STATE OF INDIANA
INDIANA UTILTIY REGULATORY COMMISSION

APPLICATION OF DUKE ENERGY INDIANA, LLC FOR APPROVAL OF A CHANGE IN ITS FUEL COST ADJUSTMENT FOR ELECTRIC SERVICE, FOR APPROVAL OF A CHANGE IN ITS FUEL COST ADJUSTMENT FOR HIGH PRESSURE STEAM SERVICE, AND TO UPDATE MONTHLY BENCHMARKS FOR CALCULATION OF PURCHASED POWER COSTS IN ACCORDANCE WITH INDIANA CODE §8-1-2-42, INDIANA CODE §8-1-2-42.3 AND VARIOUS ORDERS OF THE INDIANA REGULATORY COMMISSION	)))))))))))	**CAUSE NO. 38707-FAC123**

PUBLIC VERSION

Direct Testimony of Devi Glick

On Behalf of

Sierra Club

March 6, 2020

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1. INTRODUCTION AND PURPOSE OF TESTIMONY

Q Please state your name and occupation.

A My name is Devi Glick. I am a Senior Associate at Synapse Energy Economics, Inc. My business address is 485 Massachusetts Avenue, Suite 3, Cambridge, Massachusetts 02139.

Q Please describe Synapse Energy Economics.

A Synapse is a research and consulting firm specializing in energy and environmental issues, including electric generation, transmission and distribution system reliability, ratemaking and rate design, electric industry restructuring and market power, electricity market prices, stranded costs, efficiency, renewable energy, environmental quality, and nuclear power.

Synapse's clients include state consumer advocates, public utilities commission staff, attorneys general, environmental organizations, federal government agencies, and utilities.

Q Please summarize your work experience and educational background.

A At Synapse, I conduct economic analysis and write testimony and publications that focus on a variety of issues related to electric utilities. These issues include, non-exhaustively, power plant economics, utility resource planning practices, valuation of distributed energy resources, and utility handling of coal combustion residuals waste. I have submitted expert testimony on plant economics, utility resource needs, and solar valuation in the states of Texas, New Mexico, Connecticut, Virginia, North Carolina, South Carolina, and Florida. I authored a report on replacement analysis for the San Juan Generating Station in

northwestern New Mexico. In the course of my work, I develop in-house models and perform analysis using industry-standard models.

Prior to joining Synapse, I worked at Rocky Mountain Institute, focusing on a wide range of energy and electricity issues. I have a master's degree in public policy and a master's degree in environmental science from the University of Michigan, as well as a bachelor's degree in environmental studies from Middlebury College. I have more than seven years of professional experience as a consultant, researcher, and analyst. A copy of my current resume is attached as Exhibit DG-1.

Q On whose behalf are you testifying in this case?

A I am testifying on behalf of Sierra Club.

Q Have you testified previously before the Indiana Utility Regulatory Commission?

A No, I have not.

Q What is the purpose of your testimony in this proceeding?

A My testimony reviews and evaluates Duke Energy Indiana's ("Duke" or "Company") unit commitment decisions between the dates of September 1, 2019 and November 30, 2019. It also discusses the need to review the prudence of the Company's commitment decisions in the proper forum.

In Section 3 of my testimony, I evaluate Duke's unit commitment practices. My analysis looks first at Duke's unit commitment practices in the aggregate over the three months between September 1, 2019 and November 30, 2019. I evaluate how

often each unit is committed into the Midcontinent Independent System Operator ("MISO") market with a must-run or economic status to assess the Company's general patterns of commitment. I discuss the category of losses that can result from this behavior.

Next, I review the daily commitment decision matrices that Duke made available and assess the Company's specific commitment decisions. I evaluate the frequency of uneconomic commitment decisions and the significant costs these incur for ratepayers. I summarize the Company's invalid justifications, including burning-off coal oversupply and operational constraints at Edwardsport.

