



November 23, 2021

Via E-Filing

Ms. Lisa Felice
Michigan Public Service Commission
7109 W. Saginaw Hwy.
P. O. Box 30221
Lansing, MI 48909

RE: MPSC Case No. U-20528

Dear Ms. Felice:

The following is attached for paperless electronic filing:

Direct Testimony of Devi Glick on behalf of Michigan Environmental Council
(Public and Confidential Versions),

Exhibits MEC-38 through MEC-43 (MEC-39C and MEC-40C are Confidential),

and

Proof of Service.

Please note that the Confidential Version and Exhibits MEC-39C and MEC-40C are only being served on those with an NDC on file in this case.

Sincerely,

Tracy Jane Andrews
tjandrews@envlaw.com

xc: Parties to Case No. U-20528

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of
DTE ELECTRIC COMPANY
for reconciliation of its of power supply
cost recovery plan (Case No. U-20527) for
the 12-month period ending December 31,
2020.

Case No. U-20528

PUBLIC VERSION

DIRECT TESTIMONY OF

DEVI GLICK

ON BEHALF OF MICHIGAN ENVIRONMENTAL COUNCIL

November 23, 2021

DIRECT TESTIMONY OF DEVI GLICK

U-20528

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1 **1. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q Please state your name and occupation.**

3 **A**My name is Devi Glick. I am a Principal Associate at Synapse Energy Economics,
4 Inc. (“Synapse”). My business address is 485 Massachusetts Avenue, Suite 3,
5 Cambridge, Massachusetts 02139.

6 **Q Please describe Synapse Energy Economics.**

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

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

15 **Q Please summarize your work experience and educational background.**

16 **A**At Synapse, I conduct economic analysis and write testimony and publications that
17 focus on a variety of issues related to electric utilities. These issues include power
18 plant economics, utility resource planning practices, valuation of distributed energy
19 resources, and utility handling of coal combustion residuals waste. I have submitted
20 expert testimony on unit-commitment practices, plant economics, utility resource
21 needs, and solar valuation before state utility regulators in Michigan, Arizona,
22 Connecticut, Florida, Indiana, Nevada, New Mexico, North Carolina, South
23 Carolina, Texas, Virginia, and Wisconsin. In the course of my work, I develop in-
24 house electricity system models and perform analysis using industry-standard
25 electricity system models.

26 Before joining Synapse, I worked at Rocky Mountain Institute, focusing on a wide
27 range of energy and electricity issues. I have a master’s degree in public policy and

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1 a master’s degree in environmental science from the University of Michigan, as
2 well as a bachelor’s degree in environmental studies from Middlebury College. I
3 have more than eight years of professional experience as a consultant, researcher,
4 and analyst. A copy of my current resume is attached as Exhibit MEC-38.

5 **Q On whose behalf are you testifying in this case?**

6 **A** I am testifying on behalf of Michigan Environmental Council (“MEC”).

7 **Q Have you testified before the Michigan Public Service Commission before?**

8 **A** Yes, I submitted testimony in Case No. 20224, the 2019 Indiana Michigan Power
9 Company’s (“I&M”) Power Supply and Cost Recovery (“PSCR”) reconciliation
10 docket, Case No. 20804, I&M’s PSCR plan for 2021, and Case No. 20530, I&M’s
11 PSCR reconciliation docket for 2020.

12 **Q What is the purpose of your testimony?**

13 **A** The primary purpose of my testimony is to assess the economic performance of
14 the Tier 1 and Tier 2 coal units owned by DTE Energy (“DTE or “the Company”)
15 in 2020. The Tier 1 units include Belle River 1 and 2, and Monroe Units 1, 2, 3,
16 and 4. The Tier 2 units include River Rouge Unit 3; St. Clair Units 2, 3, 6, and 7;
17 and Trenton Channel Unit 9. I also evaluate the extent to which DTE operated
18 these units economically in 2020.

19 **Q What documents do you rely upon in your analysis, and for your findings and
20 observations?**

21 **A** My analysis relies primarily upon discovery responses provided by DTE in this
22 proceeding.

23 **Q Are you sponsoring any exhibits in this proceeding?**

24 **A** Yes, I am sponsoring the following exhibits:

25 MEC-38 Resume of Devi Glick

26 MEC-39C Events Summary (*Confidential*)

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- 1 MEC-40C Events Identified from MECDE-1.5 Economic Reserve Report
2 (*Confidential*)
- 3 MEC-41 Response to MECDE-1.4b
- 4 MEC-42 Response to MECDE-1.4d and Attachment U-20528 MECDE-1.4d
5 Unit Commit Status
- 6 MEC-43 Response to MECDE-8.3a

7 **2. FINDINGS AND RECOMMENDATIONS**

8 **Q Please summarize your findings.**

9 **A** My findings include the following:

- 10 • Each of DTE’s Tier 2 coal plants, with the exception of Trenton Channel 9,
11 incurred net operational losses totaling \$5.5 million based on just fuel costs
12 in 2020. When an estimated full production cost is used, all Tier 1 and Tier
13 2 plants incurred net operational losses.
- 14 • DTE’s internal unit-commitment process for deciding whether to run its
15 coal units is biased in favor of keeping its unit online and has resulted in
16 many instances of uneconomic operations at all of its coal units.
- 17 • There were many instances where DTE did not properly carry out its
18 process for deciding whether to run its coal units and unnecessarily incurred
19 operational losses as a result. I identified 19 specific instances in 2020
20 across all DTE’s Tier 1 and Tier 2 coal plants where DTE self-committed a
21 unit with a “must-run” status despite its own internal analysis indicating that
22 the unit would incur a negative margin by operating. The losses during these
23 19 events totaled [[REDACTED]].

24 **Q Please summarize your recommendations.**

25 **A** Based on my findings, I offer the following recommendations:

- 26 • I recommend that the Commission disallow \$22.2 million in losses
27 associated with DTE’s uneconomic decision-making at its coal power

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1 plants. [[REDACTED]] is related to specific events at Monroe and Trenton
2 Channel 9. \$20.2 million is related to the total net losses incurred at Belle
3 River, River Rouge, and St. Clair.

- 4 • The Commission should also require DTE to track data on its variable costs
5 of production, inclusive of fuel, reagents, and variable operations and
6 maintenance (“O&M”) costs. This will enable a more comprehensive
7 evaluation of the degree to which DTE is engaging in uneconomic operation
8 of its coal units.
- 9 • Finally, the Commission should require DTE to better justify its decisions
10 to commit its units with a must-run commitment status rather than to
11 commit them economically into the market, especially when those decisions
12 are projected to result in operational losses.

13 **3. ALL DTE COAL PLANTS LOST MONEY RELATIVE TO THE MARKET IN 2020**

14 **Q Please summarize the background on each of the Company’s Tier 1 and Tier**
15 **2 coal plants.**

16 **A** In 2020, DTE had 12 active coal units across five coal plants in Michigan. The
17 Tier 1 units include Belle River 1 and 2, and Monroe Units 1, 2, 3, and 4. The Tier
18 2 units include River Rouge Unit 3 (which switched to burning just natural gas and
19 waste coke oven gas in 2020); St. Clair Units 2, 3, 6, and 7; and Trenton Channel
20 Unit 9.

21 Belle River Power Plant consists of two units built in 1984 and 1985 with a
22 capacity of 697 MW each. The plant will stop burning coal by no later than the
23 end of 2028. Monroe Power Plant consists of four units built in 1970 and 1971
24 with a capacity of around 820 MW each. The plant is scheduled to operate through
25 2040.

