kWh to zero through current billing period netting; or through the use of their bill as if it were a battery to net current billing period delivered usage with prior period banked customer generation. When they do this, they avoid paying the majority of the Company's fixed infrastructure costs that they utilized because they are predominantly included in the current kWh charge. By using a demand charge to collect these fixed infrastructure costs, as cost causation would suggest, the customer's kW demand that they register each billing period when they use the Company's power supply and delivery system is used as the basis for the fixed cost contribution that the same customer had previously avoided even though they utilize the Company's power supply and delivery system every day.

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Response TASC/TenneSEIA 1-015: (continued)

b. Generation, transmission and distribution infrastructure costs and distribution line losses are included in the \$9.44 per kW demand charge in proposed tariff R.S.- D. Because of this, when a net metering customer reduces their actual peak demand, they will be compensated at the full delivered price of energy even though they do not provide transmission or distribution service.

Furthermore, the Company has designed its proposed charges in this case on the basis of its verifiable costs and accepted rate design principles. It neither assigns, nor subsequently seeks recovery of, subjective or non-verifiable costs, avoided costs or benefits allegedly associated with the provision of its services.

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Data Request TASC/TenneSEIA 1-016:

With respect to proposed Tariff S.G.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 16, please provide workpapers or calculations which support or relate to the proposed service charge of \$20.20 per customer.

Response TASC/TenneSEIA 1-016:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx.

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Data Request TASC/TenneSEIA 1-017:

With respect to proposed Tariff S.G.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 16, please provide workpapers or calculations which support or relate to the proposed energy charge of 3.791 cents per kWh.

- (a) Please reconcile the energy charges of 9.284 cents per kWh (for the first block) and 8.768 cents per kWh (for the tail block) under proposed Tariff S.G.S. (KgPCo Exhibit 3 (TAC) at page 15) with the proposed energy charge of 3.791 cents per kWh under proposed Tariff S.G.S.-D (KgPCo Exhibit 3 (TAC) at page 16). Please identify each element or rate component that was subtracted from the proposed Tariff S.G.S. energy rates in order to arrive at the 3.791 cents per kWh rate under proposed Tariff S.G.S.-D., and explain the basis for such subtraction.
- (b) Please explain how the 3.791 cents per kWh rate effectively values the excess generation "at the Company's cost to purchase that generation from other sources." (Castle, page 6, lines 13-14)
- (c) In calculating the 3.791 cents per kWh energy charge under proposed Tariff S.G.S.-D., did the Company take into account costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company (e.g., avoided T&D infrastructure costs; avoided line losses; benefits of increased system resilience and increased power quality; environmental benefits associated with reduced greenhouse gas (GHG) emissions from distributed energy resources versus the Company's generating portfolio; and demand-induced benefits through the reduction in wholesale power prices due to reduction in peak loads)? If so, please provide any workpapers or other calculations which support or relate to the inclusion of such costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company. If not, please explain why such avoided costs, or benefits produced, were not considered by the Company in determining the proposed energy charge of 3.791 cents per kWh.

Response TASC/TenneSEIA 1-017:

See Company witness Caudill's rate design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx.

- a. The proposed SGS energy charges of 9.284 cents per kWh (for the first block) and 8.768 cents per kWh (for the tail block) includes the SGS energy costs plus all fixed costs not recovered through the proposed \$12.60 per customer per month service charge.

The 3.791 cents per kWh energy charge in proposed Tariff S.G.S.-D. is a composite rate for Tariffs S.G.S., M.G.S.- Sec and P.S. that includes only the energy related revenue requirements for those tariff classes divided by total billing energy kWh. See Company witness Caudill's rate

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Response TASC/TenneSEIA 1-017: (continued)

design workpapers that were provided in Staff Informal 1-24-TAC-Workpaper 3-KgPCo Rate Design.xlsx, specifically the "Demand Rate" tab for the calculations.

b. The 3.791 cents per kWh energy charge for proposed tariff S.G.S.-D is based on the Company's test year accounting costs of providing customers with energy.

See also the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers and Company witness Buck's cost of service study. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx and Staff Informal 1-24 - KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm.

The test year energy costs included the rate design of the energy charge of proposed Tariff S.G.S.-D. are summarized on the "Demand Rate" tab of TAC - Attachment 3 – KgPCo Rate Design.xlsx and are sourced from the "COS Revenue" tab of the same workbook. Those amounts are sourced from the "4-c Target Rev" tab of KgPCo BC - COS Rev Alloc - 2015 - DRB Exhib 1-5 - FINAL.xlsm. The rate design revenue target totals from the "4-c Target Rev" tab can be traced through the workbook through the class cost of service study to the jurisdictional cost of service study and ultimately to the FERC accounts from which they originate.

c. See the Company's response to part b. The 3.791 cents per kWh includes the test year financial costs of transmission losses.

Furthermore, the Company has designed its proposed charges in this case on the basis of its verifiable costs and accepted rate design principles. It neither assigns, nor subsequently seeks recovery of, subjective or non-verifiable costs, avoided costs or benefits allegedly associated with the provision of its services.

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Data Request TASC/TenneSEIA 1-018:

With respect to proposed Tariff S.G.S.-D. (KgPCo Exhibit No. 3 (TAC) at page 16), please provide workpapers or calculations which support or relate to the proposed demand charge of \$15.10 per kW.

