



July 25, 2024

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

Via E-File

RE: MPSC Case No. U-21534

Dear Ms. Felice:

Attached please find the enclosed documents for filing:

- Direct Testimony and Exhibits of Douglas B. Jester on behalf of Citizens Utility Board of Michigan, Sierra Club, Michigan Environmental Council, and Natural Resources Defense Council (Exhibits CUB-17 through CUB-19); and
- Proof of Service.

Please note that there is a Confidential and Public Version of Mr. Jester's testimony; the confidential version will only be served on those with a Nondisclosure Certificate on file in this case. Thank you for your assistance in this matter. If you have any questions, please feel free to contact me.

Sincerely,

Christopher M. Bzdok
chris@tropospherelegal.com

CC: Parties to Case No. U-21534

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of **DTE
ELECTRIC COMPANY** for authority to
increase its rates, amend its rate schedules
and rules governing the distribution and
supply of electric energy, and for
miscellaneous accounting authority.

U-21534

PUBLIC VERSION

DIRECT TESTIMONY OF DOUGLAS B. JESTER

ON BEHALF OF

**CITIZENS UTILITY BOARD OF MICHIGAN, SIERRA CLUB,
MICHIGAN ENVIRONMENTAL COUNCIL, AND
NATURAL RESOURCES DEFENSE COUNCIL**

July 25, 2024

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1 **I. INTRODUCTION & QUALIFICATIONS**

2 **Q. Please state for the record your name, position, and business address.**

3 A. My name is Douglas B. Jester. I am Managing Partner of 5 Lakes Energy, a Michigan
4 limited liability corporation, located at Suite 218, 220 MAC Avenue, East Lansing,
5 Michigan 48823.

6 **Q. On whose behalf is this testimony being offered?**

7 A. I am testifying on behalf of Citizens Utility Board of Michigan (CUB), Sierra Club (SC),
8 Michigan environmental Council (MEC), and Natural Resources Defense Council
9 (NRDC).

10 **Q. Please summarize your experience in the field of utility regulation.**

11 A. I have worked for more than 30 years in utility industry regulation and related fields. My
12 work experience is summarized in my resume, provided as Exhibit CUB-17.

13 **Q. Have you testified before this Commission or as an expert in any other proceedings?**

14 A. I have previously testified before the Michigan Public Service Commission
15 ("Commission") in the following cases:

- 16 • Case U-17473 (Consumers Energy Company Plant Retirement Securitization);
- 17 • Case U-17096-R (Indiana Michigan 2013 PSCR Reconciliation);
- 18 • Case U-17301 (Consumers Energy Renewable Energy Plan 2013 Biennial
19 Review);
- 20 • Case U-17302 (DTE Energy Renewable Energy Plan 2013 Biennial Review);
- 21 • Case U-17317 (Consumers Energy 2014 PSCR Plan);
- 22 • Case U-17319 (DTE Electric 2014 PSCR Plan);

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- 1 • Case U-17671-R (UPPCO 2015 PSCR Reconciliation);
- 2 • Case U-17674 (WEPCO 2015 PSCR Plan);
- 3 • Case U-17674-R (WEPCO 2015 PSCR Reconciliation);
- 4 • Case U-17679 (Indiana-Michigan 2015 PSCR Plan);
- 5 • Case U-17688 (Consumers Energy Cost of Service and Rate Design);
- 6 • Case U-17689 (DTE Electric Cost of Service and Rate Design);
- 7 • Case U-17698 (Indiana-Michigan Cost of Service and Rate Design);
- 8 • Case U-17735 (Consumers Energy General Rates);
- 9 • Case U-17752 (Consumers Energy Community Solar);
- 10 • Case U-17762 (DTE Electric Energy Optimization Plan);
- 11 • Case U-17767 (DTE General Rates);
- 12 • Case U-17792 (Consumers Energy Renewable Energy Plan Revision);
- 13 • Case U-17895 (UPPCO General Rates);
- 14 • Case U-17911 (UPPCO 2016 PSCR Plan);
- 15 • Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- 16 • Case U-17990 (Consumers Energy General Rates);
- 17 • Case U-18014 (DTE General Rates);
- 18 • Case U-18089 (Alpena Power PURPA Avoided Costs);
- 19 • Case U-18090 (Consumers Energy PURPA Avoided Costs);
- 20 • Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- 21 • Case U-18091 (DTE PURPA Avoided Costs);
- 22 • Case U-18092 (Indiana Michigan Power Company PURPA Avoided Costs);
- 23 • Case U-18093 (Northern States Power PURPA Avoided Costs);

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- 1 • Case U-18094 (Upper Peninsula Power Company PURPA Avoided Costs);
- 2 • Case U-18095 (Wisconsin Public Service Company PURPA Avoided Costs);
- 3 • Case U-18096 (Wisconsin Electric Power Company PURPA Avoided Costs);
- 4 • Case U-18224 (UMERC Certificate of Necessity);
- 5 • Case U-18232 (DTE Renewable Energy Plan);
- 6 • Case U-18255 (DTE Electric General Rates);
- 7 • Case U-18322 (Consumers Energy General Rates);
- 8 • Case U-18406 (UPPCO 2018 PSCR Plan);
- 9 • Case U-18408 (UMERC 2018 PSCR Plan);
- 10 • Case U-18419 (DTE Certificate of Necessity);
- 11 • Case U-20072 UPPCO 2017 PSCR Reconciliation);
- 12 • Case U-20111 (UPPCO Tax Cuts and Jobs Act of 2017 Adjustment);
- 13 • Case U-20134 (Consumers Energy General Rates);
- 14 • Case U-20150 (UPPCO Revenue Decoupling Mechanism Complaint);
- 15 • Case U-20162 (DTE General Rates);
- 16 • Case U-20165 (Consumers Energy Integrated Resource Plan);
- 17 • Case U-20229 (UPPCO 2019 PSCR Plan Case);
- 18 • Case U-20276 (UPPCO General Rates);
- 19 • Case U-20350 (UPPCO Integrated Resource Plan);
- 20 • Case U-20359 (I&M 2019 General Rate Case);
- 21 • Case U-20471 (DTE Integrated Resource Plan);
- 22 • Case U-20479 (SEMCO 2019 General Rate Case);
- 23 • Case U-20561 (DTE 2019 General Rate Case).;

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- 1 • Case U-20591 (Indian Michigan Power Company IRP);
- 2 • Case U-20642 (DTE Gas 2020 General Rate Case).;
- 3 • Case U-20649 (Consumers Electric Voluntary Green Pricing).;
- 4 • Case U-20650 (Consumers Gas 2020 General Rate Case);
- 5 • Case U-20697 (Consumers Electric 2020 General Rate Case);
- 6 • Case U-20713 (DTE 2020 Voluntary Green Pricing);
- 7 • Case U-20836 (DTE Electric 2022 General Rate Case);
- 8 • Case U-20874 (Alpena Power 2022-23 EWR Plan Case);
- 9 • Case U-20875 (Consumers Energy 2022-23 EWR Plan Case);
- 10 • Case U-20876 (DTE Electric 2022-23 EWR Plan Case);
- 11 • Case U-20877 (Indiana Michigan 2022-23 EWR Plan Case);
- 12 • Case U-20878 (NSP 2022-23 EWR Plan Case);
- 13 • Case U-20879 (UPPCO 2022-23 EWR Plan Case);
- 14 • Case U-20880 (UMERC 2022-23 EWR Plan Case);
- 15 • Case U-20881 (DTE Gas 2022-23 EWR Plan Case);
- 16 • Case U-20882 (MGU Gas 2022-23 EWR Plan Case);
- 17 • Case U-20883 (SEMCO Gas 2022-23 EWR Plan Case);
- 18 • Case U-20889 (Consumers Karn Retirement Securitization);
- 19 • Case U-20963 (Consumers Energy Electric Rate Case);
- 20 • Case U-21015 (DTE Securitization Case);
- 21 • Case U-21048 (Consumers Energy 2022 PSCR Plan);
- 22 • Case U-21081 (UMERC 2021 IRP);
- 23 • Case U-21090 (Consumers Energy 2021 IRP);

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- 1 • Case U-21189 (Indiana Michigan 2022 IRP);
- 2 • Case U-21193 (DTE Electric 2022 IRP);
- 3 • Case U-21224 (Consumers Energy 2022 Electric Rate Case);
- 4 • Case U-21297 (DTE Electric 2023 Rate Case);
- 5 • Case U-21377 (IM Renewable Acquisition);
- 6 • Case U-21389 (Consumers Energy 2023 Electric Rate Case);
- 7 • Case U-21540 (MGU 2024 Gas Rate Case); and
- 8 • Case U-21555 (UPPCO 2024 Rate Case).

9 Additionally, I have testified as an expert witness before the Public Utilities Commission
10 of Nevada in Case No. 16-07001 concerning the 2017-2036 integrated resource Plan of
11 NV Energy; and before the Missouri Public Service Commission in Case Nos. ER-2016-
12 0179, ER-2016-0285, and ET-2016-0246 concerning residential rate design and electric
13 vehicle (“EV”) policy, revenue requirements, cost of service, and rate design. I testified
14 before the Kentucky Public Service Commission in Case No. 2016-00370 concerning
15 municipal street lighting rates and technologies. I testified before the Massachusetts
16 Department of Public Utilities in Case Nos. DPU 17-05 and DPU 17-13 concerning EV
17 charging infrastructure program design and cost recovery. Before the Rhode Island Public
18 Utilities Commission, in case 4780, I testified concerning Advanced Metering
19 Infrastructure and EV charging infrastructure. Before the Delaware Public Service
20 Commission, I testified regarding EV charging infrastructure in case 17-1094. I testified
21 before the Georgia Public Service Commission in Case No. 4822 concerning PURPA
22 avoided cost. I testified before the Colorado Public Utilities Commission in Cases No. 20A-

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1 0204E and 20A-195E concerning cost recovery for EV charging infrastructure. I also
2 testified before the Minnesota Public Utilities Commission in Case No. 22-432 regarding
3 EV charging rate design.