26 River Rouge Unit 3 was built in 1958 with a capacity of 358 MW. The unit was
27 retired earlier this year (2021). From January until June 1, 2020, this unit operated
28 on a combination of coal and waste gases. Starting June 1, 2020, this unit operated

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1 on a combination of natural gas and coke oven gas.¹ St. Clair Power Plant Units 2
2 and 3 were built in the early 1950’s and Units 6 and 7 were built in the 1960’s.
3 These four units have a combined capacity of just over 1,200 MW and are
4 scheduled to retire in 2022. Trenton Channel Unit 9 was built in 1968 with a
5 capacity of 535 MW. The plant also has a planned retirement date of 2022.

6 **Q Please summarize each plant’s utilization in 2020.**

7 **A** As shown in Table 1, in 2020, DTE’s coal units operated at capacity factors
8 ranging between a low of 6 percent at River Rouge and Trenton Channel 9, and a
9 high of 46 percent at Monroe.

10 **Table 1: 2020 Capacity factor by unit**

Unit	2020 Capacity Factor
Belle River	35%
Monroe Plant	46%
River Rouge Plant	6%
St. Clair Plant	15%
Trenton Channel Plant	6%

11 *Source: U.S. Energy Information Administration Form*
12 *923 and EIA Form 860; Exhibit A-25.*

13 **Q Please summarize your findings regarding the operational economic**
14 **performance of DTE’s coal-fired power plants in 2020.**

15 **A** Using fuel cost and locational marginal price (“LMP”) data provided by DTE, I
16 calculated that St. Clair and River Rouge each incurred substantial net revenue
17 losses in 2020; Trenton and Belle River each incurred small positive net
18 operational revenues; and Monroe incurred positive operational revenues based on
19 just fuel costs. As shown in Table 2, in total, DTE’s Tier 2 Coal Plants incurred
20 \$5.5 million in net revenue losses in 2020 looking at just fuel costs.

¹ Direct Testimony of Ryan Pratt, p. 9.

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Table 2: Net operational Revenue at Tier 1 and Tier 2 coal plants in 2020 (production cost including only fuel costs)

Plants	Net Operational Revenue (\$Million)
St. Clair	(\$2.1)
Trenton	(\$0.0)
River Rouge	(\$3.5)
Tier 2 Total	(\$5.5)
Belle River	\$0.6
Monroe	\$24.6
Tier 1 Total	\$25.4

Source: DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit Net Generation; DTE Response to Request MECDE-1.4b, Attachment U-20528 MECDE-1.4b Unit RT LMP; DTE Response to Request MECDE-8.3b, Attachments NDA_U-20528 DMM-1.7 Fuel Workbook.

Q Describe how you arrived at the values in Table 2.

A I arrived at the net operational revenue values in Table 2 by subtracting each plant's fuel costs from its energy revenues. I calculated hourly energy revenues for each unit by multiplying hourly real-time LMPs² provided by the Company by the hourly generation data³ provided by the Company. I summed the hourly revenue over the course of the year to get total annual revenue. I calculated fuel costs based on the monthly actual fuel reports provided by the Company.⁴

Q How did the performance of DTE's coal fleet vary across the months?

A Based on the real time LMPs and actual fuel costs (*i.e.*, omitting variable O&M costs), I calculated the economic performance of each coal plant each month in 2020. As shown in Table 3, each plant's economic performance varied significantly throughout the year. Not surprisingly, the plants performed best

² MEC-41 (DTE Response to Request MECDE-1.4b).

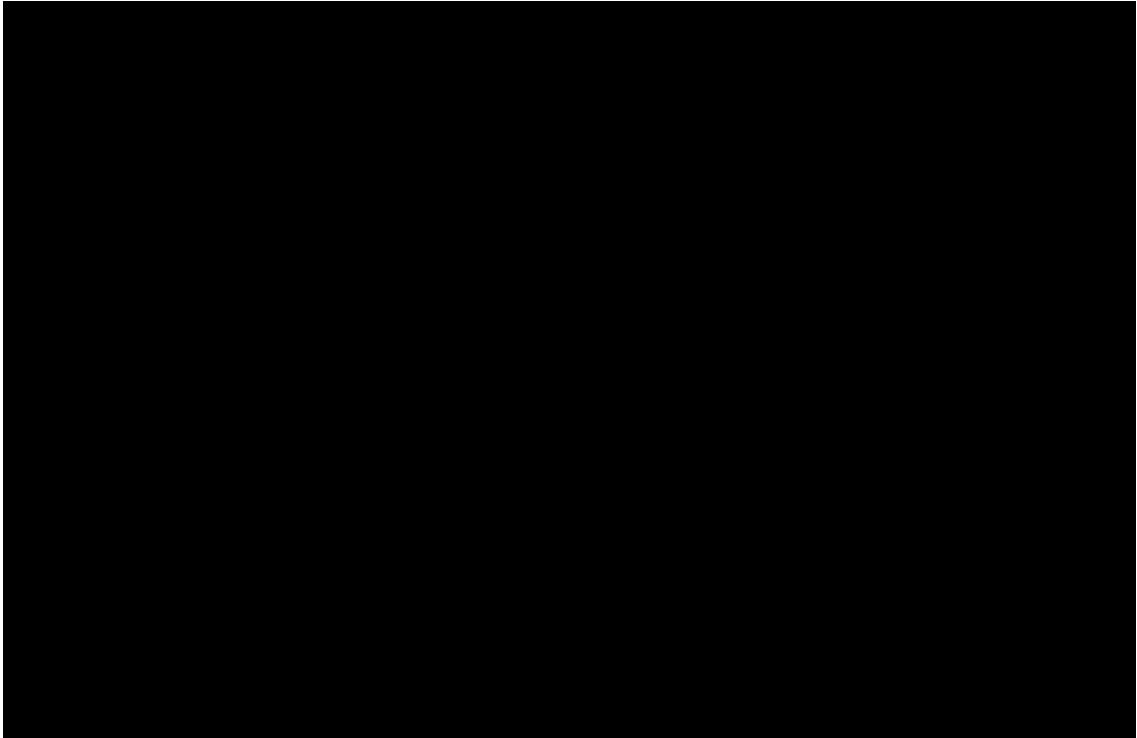
³ DTE Response to Request MECDE-1.4a. I requested data on the actual LMP received but instead DTE provided only real-time LMPs. Losses / revenues with day-ahead LMPs could be higher or lower.

⁴ DTE Response to Request MECDE 8.3b, Attachment NDA_U-20528 DMM-1.7 Fuel Workbook (Company's monthly Fuel Workbooks).

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1 during the months in in January, July, October, and December and they performed
2 the worst in the months of March, June, and September.

3 **Table 3C: Net revenues by month at DTE’s Tier 1 and 2 coal plants (*Confidential*)**
4 **(production costs include only fuel costs)**



5 *Source: DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit Net*
6 *Generation; DTE Response to Request MECDE-1.4b, Attachment U-20528 MECDE-1.4b Unit RT*
7 *LMP; DTE Response to Request MECDE-8.3b, Attachments NDA_U-20528 DMM-1.7 Fuel*
8 *Workbook.*

9 ^a *Unit operated on coal for the first five months, and then switched to natural gas and coke oven*
10 *gas at the beginning of June.*

11
12 Looking at just the subset of months where each unit incurred net losses, I find
13 that DTE incurred a total of \$23.2 million in losses during its poorest performing
14 months (as shown below in Table 4). This means that if each unit had been
15 economically committed by the market during those months (instead of committed
16 with a must-run status), the units would not have turned on, and the Company
17 would have avoided \$23.2 million in losses.

