Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: Docket No. E,G999/CI-08-133
Requested By: Xcel Energy

☐Nonpublic ☒Public
Date of Request: 09/18/2023
Date of Response: 10/3/2023

Response By: Adway De
Email Address(es): adway.de@state.mn.us
Phone Number(s): 651-539-1857

Response to Request Number: **1**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference Figures 17 and 18 in the Department's Recommendations. Please provide the underlying data for these figures, including the estimates and calculations described in the two paragraphs of the Recommendations that precede Figure 17, in executable format with all formulas and links intact.

Response:

IR Response 1 Attachment 1.xlsx provides the data underlying Figures 17 and 18. This data is based on IR responses provided by individual utilities, some of which were marked Trade Secret. The Trade Secret data provided by Xcel Energy and the Public data provided by other utilities are included as additional attachments to this IR.

IR Response 1 Attachment 2 -NON PUBLIC.xlsm contains relevant data provided by Xcel Electric.
IR Response 1 Attachment 3 - NON PUBLIC.xlsx contains relevant data provided by Xcel Gas.
IR Response 1 Attachment 4.xlsx contains relevant data provided by Center Point Energy.
IR Response 1 Attachment 5.xlsx contains relevant data provided by MERC.

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Response to Request Number: **2**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference the following statement in the Department's Recommendations:
"[W]e compiled a dataset featuring the utilities' proposed first-year energy savings, budgets and net benefits achieved from their triennial plans, and their corresponding actual first-year energy savings, budgets and net benefits achieved from their status reports, spanning the years 2017-2022. Consequently, we calculated an average amount by which actual and proposed numbers differ, by each variable and for each utility"
(p. 23)

a. Please provide the referenced dataset in executable format with all formulas and links intact.

b. To the extent not provided in the response to subpart a. above, please provide all data and calculations underlying the Department's Table 7 on page 24 of the Department's Recommendations: Adjustment Factors for Scaling Proposed Energy Savings, Budgets and Minnesota Test Net Benefits for Each Utility in 2024-2026.

Response:

a. IR Response 2 Attachment 1.xlsx contains all relevant data used to generate Table 7 in Department's September 1, 2023 filing.
b. Please see response to part a above for all underlying data and calculations.

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Response to Request Number:	**3**
Reference:	Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference the following statement in the Department's Recommendations:
"[W]e assume that MN Test Net Benefits are a constant factor times Utility Cost Test Net Benefits" (p. 24)

Please explain the basis for the assumption that the ratio of Utility Cost Test (UCT) and Minnesota Cost Test (MCT) net benefits is constant.

Response:

As stated on page 22 and 24 of the Department's proposal, Attachment C of the Department's proposal summarizes the rigorous estimation procedure and mathematical calculations that were used to arrive at the relationship between Utility Cost Test and Minnesota Cost Test net benefits based on data from 2019-2022.

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Response to Request Number: **4**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference the following statement in the Department's Recommendations:
"We also collected data on other high-performing states on the ACEEE Scorecard: California, Connecticut, Rhode Island and Massachusetts." (p. 36)

Based on the data collected by the Department:

a. Please compare the savings achievements in the referenced states to the established energy savings goals. To what extent or degree do energy savings achievements in the referenced states exceed (or fall short of) established goals?

b. How much did utilities in the referenced high-performing states spend to achieve their electric and gas savings? Please provide data by year and fuel.

c. Please provide any other "data on high-performing states" referred to in the statement above, to the extent that it includes data not already provided in the response to subpart b.

d. What was the basis for the Department's selection of California, Colorado, Connecticut, Massachusetts, and Rhode Island as the states used for comparison with Minnesota?