4 I have also testified as an expert witness on behalf of the State of Michigan before the
5 Federal Energy Regulatory Commission (“FERC”) in cases relating to the relicensing of
6 hydro-electric generation and have participated in state and federal court cases on behalf
7 of the State of Michigan, concerning electricity generation matters, which were settled
8 before trial.

9 **Q. Are you sponsoring any exhibits?**

10 A. Yes, I am sponsoring the following exhibits:

- 11 Exhibit CUB-17: Resume of Douglas B. Jester
- 12 Exhibit CUB-18: Production Plant Cost Allocators
- 13 Exhibit CUB-19: Electric Vehicle Charging Profiles

14 **II. SUMMARY**

15 **Q. What topics are you addressing in your testimony?**

16 A. My testimony will address the following topics:

- 17 1. Rate recovery of outage bill credits;
- 18 2. Securitization of tree trimming surge costs;
- 19 3. Allocation of production plant costs to customer classes;
- 20 4. Rate design issues;
- 21 5. Transportation electrification.

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1 **Q. Which Company witnesses' testimony do you discuss in your testimony?**

2 A. I am addressing the testimony of Company witnesses Neal T. Foley, Habeeb J.
3 Maroun, Aaron Willis, and Pina Bennett.

4 **III. OVERVIEW OF DTE ELECTRIC'S APPLICATION**

5 **Q. Please summarize DTE Electric's rate request.**

6 A. As presented in DTE Electric's Rate Case Summary, DTE Electric is proposing \$456
7 million annual revenue increase, driven substantially (\$285 million) by increases in rate
8 base but with material increases due to cost of debt and capital structure (\$36 million),
9 increased return on equity (\$63 million), and operating cost increases (\$72 million). The
10 rate base increase includes \$927 million in utility plant additions. This revenue increase
11 results in a 9.6% increase for residential customers, an 8.9% increase for secondary
12 residential customers, a 4.3% increase for primary customers, a 2% reduction of rates for
13 economic development customers (D13 XL), and 6% increase of lighting customers.

14 The underlying capital expenditures driving rate base increases are shown in Exhibit A-12
15 Schedule B5 and a substantial majority is to be spent on the DTE Electric's distribution
16 system.

17 **Q. How should the Commission approach this case?**

18 A. DTE Electric's electricity costs are comparatively high for residential and commercial
19 customers and average for industrial customers. DTE Electric's reliability is poor,

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1 particularly when Major Event Days are included. The following table from CUB’s annual
2 utility performance report shows DTE Electric’s comparative performance in 2021.¹

2021 DTE Electric Company Performance Summary				
Metric	Value	Michigan	US Average	IOU Rank
Number of Electricity Customers Across All Sectors	2249459	5014447		1
SAIDI with Major Event Days (Minutes)	927.4	873	440	7
SAIDI without Major Event Days (Minutes)	135.6	177.9	119.9	2
SAIFI with Major Event Days (# of Outages)	1.581	1.656	1.396	2
SAIFI without Major Event Days (# of Outages)	0.924	1.03	0.998	1
CAIDI with Major Event Days (Minutes)	586.6	527	315	7
CAIDI without Major Event Days (Minutes)	146.8	172.6	120.1	4
Residential Electricity Price (\$)	0.17856	17.61	13.07	5
Commercial Electricity Price (\$)	0.10519	11.69	9.81	1
Industrial Electricity Price (\$)	0.06371	6.68	6.12	3
Residential Electricity Savings from Efficiency Programs as a % of Sales	1.747	1.405	0.846	3

3
4 In this case, DTE Electric proposes revenue increases well in excess of inflation rates. In
5 general, and particularly when a utility has comparatively high rates, the Commission
6 should be wary of rate increases that exceed general inflation. Generation fuel prices are
7 volatile and technology mix is changing which can engender electricity price variation, but
8 electricity generation, transmission, distribution, metering and utility operations are mature
9 businesses that should show long-term trends of improving productivity and relative cost
10 declines.²

¹ CUB Utility Performance Report 2023 Edition, p. 8. Data availability lags for some data used in the report cause a delay between the data year and the report year. The 2024 edition is currently in preparation.

² Direct testimony of Matthew Bandyk, pp. 3-4.

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1 I therefore recommend that the Commission approach all rate cases from the perspective
2 that a utility should be managing its operations to limit rate increases to the general inflation
3 rate or less. At the same time, the Commission should be focused on ensuring that DTE
4 Electric is accountable for improving distribution reliability.

5 **IV. OUTAGE CREDIT RECOVERY**

6 **Q. What proposal is the Company making in this case with regard to outage credit
7 recovery?**

8 **A.** As described by DTE Electric witness Neal T. Foley,³ the Company proposes that outage
9 bill credits provided to customers pursuant to the Commission's Service Quality and
10 Reliability Standards for Electric Distribution Systems (Mich Admin Code R460.701-752
11 that result from certain causes be deferred for subsequent recovery.

12 **Q. For what causes of outages does DTE Electric propose to recover bill credits?**

13 **A.** For bill credits paid when DTE Electric's restoration of service exceeds durations specified
14 in the rules when the outage causes are:

- 15 • Transmission operator or other utility
- 16 • Public interference
- 17 • Animal interference

18 For bill credits paid when a DTE Electric customer experiences excessive outage
19 frequency, the causes listed above for excessive outage duration and also outages caused
20 by:

³ Direct testimony of Neal T. Foley, NTF-30:12 through NTF-33:25.

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- 1 • Ice
- 2 • Lightning
- 3 • Wind
- 4 • Other weather

5 **Q. Do you agree with this proposal?**

6 **A.** No. This proposal is reflective of DTE Electric’s continuing resistance to accountability
7 for its performance as owner and operator of its distribution system.

8 An outage attributable to a transmission operator or other utility must be fixed by that party.
9 It is therefore reasonable to provide a limited recoverability of bill credits due to such
10 outages, though the proper public policy would be that DTE Electric must recover that cost
11 from the responsible party.

12 Aside from this limited exception, the Commission should reject this proposal. An outage
13 duration exceeding the Commission’s standards reflects DTE Electric’s failure to timely
14 repair the problem and restore service, even if the outage is caused by public interference
15 or animal interference. If the outage is caused by public interference, DTE Electric can
16 seek recourse from the responsible party and if that isn’t possible, this is nonetheless a case
17 in which DTE Electric should reasonably be expected to timely restore service. Animal
18 interference is an event that DTE Electric and any other utility should expect to happen in
19 its distribution system and which they should be prepared to timely repair.

20 The Commission’s outage frequency limits, at 6 or more in a 12-month period, are already
21 generous to the utility. DTE Electric’s proposal to recover bill credits for weather

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1 effectively excludes a majority of their outage occurrences and would completely
2 undermine any accountability for ensuring that their distribution system is robust enough
3 to provide satisfactory service. The Company’s rationale “that the Company controls the
4 restoration time when there is a weather event but not the frequency with which weather
5 events occur”⁴ is unavailing because the Company does control the vulnerability of its
6 distribution system to weather.

7 **Q. What other considerations apply to this proposal?**

8 **A.** DTE Electric has persistently had amongst the worst reliability records of any investor-
9 owned utility over several decades. The Commission has given considerable attention to
10 this problem over those decades to little avail.⁵ The rules in question are one of the few
11 measures that the Commission has undertaken to hold utilities accountable for
12 performance, albeit in a very modest way. The Commission has not reduced return on
13 equity, held utility management to high standards, administered significant penalties for
14 violation of the Service Quality Standards, nor taken any other actions to hold utilities
15 accountable even as utilities spend billions on supposed distribution system improvements.
16 For the Commission to grant this request by DTE Electric would demonstrate the
17 Commission’s abject inability to hold a utility accountable for its performance.

⁴ Direct testimony of Neal T. Foley, NTF-32:15-19.

⁵ See the presentation by Douglas Jester in the Commission’s 2021 Technical Conference on Emergency Preparedness, Distribution Reliability, and Storm Response, available from https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/workgroups/technical-conference/Session_2_Master_Slide_Deck_-_Tech_Conf_11-5-2021.pdf as of 20 July 2024.

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1 **V. TREE TRIMMING SURGE SECURITIZATION**

2 **Q. What proposals has DTE Electric made in this case regarding costs of its tree**
3 **trimming surge?**

4 **A. DTE Electric has made two proposals. First, they propose that the Company be allowed a**
5 return on the tree trim regulatory asset accumulated as a result of the tree trim surge at the
6 Company’s long-term cost of permanent capital. MNSC Witness Paul Alvarez testifies in
7 opposition to that proposal, and I endorse his testimony and recommendation.

8 Second, they describe their intent to securitize the costs of the tree trim surge after the surge
9 program concludes, capturing all expenditures not previously securitized. I support that
10 plan but strongly advise that DTE Electric assume that the same conditions will apply to
11 this securitization as the Commission ordered in Case No. U-21015.

12 **VI. CLASS COST ALLOCATION**

13 **Q. Please summarize DTE Electric’s approach to the allocation of costs to customer**
14 **classes in this case.**

15 **A. DTE Electric presents an Unbundled Cost of Service Study (UCOS) through the testimony**
16 of Habeeb J. Maroun. Witness Maroun allocates costs in various “buckets” based on
17 various allocators, most of which were presented in the testimony of Aaron Willis. As
18 summarized by Maroun, the key allocators are Production Plant allocated by 4CP 75-0-25,
19 Transmission O&M allocated by 12CP 100-0-0, Fuel allocated by 12CP 10-0-90,
20 Distribution allocated by various metrics organized by voltage class, and Customer-related

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1 costs allocated also by various metrics.⁶ In the parlance of cost allocation, 4CP refers to
2 class shares of load in the peak hours of each of the months June through September, 12CP
3 refers to using the class shares of load in the peak hours of each of the 12 months of the
4 year, and the xx-xx-xx labels refer to the portion of the costs in a given category that are
5 allocated based on the CP statistic, on-peak annual energy, and total annual energy; 4CP
6 75-0-25 for Production Plant means that 75% of Production Plant costs are allocated based
7 on the 4CP allocator, 0% of Production Plant costs are allocated by on-peak energy, and
8 25% are allocated by annual energy of the various customer classes.