(a) Please explain how the proposed demand charge of \$15.10 per kW results in "participating customers be[ing] charged for the fixed infrastructure they utilize." (Castle, page 6, lines 14-15)

(b) In calculating the proposed demand charge of \$15.10 per kW under proposed Tariff S.G.S.-D., did the Company take into account costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company (e.g., avoided T&D infrastructure costs; avoided line losses; benefits of increased system resilience and increased power quality; environmental benefits associated with reduced greenhouse gas (GHG) emissions from distributed energy resources versus the Company's generating portfolio; and demand-induced benefits through the reduction in wholesale power prices due to reduction in peak loads)? If so, please provide any workpapers or other calculations which support or relate to the inclusion of such costs that are avoided, or benefits that are produced, by having energy produced on the customer's side of the meter rather than delivered by the Company. If not, please explain why such avoided costs, or benefits produced, were not considered by the Company in determining the proposed demand charge of \$15.10 per kW.

Response TASC/TenneSEIA 1-018:

See the Company's response to Staff Informal 1-24 for Company witness Caudill's rate design workpapers. Specifically see Staff Informal 1-24 - TAC - Attachment 3 – KgPCo Rate Design.xlsx.

a. The Company's net metering customers use the Company's power supply and delivery system every month of the year. Therefore they are using the Company's infrastructure and should make a cost based contribution to the fixed costs of that infrastructure.

The Company's net metering customers currently can reduce their total net monthly billing kWh to zero through current billing period netting; or through the use of their bill as if it were a battery to net current billing period delivered usage with prior period banked customer generation. When they do this, they avoid paying the majority of the Company's fixed infrastructure costs that they utilized because they are predominantly included in the current kWh charge. By using a demand charge to collect these fixed infrastructure costs, as cost causation would suggest, the customer's kW demand that they register each billing period when they use the Company's power supply and delivery system is used as the basis for the fixed cost

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Response TASC/TenneSEIA 1-018: (continued)

contribution that the same customer had previously avoided even though they utilize the Company's infrastructure every day.

b. Generation, transmission and distribution infrastructure costs and distribution line losses are included in the \$15.10 per kW demand charge in proposed tariff S.G.S.- D. Because of this, when a net metering customer reduces their actual peak demand, they will be compensated at the full delivered price of energy even though they do not provide transmission or distribution service.

Furthermore, the Company has designed its proposed charges in this case on the basis of its verifiable costs and accepted rate design principles. It neither assigns, nor subsequently seeks recovery of, subjective or non-verifiable costs, avoided costs or benefits allegedly associated with the provision of its services.

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Data Request TASC/TenneSEIA 1-019:

Regarding the testimony of Company witness Daves at Exhibit No. 4 (PRD), please provide the source documents for the "Beta Value Line" for each of the eight companies shown in Exhibit No.8 (PRD).

Response TASC/TenneSEIA 1-019:

Please see TASC 1-019 Attachment 1 on the attached CD.

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Data Request TASC/TenneSEIA 1-020:

Regarding the testimony of Company witness Daves at Exhibit No. 8 (PRD), please provide the source documents for the "Value Line Dividend Growth Estimate" and "Value Line Earnings Growth Estimate" for each of the eight companies shown in Exhibit No.8 (PRD).

Response TASC/TenneSEIA 1-020:

Please see TASC 1-019 Attachment 1 on the attached CD.

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Data Request TASC/TenneSEIA 1-021:

Regarding the testimony of Company witness Daves at page 10, lines 16-18, please provide the supporting workpapers showing the regression of daily stock returns on the S&P 500 return using 1 and 3 years of daily data.

Response TASC/TenneSEIA 1-021:

Please see TASC 1-021 Attachment 1 on the attached CD.

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Data Request TASC/TenneSEIA 1-022:

Does the Company admit that it has an obligation under federal law to credit or otherwise compensate a residential or commercial end user for generating and providing power from solar panels to the Company?

- (a) If the answer is yes, please describe the source of that legal obligation.
- (b) If the answer is no, please explain why the Company is not obligated under the Public Utility Regulatory Policies Act of 1978 to take power from a residential or commercial end user who qualifies as a small power production facility.
- (c) If the answer is no, please explain why the Company is offering to purchase power from customers under the company's proposed tariffs.

Response TASC/TenneSEIA 1-022:

The Company objects to this question in that it seeks a legal opinion or conclusion, which the company is not required to provide in a discovery request.

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Data Request TASC/TenneSEIA 1-023:

Does the Company admit that residential customers who take service under the proposed Tariff RS-D are in the same service class as other residential customers? Please answer "yes" or "no" and explain your answer.

Response TASC/TenneSEIA 1-023:

This request inappropriately conflates service class (i.e. residential, commercial and industrial) and rate or tariff schedules. While residential net metering customers are residential customers, as opposed to commercial or industrial customers, that does not mean that they are the same as, or should be served under the same tariff as, standard residential customers (e.g. residential time of day customers are residential customers but are served under a different residential tariff than standard residential customers). See also the Company's response TASC 1-024.

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Data Request TASC/TenneSEIA 1-024:

Explain why residential customers who generate electricity from solar panels and provide a portion of that electricity to the Company, either for credit or other compensation, should be required to pay a demand charge while other residential customers are not.

Response TASC/TenneSEIA 1-024:

Residential customers who produce electricity on-site for a portion of their power requirements are partial requirements customers that utilize the Company's system to meet their needs when their solar panels are not producing or are not producing enough. Through net metering and the Company's current residential rate design, these customers can avoid paying for almost all of the fixed and variable costs of the services they still receive from the Company and use on a daily basis.

Proposed tariff NMS-2 requires new residential net metering customers to take service under proposed tariff R.S.-D. which includes a demand charge, and allows customers with on-site generation to continue to net meter their generation with their usage while at the same time ensuring that they are paying a fixed cost contribution related to the Company's power supply and delivery systems that they use every day when their on-site generation is not supplying a portion or all of their requirements.

These residential partial requirements customers should be subject to a three part rate that includes a demand charge because they use the Company's power supply and delivery systems differently than full requirements residential customers do.