Response:

a. The Department did not collect data on energy savings goals in the referenced states. The Department did not calculate the degree to which the energy savings achievements in the referenced states exceed (or fall short of) established goals.

b. The Department only collected data on utility specific spending from Connecticut and Xcel Colorado Electric. Please find the relevant information in IR Response 4 Attachment 1.xlsx

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c. All data collected from the referenced states is provided in IR Response 4 Attachment 1.xlsx that was used to generate Tables 8 and 9 of the Department's proposal. All relevant references are provided in footnotes 18, 19, 20, 21, 22, 23, 25, 26 and 32 of the Department's proposal.

d. As stated on Page 35, "In the past, the Department has compared Minnesota's Shared Savings DSM Financial Incentive Mechanisms with the DSM financial incentives used in other states. The primary source for our analysis has been ACEEE's publication *Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency.* Although ACEEE has not updated this publication since June 9, 2015, the ACEEE published *Snapshot of Energy Efficiency Performance Incentives for Electric Utilities* in December 2018. The Department reached out to ACEEE and asked if there were any recent publications comparing the incentive mechanisms of different states. Unfortunately, ACEEE has not published any recent reports updating their previous analysis."

The Department thus tried to collect individual state level data on energy savings, spending on energy efficiency programs and utility performance incentives from public filings. Ultimately, the states for which the Department was able to collect this data was provided as points of comparison in the Department's proposal.

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Response to Request Number:	**5**
Reference:	Department of Commerce's September 1, 2023 Recommendations

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Request:

Did the Department calculate different conversion factors between the Utility Cost Test (UCT) and Minnesota Cost Test (MCT) for electric and gas utilities, or were all utility types combined for the calculation described in Attachment C? Please explain the rationale for the approach selected.

Response:

Data from all utilities were combined in the analysis described in Attachment C. The point of the analysis is to show how the Minnesota Test net benefits and Utility Test Net Benefits are related, across all IOUs between 2019 and 2021.

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Response to Request Number: **6**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Did the Department conduct the analysis described in Attachment C to compare the projected Utility Cost Test (UCT) and Minnesota Cost Test (MCT) results for utilities' 2024-2026 Triennial filings? If not, why not? If yes, please provide the calculations and resulting estimate for $f(x)$.

Response:

The Department has not performed any regression analysis of the nature described in Attachment C for the 2024-2026 period. We do not have actual data for the 2024-2026 period on energy savings, spending or incentives. Furthermore, the performance incentive mechanism has not been set for the 2024-2026 period. Instead, the Department performed comparison of the 2019-2021 period, using the most recent actual data that was available at the time of developing the proposal.

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Response to Request Number: **7**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Based on the Department's analysis, as referred to on p. 22 of the Recommendation and detailed in Attachment C, it appears that the transition from the Utility Cost Test (UCT) to the Minnesota Cost Test (MCT) would justify a reduction in the maximum percentage of net benefits awarded (the "Net Benefits Cap") from ten percent of UCT net benefits (under the 2021-2023 mechanism) to 4 percent of MCT net benefits (per the Department's conversion formula

$$pM\text{N} \approx 0.4 \times p\text{UCT},$$

where pMN is the proportion of Minnesota Test Net Benefits awarded as financial incentives, and pUCT is the corresponding proportion of Utility Cost Test Net Benefits awarded as incentives.) However, the Department recommends the Commission establish a Net Benefits Cap of 3.4% of MCT net benefits, which would equal approximately 8.5% of UCT net benefits.

a. Please explain the Department's rationale for the reduction in the Net Benefits Cap.

b. Is it the Department's position that the current Net Benefits Cap of 10 % of UCT net benefits is excessive?

c. Is it the Department's position that a Net Benefits Cap of 4% of MCT net benefits would be excessive?