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1 **Table 4: Months with net losses at coal plants in 2020**

Plant	Months w/net losses (\$Millions)	Count (# months with net losses)
Belle River	(\$5.8)	7
Monroe	(\$2.0)	3
St. Clair	(\$9.2)	9
Trenton	(\$1.0)	3
River Rouge	(\$5.2)	6
Total	(\$23.2)	41

2 *Source: Source: DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit*
3 *Net Generation; DTE Response to Request MECDE-1.4b, Attachment U-20528 MECDE-1.4b Unit*
4 *RT LMP; DTE Response to Request MECDE-8.3b, Attachments NDA_U-20528 DMM-1.7 Fuel*
5 *Workbook.*

6 **Q Did DTE provide variable O&M costs as part of its production cost?**

7 **A** No. DTE indicated that its actual production cost included fuel costs, emission
8 allowances, and chemical expenses; therefore, DTE did not provide variable O&M
9 expenses.⁵ This omission is concerning because variable O&M expenses should
10 be part of the production costs that the Company considers when making unit-
11 commitment and dispatch decisions. It is unclear exactly how much in variable
12 O&M costs are incurred at the Company's coal plants. But assuming that variable
13 O&M accounts for roughly 10 percent⁶ of the total production cost, the Company's
14 operational losses could jump to as high as \$14 million for the Tier 2 plants and
15 16 million for the Tier 1 plants.⁷

⁵ Ex MEC-43 (DTE Response to Request MECDE-8.3a).

⁶ I used 10 percent as a proxy for the proportion of the total production cost attributed to variable O&M. This assumption draws from on my experience evaluating fuel and production costs in utility fuel dockets across the country.

⁷ Net Losses in (\$Millions): Belle River: (\$9.1); Monroe: (\$7.0); Trenton Channel 9: (\$0.6); St. Clair: (\$4.9); River Rouge: (\$4.4).

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1 **Q** **What are the implications of the results of this net operational revenue**
2 **analysis?**

3 **A** DTE did not operate its coal plants economically in 2020. DTE self-committed its
4 coal plants regularly and incurred significant and avoidable losses that it now seeks
5 to pass on to its ratepayers. It did so, even while possessing tools to make better
6 decisions (as I will discuss in the next section).

7 **4. DTE IS IMPRUDENTLY SELF-COMMITTING ITS COAL PLANTS AT EXCESS COST**
8 **TO RATEPAYERS**

9 **Q** **Please provide a summary of this section.**

10 **A** In this section, I explain how DTE operated its dispatchable coal plants within the
11 Midcontinent Independent System Operator wholesale market (“MISO”) in 2020.
12 I discuss the practice of uneconomic self-commitment and discuss the impacts this
13 practice had on DTE ratepayers in 2020. I describe the tools the Company used to
14 make its unit-commitment decisions. I review the Company’s own data and find
15 that DTE committed many of its coal units with a “must-run” status the majority
16 of the time the units were available in 2020. I also review the Economic Reserve
17 & Cycling Opportunity reports that DTE used to inform its unit-commitment
18 decision. I find at least 19 instances in 2020 where the Company kept one of its
19 coal units online and sustained significant losses despite its own projections
20 indicating a benefit to ratepayers in turning the unit off. Finally, I provide
21 recommendations for the Commission regarding a disallowance in this case and
22 requirements for future reconciliation dockets.

23 **Q** **How did DTE typically operate its coal units in 2020?**

24 **A** DTE typically committed its coal units with a must-run commitment status.
25 Commitment refers to the decision to start a unit up to its minimum operating level,
26 keep a unit online at its minimum operating level, or bring a unit offline. The
27 Company’s frequent decision to self-commit means that rather than letting the
28 MISO market determine whether to commit a unit based on economics, DTE

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1 regularly tells the market to operate the unit at its minimum level regardless of
2 economics.

3 **Q What tools does DTE have to inform its unit-commitment decisions?**

4 **A** DTE has developed a price-based forward-looking analysis that it uses to
5 determine whether to commit its units for operation the next day. It carries out this
6 analysis most weekdays and records the results in Economic Reserve & Cycling
7 Opportunities reports.⁸ In these reports, DTE forecasts the daily energy margins,
8 or net operational revenues, it will earn by operating each of its coal units over the
9 subsequent two-week period.

10 **Q How should DTE be using the results of its price-based analysis to inform its**
11 **unit-commitment decisions?**

12 **A** DTE should either (a) commit its units as economic and let the market decide when
13 to operate the units, or (b) make unit-commitment decisions based on the results
14 of its price-based analysis and document any deviations from its quantitative
15 analysis. Specifically, DTE should elect to self-commit its units as must-run on a
16 forward-looking basis only if it expects to make positive energy market margins
17 over a reasonable near-term time period (incorporating consideration of start-up
18 and shut-down costs). The Company should commit each unit as “economic” with
19 the expectation the unit will not be selected by MISO’s market based on the unit
20 commitment process if it is projected to operate at a loss. There are limited
21 circumstances, such as when a unit needs to be brought online to test or in
22 anticipation of reliability needs, when it may make sense for DTE to deviate from
23 the results of the Company’s price-based analysis. But these instances should be
24 uncommon and when they occur DTE should document the reasons for its
25 deviation.

⁸ DTE Response to MECDE-1.5, Attachment MECDE-1.5 Economic Reserve Reports CONF.

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1 **Q Does DTE ever decide to take its coal units offline for economic reasons based**
2 **on the results of its internal unit-commitment process?**

3 **A** Yes. Based on my review of the Company's 2020 Economic Reserve & Cycling
4 Opportunities reports, it appears that if the reports forecast substantially negative
5 margins in the near term, DTE does sometimes consider taking that unit offline.
6 Specifically, if DTE's two-week forecasts indicate that a unit will incur
7 operational losses that exceed the start-up costs associated with cycling the unit
8 off and on, then DTE considers taking that unit offline. In addition, DTE considers
9 extending a planned unit outage if it finds that a unit is forecasted to incur negative
10 margins in the days immediately preceding or succeeding the planned outage.

11 **Q Did DTE follow its price-based analysis to make its unit-commitment**
12 **decisions in 2020?**

13 **A** No, DTE frequently ignored the results of its Economic Reserve & Cycling
14 Opportunities reports and missed economic reserve opportunities. Instead, the
15 Company regularly self-committed the units as must-run regardless of what its
16 price-based analysis projected about unit performance (inclusive of consideration
17 of unit start-up costs and time).

18 In fact, the Company's unit-commitment process in 2020 evidenced an inherent
19 bias in favor of keeping its coal units online. If a unit was online, the default
20 assumption was that the unit would stay online. To justify bringing a unit offline,
21 the losses must have exceeded the start-up cost. But the same standard was not
22 applied when considering whether to bring a unit back online. In other words, DTE
23 frequently brought units back online even when projected margins were below the
24 start-up cost. This inconsistency is concerning and displays a clear bias. It also
25 caused uneconomic units to stay online and operating at a loss for much longer
26 than they should. Specifically, when the losses projected over a one- and two-week
27 period did not exceed the start-up cost, DTE would often keep a unit online, even
28 if there had already been multiple days of reports with consistent losses forecasted,
29 and there was a reasonable expectation that the unit would continue to lose money
30 going forward.

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1 DTE’s approach may have made sense in the historic past when coal units had low
2 operational costs compared to alternatives and operated as baseload units. But in
3 2020 with zero-marginal cost renewables and relatively low gas prices, old and
4 inefficient coal units cannot be reasonably presumed to be competitive, especially
5 during non-peak hours. Continuing to rely on these units by default means DTE
6 will incur substantial excess costs that it will seek to pass on to ratepayers. These
7 costs are avoidable if the units were instead committed economically into the
8 market.