9 **Q. Do you agree with DTE Electric’s cost allocation methods?**

10 **A.** No. In this testimony, I am focusing on only one of the methods about which I disagree
11 with DTE Electric’s proposal, the use of 4CP to allocated Production Plant.

12 **Q. Doesn’t Michigan law prescribe the use of 4CP 75-0-25 for the allocation of**
13 **Production Plant?**

14 **A.** No. MCL 460.11 specifies that “The commission shall ensure that the cost of providing
15 service to each customer class is based on the allocation of production-related costs based
16 on using the 75-0-25 method of cost allocation and transmission costs based using the
17 100% demand method of cost allocation. The commission may modify this method if it
18 determines that this method of cost allocation does not ensure that rates are equal to the
19 cost of service.” For purposes of this testimony, it is sufficient to note that MCL 460.11
20 specifies the 75-0-25 method for allocating production plant but does not specify the use

⁶ Direct Testimony of Habeeb J. Maroun, HJM-4, Table 1.

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1 of 4CP for allocating the 75% of the costs of Production Plant that are allocated based on
2 demand. In this case, I am only proposing that the Commission replace the 4CP allocator.

3 **Q. Why has the Commission previously authorized the use of 4CP to allocate the demand**
4 **portion of Production Plant?**

5 **A.** The basic idea has been that the quantity of Production Plant is driven by peak generation
6 requirements and that the peak aggregate demand of DTE Electric’s customers occur in the
7 months of June, July, August and September with significantly lower peak demands in
8 other months. Therefore, the costs of Production Plant have been allocated to customer
9 classes based on their contributions to those peaks.

10 **Q. Why are you proposing in this case to change from the use of the 4CP metric to**
11 **allocate the demand portion of Production Plant?**

12 **A.** First, it is important to note that DTE Electric is a member and market participant of the
13 Midcontinent Independent System Operator (“MISO”). As such, DTE Electric is not
14 directly responsible for meeting the power generation requirements of its customers.
15 Rather, DTE Electric buys from MISO all of the power that it sells to its customers and
16 sells all of the power it generates to MISO. Subject to plant availability and power supply
17 cost bids submitted to MISO by DTE Electric, MISO determines which power sources
18 should be dispatched at any given time. The power consumed by DTE Electric’s customers
19 will often be provided, at least in part, by resources owned by other MISO market
20 participants. Consequently, DTE Electric’s Production Plant requirements are not directly
21 determined by the demand from its own customers.

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1 Although MISO is ultimately responsible for ensuring that there is sufficient power supply
2 to meet the demand of customers of all MISO market participants that serve load, MISO
3 ensures that each load-serving entity contributes a “fair share” of power supply capacity
4 through Resource Adequacy requirements that apply to each load-serving entity within
5 MISO, including DTE Electric. Thus, cost causation for DTE Electric’s Production Plant
6 is not determined directly by demand from its customers but by the need to meet MISO’s
7 Resource Adequacy Standards.

8 MISO’s Resource Adequacy standards are established in its tariff Module E,⁷ as approved
9 by the Federal Energy Regulatory Commission (“FERC”) and are made operational as
10 described in MISO’s Business Practices Manuals.⁸ These standards provide for the
11 calculation by MISO of an amount of resource capacity that each load-serving entity must
12 provide as a MISO market participant and for the accreditation of resource capacity
13 provided by each resource controlled by a market participant, using a metric called Zonal
14 Resource Credits (“ZRCs”). In summary, each load-serving must supply a number of ZRCs
15 determined by MISO based on the load-serving entity’s customers’ demand and does so
16 using ZRCs accredited to Production Plant that is owned by or contracted to the load-
17 serving entity; ZRCs themselves are a tradable instrument and may be sold and bought
18 independently of all other attributes of the production plant from which the ZRCs are
19 accredited.

⁷ See the current version at <https://www.misoenergy.org/legal/rules-manuals-and-agreements/tariff/>.

⁸ See the current version of BPM 011 – Resource Adequacy at <https://www.misoenergy.org/legal/rules-manuals-and-agreements/business-practice-manuals/>.

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1 MISO recently changed its Resource Adequacy Standard and practices from an annual
2 construct based on annual peak demand, which occurs in summer, to a seasonal Resource
3 Adequacy Standard that establishes a ZRC requirement for each season for each load-
4 serving entity and accredits each resource with seasonal ZRCs.⁹ MISO's seasons are
5 Summer (June-August), Fall (September-November), Winter (December-February), and
6 Spring (March-May). These practices are in effect for MISO Planning Year 2024-2025 and
7 thereafter, which encompasses DTE Electric 2025 projected test year.

8 **Q. What difference does MISO's seasonal construct make to DTE Electric's Production**
9 **Plant requirements?**

10 **A.** First, in developing its seasonal Resource Adequacy construct, MISO found that both
11 demand uncertainty and resource performance risks vary seasonally and created different
12 reserve margins for each season.¹⁰ For Planning Year 2024-2025, the Unforced Capacity
13 Planning Reserve Margin for Summer demand is 9%, while it is 14.2% for Fall, 27.4% for
14 Winter, and 26.7% for Spring. Thus, a MW of DTE Electric customer demand in other
15 seasons creates a larger capacity requirement than a MW of Summer demand.

16 Second, the accredited capacity from each generator varies seasonally due to seasonality
17 of renewable resource availability, seasonal derates of thermal generators, and seasonal

⁹ Full documentation of MISO's Resource Adequacy construct can be found at <https://www.misoenergy.org/planning/resource-adequacy2/resource-adequacy/#t=10&p=0&s=FileName&sd=desc>.

¹⁰ See page 35 of Planning Year 2024-2025 Loss of Load Expectation Study Report, available from <https://cdn.misoenergy.org/LOLE%20Study%20Report%20PY%202024-2025631112.pdf>.

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1 variation if the forced outage rates of each type of generating unit.¹¹ Each resource
2 controlled by DTE Electric and consequently DTE Electric's resource portfolio provides a
3 bundle of seasonal ZRCs rather than a single annual ZRC. It could therefore be the case
4 that a given level of customer demand in one season could use a higher share of DTE
5 Electric's capacity resources in one season that has lower ZRC accreditation than in another
6 season with higher ZRC accreditation.

7 With the combination of both seasonal reserve margins and seasonal accreditation, it is
8 entirely possible that customer demand in some season will drive a need for additional
9 Production Plant resources even though demand in that season is distinctly lower than in
10 the 4CP summer that DTE Electric has traditionally used. The Commission should
11 conclude from MISO's seasonal Resource Adequacy construct that Production Plant cost
12 causation can no longer be based solely on class contribution to peak nominal loads but
13 instead must be rooted in the seasonal performance of those resources.

14 **Q. Does DTE Electric's seasonal Resource Adequacy data support the perspective you**
15 **outlined above?**

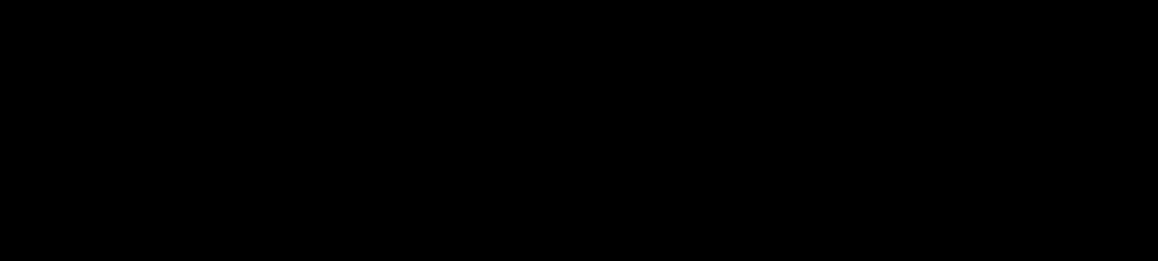
16 **A.** Yes. In response to discovery requests, DTE Electric provided Protected responses
17 showing their seasonal required ZRCs and accredited ZRCs for Planning Year 2024-2025.

18 The following table summarizes those data:

¹¹ See page 27 of Planning Year 2024-2025 Loss of Load Expectation Study Report, available from <https://cdn.misoenergy.org/LOLE%20Study%20Report%20PY%202024-2025631112.pdf>.

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DTE Electric Resource Adequacy MISO Planning Year 2024-2025



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As is obvious from this table, the utilization of DTE Electric’s Production Plant portfolio is distinctly lower in Winter (71.9%) but varies only a little amongst the other seasons (between 96.5% and 98.4%). This pattern of utilization of DTE Electric’s Production Plant portfolio does not support the use of the 4CP metric.

Q. What demand allocator of Production Plant do you recommend that the Commission adopt in place of 4CP?

A. I offer the Commission two options, one of which I recommend as a more accurate representation of cost causation.

The first option is to use 9CP, averaging the customer class contributions to peak load in each of the months in Spring, Summer, and Fall (March through November). This is close to the Commission’s past practice of allocating Production Plant Demand costs based on the months during which DTE Electric’s Production Plant portfolio is most heavily utilized, while recognizing that neither requirements to serve load nor load-supporting capacity are correctly measured by nominal MWs but must instead be measured by ZRCs. However, this approach does not actually adjust the nominal MW of customer demand for the seasonality of the resources needed to support that load. I recommend adopting my second option.