Response:

a. In the Department's September 1, 2023 proposal, Figures 1, 2 (pages 6-7) and Figures 5, 6 (Pages 11-12) describe the trend in energy savings and utility incentives since 2006. These trends indicate that incentives for energy efficiency have continued a downward trend, both in aggregate and per unit of first year energy saved over the recent years. However, the data also indicates an increase in energy savings at the state level over time. In the current proposal, the Department is continuing the trend of marginally ratcheting down the performance incentive and expects energy savings to continue to grow for gas and electric utilities as shown in Figures 13- 16 (Page 27-30). Section II of the proposal

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describes statutory changes and the new cost effectiveness methodology, both of which will expand the potential of energy efficiency programs of utilities in the future. Furthermore, as shown in Tables 8 and 9 of the proposal (pages 37-38), Minnesota has one of the highest incentives in the nation and based on the comparison with other states, the Department concludes its current proposal is reasonable and still comparatively generous for the utilities. With the proposed net benefits cap of 3.4% of Minnesota Test Net Benefits, as shown in Figures 13- 16 (Page 27-30), the Department forecasts aggregate incentives to actually increase for both electric and gas utilities overall compared to 2022. All of these factors were considered by the Department to come up with the net benefits cap proposed in its filing on September 1, 2023.

b. Yes. A cap of 3.4% of MN Test Net Benefit is the most reasonable at this time. The current net benefits cap of 10% of UCT Net Benefits would result in greater burden to rate payers and would provide utilities an incentive per unit of energy saved that is significantly higher than other states.

c. Yes. A cap of 3.4% of MN Test Net Benefit is the most reasonable at this time. A net benefits cap of 4% of MCT Net Benefits would result in greater burden to rate payers and would provide utilities an incentive per unit of energy saved that is significantly higher than other states.

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Response to Request Number: **8**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference the following passage in Attachment C of the Department's Recommendations:

Overall, we have 6 utilities over 3 years, which amounts to 18 data points.
In the data that the Department collected from utilities, the share of MN Test
Net Benefits awarded as incentives is 10%, which was the old Net Benefits Cap under the financial incentive mechanism for the 2021-2023 triennial. For some utilities, the calculations were incorrect, and we had to manually adjust the financial incentive to be 10% of MN Net Benefits. Thus, we set $pM\text{N},i,t$ = 0.1 for all utilities i and all periods t.

Please clarify this passage. Specifically:

a. Does "we had to manually adjust the financial incentive" mean that the Department modified the data provided by utilities based on its assessment that the data provided was "incorrect"?

b. Does "we set $pM\text{N},i,t$ = 0.1 for all utilities i and all periods t" mean that the Department performed its calculations assuming all utilities earned an incentive equal to 10% of net benefits, regardless of the actual incentive earned in period t?

Response:

a. There were multiple inconsistencies between how each utility was computing their Minnesota Test Net Benefits and staff worked with each utility to make sure they were calculating the net benefits following the Department's methodology as laid out in The Department's *Decision In the Matter of 2024-2026 CIP Cost-Effectiveness Methodologies for Electric and Gas Investor-Owned Utilities* (Decision) approved by the Deputy Commissioner in Docket No. E,G999/CIP-23-46 on March 31, 2023. The Department used the data provided by Xcel Gas and Xcel Electric as those were calculated accurately.

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b. When calculating the net benefits for the MN Test, it was assumed the financial incentive was 10% of the MN Test net benefits. The purpose was to calculate the MN Test Net Benefits consistently across all utilities. The point of the exercise here is to demonstrate that the MN Test Net Benefits are significantly higher than the UCT Net Benefits overall. This fact is one of the motivations for the Department's proposal. The ultimate calibration of the financial incentive mechanism depends on multiple factors, including but not limited to historical incentives received by utilities, downward trend in incentives per unit of energy saved, incentives provided to utilities in other states for their energy efficiency programs, upward trend in energy savings through energy efficiency programs in Minnesota and statutory changes through the ECO Act.

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Response to Request Number: **9**
Reference: Department of Commerce's September 1, 2023 Recommendations

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Request:

Please reference Table 6: UCT Net Benefits, MN Test Net Benefits and Their Ratios for All Utilities in 2019-2021 (p. 20-21).

a. Has the Department prepared a similar table showing UCT Net Benefits, MN Test Net Benefits and their Ratios for the years 2024-2026? If yes, please provide such table.

b. The simple average of the values shown in the column "Ratio of MN Test Net Benefits to UCT Net Benefits" is 2.105. Please reconcile this with the Department's statement in Attachment C that "Minnesota Test Net Benefits are on average about 2.5 times higher than Utility Cost Test Net Benefits."

c. The simple average of the values shown in the column "Ratio of MN Test Net Benefits to UCT Net Benefits" is 1.93 when considering electric utilities only, and 2.28 when considering natural gas utilities only. Did the Department conduct the analysis described in its Attachment C separately for gas and electric utilities? Why or why not?