Finally, I discuss how Duke's Fuel Adjustment Clause ("FAC") process does not allow for sufficient review of the Company's unit commitment and dispatch decisions and I review examples of other jurisdictions that have provided venues for reviewing the prudence of specific commitment decisions.

Q What documents do you rely upon for your analysis, findings, and observations?

A My analysis relies primarily upon the workpapers, exhibits, and discovery responses of Duke's witnesses associated with this proceeding, as well as information I reviewed during a visit to a Duke office. In addition, I rely to a limited extent on certain external, publicly available documents such as the Southwest Power Pool's ("SPP") 2018 State of the Market Report.

2. FINDINGS AND RECOMMENDATIONS

Q Please summarize your findings.

A My primary findings include the following:

1. Duke self-commits [redacted] of its coal-fired generating units the majority of the time.
2. Duke's coal-fired generating unit commitment and operational practices led to fleet-wide operational losses of $[redacted] from September 1, 2019 through November 30, 2019, when the Company could have instead made a profit of $[redacted] simply by economically committing Edwardsport and Cayuga.
3. Edwardsport and Cayuga 1 lost a combined $[redacted] from September 1, 2019 through November 30, 2019 based on uneconomic commitment and operation.
4. The Company's own unit commitment Profit and Loss analysis suggested that over the period September 1, 2019 through November 30, 2019, it would earn $3 million in projected revenues from operating Edwardsport on gas, a net difference of $6.1 million relative to projected losses of $3.1 million from operating the unit on syngas/coal suggested by the same analysis.
5. The Indiana Utility Regulatory Commission's ("Commission's") current FAC process does not allow for sufficient review of the Company's commitment decisions.

Q Please summarize your recommendations.

A Based on my findings, I offer the following chief recommendations, listed in order of the discussion that follows later in my testimony:

1. The Commission should disallow at least [redacted] (and potentially as much as $[redacted]) in losses that the Company incurred at Edwardsport based on uneconomic self-commit and operational decisions that the Company made,

despite its own commitment analysis showing that losses would be substantially lower (and in fact the plant would have earned revenue) if the plant operated on gas instead of on coal-based syngas.

2. The Commission should disallow $[redacted] in losses incurred at Cayuga on the basis of uneconomic commitment and operation.
3. The Commission should introduce a sub-docket to enable a full review of Duke's unit commitment practices outside of the accelerated FAC docket timeline.

3. DUKE SELF-COMMITS MANY OF ITS COAL-FIRED GENERATING UNITS THE MAJORITY OF THE TIME.

Q Please describe how coal units are dispatched within the MISO wholesale market.

A In wholesale markets, we generally think of dispatchable power plants as letting the market make full dispatch decisions. However, for units with long lead times to start-up and shutdown, such as coal-fired boilers, this is not normally true. For these units, because the lead-time extends beyond the day-ahead market, the utility has to design a process to decide independently whether the unit will be "committed" or made available to the market at its minimum operating level.[1] So while we generally think about the market as having discretion or control to operate units based on short-term economics, the reality is that generation owners actually have significant influence in the process. If a unit is committed by the owner, it is guaranteed to operate at its minimum level, regardless of cost. Therefore, there is a burden on the generation owner to make prudent decisions

[1] Minimum operating level is an output threshold often determined operationally, and below which a generator is either less stable or operates inefficiently.

about if a generator should be committed to operate. Once the unit commitment decision is made, the level of generation output (above the minimum) is generally left to the market.

MISO allows for five potential commitment statuses: outage, emergency, economic, must-run, and not-participating.[2] Under economic commitment, MISO algorithms that take into account a unit's projected operational costs determine whether the unit will be online the next day. Units also have the option of "self-committing" or operating as "must-run." This means the utility, in this case Duke, is independently deciding to operate a unit at its minimum capacity regardless of whether MISO determines that it is economic to do so.

Q How does Duke assess if a unit should commit to operate in MISO?