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1 The second option is to use the method illustrated in my Exhibit CUB-18. Because DTE
2 used projected statistics in its cost of service modeling and did not project all of the
3 statistics needed for this option, I used 2022 actual data to determine class shares from the
4 spreadsheets Part III Attachment 5 (29) COMPLETE and Part III Attachment 5 (28)
5 COMPLETE_Updated 2022 included in DTE Electric distribution of supporting materials
6 to all parties, as instructed by the Commission’s filing requirements. The basic idea is that
7 Production Plant capacity should be allocated to customer classes based on the seasons in
8 which the Production Plant is used. As Winter has the lowest utilization shown in the
9 preceding table, at 71.9% of accredited capacity, and that share of accredited capacity is
10 used in all seasons, I recommend allocating 71.9% of the demand portion of Production
11 Plant to customer classes based on their contributions to peak demand in all 12 months
12 (12CP) as shown in the column of Exhibit CUB-18 headed 12CP. Spring has the next
13 lowest utilization of DTE Electric’s Production Plant portfolio, at 96.5% of accredited
14 capacity, so I recommend allocating the difference between 96.5% of Production Plant
15 demand costs and the 71.9% Winter utilization, or 24.6% of Production Plant costs, based
16 on 9CP covering Spring, Summer, and Fall seasons. The 3rd lowest seasonal utilization of
17 DTE Electric’s Production Plant is Fall, at 98.2% of accredited capacity, which is only a
18 1.6% increment of utilization above Spring, so I recommend allocating that increment of
19 Production Plant costs based on 6CP covering Summer and Fall. The remaining Production
20 Plant costs, at 1.8%, are then allocated to customer classes based on 3CP covering Summer.
21 Notably, the class shares in the column labeled 9CP (Sp+Su+F) of Exhibit CUB-18 are the
22 class shares that would be applied if the Commission chooses the first option I present
23 above.

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1 **Q. What effect does your recommendation have on the cost of service study presented**
2 **by DTE Electric in this case?**

3 A. The percentages of Production Plant allocated to each customer subclass and to overall
4 customer classes are shown in my Exhibit CUB-18. I provided those allocations to MNSC
5 witness Joshua Denzler, who substituted these allocations for Allocator 200B in DTE
6 Electric's UCOS model to determine the full effect on allocations of responsibility for
7 revenue requirements. He is testifying to those results. The following table summarizes the
8 shares of demand-related Production Plant costs (i.e.75% of Production Plant costs) that
9 would be allocated to major customer classes under DTE Electric's proposal to use 4CP,
10 my first option to use 9CP covering the non-Winter months, and my recommended second
11 option to use class shares for the period of use of each seasonal increment of Production
12 Plant utilization.

Major Class	DTE 4CP Method	9CP (Sp+Su+F)	Weighted by Seasonal Capacity Increment
Residential	51.74%	48.73%	48.96%
Secondary Commercial	25.33%	25.17%	24.83%
Primary	22.84%	25.93%	25.95%
Public Lighting	0.09%	0.16%	0.26%

13

14 **Q. Are you recommending that this allocation be adopted in this case?**

15 A. Yes. MISO's seasonal Resource Adequacy construct is in effect and should be reflected in
16 rates that will be in effect in 2025.

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1 **VII. RATE DESIGN**

2 **Q. Do your recommendations regarding Class Cost Allocation have any significance for**
3 **rate design, aside from changes in revenue responsibilities of the various classes?**

4 **A.** Yes. It has long been my view, presented to this Commission in testimony in various cases,
5 that rate design should reflect cost of service by pricing billing determinants to send a price
6 signal to customers as to what uses of power affect their bills. When rate design does not
7 reflect cost of service methods, customers are misled as to what is costly or not, and will
8 make investment and behavioral choices that are not aligned with cost causation, to the
9 detriment of both their customer class, the utility's customers overall, and society. For
10 example, failure to charge high rates at times that drive incremental Production Plant leads
11 to higher usage at those times and higher investments in Production Plant than would be
12 necessary if customers faced the true cost of their power consumption at those times.
13 Similarly, charging customers for demand-related Production Plant at times when
14 Production Plant is in surplus discourages customers from shifting the time of their power
15 consumption to those times and also from adopting electricity uses that would be low cost
16 to the utility and society. For these reasons, the Commission should strive for reasonably
17 accurate pricing of billing determinants that is reflective of cost of service.

18 Partly due to my advocacy in testimony, the Commission has adopted time of use rates
19 with an emphasis on charging more during summer peak times. Now that MISO has
20 adopted a seasonal Resource Adequacy construct that shifts our understanding of
21 Production Capacity cost causation, I recommend adopting time of use rates that are
22 reflective of when capacity is used both seasonally and by time of day.

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1 **Q. How do you recommend that seasonal Resource Adequacy be incorporated into rate**
2 **design?**

3 **A.** Consistent with the principle that rate design should reflect cost causation as allocated in
4 the cost-of-service model, the method by which seasonal Resource Adequacy is
5 incorporated into rate design should depend on the Production Plant method applied to
6 determine cost of service.

7 If the Commission chooses to allocate Production Plant based on 9CP, covering Spring,
8 Summer, and Fall, I recommend that all demand-based Production Plant revenue be
9 included in capacity charges in only those months and none of the demand-based
10 Production Plant revenues be included in Winter rates. For those rate schedules that include
11 Production Demand charges, the Production Demand charges would be low (perhaps zero)
12 in Winter and higher in the other seasons. Since there is so little difference in Production
13 Plant utilization amongst the Spring, Summer, and Fall seasons, demand charges can be
14 uniform during those seasons. For rate schedules that use time of use rates, seasonal peak
15 periods should include those portions of the day when coincident peaks commonly occur,
16 and demand-based Production Plant costs should be allocated principally to peak-period
17 capacity charges during those peak periods in Spring, Summer, and Fall. For rate schedules
18 that do not have either demand charges or time-of-use charges, capacity charges should
19 include demand-based Production Plant costs only in Spring, Summer, and Fall.

20 If the Commission chooses to allocate Production Plant based on weights of class share by
21 seasonal Production Plant utilization, then that portion of Production Plant that is allocated
22 based on Winter coincident peaks should be allocated in rate design across the entire year.

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1 In my analysis, this is 71.9% of demand-based Production Plant costs. The remainder of
2 the demand-based Production Plant revenue for each class should then be allocated across
3 the remaining seasons in the same fashion as the cost-of-service allocation. Based on the
4 similarity of current Production Plant utilization in Spring, Summer, and Fall, those seasons
5 could be assigned the same capacity rates. As articulated above, the reflection of these
6 Production Plant costs in rates will differ according to whether the rate schedule recovers
7 capacity costs through demand charges, time-of-use rates, or flat rates.

8 **Q. Are there other considerations that the Commission should apply to changes in rate**
9 **design?**

10 **A.** Yes. As MNSC witness Graham Woolley shows, the effective capacity of the distribution
11 system is also seasonal. Currently aging of line transformers occurs almost exclusively
12 occurs during Summer months June through August. As both he and MNSC witness David
13 Gard show, utilization of the effective capacity of the distribution system is highly
14 seasonal, both because nominal loads are lower in non-summer seasons but also because
15 transformer effective rating is higher when ambient temperatures are lower. As with
16 Production Plant capacity that varies seasonally, the proper basis for both cost of service
17 and rate design of distribution costs is the degree of capacity utilization, not nominal
18 loading. On that basis, distribution system rates should be seasonal.

19 Additionally, I note that MNSC witness David Gard shows very clearly that the ratios of
20 coincident and non-coincident peak demands to annual energy vary significantly within the
21 broad residential class both as between single-family and multi-family dwelling types and
22 according to the degree of electrification of buildings and automobiles. I reiterate and

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1 support his recommendation that these become the basis for separate residential customer
2 rate classes in the future. In particular, I recommend that the Commission require DTE
3 Electric to present in its next rate case a cost-of-service study and corresponding rates in
4 which residential customers are divided into Multifamily, Single-Family with electric
5 space heating, and Single-Family with fossil-fueled space heating. For these purposes, a
6 Single-Family class should include duplexes and mobile homes since these appear to have
7 similar load profiles. The Commission should also note that in addition to the load profile
8 differences between Single-Family and Multi-Family dwellings, the infrastructure
9 requirements in the form of utility-owned line transformers, service lines, etc., for a typical
10 Multi-Family dwelling unit are often quite different from those for Single-Family
11 buildings; it is therefore likely that there are material differences in distribution system
12 costs caused by these two dwelling types.

13 I note that while this will add some complexity to the residential cost of service analysis,
14 each of the resulting residential classes will be larger by both customer count and electricity
15 demand than several of the commercial and industrial classes and all of the public lighting
16 classes. It would also be appropriate for the Commission to consider subdividing the
17 Secondary Commercial General Service Rate class by space heating heat source.

18 **Q. Witnesses David Gard and Graham Woolley present analyses focussed on**
19 **transformers. Does the argument apply to other elements of the distribution system?**

20 **A.** Yes. We are presenting the transformer analysis to illustrate that this is a significant
21 consideration, but ambient temperature is important to most elements of the distribution
22 system and should be considered across all of those elements. For example, the current-

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1 carrying capacity (ampacity) of conductor is significantly influenced by ambient
2 temperature as represented in the Neher-McGrath equation.¹² I have long found the ISO
3 New England Capacity Rating Procedures document,¹³ though old, a convenient reference
4 to considerations of the effects of ambient temperature on transmission element ratings and
5 those same considerations also apply to distribution systems as they are composed of
6 similar but smaller elements.

7 **Q. Doesn't DTE Electric already have separate rate schedules for both residential and**
8 **commercial space heating?**

9 **A.** Yes, but those rate schedules mostly require separate metering, which is an unnecessary
10 expense to both DTE and the customer. Most are also interruptible, which may not appeal
11 to all customers. Rate Schedule D1.7 is limited to geothermal (ground source) heating.
12 Further, in the event that considerable building electrification occurs in future, as some
13 current public policy favors, the aggregate of these excess metering and billing costs could
14 become quite large. It will be less costly and more sustainable over the long term to simply
15 treat customers with electric space heating as a separate class.