9 **Q How did DTE commit its coal units during the reconciliation period of 2020?**

10 **A** In 2020, DTE committed its coal plants with a must-run status for 48 percent of
11 the total hours in 2020 and 67 percent of the non-outage hours in 2020 (breakdown
12 by unit is shown in Table 5). Belle River Units 1 and 2 were committed as must-
13 run for 96 and 100 percent of their non-outage hours, respectively, and Monroe
14 Unit 3 was committed as must-run for 100 percent of its non-outage hours. River
15 Rouge was committed as must-run for over half the time when it operated on coal,
16 but only 15 percent of the time after it switched to operate on gas and coke oven
17 gas.

18 **Table 5: Unit-commitment decision for DTE's coal plants (non-outage hours)**

Plant	Must-Run	Economic
Belle River	97%	3%
Monroe	92%	8%
St. Clair	57%	43%
Trenton	26%	74%
River Rouge – Coal	52%	48%
River Rouge – Gas and Coke Oven Gas	15%	85%

19 *Source: MEC-42 (DTE Response to MECDE-1.4d, Attachment U-20528 MECDE-1.4d Unit*
20 *Commit Status).*

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1 **Q** **Why is it concerning for ratepayers that DTE is using a must-run**
2 **commitment status at its coal-fired generating units so frequently?**

3 **A** DTE should be committing its units economically into the market. It is only
4 reasonable for DTE to take control of its unit-commitment decision from the
5 market-based MISO algorithm if the utility demonstrates that its internal price-
6 based analysis process produces greater net revenues and a more-economic
7 outcome for ratepayers than relying solely on the MISO market. But DTE has not
8 demonstrated this to be the case. This means the Company is either ignoring the
9 results of its own analysis or bidding the units into the market at a cost below the
10 units' true marginal costs.

11 This is concerning because if and when DTE commits a unit in MISO
12 uneconomically (that is with variable costs above the market LMP), DTE is only
13 paid by MISO based on the market LMP.⁹ But DTE still incurs the full cost to run
14 that plant. All fuel costs, including those not economically incurred, are passed on
15 to DTE ratepayers in their monthly bills through the PSCR clause.

16 **Q** **How regularly was DTE operating each of its coal units at a loss in 2020?**

17 **A** Based on the real-time LMPs and the monthly fuel reports, I was able to estimate
18 the percentage of hours in 2020 when each unit operated, despite its fuel cost
19 exceeding its LMP. As shown in Table 6, I find that in 2020, DTE's coal plants
20 were operating with negative revenues over half the hours that the plants were
21 online. This ranged from a low of 20 percent at Trenton, to a high of 74 percent at
22 Belle River. River Rouge was operated uneconomically nearly half the hours it
23 was online during the first part of the year when it was running on coal, but this
24 dropped to only 18 percent of the time when the unit switched to operate on gas
25 and coke oven gas in June.

⁹ The market revenue DTE receives includes energy and ancillary market revenue from both the day-ahead and real-time markets.

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Table 6: Percent of 2020 operational hours where estimated fuel costs were greater than LMP

Plant	Percent of hours online with fuel costs > LMP
Belle River	73%
Monroe	57%
St. Clair	49%
Trenton	20%
River Rouge – Coal	49%
River Rouge – Gas and Coke Oven Gas	18%
Fleet Average	51%

Source: DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit Net Generation; DTE Response to Request MECDE-8.3b, Attachments NDA_U-20528 DMM-1.7 Fuel Workbook.

This analysis does not include variable O&M costs, which also should be included in this analysis, because these costs contribute to the actual cost of production. But, as discussed above, DTE did not provide variable production cost data.¹⁰ Nevertheless, this analysis shows how regularly DTE was operating its coal units uneconomically. For these units, economic operational decision-making requires careful analysis of whether keeping the units online through hours with low energy prices is justified by the higher, peak energy prices that the units will be able to take advantage of when online during these peak periods. Of course, if the units were instead committed with an economic status, DTE would not have the burden of making these decisions.

Q What did you find regarding the Company’s use of its unit-commitment analysis in 2020?

A I found that the Company frequently ignored the results of its own analysis when determining its unit-commitment decisions. DTE’s Economic Reserve & Cycling Opportunities reports show that the Company made imprudent unit-commitment decisions that resulted in net losses during every month except July and November

¹⁰ Ex MEC-43 (DTE Response to Request MECDE-8.3a).

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1 in 2020, with the most events occurring during the shoulder (non-peak) months in
2 April, May, and September.

3 In reviewing DTE’s 2020 generation data, commitment status data, and Economic
4 Reserve & Cycling Opportunities reports, I found a series of 19 notable instances.
5 In these 19 events, DTE either ignored the results of its reports or did not publish
6 a report when it should have, and therefore decided to operate a unit when it should
7 not have. These decisions in turn led to unnecessary operational losses that DTE
8 now seeks to pass through to ratepayers through proceedings such as this one.
9 These 19 events are summarized and explained in Exhibit MEC-39, which
10 contains the original Economic Reserve & Cycling Opportunities reports produced
11 during each of the 19 events.

12 **Q Explain how you identified these 19 events in 2020 and calculated the losses**
13 **associated with them.**

14 **A** I reviewed the 253 Economic Reserve & Cycling Opportunities reports¹¹ created
15 by DTE during 2020 as well as the Company’s hourly generation data¹² and unit-
16 commitment data.¹³ I first identified the period of time in which DTE was
17 operating each unit with a must-run commitment status. I then focused my review
18 on the subset of those must-run periods where the Company’s economic reserve
19 reports had projected large negative margins from unit operation over the next one-
20 and two-week periods.

21 For each instance of uneconomic decision-making (which I refer to as an “event”),
22 I calculated the net operational revenue impact associated with the decision using
23 the most recent economic reserve report data available for the date affected by the
24 decision. For example, if the unit was uneconomically operated on March 25th and

¹¹ DTE Response to Request MECDE-1.5, Attachment NDA_U-20528 MECDE-1.5 Economic Reserve Reports.

¹² DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit Net Generation.

¹³ MEC-42 (DTE Response to Request MECDE-1.4d and Attachment U-20528 MECDE-1.4d Unit Commit Status).

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1 the latest report with a projected margin for March 25th was created on March 24th,
2 I assumed the unit's energy margin was equal to the value from the March 24th
3 report.

4 **Q Did you account for the start-up cost incurred or avoided through unit cycling**
5 **with your events?**

6 **A Yes, I did. But there were zero events where a unit was cycled on and off, that is**
7 **taken offline and then brought back online (or vice versa). For 15 of the events,**
8 **the savings I identified were associated with simply reducing the time period a unit**
9 **was online by bringing it offline early or bringing it online later than DTE actually**
10 **did. For the other four events, DTE would actually avoid a start-up cost if it had**
11 **followed the results of its own analysis. For these events, I added the start-up cost**
12 **to the net losses into my calculations.**

13 In total, if DTE followed the results its own analysis, and kept its units offline or
14 took them offline early during the 19 events I identified, it would have incurred 4
15 less starts, and avoided the associated costs, over the course of the year than it
16 actually did.