A Duke uses an economic assessment process it refers to as the "Profit & Loss" analysis. The analysis looks forward seven days (for three separate weeks, for a total of 21 days) to determine if a unit is likely to make money or lose money relative to market prices. If a unit is projected to be profitable, then ratepayers expect to see savings relative to the acquisition of market power, and if the unit is projected to lose money, then ratepayers expect to see savings by the acquisition of market power. Therefore, Duke should be electing to operate its units on a forward-looking basis only if it expects to make money, and the Company should keep the units offline if they are projected to operate at a loss.

[2] MISO Business Practices Manual No. 002 – Energy and Operating Reserve Markets. Version 19. Section 4.2.3.4.6.

Q How did Duke commit its coal units over the three months between September and November inclusive?

A Based on unit commitment data provided by the Company in discovery, I find that the Company self-commits [redacted] of its coal-fired generating units the majority of the time.[3]

Q Do the Company's commitment practices vary across its coal-fired generating units during the three months between September and November inclusive?

A Yes. Duke Energy Indiana operates four coal plants: Edwardsport, Gibson, Gallagher, and Cayuga. Of the four, only Gallagher is regularly economically committed, rather than self-committed.[4]

Edwardsport was online during [redacted] percent of the hours between September and November 2019 inclusive and the unit was committed as "must-run" during [redacted] percent of the non-outage hours.[5]

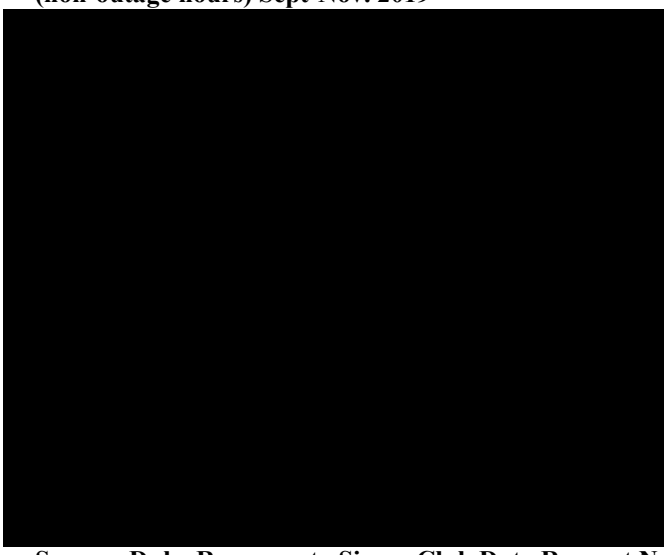
As shown in Table 1, Gibson 1 was set to a must-run status in [redacted] non-outage hour, and Cayuga 1, Gibson 2, Gibson 3, and Gibson 5 were set to must-run in more than [redacted] percent of non-outage hours.[6]

[3] Duke Response to Sierra Club Data Request No. 1.1(g), CONF Attachment SC 1.1-F. All public discovery responses cited herein have been included in Exhibit DG-2. All confidential discovery responses cited herein have been included in Exhibit DG-3.

[4] *Id.*

[5] *Id.*

Table 1: Unit commitment decisions for Duke's coal plants (non-outage hours) Sept-Nov. 2019



Source: Duke Response to Sierra Club Data Request No. 1.1(g), CONF Attachment SC 1.1-F.

Q Why is it concerning that Duke is self-committing its coal-fired generating units so frequently?

A When Duke selects the economic commitment status, the MISO market decides whether to keep or bring the unit online at its minimum operating level. It makes this decision by comparing the variable cost of operating the unit relative to the variable cost of operating all other units available to the market. Generally speaking, if other units have lower costs, the market will commit those units before committing Duke's unit. If there is enough energy available to serve demand from lower-cost units, MISO will not commit Duke's unit. Duke can then procure electricity from the market to serve its customers and will pay the market

[6] *Id*.

a lower cost than it would have incurred to operate its own unit. While there are reasons why inflexible units with longer start-up and shut-down times, such as coal-fired units, may choose to self-commit, the Company's process for deciding how and when to self-commit should result in reasonable decisions that do not bring or keep units online when they are projected to lose money over a multi-day, week-long, or longer time horizon.