16 **Q. What would be the benefits of the changes in rate design that you are recommending?**

17 **A.** There are three principal benefits. First, both the use of seasonal rates and breaking up the
18 residential class by dwelling type and space-heating technology will result in more accurate
19 assignment of revenue responsibility to customers. At present, it is almost certainly the

¹² Neher, J. H.; McGrath, M. H. (October 1957). "The Calculation of the Temperature Rise and Load Capability of Cable Systems". *AIEE Transactions*. **76** (III): 752–772.

¹³ See [capacity_rating_procedures.pdf \(iso-ne.com\)](https://www.iso-ne.com/capacity-rating-procedures.pdf).

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1 case that multi-family residential customers subsidize single-family residential customers
2 and that customers that have electric space heating but do not have space heating separately
3 metered are subsidizing customers that use fossil-fueled space heating. These overlap in
4 that electric heating is a much larger share of Multi-Family housing than it is of Single-
5 Family housing. An important consequence is likely that low-income households, who
6 disproportionately occupy Multi-Family housing with electric heating are significantly
7 subsidizing better-off households occupying Single-Family housing and using fossil-fueled
8 heating. Appropriately separating these classes to determine cost of service and construct
9 different rate schedules could significantly reduce current inequities in electric utility bills.

10 Second, such changes in rate design would provide price signals to residential customers
11 that would guide equipment selection and other investments and energy consumption
12 behavior that will, in the long run, reduce electric utility costs to society and individual
13 customers.

14 Third, these changes in rate design will promote electrification by making electricity
15 cheaper at the times space heating is needed, which will reduce pollution emissions and
16 dilute utility fixed costs over higher sales.

17 **Q. You did not recommend separate residential classes based on electric vehicle**
18 **ownership or behind-the-meter generation. Why not?**

19 **A.** With respect to electric vehicle ownership as a customer classifier, that is likely to change
20 more quickly than home heating. Further, I recommend a different approach to managing
21 electric vehicle charging in the portion of my testimony covering DTE Electric's
22 Transportation Electrification Plan and electric vehicle charging programs.

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1 With respect to behind-the-meter distributed generation, the Commission has already
2 adopted the inflow-outflow framework and required a Rider for eligible customers that
3 prescribes compensation for outflow. In the event that analysis shows that there should also
4 be differences in inflow rates for such customers, that could also be done through the Rider
5 as sur-credits on inflow rates. So, structurally it appears cleaner to not proliferate additional
6 rate schedules to accommodate customer adoption of behind-the-meter distributed
7 generation.

8 **Q. Do you recommend that the Commission adopt these rate design changes in the**
9 **present case?**

10 **A.** No. Data are not available in this case for the full analysis of these recommendations. The
11 analysis of rate designs based on these recommendations would be contingent on
12 Commission decisions about cost-of-service treatment of Production Plant, seasonality of
13 distribution system cost of service, classes to use in the analysis, and perhaps other things.
14 It would be more appropriate for the Commission to provide some guidance as to the rate
15 design considerations that it would like to consider or adopt, and require DTE Electric to
16 submit the requisite analyses and rate design recommendations in a future case.

17 **Q. Please summarize your rate design recommendations to the Commission.**

18 **A.** I recommend that the Commission adopt in the present case a method for allocation of
19 Production Plant in the cost-of-service analysis, that is consistent with MISO's seasonal
20 Resource Adequacy construct and direct DTE Electric to file in its next rate case rate
21 designs for capacity charges in all customer classes that are consistent with the method of
22 allocation of Production Plant.

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1 I recommend that the Commission require that DTE Electric file in its next rate case an
2 analysis of the seasonality for cost causation of distribution costs and distribution rate
3 designs consistent with that seasonality.

4 I recommend that the Commission require that DTE Electric file in its next rate case an
5 alternative cost of service study that separates Residential customers into Multi-Family,
6 Single-Family with electric space heating, and Single Family with fossil-fueled space
7 heating, such that the Commission can decide in that case whether this approach should be
8 adopted.

9 Finally, I recommend that the Commission encourage DTE Electric to engage with
10 stakeholders in performing these analyses, rather than waiting until the next rate case is
11 filed.

12 **VIII. TRANSPORTATION ELECTRIFICATION**

13 **Q. Please summarize DTE Electric’s Transportation Electrification proposals in this**
14 **case?**

15 **A.** In this case, DTE Electric presents

- 16 • an analysis of cost of service and rate design if Direct Current (“DC”) Fast Chargers
17 are treated as a separate class, covered in the testimony of Habeeb Maroun¹⁴ and
18 Aaron Willis¹⁵;

¹⁴ Direct Testimony of Habeeb J Maroun, HJM-27:9 through HJM-25:20.

¹⁵ Direct Testimony of Aaron Willis, AW-34:15 through AW-36:17.

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- 1 • its Transportation Electrification Plan (“TEP” or “Plan”), including background on
2 the Company’s development of the TEP;¹⁶ DTE’s proposed TEP program
3 portfolio;¹⁷ a benefit-cost analysis of the TEP;¹⁸ and the proposed investments
4 associated with the TEP.¹⁹

5 Within this presentation, DTE Electric proposes:

- 6 • To not implement a DC Fast Charging class in cost-of-service analysis or a distinct
7 DC Fast Charging rate at this time, but to revisit these in the future when the DC
8 Fast Charging customer base is larger and utilization is nearer market
9 equilibrium;²⁰
- 10 • To charge a customer installing electric vehicle charging Contribution in Aid of
11 Construction (“CIAC”) consistent with existing line extension policy with an
12 allowance for expected revenue from that specific charger;²¹
- 13 • To base its spending plans on its own forecast of electric vehicle adoption in its
14 service territory;²²
- 15 • To not include utility-owned pole-mounted chargers in this initial TEP;²³

¹⁶ Direct Testimony of Pina Bennett, PB-14:15 through PB-37:6.

¹⁷ Direct Testimony of Pina Bennett, PB-37:8 through PB-52:17.

¹⁸ Direct Testimony of Pina Bennett, PB 52:19 through PB-59:21.

¹⁹ Direct Testimony of Pina Bennett, PB-59:23 through PB-62:15.

²⁰ Direct Testimony of Aaron Willis, AW-36:12-17.

²¹ Direct Testimony of Pina Bennett, PB-35:3-4.

²² Direct Testimony of Pin Bennett, PB-35:5-6.

²³ Direct Testimony of Pina Bennett, PB-35:7.

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- 1 • To offer customers rebates for installing electric vehicle charging infrastructure as
2 summarized in Table 9 of the testimony of Pina Bennett,²⁴ with rebate amounts set
3 at levels intended to offset CIAC costs for program participants only in limited
4 cases;²⁵
- 5 • To require low-income customers obtaining a home charger rebate to use an
6 ENERGY STAR or vehicle manufacturer charger less than 12 kW and enrollment
7 in a Time-of-Day rate;²⁶
- 8 • To require recipients of Business Charger rebates to use networked chargers, share
9 data with DTE Electric, and maintain 97% charger uptime, with additional
10 requirements for larger rebates available to businesses located in a disadvantaged
11 community or in rural areas;²⁷
- 12 • To require Multi-unit Dwelling installations to meet certain low-
13 income/disadvantaged community criteria and to use a networked charger,
14 authorize data sharing with DTE Electric, commit to 97% charger uptime, and have
15 demonstrated tenant interest in installing electric vehicle chargers;²⁸
- 16 • To require recipients of Fleet Charging rebates, including for transit bus and school
17 bus charging, to install a qualified, networked charger, authorize data sharing with

²⁴ Direct Testimony of Pina Bennett, PB-38, Table 9.

²⁵ See Direct Testimony of Pina Bennett, PB-42:19-25 (describing rebates for qualified low-income MUDs as intended to cover “the CIAC portion of the utility make-ready and the customer make-ready.”).

²⁶ Direct Testimony of Pina Bennett, PB-41:11 through PB-42:3.

²⁷ Direct Testimony of Pina Bennett, PB-47:8-17.

²⁸ Direct Testimony of Pina Bennett, PB-44:4 through PB-45:3.

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1 DTE Electric and commit to demand ceilings in constrained areas and for school
2 bus chargers to include vehicle-to-grid chargers for a greater rebate;²⁹

- 3 • To not support rebates for workplace charging on the basis that there is sufficient
4 incentive for workplaces to install chargers to attract employees;³⁰
5 • To discount rebates to Electric Choice customers.³¹

6 To implement the proposed TEP portfolio, DTE requests approval of approximately \$25
7 million in the 2025 projected test year, of which about \$1.6 million will be capital for
8 Information Technology capabilities to support the Program, about \$3.2 million will be
9 expenses for program administration and education and outreach, and about \$20.1 million
10 of expenditures for customer rebates and an Emerging Technology Fund will be booked as
11 a regulatory asset to defer cost recovery.

12 **Q. What is your assessment of DTE Electric’s proposed TEP?**

13 **A.** DTE Electric’s TEP is a positive development and I urge DTE Electric and the Commission
14 to continue with periodic revisions and implementation of such plans. I have a few specific
15 concerns about this Plan, and find that the benefit-cost analysis is incorrect and should not
16 be the basis for limits to this and future TEPs.

17 **Q. What are your specific concerns about the Transportation Electrification Program?**

18 **A.** My principal concern is DTE Electric’s decision to apply CIAC practices to electric vehicle
19 charging based on current line extension policy. I also find the decision not to support

²⁹ Direct Testimony of Pina Bennett, PB-49:8-15.

³⁰ Direct Testimony of Pina Bennett, PB-50:16-18.

³¹ Direct Testimony of Pina Bennett, PB-50:19-22.