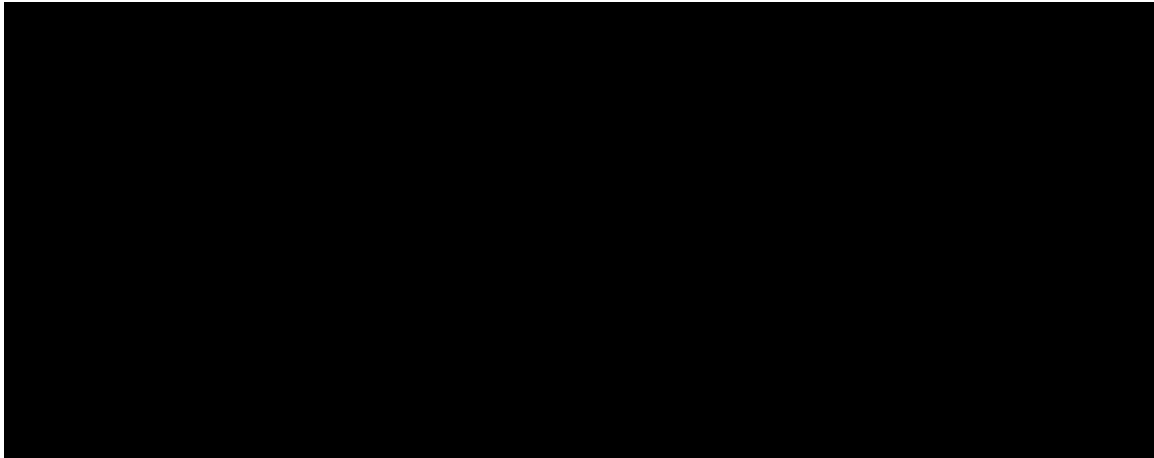
17 **Q What are the total projected losses associated with the uneconomic decision-**
18 **making you describe above?**

19 **A I calculated that the projected losses across these 19 events totaled \$5.7 million in**
20 **lost margins (as shown in Table 7C). These events accounted for collectively 329**
21 **days of uneconomic operation.**

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Table 7C: Uneconomic event statistics from 2020 by plant (Confidential)



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Source: DTE Response to Request MECDE-1.5, Attachment NDA_U-20528 MECDE-1.5 Economic Reserve Reports; DTE Response to Request MECDE-1.4a, Attachment U-20528 MECDE-1.4a Unit Net Generation; DTE Response to Request MECDE-1.4b, Attachment U-20528 MECDE-1.5b Unit Commit Status.

6

Q What are the implications of these instances of uneconomic unit-commitment decision-making by DTE in 2020?

7

8

A These events indicate that DTE’s internal unit-commitment decision-making process is not delivering ratepayers better results than committing economically into the market. Specifically, in 2020, the Company’s decision to regularly self-commit its units with a must-run status resulted in uneconomic unit operation practices and unnecessarily incurred operational losses on behalf of ratepayers.

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Q Market prices were lower in 2020 as a result of the COVID-19 pandemic. Does this explain the Company’s losses during these uneconomic events?

14

15

A No. Lower market prices and lower demand explain lower market revenues, but they do not explain or justify net energy losses. When market prices are lower, the Company’s daily reserve reports should reflect lower margins from operating each unit. This should lead to the units being committed with an economic status rather than a must-run status more often, or more regularly placed into an economic reserve status and kept offline. DTE instead ignored the lower and even negative margins projected in its own reports and continued to commit its coal units as must-run.

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1 **Q How do the losses you calculated for the 19 events relate to the net revenues**
2 **losses you identified in Section 3?**

3 **A** In this section, I calculate the losses that DTE projected it would incur during the
4 19 events where the Company projected it would incur losses by operating a unit
5 and yet still chose to operate the unit. This calculation is based on information
6 DTE had at the time it made each daily unit-commitment decision. In contrast, in
7 Section 3 above, I calculate the net losses that resulted from the Company's
8 operational decisions during the entire year of 2020. The section 3 analysis is a
9 retrospective analysis using information available after the fact on the Company's
10 hourly generation and energy market revenues. The losses projected to be incurred
11 during these 19 events are a subset of the total net losses I calculated in Section 3.

12 **Q Does the fact that DTE incurred substantial net losses at many of its plants**
13 **mean that the Company was using an imprudent unit-commitment process?**

14 **A** Yes. Commitment decisions are not expected to always be correct given the
15 possibility that circumstances may change, and therefore small net losses may
16 sometimes be justified. If a decision was reasonable and justified based on the
17 information available at the time, it may be prudent. But the fact that DTE both
18 projected negative margins and then incurred negative margins indicates that the
19 Company was not just making periodic incorrect commitment decisions; it was
20 generally using an imprudent unit-commitment process.

21 DTE was both (1) ignoring the results of its own price-based unit-commitment
22 analysis and (2) relying on forward-going analysis that was either wrong or
23 omitting important variable costs, without a clear process to regularly modify or
24 improve its decision-making process. The first resulted in uneconomic unit
25 commitment decisions on a daily basis, and clear uneconomic events such as the
26 ones I identify here. These could have been avoided through DTE simply adhering
27 to the results of its own unit-commitment analysis. The second compounded the
28 daily losses identified above and resulted in substantial net losses over the course
29 of the year above the losses DTE reports projected in its unit-commitment process.
30 These losses could have been reduced or minimized had DTE (1) ensured all

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1 variable costs were properly reflected in its commitment process; and (2) evaluated
2 the accuracy of its daily Economic Reserve and Cycling Opportunities reports on
3 a regular basis. DTE did not need to adjust its daily forecasting and reporting
4 process, but rather the Company should have observed when its daily forecasts
5 were systematically missing the mark, and periodically made adjustments and
6 updates to the inputs and process to correct for those errors.

7 **5. FINDING AND RECOMMENDATIONS**

8 **Q Please summarize your findings regarding DTE's 2020 commitment practices**
9 **at Monroe.**

10 **A** DTE projected that it would incur \$[] million in losses during three events at
11 Monroe in 2020 (shown in Table 7C above). Monroe is DTE's only coal unit that
12 earned substantial net revenues (relative to just fuel costs) in 2020 over the course
13 of the entire year (although even these revenues appear to become losses when
14 variable O&M costs are considered). Despite this overall pattern, DTE still
15 incurred substantial losses totaling \$2.0 Million during three months (March,
16 September, and November), as shown in Tables 3C and 4 above. Each of the 4
17 uneconomic events I identified at Monroe where DTE had projected net losses
18 from operating the plant, occurred during one of these months (March and
19 September). These losses were completely avoidable if DTE had followed the
20 results of its own unit-commitment analysis.

21 **Q Please summarize your findings regarding DTE's commitment practices at**
22 **Trenton Channel 9.**

23 **A** DTE projected that it would incur \$[] in losses during two events at
24 Trenton Channel 9 in 2020 (shown in Table 7C above). Overall, the plant broke
25 even in 2020 (Tables 2 and 3C), but the two uneconomic events I identify above
26 occurred during December, which was the month when DTE committed the unit
27 with a must-run status the most. The losses were avoidable had DTE followed the
28 results of its own unit-commitment analysis.

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1 **Q** **Please summarize your findings regarding DTE’s commitment practices at**
2 **Belle River and St. Clair.**

3 **A** I find that DTE incurred **\$5.8 million** and **\$9.2 million** in losses at Belle River and
4 St. Clair respectively during the seven months and nine months when DTE
5 operated the plants at a loss (shown in Tables 2 and 3C above). The \$[[█]] million
6 in projected losses during the two events at Belle River and six events at St. Clair
7 (shown in Table 7C above) represents a subset of this total. The magnitude of
8 losses incurred at each plant demonstrates that the Company was not only ignoring
9 the results of its unit-commitment analysis, but also systematically using poor
10 forward-looking data. These losses were avoidable if DTE had regularly evaluated
11 the performance of its unit-commitment process and committed its units into the
12 market with an economic status rather either ignoring its reports or relying on its
13 own flawed unit-commitment analysis.