Based on my review of the Company's internal commitment-decision process (as discussed below), I see no indication that the Company's internal processes are aligned with, or guaranteed to serve, the best interest of ratepayers. In fact, as discussed below, I have found numerous instances where the Company kept or brought a unit online even when its own internal commitment analysis projected that doing so would lose money. Indeed, the Company admitted in its pending rate case that there are other factors dictating plant commitment and dispatch decisions beyond strictly customer economics (including plant jobs at Edwardsport, the steam customer served by Cayuga, and coal oversupply considerations).[7]

The Commission cannot rely on the market to ensure that commitment is economic or in the best interest of ratepayers, and MISO does not have transparency into the Company's internal commitment process. The Company can operate its units however it elects, as long as the Commission allows it to continue recovering the cost of doing so. This means that the Commission's oversight in proceedings like this one is the only real mechanism to ensure that the Company is operating it units to serve the best interest of the ratepayers.

[7] *See* Rebuttal Testimony of Cecil T. Gurganus (Pet. Exh. 49), Cause No. 45253 (Dec. 4, 2019), at p. 9, lines 11-14, p. 10, lines 1-13.

Q What internal processes does Duke use in making its unit commitment decisions?

A The Company makes decisions every weekday on whether to commit its units the next day (or the next three days for each Friday) by analyzing forecasted market prices and projected variable operational costs. The Company records all revenue projections and decisions on a sheet called the "Daily Generating Unit P&L Analysis" (or "Profit & Loss analysis"). This analysis covers, for each unit, the current status of the unit (online or offline), the commitment decision for the next day, the Company's projected net operational revenues (or losses if the variable operational costs are more than generation would earn from the market) for each unit for each day over 21 days, as well as start-up and shut-down costs.[8,9]

4. DUKE'S UNIT COMMITMENT PRACTICES LED TO UNNECESSARY NET OPERATIONAL LOSSES DURING THE PERIOD FROM SEPTEMBER 1, 2019 TO NOVEMBER 30, 2019.

Q Is there evidence that Duke's self-commitment practices resulted in net losses?

A Yes. Based on my analysis, I find that the Company's uneconomic self-commitment of its coal units over the period from September 1, 2019 to November 30, 2019 resulted in net losses of $[redacted]. Uneconomic commitment of Cayuga 1 and Edwardsport together resulted in combined losses of $[redacted] over this period, which completely washed out revenues the Company earned from operating its other units. If Duke had instead committed

[8] Discussions in person with Company staff at Duke Energy's Plainfield, Indiana site on February 26, 2020.

[9] Duke Response to Sierra Club Data Request No. 1.3(a).

Edwardsport and Cayuga economically over this time, the Company would have earned $[redacted] in net revenues.

Q How does Duke use the daily economic analysis (Profit & Loss analysis) to make unit self-commitment decisions?

A Duke uses its daily economic analysis (Profit & Loss analysis) to evaluate projected net revenues for each unit over the next week (and as far out as 21 days) relative to the price of market power. Duke stated that when "a unit is expected to have a positive margin" such that "the revenues received are projected to be greater than the variable production costs"[10] the Company self-commits the unit into the MISO market.

Q Is this statement consistent with the Company's actual unit commitment decisions based on your review of the P&L analysis sheets?

A No. My review of the Profit & Loss analysis finds that the Company regularly self-commits its units even when its own analysis indicates that doing so will result in variable production costs (which include both fuel cost and non-fuel variable operations and maintenance ("O&M") costs) that exceed revenues. This means that the Company self-commits units even when it knows it will lose money on a variable basis by operating that unit.