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1 workplace charging to be blind to some specific circumstances in which support should be
2 provided. The proposal to discount rebates to Electric Choice customers is based on
3 incorrect premises. The Plan gives insufficient attention to the integration of vehicle
4 charging into the grid as electric vehicle adoption reaches high levels, and likewise gives
5 insufficient attention as to how TEP programs may support or complement federal funding
6 for EV charging and transportation electrification initiatives.

7 **Q. What is your concern about the application of line extension policy for installation of**
8 **electric vehicle charging?**

9 **A.** It is highly likely that this policy will create unwarranted inequities and barriers to electric
10 vehicle adoption. Customers who happen to be located in places where distribution system
11 infrastructure is saturated will pay to upgrade the distribution system while customers who
12 happen to be located where there is surplus capacity will not. As electric vehicle adoption
13 proceeds, early adopters in a residential or commercial neighborhood may not need to pay
14 CIAC but at some point capacity limits will be reached and the unfortunate customer who
15 happens to adopt an electric vehicle at the wrong time will be asked to pay CIAC, and the
16 upgrade will then provide capacity for many subsequent adopters who will not have to pay
17 CIAC. A similar pattern could occur with DC Fast Charging; for example, an area near a
18 highway exit could host a few DC Fast Chargers without expense then reach a capacity
19 limit such that the next DC Fast Charger installation would incur significant CIAC. Word
20 of mouth information about large utility upgrade costs for electric vehicle adoption will
21 discourage people from adoption and discourage commercial installers from developing a

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1 sufficient network of public charging infrastructure, particularly DC Fast Charging, which
2 DTE correctly assesses will fulfill the majority of public charging needs.³²

3 DTE Electric's forecast of electric vehicle adoption is that it will be widespread and
4 perhaps ubiquitous.³³ Under these circumstances, rather than randomly charge some
5 customers CIAC while many others do not pay CIAC, based on conditions that are not
6 under their control, it would be far better policy to socialize the costs of grid upgrades to
7 accommodate electric vehicle charging. I therefore recommend that the Commission direct
8 DTE to waive CIAC for all new residential and commercial installations of EV charging,
9 whether installing customers are participants in DTE's TEP programs or not. This would
10 extend and expand the Company's prior policy of waiving CIAC for participants in the
11 Charging Forward programs.

12 By socializing the costs of grid upgrades, those costs can then be paid out of the aggregate
13 new revenue that will be provided by electric vehicle charging across DTE's distribution
14 system, rather than expecting that revenue from each individual charging location will
15 cover the costs that happen to be incurred by that particular charging location at that
16 particular time. The cost of such grid upgrades should be considered as part of any benefit-
17 cost analysis or ratepayer impact analysis of the Company's transportation electrification
18 programs and investments.

³² Direct Testimony of Pina Bennett, PB-26, Table 4.

³³ Direct Testimony of Pina Bennett, PB-23:5 through 25:4.

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1 **Q. In what circumstances might support for workplace charging be appropriate?**

2 A. It is likely often the case that employers with private parking for employees will find it
3 useful to provide electric vehicle charging for employees. However, workplace charging is
4 not always privately held by the employer and may be shared (as at a shopping mall or
5 multi-tenant office building), in common area parking in a downtown district, or in
6 municipally owned parking. In these cases, employees seeking electric vehicle charging
7 may encounter the same difficulties that DTE Electric recognizes for multi-unit dwellers.
8 It would be appropriate to extend the rebate program to these circumstances.

9 **Q. What is wrong with DTE's premises for discounting rebates to Electric Choice**
10 **customers?**

11 A. The stated premise is that Electric Choice customers contribute less revenue to DTE
12 Electric than full-service customers, so a discount is appropriate. However, it is not gross
13 revenue that supports electric vehicle charging programs, but net revenue where the
14 principal cost that must be netted out is the cost of power supply. Net revenue is almost
15 entirely attributable to paying full rates for charging while the utility does not incur
16 corresponding costs for distribution system upgrades. Net revenue from charging at the
17 premises of an Electric Choice customer is likely to be similar to net revenue from charging
18 at the premises of a full-service customer.

19 **Q. What more should DTE Electric do to address integration of vehicle charging into the**
20 **grid as electric vehicles reach higher levels of adoption?**

21 A. DTE Electric has taken some reasonable first steps to integrate electric vehicle charging
22 into the grid by encouraging or requiring customers participating in its Charging Forward

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1 programs to use Time-of-Day rates and by initiating the pilot DTE Smart Charge program.
2 I generally support continuing to condition customers' participation in the Company's TEP
3 programs on their agreement to manage their EV charging load.

4 To demonstrate that Time-of-Day rates are likely to be insufficient in the long run, I
5 modeled load profiles in two scenarios using the National Renewable Energy Laboratory's
6 EVI-Pro Lite tool.³⁴ In both cases, I used the Detroit urban area for the analysis and
7 developed the load profile for charging 40,000 electric vehicles. The results are shown in
8 Exhibit CUB-19. The specifications of each scenario are shown in the Exhibit next to the
9 charging load profiles. In the first scenario, charging at home is assumed to be delayed
10 until midnight, as someone might program their car or home charging station to do if they
11 take service on a Time-of-Day rate in which the low-cost period begins at midnight. In the
12 second scenario, charging at home is assumed to begin immediately after the car returns
13 home from the last trip of the day but the charging is spread evenly as slowly as possible
14 for readiness the next morning. It should be noted that the vertical axes have different scales
15 in the two scenarios. The first scenario, which is very like DTE Electric's current approach
16 to grid integration of electric vehicle charging, produces a very high demand immediately
17 upon the start of the low-priced period at midnight, and then diminishes fairly quickly
18 overnight and has comparatively low charging demand through the rest of the day. The
19 second scenario has a much more even demand throughout the day and will be much easier
20 to match to generation. Further, the second scenario would be much easier to accommodate
21 in the distribution grid.

³⁴ Accessible at <https://widgets.nrel.gov/eere/evi-pro-lite/#/load-profile>.

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1 Additionally, DTE Electric has not compared charging profiles to the expected grid load
2 net of renewables. As DTE Electric and other Michigan utilities increase their renewable
3 energy portfolios to meet recently adopted renewable and clean energy standards, the best
4 time of day to charge is likely to evolve and perhaps be seasonal. Flexibility to avoid
5 charging during extended periods of low renewable generation and to fully charge during
6 periods of high renewable generation, and especially if renewable curtailment will
7 otherwise occur, will also be valuable. Such flexibility is difficult if not impossible to
8 capture in a static rate design. DTE Electric’s current Transportation Electrification Plan
9 seems to assume that grid conditions will remain as they are now and does not account for
10 dynamics due to transportation electrification and increasing renewable generation.

11 I recommend that the Commission require DTE Electric to provide 8760-hour annual load
12 profiles in addition to the other metrics the Company proposes to track³⁵ to enable
13 stakeholders to work on this problem.

14 I also recommend that the Commission require DTE Electric to prepare a supplement to its
15 Transportation Electrification Plan that addresses grid integration of electric vehicle
16 charging by providing a forecast of load profiles at line transformers, circuit feeder
17 origination at the substation, and at generation when electric vehicle charging is combined
18 with existing loads at various levels of electric vehicle adoption and by also providing an
19 analysis of load net of renewable generation at various levels of electric vehicle adoption
20 with Michigan attaining 50% renewables, 60% renewables, and 80% renewables.
21 Challenges exposed by these analyses should then be addressed through plans or pilot

³⁵ Direct Testimony of Pina Bennett, PB-52:1-17.

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1 projects, which may include managed charging programs and/or dynamic rate designs akin
2 to those identified by the Company in its survey of sister utilities' TEPs.³⁶

3 **Q. What more should DTE Electric do to ensure its TEP programs support and**
4 **complement federal funding and initiatives for transportation electrification?**

5 **A.** DTE Electric's proposed TEP programs recognize some federal transportation
6 electrification efforts. For example, the Company would require rebate recipients in the
7 Business Charger and Multi-family programs to meet uptime standards aligned with federal
8 standards for National Electric Vehicle Initiative. It also recognizes "support to on-route
9 DCFCs not in DAC or rural areas" is "critical in the near-term to decrease range anxiety
10 and to complement federal funding opportunities, such as the NEVI program."³⁷

11 However, there is considerable room for improvement.

12 DTE Electric's proposed TEP programs partially recognize the value of alignment with
13 some federal transportation electrification efforts. For example, the Company would
14 require recipients of rebates for on-route charging as part of the Business Charger Rebates
15 program to meet uptime standards³⁸ that are aligned with the federal standards for National
16 Electric Vehicle Infrastructure ("NEVI") program. And, to qualify for higher rebate
17 amounts for on-route charging, participants would need to locate charging in disadvantaged
18 communities as defined by the Michigan State Plan for EV Infrastructure Deployment (a

³⁶ Direct Testimony of Pina Bennett, PB-16:3 through 23:3 (noting the prevalence of "requirements or incentives that support managed charging or Time of Day rates" in other utilities' TEPs).

³⁷ Direct Testimony of Pina Bennett, PB-46:22-25.

³⁸ Direct Testimony of Pina Bennet, PB-47:10-12.

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1 plan developed pursuant to the NEVI program) or a rural area as defined by the U.S.
2 Department of Transportation.³⁹ DTE further recognizes that “support to on-route DCFCs
3 not in DAC or rural areas” is “critical in the near-term to decrease range anxiety and to
4 complement federal funding opportunities, such as the NEVI program.”⁴⁰

5 At the same time, there is room for greater coordination. First, DTE’s Business Charger
6 Rebate program for on-route charging directly overlaps with the market segment to be
7 served by the state through its limited NEVI funding,⁴¹ which, for select projects, provides
8 support for up to 80% of the project cost. NEVI funds may not be used for major grid
9 upgrades and federal guidance discourages use of funds for any utility-side costs, instead
10 encouraging states to “explore whether they could be covered by electric utilities ... so as
11 to minimize use of NEVI funds for grid upgrades where possible.”⁴² To connect these
12 programs and stretch Michigan’s limited NEVI funds further, DTE’s rebates for on-route
13 charging should be available for “utility make-ready,” which the Company defines to
14 include “upgrades on the utility side of the meter, from the line transformer to the meter,”
15 as well as “customer make-ready,” which includes “upgrades on the customer side of the
16 meter, from after the meter to the EV charger.” Unfortunately, DTE’s testimony does not
17 specify whether the Business Charger Program rebates will be available for those cost
18 categories or available only for the “EV Charger.” I therefore recommend that DTE clarify
19 that its Business Charger Rebates for on-route charging are available to defray utility make-

³⁹ Direct Testimony of Pina Bennett, PB-47:14-17.