14 **Q** **What are your recommendations regarding River Rouge?**

15 **A** I find that DTE incurred **\$5.2 million** in losses during the six months in 2020 in
16 which DTE operated the plant at a loss (shown in Tables 3C and 4). \$2.1 million
17 of that total was incurred during the first five months when DTE operated the plant
18 on coal, and the remaining \$3.1 million was incurred when the plant was operated
19 on gas and coke oven gas in the second half the year (Table 3C). DTE provided
20 no projections on the margins at River Rouge between March 1, 2020 and May
21 29, 2020 when the plant was using up its coal supply. Nonetheless, we know that
22 much of these losses were avoidable if the Company committed its units into the
23 market with an economic status rather than relying on its own flawed unit-
24 commitment analysis.

25 **Q** **Can you summarize your recommendations for specific disallowances at**
26 **DTE’s coal plants?**

27 **A** As shown in Table 8, I recommend the Commission disallow \$22.2 million in
28 losses associated with DTE’s uneconomic decision-making at its coal power
29 plants. \$2.0 million is related to specific events at Monroe and Trenton Channel 9.

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1 \$20.2 million is related to the total net losses incurred at Belle River, River Rouge,
2 and St. Clair.

3 At Monroe and Trenton Channel 9, this disallowance is based on the specific
4 uneconomic events, not total losses. This is because the Company's unit-
5 commitment process was overall relatively aligned with its actual unit costs at
6 those two plants. The Company could avoid most of the losses found here simply
7 by following the results of its own unit-commitment analysis.

8 At Belle River, St. Clair, and River Rouge, on the other hand, I recommend a
9 disallowance based on losses during months with net losses. This is because,
10 overall, the Company's unit-commitment process was not aligned with the plants'
11 actual costs. That means the Company would avoid only some of the losses here
12 by following the results of its own unit-commitment analysis. DTE also needs to
13 systematically improve its unit-commitment process to avoid a substantial portion
14 of the losses.

15 **Table 8C: Disallowance recommendation (Confidential)**

Plant	Uneconomic must-run events		Months with actual net losses		Total Disallowance recommended (\$Millions)
	Projected margins (\$Millions)	# of Events	Net losses (\$Millions)	# of months	
Disallowance based on specific events					
Monroe	[[REDACTED]]	4	(\$2.0)	3	[[REDACTED]]
Trenton	[[REDACTED]]	2	(\$1.0)	3	[[REDACTED]]
Disallowance based on net losses during months with losses					
Belle River	[[REDACTED]]	2	(\$5.8)	7	(\$5.8)
St. Clair	[[REDACTED]]	9	(\$9.2)	9	(\$9.2)
River Rouge	[[REDACTED]]	2	(\$5.2)	6	(\$5.2)
Fleet Total	(\$5.7)	19	(\$23.2)	41	(\$22.2)

16

17 **Q What other recommendation do you have for the Commission?**

18 **A The Commission should require DTE to track data on its variable costs of**
19 **production, inclusive of fuel, reagents, and variable O&M costs. This will enable**
20 **a more comprehensive evaluation of the degree to which DTE is engaging in**
21 **uneconomic operation of its coal units.**

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1 In addition, the Commission should require DTE to justify its decisions to commit
2 its units with a must-run commitment status rather than to commit them
3 economically into the market, especially when those decisions are projected to
4 result in operational losses. Such justifications should be documented
5 contemporaneously and with sufficient specificity for regulatory review in
6 reconciliation.

7 **Q Does this complete your direct testimony?**

8 **A Yes, it does.**



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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. *Principal Associate*, June 2021- Present; *Senior Associate*, April 2019 – June 2021; *Associate*, January 2018 – March 2019.

Conducts research and provides expert witness and consulting services on energy sector issues.

Examples include:

- Modeling for resource planning using PLEXOS and Encompass utility planning software to evaluate the reasonableness of utility IRP modeling.
- Modeling for resource planning to explore alternative, lower-cost and lower-emission resource portfolio options.
- Providing expert testimony in rate cases on the prudence of continued investment in, and operation of, coal plants based on the economics of plant operations relative to market prices and alternative resource costs.
- Providing expert testimony and analysis on the reasonableness of utility coal plant commitment and dispatch practice in fuel and power cost adjustment dockets.
- Serving as an expert witness on avoided cost of distributed solar PV and submitting direct and surrebuttal testimony regarding the appropriate calculation of benefit categories associated with the value of solar calculations.
- Reviewing and assessing the reasonableness of methodologies and assumptions relied on in utility IRPs and other long-term planning documents for expert report, public comments, and expert testimony.
- Evaluating utility long-term resource plans and developing alternative clean energy portfolios for expert reports.
- Co-authoring public comments on the adequacy of utility coal ash disposal plans, and federal coal ash disposal rules and amendments.
- Analyzing system-level cost impacts of energy efficiency at the state and national level.

Rocky Mountain Institute, Basalt, CO. August 2012 – September 2017

Senior Associate

- Led technical analysis, modeling, training and capacity building work for utilities and governments in Sub-Saharan Africa around integrated resource planning for the central electricity grid energy. Identified over one billion dollars in savings based on improved resource-planning processes.
- Represented RMI as a content expert and presented materials on electricity pricing and rate design at conferences and events.

- Led a project to research and evaluate utility resource planning and spending processes, focusing specifically on integrated resource planning, to highlight systematic overspending on conventional resources and underinvestment and underutilization of distributed energy resources as a least-cost alternative.

Associate

- Led modeling analysis in collaboration with NextGen Climate America which identified a CO2 loophole in the Clean Power Plan of 250 million tons, or 41 percent of EPA projected abatement. Analysis was submitted as an official federal comment which led to a modification to address the loophole in the final rule.
- Led financial and economic modeling in collaboration with a major U.S. utility to quantify the impact that solar PV would have on their sales and helped identify alternative business models which would allow them to recapture a significant portion of this at-risk value.
- Supported the planning, content development, facilitation, and execution of numerous events and workshops with participants from across the electricity sector for RMI's Electricity Innovation Lab (eLab) initiative.
- Co-authored two studies reviewing valuation methodologies for solar PV and laying out new principles and recommendations around pricing and rate design for a distributed energy future in the United States. These studies have been highly cited by the industry and submitted as evidence in numerous Public Utility Commission rate cases.

The University of Michigan, Ann Arbor, MI. *Graduate Student Instructor*, September 2011 – July 2012

The Virginia Sea Grant at the Virginia Institute of Marine Science, Gloucester Point, VA. *Policy Intern*, Summer 2011

Managed a communication network analysis study of coastal resource management stakeholders on the Eastern Shore of the Delmarva Peninsula.

The Commission for Environmental Cooperation (NAFTA), Montreal, QC. *Short Term Educational Program/Intern*, Summer 2010

Researched energy and climate issues relevant to the NAFTA parties to assist the executive director in conducting a GAP analysis of emission monitoring, reporting, and verification systems in North America.

Congressman Tom Allen, Portland, ME. *Technology Systems and Outreach Coordinator*, August 2007 – December 2008

Directed Congressman Allen's technology operation, responded to constituent requests, and represented the Congressman at events throughout southern Maine.

EDUCATION

The University of Michigan, Ann Arbor, MI

Master of Public Policy, Gerald R. Ford School of Public Policy, 2012

Master of Science, School of Natural Resources and the Environment, 2012

Masters Project: *Climate Change Adaptation Planning in U.S. Cities*

Middlebury College, Middlebury, VT

Bachelor of Arts, 2007

Environmental Studies, Policy Focus; Minor in Spanish

Thesis: *Environmental Security in a Changing National Security Environment: Reconciling Divergent Policy Interests, Cold War to Present*

PUBLICATIONS

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Public Utilities Commission of Nevada (Docket No. 21-06001): Phase III Direct Testimony of Devi Glick in the joint application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for approval of their 2022-2041 Triennial Intergrade Resource Plan and 2022-2024 Energy Supply Plan. On behalf of Sierra Club and Natural Resource Defense Council. October 6, 2021.