Duke provided four examples of the Profit & Loss sheets (three in response to a data request, and one on-site) for the dates of September 9, September 11, October 15, and November 15. The analysis from these four days showed at least

[10] Duke Response to Sierra Club Data Request No. 1.3(a).

two instances where Duke ignored the result of its own analysis. More specifically, Duke self-committed its units despite its own analysis indicating that the Company would save money by either operating the unit on a different fuel or economically committing those units. For example:

1. On October 15, Duke projected losses in each of the next seven days at Cayuga 1, adding up to a total net loss of $[redacted] for the upcoming week compared to a shutdown cost of $[redacted]. Despite this, Duke kept the unit online, perhaps to serve its steam-customer. It is unclear whether the steam customer is responsible for paying for these losses, or whether at least some portion is unreasonably passed onto ratepayers.

2. On October 15, Duke projected losses in each of the next seven days at Edwardsport, totaling $[redacted] for the upcoming week, when running on coal/syngas.[11] Duke had two other, more economic options. However, it still chose to self-commit the unit and run it on coal/syngas on October 15.[12] Furthermore, generation data indicates that the Company kept the units online through the entire week.

    a. Duke estimates Edwardsport cold-startup cost of $[redacted] (the Company provided no shut-down costs for the Edwardsport unit).

[11] Duke response to OUCC request 3-8(d), Confidential Attachment OUCC 3-8.D.

[12] Direct testimony of Duke witness J. Daniel. Page 19, lines 14-21. According to Company witness J. Daniel, when the gasifiers are available or operating, the unit is offered into MISO as must-run, and when the unit is run on natural gas, it is typically offered as economic, therefore it is assumed the Company was operating the plant on syngas the entire time.

That suggests a projected savings of $[redacted] if the unit was shut-down for that week instead of run on coal.[13]

b. Projected net revenues from running the unit on natural gas were $[redacted]. That indicates a savings of $[redacted] for the week if the plant was run on natural gas instead of coal.[14]

Q You stated that the variable costs included both fuel and non-fuel variable O&M. Can you determine which portion of net revenues or losses is attributed to fuel costs?

A Not necessarily. It is relatively arbitrary to assign the revenues or losses to specific categories of costs. However, based on the variable cost information provided by the Company, fuel costs account for between [redacted] and [redacted] percent of variable operating costs in each hour at all units (with the exception of Gallagher 2 and 4).[15] Specifically, fuel costs accounted for [redacted] percent of variable operating costs at Cayuga 1 and [redacted] percent of variable operating costs at Edwardsport.

Q Did you review the Company's unit commitment analysis for any other dates?

A Yes, I reviewed the Company's Profit & Loss analysis for most of the rest of the three-month period. This review was limited, however, by Duke's insistence that this information be reviewed on site without copying materials or taking photographs. Despite the obvious logistical and quality control challenges to

[13] Duke response to OUCC request 3-8(d), Confidential Attachment OUCC 3-8.D.
[14] Duke response to OUCC request 3-8(d), Confidential Attachment OUCC 3-8.D.
[15] Synapse analysis based on Duke response to Sierra Club 1-1(h) CONFIDENTIAL.

taking notes on unit commitment analysis spreadsheets with projected revenues for 12 plants over 91 days, with the data I transcribed I found evidence of numerous occasions in which Duke self-committed its units despite its own analysis indicating that doing so would result in unnecessary net losses.

Q Are you aware of any other utility that requires witnesses to review utility commitment decision material on site and under observation?

A No. Duke's insistence that my review of their past dispatch practices be conducted in person is highly unusual and a significant hurdle to reasonable review.

Q What specifically did you find in this review of the Company's Profit & Loss analysis sheets?

A In reviewing the Profit & Loss analysis in combination with the Company's actual unit cost and revenue data, I found that in at least two instances during the time between September and November inclusive, the Company brought online, or left online, a unit despite its own commitment analysis showing that net losses would be lower if the unit was not turned on or was brought offline. Specifically:

1. At Edwardsport, the unit was brought back online from an outage on September 21 despite the September 21 analysis projecting losses from operating. The unit then operated continuously as must-run through the

end of November, even though it was projected to incur a total of $2.7 million in losses.[16]

2. At Cayuga 1, analysis conducted on October 3 projected a benefit to bringing the unit offline on October 4, but instead the unit was self-committed and kept online through November 4 (when it appears the unit came offline due to an outage). The unit was projected to incur a total of $0.8 million in losses over the period.[17]

Q What else did you find about the Company's self-commitment of Edwardsport from September 1, 2019 through November 30, 2019 based on your on-site review of the Company's "Profits & Losses" analysis?