⁴⁰ Direct Testimony of Pina Bennett, PB-46:22-25.

⁴¹ Michigan’s funding is ~\$110M. See <https://www.michigan.gov/mdot/travel/mobility/initiatives/nevi>.

⁴² <https://www.ampeco.com/blog/nevi-program-faq/>.

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1 ready, customer make-ready and EV charger costs as defined in Table 7 of Witness
2 Bennett’s testimony.⁴³

3 Second, to the extent practical, DTE should prioritize Business Charger Rebate program
4 applications from prospective participants that are also seeking (or have secured) funding
5 through the state’s NEVI program. Such coordination is consistent with the Commission’s
6 directive in U-21297 “requiring the [Business Charger Rebate] program [to] be coordinated
7 with NEVI as ... that may enhance the program’s goals.”⁴⁴ Relatedly, DTE should work
8 with prospective program participants to site EV charging stations within census tracts
9 eligible for the Alternative Fuel Vehicle Refueling Property Tax Credit as extended and
10 modified by the Inflation Reduction Act.

11 Third, with respect to the eFleet Charger Rebate for school and transit buses, the Company
12 should similarly seek to prioritize applicants that are seeking (or have secured) funding
13 through federal programs for zero-emission buses, like the Clean School Bus program and
14 the Low or No Emissions Grant Program for transit buses. Through its education and
15 outreach efforts, DTE should support transit agency or school districts’ efforts to secure
16 such grants through technical assistance and grant-writing support. DTE also should clarify
17 that rebates are available for “utility make-ready” and “customer make-ready” in addition
18 to EV Chargers, as some of these costs are not eligible expenses with federal grants and
19 use of DTE rebates for those expenses can therefore help applicants access those grant
20 funds and stretch those grant funds farther. Finally, DTE should work with prospective

⁴³ Direct Testimony of Pina Bennett, PB-36:1-4.

⁴⁴ Case No. U-21297, Dec. 1, 2023, Order, p. 266.

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1 eFleet Charger Rebate program participants to site EV charging stations within census
2 tracts eligible for the Alternative Fuel Vehicle Refueling Property Tax Credit.

3 **Q. In what ways do you find DTE Electric’s Benefit-Cost Analysis to be incorrect?**

4 **A.** The analysis that DTE Electric presents as its benefit-cost analysis is essentially a rate-
5 payer impact analysis and not a benefit-cost analysis. DTE counts as “benefits” the
6 payments that electric vehicle drivers pay to DTE Electric and counts as “costs” the
7 expenditures that DTE Electric must make to supply power for electric vehicle charging,
8 to upgrade distribution systems, and to provide programs and rebates for electric vehicle
9 charging. The difference between the incremental revenue to DTE Electric and costs will,
10 in the normal course of utility regulation, accrue to DTE Electric’s customers in the form
11 of diluted rates for other uses of power. This is a ratepayer impact analysis. It is also a
12 legitimate consideration, as the Commission should be wary of cross-subsidization of
13 customers. However, it ignores that the electric vehicle charging revenue that exceeds the
14 utility costs of electric vehicle charging support by the utility is a subsidy by electric vehicle
15 drivers to other customers. From the perspective of benefit-cost analysis, it is a transfer
16 payment between parties and is not a benefit. Similarly, rebates from the utility to electric
17 vehicle drivers, paid for by other customers, are also a transfer payment and not a cost.
18 DTE Electric’s analysis simply demonstrates that even with the TEP programs it proposes,
19 there will be a net subsidy from electric vehicle drivers to other utility customers. This is a
20 valuable demonstration that helps to justify the scale of DTE’s proposed TEP and strongly
21 supports its approval by the Commission, but it is not accurate to describe DTE’s analysis
22 as a “benefit-cost analysis” because it fails to consider the full range of costs and benefits
23 associated with the TEP.

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1 **Q. What costs and benefits should be included in a benefit-cost analysis of DTE’s TEP?**

2 **A.** The National Standard Practice Manual produced by the National Energy Screening
3 Project⁴⁵ is a good guide to benefit-cost analysis. Additionally, the Commission should
4 note that it has long used reasonably sound benefit-cost analyses for Energy Waste
5 Reduction or Energy Optimization programs and has recently required appropriate benefit
6 analyses in support of its grants under the Low-Carbon Energy Infrastructure Grants
7 program.

8 In essence, a sound benefit-cost analysis should identify for the whole of society and from
9 the perspective of various stakeholders the costs of the proposed course of action and the
10 avoided costs and externalities associated with the course of action. In the specific case of
11 a Transportation Electrification Plan, the full list of costs and benefits would include the
12 cost of the electric vehicle set against the avoided cost of the non-electric vehicle
13 alternative, the utility’s incremental cost of producing and distributing electricity for
14 vehicle charging, the avoided cost of avoided fossil fuels, the change in maintenance costs
15 of an electric vehicle versus the avoided maintenance of a traditional vehicle, the climate
16 costs of supplying power for electric vehicle charging offset by the avoided climate costs
17 of fossil fuel for a traditional vehicle, the health costs of electricity supply for electric
18 vehicle charging offset by the avoided health costs of avoided transportation fuel
19 production and combustion, avoided economic and national security risks and readiness

⁴⁵ Which can be obtained from <https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/>.

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1 costs due to reduced dependence on volatile international oil markets, and any other
2 cognizable costs and benefits.

3 Because the purchase of an electric vehicle by a DTE Electric customer would be voluntary
4 on the part of that customer (albeit in the context of the market effects of current
5 regulations), it would be reasonable to assume that the private benefits plus any rebates
6 from the utility will exceed the private costs of that customer so that the utility analysis
7 could focus on externalities and utility costs.

8 **Q. What is the consequence of DTE Electric excluding the full range of costs and benefits
9 from its analysis of the TEP?**

10 **A.** DTE's limited analysis could lead the Company and Commission to incorrectly assess the
11 proper level of funding for DTE Electric's TEP programs.

12 **Q. Does DTE Electric's analysis of ratepayer impacts of its program have value to the
13 Commission?**

14 **A.** Yes, it is appropriate that the Commission consider the impacts of this program on non-
15 participating customers and perhaps even to seek to ensure that there is not a net cost to
16 those non-participating customers (though I note that this condition is not imposed on
17 utility Energy Waste Reduction programs).

18 **Q. Do you have any concerns about DTE Electric's analysis of ratepayer impacts of
19 electric vehicle adoption?**

20 **A.** Yes. DTE attempts to attribute only a portion of electric vehicle adoption to its TEP, which
21 I do not believe is appropriate for a ratepayer impact analysis. Instead, DTE should assess
22 marginal revenues from EVs on a service territory and system-wide basis. This the most

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1 natural basis for assessing ratepayer impact and the most reasonable approach from a policy
2 perspective because the total number of EVs and associated net revenue from EV charging
3 can be reasonably calculated. This approach is also justified by analogy to line extensions,
4 where current allowances for line extension recognize that a new customer provides
5 revenue that will fund at least a portion of the capital expenditures that are incurred for line
6 extension, without discounting that incremental revenue by excluding line extensions that
7 would occur anyway without the utility allowance. I am certain that if utility allowances
8 for line extensions were based on the percentage of line extensions that would not occur
9 without DTE's utility allowances, there would be very little or no utility contribution to
10 line extensions.

11 **Q. What do you recommend the Commission decide in this case regarding**
12 **Transportation Electrification?**

13 **A.** I recommend that the Commission generally support DTE Electric's proposed spending,
14 without endorsing the benefit-cost analysis as presented. I also strongly recommend that
15 the Commission direct DTE Electric to exempt from CIAC all distribution upgrades for
16 electric vehicle charging infrastructure. I further recommend that the Commission direct
17 DTE Electric to include full 8760-hour annual load profiles for electric vehicle charging
18 amongst the metrics that it will track and in future provide to the Commission and
19 stakeholders, and to prepare and file a supplement to the Transportation Electrification Plan
20 that projects the combined effects of transportation electrification and compliance with
21 Michigan's renewable and clean energy standards on grid balance, as described above.

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1 **IX. RECOMMENDATIONS**

2 **Q. Please summarize your conclusions and recommendations to the Commission.**

3 A. On behalf of MNSC, I recommend that the Commission:

4 (1) Reject DTE Electric’s request to recover some outage bill credits;

5 (2) Agree to DTE Electric’s proposal to securitize tree trim surge expenses once
6 the surge is complete, but limit return on the deferred costs to short-term debt rates;

7 (3) Change production cost allocation in the cost-of-service study to align with
8 MISO’s seasonal Resource Adequacy construct, using either a weighted
9 incremental share of production plant by season or a 9CP allocator;

10 (4) Direct DTE Electric to submit in its next rate case a seasonal approach to
11 capacity charges consistent with the seasonality of production plant utilization
12 relative to production plant accreditation;

13 (5) Direct DTE Electric to submit in its next rate case a seasonal approach to
14 distribution rates reflecting that the relative utilization of its distribution system is
15 seasonal;

16 (6) Direct DTE Electric to evaluate separating the residential customer class
17 into Multi-Family, Single-Family with fossil-fueled heat, and Single Family with
18 electric heat in both the cost-of-service study and rate design, through an alternate
19 cost-of-service study.