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Public Service Commission of Wisconsin (Docket No. 6680-UR-122): Surrebuttal Testimony of Devi Glick in the application of Wisconsin Power and Light Company for approval to extend electric and natural gas rates into 2021 and for approval of its 2021 fuel cost plan. On behalf of Sierra Club. September 21, 2020.

Public Service Commission of Wisconsin (Docket No. 3270-UR-123): Direct Testimony and Exhibits of Devi Glick in the application of Madison Gas and Electric Company for authority to change electric and natural gas rates. On behalf of Sierra Club. September 18, 2020.

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Indiana Utility Regulatory Commission (Cause No. 38707-FAC124): Direct Testimony and Exhibits of Devi Glick in the application of Duke Energy Indiana, LLC for approval of a change in its fuel cost adjustment for electric service. On behalf of Sierra Club. June 4, 2020.

Arizona Corporation Commission (Docket No. E-01933A-19-0028): Rely to Late-filed ACC Staff Testimony of Devi Glick in the application of Tucson Electric Power Company for the establishment of just and reasonable rates. On behalf of Sierra Club. May 8, 2020.

Indiana Utility Regulatory Commission (Cause No. 38707-FAC123): Direct Testimony and Exhibits of Devi Glick in the application of Duke Energy Indiana, LLC for approval of a change in its fuel cost adjustment for electric service. On behalf of Sierra Club. March 6, 2020.

Texas Public Utility Commission (PUC Docket No. 49831): Direct Testimony of Devi Glick in the application of Southwestern Public Service Company for authority to change rates. On behalf of Sierra Club. February 10, 2020.

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New Mexico Public Regulation Commission (Case No. 19-00170-UT): Direct Testimony of Devi Glick regarding Southwestern Public Service Company's application for revision of its retail rates and authorization and approval to shorten the service life and abandon its Tolk generation station units. On behalf of Sierra Club. November 22, 2019.

North Carolina Utilities Commission (Docket No. E-100, Sub 158): Responsive testimony of Devi Glick regarding battery storage and PURPA avoided cost rates. On behalf of Southern Alliance for Clean Energy. July 3, 2019.

State Corporation Commission of Virginia (Case No. PUR-2018-00195): Direct testimony of Devi Glick regarding the economic performance of four of Virginia Electric and Power Company's coal-fired units and the Company's petition to recover costs incurred to company with state and federal environmental regulations. On behalf of Sierra Club. April 23, 2019.

Connecticut Siting Council (Docket No. 470B): Joint testimony of Robert Fagan and Devi Glick regarding NTE Connecticut's application for a Certificate of Environmental Compatibility and Public Need for the Killingly generating facility. On behalf of Not Another Power Plant and Sierra Club. April 11, 2019.

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Public Service Commission of South Carolina (Docket No. 2018-1-E): Surrebuttal testimony of Devi Glick regarding Duke Energy Progress' net energy metering methodology for valuing distributed energy resources system within South Carolina. On behalf of South Carolina Coastal Conservation League and Southern Alliance for Clean Energy. June 4, 2018.

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resources system within South Carolina. On behalf of South Carolina Coastal Conservation League and Southern Alliance for Clean Energy. May 22, 2018.

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Resume updated November 2021

MEC-39C

CONFIDENTIAL EXHIBIT

MEC-40C

CONFIDENTIAL EXHIBIT

MPSC Case No.:	U-20528
Requestor:	MEC
Question No.:	MECDE-1.4d
Respondent:	S. C. Dauss
Page:	1 of 1

Question: For each of the Company's fossil-fueled generating units, please provide the following hourly data by unit for 2020, in electronic Excel spreadsheet format.

d. Commitment status or designation on each day of 2020.

Answer: Please refer to the attachment labeled "U-20528 MECDE-1.4d Unit Commit Status".

Attachments: U-20528 MECDE-1.4b Unit Commit Status

Date	HE	RT Comm 1 Status	M = Must Run	E = Econom c	OUT = Outage	DECO.MONROE01	DECO.MONROE02	DECO.MONROE03	DECO.MONROE04	DECO.STCLAR02	DECO.STCLAR03	DECO.STCLAR04	DECO.STCLAR05	DECO.STCLAR06	DECO.STCLAR07	DECO.TRMCH01	DECO.IVRAGE02	DECO.GRNWD01	
3/14/2020	4 M	OUT																	
3/14/2020	5 M	OUT																	
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3/14/2020	7 M	OUT																	
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3/17/2020	14 M	OUT																	
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3/17/2020	17 M	OUT																	
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3/18/2020	22 M	OUT																	
3/18/2020	23 M	OUT																	
3/18/2020	24 M	OUT																	
3/19/2020	1 M	OUT																	
3/19/2020	2 M	OUT																	

Date	HE	RT Comm 1 Status	M = Must Run	E = Econom c	OUT = Outage	DECO.MONROE01	DECO.MONROE02	DECO.MONROE03	DECO.MONROE04	DECO.STCLAR02	DECO.STCLAR03	DECO.STCLA R6	DECO.STCLAR07	DECO.TRMCH01	DECO.IVRARGE0	DECO.GRNWD01
6/8/2020	20 M	DECO.BUR2.DEMO	OUT	M												
6/8/2020	21 M	OUT	M													
6/8/2020	22 M	OUT	M													
6/8/2020	23 M	OUT	M													
6/8/2020	24 M	OUT	M													
6/9/2020	1 M	OUT	M													
6/9/2020	2 M	OUT	M													
6/9/2020	3 M	OUT	M													
6/9/2020	4 M	OUT	M													
6/9/2020	5 M	OUT	M													
6/9/2020	6 M	OUT	M													
6/9/2020	7 M	OUT	M													
6/9/2020	8 M	OUT	M													
6/9/2020	9 M	OUT	M													
6/9/2020	10 M	OUT	M													
6/9/2020	11 M	OUT	M													
6/9/2020	12 M	OUT	M													
6/9/2020	13 M	OUT	M													
6/9/2020	14 M	OUT	M													
6/9/2020	15 M	OUT	M													
6/9/2020	16 M	OUT	M													
6/9/2020	17 M	OUT	M													
6/9/2020	18 M	OUT	M													
6/9/2020	19 M	OUT	M													
6/9/2020	20 M	OUT	M													
6/9/2020	21 M	OUT	M													
6/9/2020	22 M	OUT	M													
6/9/2020	23 M	OUT	M													
6/9/2020	24 M	OUT	M													
6/9/2020	25 M	OUT	M													
6/9/2020	26 M	OUT	M													
6/10/2020	1 M	OUT	M													
6/10/2020	2 M	OUT	M													
6/10/2020	3 M	OUT	M													
6/10/2020	4 M	OUT	M													
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6/10/2020	6 M	OUT	M													
6/10/2020	7 M	OUT	M													
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6/10/2020	9 M	OUT	M													
6/10/2020	10 M	OUT	M													
6/10/2020	11 M	OUT	M													
6/10/2020	12 M	OUT	M													
6/10/2020	13 M	OUT	M													
6/10/2020	14 M	OUT	M													
6/10/2020	15 M	OUT	M													
6/10/2020	16 M	OUT	M													
6/10/2020	17 M	OUT	M													
6/10/2020	18 M	OUT	M													
6/10/2020	19 M	OUT	M													
6/10/2020	20 M	OUT	M													
6/10/2020	21 M	OUT	M													
6/10/2020	22 M	OUT	M													
6/10/2020	23 M	OUT	M													
6/10/2020	24 M	OUT	M													
6/11/2020	1 M	OUT	M													
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6/11/2020	7 M	OUT	M													
6/11/2020	8 M	OUT	M													
6/11/2020	9 M	OUT	M													
6/11/2020	10 M	OUT	M													
6/11/2020	11 M	OUT	M													
6/11/2020	12 M	OUT	M													
6/11/2020	13 M	OUT	M													
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6/11/2020	17 M	OUT	M													
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6/12/2020	13 M	OUT	M													
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6/13/2020	22 M	OUT	M													
6/13/2020	23 M	OUT	M													
6/13/2020	24 M	OUT	M													
6/14/2020	1 M	OUT	M													
6/14/2020	2 M	OUT	M													
6/14/2020	3 M	OUT	M													
6/14/2020	4 M	OUT	M													
6/14/2020	5 M	OUT	M													
6/14/2020	6 M	OUT	M													
6/14/2020	7 M	OUT	M													