A I find that the Company knowingly made the decision to uneconomically self-commit Edwardsport on coal over [redacted] of the time, despite its own analysis clearly showing that self-committing and operating the unit on syngas/coal would result in $6.1 million in projected net losses for ratepayers relative to operating the unit on gas. Specifically, Duke's own Profits & Loss analysis showed the following:

1. Projected total losses of $3.1 million from self-committing and operating the unit on syngas/coal.
2. Projected total revenues of $3.0 million if the unit was instead operated on gas.

[16] Duke response to Sierra Club 1-1(h), (j), (k), (l), (m), (n); P&L analysis viewed on-site on 2/26/2020.
[17] Duke response to Sierra Club 1-1(h), (j), (k), (l), (m), (n); P&L analysis viewed on-site on 2/26/2020.

3. Projected net avoidable losses of $6.1 million from self-committing and operating the unit on coal instead of operating the unit on gas that the Company seeks to pass onto ratepayers.

It is important to note that my analysis likely underestimates the revenues from operating Edwardsport on gas, and therefore net losses relative to operating on coal. This is because when the unit is operated on gas, start-up costs are lower and the unit is typically dispatched economically, according to Company witness J. Daniel.[18]

Q How did you calculate these values discussed above?

A I completed the analysis discussed above based on my in-person review of the 57 "Profit & Loss" analysis sheets that the Company prepared to make unit commitment decisions for the 91 days between September 1, 2019 and November 30, 2019 (the sheets were missing on some days and are not prepared on weekends and some holidays). During my in-person visit I manually transcribed hundreds of net revenue values, unit commitment decision, and current unit status classifications. Based on this process, none of the data can be validated or checked for errors after the fact, a major limitation of Duke's insistence on in-office review.

To calculate the values above, I summed the weekly (seven day) projected revenues or losses for each plant for each day it was operating during the 13 weeks between September 1, 2019 and November 30, 2019. Specifically, I added up the weekly projected net revenues or losses for Edwardsport from the Profits

[18] Direct testimony of Duke witness J. Daniel. Page 19, lines 14-21.

and Loss analysis sheet prepared on Friday[19] of each week for operation of the plant both on syngas/coal and on natural gas. I then calculated the difference between the projected operational losses or revenues from the unit when operating on each fuel source to find the projected net losses value described above.

Q Did you also review the Company's data on the performance of its coal fleet through the months of September through November inclusive?

A Yes, I reviewed data from the Company on its actual variable costs (fuel and variable O&M) and revenues to operate its coal fleet between September 1, 2019 and November 30, 2019 inclusive. This data is distinct from the Company's "Profits & Losses" analysis. As discussed above, the "Profits & Losses" analysis projects units expected losses and revenues from operating in the day-ahead market to help the Company make unit commitment decisions, but it does not reflect the revenues and losses that actually resulted.

As shown in Table 2, I find that Duke lost [redacted] over the three months from September through November from operating its coal fleet during extended periods while the coal units were otherwise non-economic to operate. While it is true that some units were operating economically during some days, losses from the uneconomic units were so high that they eliminated any potential revenues from all the other units combined. Edwardsport and Cayuga 1 lost a combined [redacted] over the three months based on uneconomic commitment and

[19] I selected the Friday reports because (1) the first report of the FAC period was prepared on a Friday, and (2) there were no Friday reports missing. The final Friday report did not cover the last day of the month (November 30th), however the unit was also offline for one day. Projected losses were similar for the two days so I made the simplifying assumption that they would cancel each other out.

operation. While it may be reasonable to have losses on an hourly and even daily basis, it is not reasonable to incur losses over the course of consecutive months.