Response:

a. The Department reviewed the data on UCT Net Benefits and MN Test Net Benefits that utilities filed in their 2024-2026 Triennial. However, since these are based on planned estimates and not actual achievements, the Department decided not to create a table similar to Table 6 with this data. Furthermore, since the financial incentive mechanism has not been set for the 2024-2026 period, such a comparison would be speculative.

b. In Attachment C, where the Department stated that "Minnesota Test Net Benefits are on average about 2.5 times higher than Utility Cost Test Net Benefits", the Department is referring to how the net benefits are related without the inclusion of the financial incentive as a cost. The context of this statement is with respect to the regression model whose coefficients are being estimated in Attachment C. The regression model had to be specified in this way to isolate the fraction of the MN

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Test Net Benefits that is equivalent to 10% of the UCT Net Benefits. The circular nature of the MN Test Net Benefits makes this distinction necessary.
In Table 6, where the Ratio of MN Test Net Benefits to UCT Net Benefits are displayed, the Department included the financial incentive as a cost in calculation of MN Test Net Benefit. In the context of Table 6, on page 21, the Department stated, "MN Test Net Benefits are 2.3 times higher on average than UCT Net Benefits."

Relationships between two different variables can be measured using various estimators. For example, one could compute the simple average of the ratios in Table 6 which would produce an estimator with a value of 2.105. Another example of an estimator could be adding up all the UCT and MN Test Net Benefits across the utilities and dividing one sum by the other (which would produce a value of 2.224). While there can potentially be a large number of estimators, statistical theory states that a good estimator is one that minimizes the prediction errors. The Ordinary Least Square Estimator (what the Department computed) is constructed to minimize the prediction errors and is the best linear unbiased estimator. The simple average of the ratios would not satisfy these properties of being the best linear unbiased estimator and this was not chosen by the Department. For a longer discussion on this topic, please see the discussion titled Why use linear regression instead of average y per x that can be accessed through the following link: https://stats.stackexchange.com/questions/269358/why-use-linear-regression-instead-of-average-y-per-x

c. The Department did not conduct the analysis described in Attachment C separately for gas and electric utilities. The point of the analysis in Attachment C is to demonstrate that the MN Test Net Benefits are significantly higher than the UCT Net Benefits overall. This fact is one of the motivations for the Department's proposal. The ultimate calibration of the financial incentive mechanism depends on multiple factors, including but not limited to historical incentives received by utilities, downward trend in incentives per unit of energy saved, incentives provided to utilities in other states for their energy efficiency programs, upward trend in energy savings through energy efficiency programs in Minnesota and statutory changes through the ECO Act.

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Response to Request Number:	**10**
Reference:	Department of Commerce's September 1, 2023 Recommendations

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Request:

Please provide the data and calculations underlying Figures C-1 and C-2 of Attachment C.

Response:

Please see IR Response 10 Attachment 1.xlsx for the data and calculations underlying Figure C-1.

Figure C-2 was constructed using an online graphing calculator that was used to plot the following two functions:

$$f(x) = \frac{x}{2.52 - x}$$

$$f(x) = 0.4x$$

The relevant range for x for the financial incentive calculation is 0 to 0.085, and the figure shows the second equation provides a very close approximation to the first equation. This process is called Linearization of a function.

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Response to Request Number:	**11**
Reference:	Department of Commerce's September 1, 2023 Recommendations

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Request:

Please provide the data and calculations underlying the Department's Figures 11 and 12 (pp. 25-26).

Response:

Please see IR Response 11 Attachment 1.xlsx for the data and calculations underlying the Figures 11 and 12 (pp. 25-26)