Date	HE	RT Comm 1 Status	M = Must Run	E = Econom c	OUT = Outage	DECO.MONROE1	DECO.MONROE2	DECO.MONROE3	DECO.MONROE4	DECO.STCLAR2	DECO.STCLAR3	DECO.STCLA R6	DECO.STCLAR7	DECO.TRMCHN1	DECO.IVRARGE1	DECO.GRNWD1
8/27/2020	20 M	DECO.BLR1 DEMO	M	M		M	M	M	M	M	M	M	M	M	M	M
8/27/2020	21 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/27/2020	22 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/27/2020	23 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/27/2020	24 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	1 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	2 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	3 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	4 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	5 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	6 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	7 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	8 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	9 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	10 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	11 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	12 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	13 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	14 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	15 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	16 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	17 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	18 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	19 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	20 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	21 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	22 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	23 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/28/2020	24 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	1 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	2 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	3 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	4 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	5 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	6 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	7 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	8 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	9 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	10 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	11 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	12 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	13 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	14 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	15 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	16 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	17 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	18 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	19 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	20 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	21 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	22 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	23 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/29/2020	24 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	1 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	2 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	3 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	4 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	5 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	6 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	7 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	8 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	9 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	10 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	11 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	12 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	13 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	14 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	15 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	16 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	17 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	18 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	19 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	20 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	21 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	22 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	23 M		M	M		M	M	M	M	M	M	M	M	M	M	M
8/30/2020	24 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	1 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	2 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	3 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	4 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	5 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	6 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	7 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	8 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	9 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	10 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	11 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	12 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	13 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	14 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	15 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	16 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	17 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	18 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	19 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	20 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	21 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	22 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	23 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/1/2020	24 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	1 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	2 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	3 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	4 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	5 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	6 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	7 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	8 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	9 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	10 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	11 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	12 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	13 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	14 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	15 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	16 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	17 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	18 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	19 M		M	M		M	M	M	M	M	M	M	M	M	M	M
9/2/2020	20 M		M	M												

Date	RT Commit Status		M = Must Run	E = Econom c	OUT = Outage	DECO MONR01	DECO MONR02	DECO MONR03	DECO MONR04	DECO STCLR2	DECO STCLR3	DECO STCLR6	DECO STCLR7	DECO TRNCR9	DECO RVRRG3	DECO GRNWD1
	HE	DECO BLR1 DEMO														
10/20/2020	4 M	M	M													
10/20/2020	5 M	M	M													
10/20/2020	6 M	M	M													
10/20/2020	7 M	M	M													
10/20/2020	8 M	M	M													
10/20/2020	9 M	M	M													
10/20/2020	10 M	M	M													
10/20/2020	11 M	M	M													
10/20/2020	12 M	M	M													
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10/20/2020	14 M	M	M													
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10/20/2020	17 M	M	M													
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10/25/2020	15 M	M														

MPSC Case No.: U-20528
Requestor: MEC
Question No.: MECDE-8.3a
Respondent: S. C. Dauss
Page: 1 of 1

Question: Please provide the following information in electronic Excel spreadsheet format at the highest granularity recorded by the Company:

- a. Actual production costs (\$/MWh), indicating whether these are inclusive of fuel costs or not; and

Answer: Actual production costs include fuel costs, emissions allowances, and chemical expenses. Refer to MECDE-8.3b for further information on actual fuel costs (\$/MWh).

Refer to Exhibit A-11, rows 14 and 16, SO₂ Emission Allowances and NO_X Seasonal Allowances and Gain on Sale of Allowances, respectively. The net impact of emissions allowances of (\$73,626) is immaterial to production costs (\$/MWh) and a net benefit to PSCR customers.

Chemical expenses are not recorded on a \$/MWh basis. Refer to Exhibit A-11, rows 17 to 19, Urea, Limestone, and Other Fuel Additives, respectively, for the details of chemical expenses, by type, by month.

Attachments: None

Co-Respondent(s): R. M. Dory

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE ELECTRIC COMPANY** for reconciliation of its power supply cost recovery plan (Case No. U-20527) for the twelve months ending December 31, 2020.

U-20528

ALJ Sharon Feldman

PROOF OF SERVICE

On the date below, an electronic copy of **Direct Testimony of Devi Glick on behalf of Michigan Environmental Council (Public Version) with Exhibits MEC-38 and MEC-41 through MEC-43** was served on the following:

Name/Party	E-mail Address
Administrative Law Judge Sharon L. Feldman	feldmans@michigan.gov
Counsel for DTE Electric Co. Jon P. Christinidis	mpscfilings@dteenergy.com jon.christinidis@dteenergy.com
Counsel for MPSC Staff Daniel E. Sonneveldt Benjamin J. Holwerda Nicholas Q. Taylor	sonneveltdt@michigan.gov holwerdab@michigan.gov taylorl10@michigan.gov
Counsel for Attorney General Dana Nessel Joel B. King Seb Coppola	ag-enra-spec-lit@michigan.gov Kingj38@michigan.gov sebcoppola@corplytics.com
Counsel for Association of Businesses Advocating Tariff Equity Stephen A. Campbell Michael J. Pattwell Omar Bustami (<i>pro hac vice</i>)	scampbell@clarkhill.com mpattwell@clarkhill.com obustami@clarkhill.com
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[signatures on following page]

The statements above are true to the best of my knowledge, information and belief.

OLSON, BZDOK & HOWARD, P.C.
Counsel for MEC

Date: November 23, 2021

By: _____
Kimberly Flynn, Legal Assistant
Karla Gerds, Legal Assistant
Breanna Thomas, Legal Assistant
420 E. Front St.
Traverse City, MI 49686
Phone: 231/946-0044
Email: kimberly@envlaw.com
karla@envlaw.com and
breanna@envlaw.com

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE ELECTRIC COMPANY** for reconciliation of its power supply cost recovery plan (Case No. U-20527) for the twelve months ending December 31, 2020.

U-20528

ALJ Sharon Feldman

CONFIDENTIAL
PROOF OF SERVICE

On the date below, an electronic copy of **Direct Testimony of Devi Glick (Confidential Version) and Exhibits MEC-39C and MEC-40C** was served on the following:

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Counsel for Association of Businesses Advocating Tariff Equity Stephen A. Campbell Michael J. Pattwell Omar Bustami (<i>pro hac vice</i>)	scampbell@clarkhill.com mpattwell@clarkhill.com obustami@clarkhill.com

[signatures on following page]

The statements above are true to the best of my knowledge, information and belief.

OLSON, BZDOK & HOWARD, P.C.
Counsel for MEC

Date: November 23, 2021

By: _____
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Karla Gerds, Legal Assistant
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