Table 2: Net operational revenues (including fuel cost and variable O&M costs)

Source: Duke response to Sierra Club 1-1(h), (j), (k), (l), (m), (n) CONFIDENTIAL Attachments

Q How are the values in Table 2 calculated?

A I calculated the values in Table 2 based on the Company's own hourly cost and operational revenue data that was provided in discovery. Specifically, for each unit, I calculated the hourly variable production cost based on the weekly marginal variable production cost values (which includes fuel, variable O&M) and total unit hourly generation. I then calculated net operational revenues by comparing the total variable production costs to the operational revenues (energy revenues) provided by the Company. I summed the hourly revenues for each hour in a month to find the monthly totals displayed in Table 2.

Q How close were the unit's actual net revenues or losses to the values projected by the Company in its Profits and Losses analysis sheets?

A Duke projections were not that far off from the actual losses that resulted for the operation of Edwardsport between September and November inclusive. The Company projected net losses of $3.1 million from operating the unit on syngas/coal, and the Company's actually losses were $[redacted].

5. COMMISSIONS AND UTILITIES ELSEWHERE HAVE BEGUN TO EXPLORE AND ADDRESS THE ISSUE OF UNIT SELF-COMMITMENT.

Q Have other entities raised concerns about self-commitment in the wholesale markets?

A Yes. The issue has come up in both MISO and the Southwest Power Pool ("SPP") within the past year. Public utilities commissions in both Minnesota and Missouri have opened formal dockets to investigate utility self-commitment and self-dispatch practices.[20,21]

In addition, the SPP Market Monitor Unit ("MMU") raised this concern in its 2018 State of the Market report, in which it states: "Self-commitment of generation continues to be a concern because it does not allow the market software to determine the most economic market solution. Furthermore, it can

[20] See Mo. Pub. Serv. Comm'n, Docket No. EW-2019-0370; Minn. P.U.C., Dockets Nos. E999/AA-17-492 and E999/AA-18-373.

[21] The Sierra Club also published a report outlining the problems that self-commitment and uneconomic dispatch pose in wholesale energy markets (known as "ISOs" or "RTOs"): Fisher, Jeremy, et al., *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Markets*, Sierra Club (October, 2019), Exhibit DG-4.

contribute to market uplifts and low prices."[22] The SPP MMU's report further states that it continues to "view reducing self-commitment of generation as a high priority for SPP and its stakeholders as this will enhance market efficiency and improve price signals."[23] In December 2019, the MMU issued a report evaluating self-commitment behavior in the SPP market and concluding that self-commitment practices distort market signals. SPP further concluded that reducing self-commitment will not only lead to better price signals, but it will "likely help market participants make better short-run and long-run decisions," and will "likely lead to ratepayer benefits in the form of cost reduction."[24]

Q Have any electric utilities already moved away from self-committing coal units in any other jurisdiction?

A Yes. In Minnesota, Xcel subsidiary Northern States Power Company ("NSP") historically offered its coal generators into the MISO market with a commit status of "must run." However, NSP recently updated its bid practices for the Allen S. King Generating Station ("King") and Unit 2 of the Sherburne County Generating Station ("Sherco"). NSP now offers these coal units into the market with a default commitment status of "economic" unless reliability issues or operational needs

[22] Exhibit DG-5, Southwest Power Pool–Market Monitoring Unit, *State of the Market* 2018 at 5 (May 15, 2019).
[23] *Id*.
[24] Exhibit DG-6, Southwest Power Pool, Self-committing in SPP markets: Overview, impacts, and recommendations (Dec. 2019).

require otherwise. This has resulted in a large reduction in hours run at the King and Sherco units.[25]

Southwestern Public Service Company ("SPS") also switched from predominately self-committing its units to utilizing economic dispatch in November 2018.[26] The Company stated that it has "been making continual improvements in how it interacts with the market"[27] and as a result of the changes: "SPS has transitioned its dispatch of the coal units to be submitted as market status more than 80% of the time since November, 2018 which is a significant change to how SPS dispatched the units in the early stages of the market."[28]

Q What other options have utilities pursued to minimize costs to ratepayers from uneconomic commitment and operation of coal plants?

A Some utilities have switched to seasonal operation at specific plants, and only run the units during summer months when energy prices are highest. NSP petitioned the Minnesota PUC to allow it to offer both plants into MISO on only a seasonal basis going forward[29] as a way to save ratepayers money. SPS is seeking approval to switch Tolk Units 1 and 2 to seasonal operations. The Dolet Hill plant in

[25] In the Matter of the Petition of Northern States Power Company, d.b.a. Xcel Energy, for Approval of a Plan to Offer Generating Resources into the MISO Market on a Seasonal Basis, Petition Minn. P.U.C. Docket No. E002/M-19-809 (docket initiated Dec. 20, 2019).

[26] Rebuttal Testimony of W. Grant on Behalf of SPS, N.M. Pub. Regulation Comm'n Case No. 19-00170-UT at 36-27 (Dec. 20, 2019).

[27] Rebuttal Testimony of W. Grant on Behalf of SPS, N.M. Pub. Regulation Comm'n Case No. 19-00170-UT at 36-27 (Dec. 20, 2019).

[28] *Id.*

[29] *Id.*

Louisiana has already switched to seasonal operation, shutting down in off-peak seasons when demand is low and turning back on for just the peak seasons.[30]

6. THE DUKE FAC PROCESS DOES NOT ALLOW FOR SUFFICIENT REVIEW OF DUKE'S UNIT COMMITMENT DECISIONS.

Q What is the scope of the current FAC proceedings?

A The current FAC proceedings cover the reasonableness of fuel costs incurred by the Company to provide electricity to ratepayers during the three-month period reviewed. The reasonableness of fuel costs depends on the reasonableness of unit commitment decisions, among other factors.

Q Do you have concerns with the current FAC proceeding and process?

A Yes, I believe that the existing process does not allow for sufficient review of unit-commitment decisions. There is only a month between when the Company submits its filing application and intervenor testimony is due, according to Duke's application in this proceeding.[31] This allows very little time to ask discovery and review and process data. The review process is complicated further by Duke's insistence that the most relevant piece of information, the "Daily Generating Unit P&L Analysis" sheets, are only available for review in person on site. This timeline also gives the Commission very little time to explore in detail the issues at hand.

[30] Exhibit DG-7, Gheorghiu, Iulia. Cleco, "SWEPCO shift coal plant use, target 2.8 GW renewables in latest resource plans." Utility Dive (Sept. 6, 2019).

[31] Application, page 2.

Further, the quarterly frequency of filings does not allow for the most efficient allocation of time and resources from both the utility and the Commission in evaluating commitment practices.

Q What are your recommendations regarding review of Company commitment practices?

A I recommend that the Commission create a sub-docket that establishes an annual process for review of unit commitment and dispatch practices over the prior year, and that allows for a refund to customers if warranted. This process should include time built-in for discovery and full analysis and review of the Company's unit commitment practices. Additionally, the Company should file its "Profits & Losses" spreadsheets with the Commission and make them available to intervenors.

Q Is this practice employed by other Commissions?

A Yes. Other jurisdictions in the Midwest have venues for review of the prudence of unit commitment decisions. In Michigan there is an annual Power Supply Cost Recovery Plan proceeding, which is a reconciliation docket that allows for review of the prudence of the Company's commitment practices. In Missouri, there is a fuel prudence review docket that occurs every 18 months that also allows for review of this issue. In Missouri, this prudence review supplements quarterly FAC adjustment filings.

Q What other recommendations do you have for the Commission?

A To the extent that the Company's commitment decisions have been guided by must-take or minimum-take provisions in medium- or long-term contracts, the

Commission must examine these contracts to determine if the Company has entered coal contracts prudently, or if its coal contracts have resulted in non-economic outcomes for customers. A fuel docket is an appropriate forum for the examination of these costs.

Q Does this conclude your testimony?

A Yes.