20 (7) Approve DTE Electric’s proposed spending to implement its Transportation
21 Electrification Plan, including its proposal to defer recovery of rebates, without
22 endorsing DTE Electric’s benefit-cost analysis.

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1 (8) Reject DTE Electric's proposal to subject utility make-ready costs to
2 Contribution in Aid of Construction similar to line extensions.

3 (9) Accept DTE Electric's recommendation to not act in this case on a separate
4 class for DC Fast Chargers.

5 (10) Direct DTE Electric to include full 8760-hour annual load profiles for
6 electric vehicle charging amongst the metrics that it will track

7 (11) Direct DTE Electric to prepare and file a supplement to the Transportation
8 Electrification Plan that projects the combined effects of transportation
9 electrification and compliance with Michigan's renewable and clean energy
10 standards on grid balance, and strategies to address any related challenges.

11 **Q. Does that complete your testimony?**

12 A. Yes, it does.

Douglas B. Jester

Personal Information

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djester@5lakesenergy.com

Professional experience

January 2011 – present
Managing Partner 5 Lakes Energy

Co-owner of a consulting firm working to advance the clean energy economy in Michigan and beyond. Consulting engagements with foundations, startups, and large mature businesses have included work on public policy, business strategy, market development, technology collaboration, project finance, and export development concerning energy efficiency, smart grid, renewable generation, electric vehicle infrastructure, and utility regulation and rate design. Policy director for renewable energy ballot initiative and Michigan energy legislation advocacy. Supported startup of the Energy Innovation Business Council, a trade association of clean energy businesses. Developed integrated resource planning models for use in ten states' compliance with the Clean Power Plan. Expert witness in more than 70 electric utility regulation cases in Michigan and approximately 15 cases in other states.

February 2010 - December 2010
Michigan Department of Energy, Labor and Economic Growth
Senior Energy Policy Advisor

Advisor to the Chief Energy Officer of the State of Michigan with primary focus on institutionalizing energy efficiency and renewable energy strategies and policies and developing clean energy businesses in Michigan. Provided several policy analyses concerning utility regulation, grid-integrated storage, performance contracting, feed-in tariffs, and low-income energy efficiency and assistance. Participated in Pluggable Electric Vehicle Task Force, Smart Grid Collaborative, Michigan Prosperity Initiative, and Green Partnership Team. Managed development of social-media-based community for energy practitioners. Organized conference on Biomass Waste to Energy.

August 2008 - February 2010
Rose International
Business Development Consultant - Smart Grid

- Employed by Verizon Business' exclusive external staffing agency for the purpose of providing business and solution development consultation services to Verizon Business in the areas of Smart Grid services and transportation management services.

December 2007 - March 2010 Efficient Printers Inc

President/Co-Owner

- Co-founder and co-owner with Keith Carlson of a corporation formed for the purpose of acquiring J A Thomas Company, a sole proprietorship owned by Keith Carlson. Recognized as Sacramento County (California) 2008 Supplier of the Year and Washoe County (Nevada) Association for Retarded Citizens 2008 Employer of the Year. Business operations discontinued by asset sale to focus on associated printing software services of IT Services Corporation.

August 2007 - 2015 IT Services Corporation

President/Owner

- Founder, co-owner, and President of a startup business intended to provide advanced IT consulting services and to acquire or develop managed services in selected niches, currently focused on developing e-commerce solutions for commercial printing with software-as-a-service.

2004 – August 2007 Automated License Systems

Chief Technology Officer

- Member of four-person executive team and member of board of directors of a privately-held corporation specializing in automated systems for the sale of hunting and fishing licenses, park campground reservations, and in automated background check systems. Executive responsible for project management, network and data center operations, software and product development. Brought company through mezzanine financing and sold it to Active Networks.

2000 - 2004 WorldCom/MCI

Director, Government Application Solutions

- Executive responsible in various combinations for line of business sales, state and local government product marketing, project management, network and data center operations, software and product development, and contact center operations for specialized government process outsourcing business. Principal lines of business were vehicle emissions testing, firearm background checks, automated hunting and fishing license systems, automated appointment scheduling, and managed application hosting services. Also responsible for managing order entry, tracking, and service support systems for numerous large federal telecommunications contracts such as the US Post Office, Federal Aviation Administration, and Navy-Marine Corps Intranet.
- Increased annual line-of-business revenue from \$64 million to \$93 million, improved EBITDA from approximately 2% to 27%, and retained all customers, in context of corporate scandal and bankruptcy.
- Repeatedly evaluated in top 10% of company executive management on annual performance evaluations.

1999-2000 Compuware Corporation

Senior Project Manager

- Senior project manager, on customer site with five project managers and team of approximately 80, to migrate a major dental insurer from a mainframe environment to internet-enabled client-server environment.

1995 - 1999 City of East Lansing, Michigan

Mayor and Councilmember

- Elected chief executive of the City of East Lansing, a sophisticated city of 52,000 residents with a council-manager government employing about 350 staff and with an annual budget of about \$47 million. Major accomplishments included incorporation of public asset depreciation into budgets with consequent improvements in public facilities and services, complete rewrite and modernization of city charter, greatly intensified cooperation between the City of East Lansing and the East Lansing Public Schools, significant increases in recreational facilities and services, major revisions to housing code, initiation of revision of the City Master Plan, facilitation of the merger of the Capital Area Transportation Authority and Michigan State University bus systems, initiation of a major downtown redevelopment project, City government efficiency improvements, and numerous other policy initiatives. Member of Michigan Municipal League policy committee on Transportation and Environment and principal writer of league policy on these subjects (still substantially unchanged as of 2022).

1995-1999 Michigan Department of Natural Resources

Chief Information Officer

- Executive responsibility for end-user computing, data center operations, wide area network, local area network, telephony, public safety radio, videoconferencing, application development and support, Y2K readiness for Departments of Natural Resources and Environmental Quality. Directed staff of about 110. Member of MERIT Affiliates Board and of the Great Lakes Commission's Great Lakes Information Network (GLIN) Board.

1990-1995 Michigan Department of Natural Resources

Senior Fisheries Manager

- Responsible for coordinating management of Michigan's Great Lakes fisheries worth about \$4 billion per year including fish stocking and sport and commercial fishing regulation decisions, fishery monitoring and research programs, information systems development, market and economic analyses, litigation, legislative analysis and negotiation. University relations. Extensive involvement in regulation of steam electric and hydroelectric power plants.
- Served as agency expert on natural resource damage assessment, for all resources and causes.
- Considerable involvement with Great Lakes Fishery Commission, including:

- Co-chair of Strategic Great Lakes Fishery Management Plan working group
- Member of Lake Erie and Lake St. Clair Committees
- Chair, Council of Lake Committees
- Member, Sea Lamprey Control Advisory Committee
- St Clair and Detroit River Areas of Concern Planning Committees

1989-1990 American Fisheries Society

Editor, North American Journal of Fisheries Management

- Full responsibility for publication of one of the premier academic journals in natural resource management.

1984 - 1989 Michigan Department of Natural Resources

Fisheries Administrator

- Assistant to Chief of Fisheries, responsible for strategic planning, budgets, personnel management, public relations, market and economic analysis, and information systems. Department of Natural Resources representative to Governor's Cabinet Council on Economic Development. Extensive involvement in regulation of steam electric and hydroelectric power plants.

1983-present Michigan State University

Adjunct Instructor

- Irregular lecturer in various undergraduate and graduate fisheries and wildlife courses and informal graduate student research advisor in fisheries and wildlife and in parks and recreation marketing.

1977 – 1984 Michigan Department of Natural Resources

Fisheries Research Biologist

- Simulation modeling & policy analysis of Great Lakes ecosystems. Development of problem-oriented management records system and "epidemiological" approaches to managing inland fisheries.
- Modeling and valuation of impacts of power plants on natural resources and recreation.

Education

1991-1995 Michigan State University

PhD Candidate, Environmental Economics

Coursework completed, dissertation not pursued due to decision to pursue different career direction.

1980-1981 University of British Columbia

Non-degree Program, Institute of Animal Resource Ecology

1974-1977 Virginia Polytechnic Institute & State University

MS Fisheries and Wildlife Sciences

MS Statistics and Operations Research

1971-1974 New Mexico State University

BIS Mathematics, Computer Science, Biology, and Fine Arts

**Citizenship and
Community
Involvement**

Youth Soccer Coach, East Lansing Soccer League, 1987-89

Co-organizer, East Lansing Community Unity, 1992-1993

Bailey Community Association Board, 1993-1995

East Lansing Commission on the Environment, 1993-1995

East Lansing Street Lighting Advisory Committee, 1994

Councilmember, City of East Lansing, 1995-1999

Mayor, City of East Lansing, 1995-1997

East Lansing Downtown Development Authority Board Member, 1995-1999

East Lansing Transportation Commission, 1999-2004

East Lansing Non-Profit Housing and Neighborhood Services Corporation Board Member, 2001-2004

Lansing – East Lansing Smart Zone Board of Directors, 2007-2017

Council on Labor and Economic Growth, State of Michigan, by appointment of the Governor, May 2009 – May 2012

East Lansing Downtown Development Authority Board Member and Vice-Chair, 2010 – 2018.

East Lansing Brownfield Authority Board Member and Vice-Chair, 2010 – 2018.

East Lansing Downtown Management Board and Chair, 2010 – 2016

East Lansing City Center Condominium Association Board Member, 2015 – present.

City of East Lansing Advisory Commissioner to the Lansing Board of Water and Light, 2017 – present.

State of Michigan UP Energy Task Force, 2019-present, appointed by Governor Whitmer.

State of Michigan Dam Safety Committee, 2020-2021

State of Michigan Council on Climate Solutions, Energy Production, Transmission, Distribution, and Storage Workgroup Co-Chair, 2021-present.

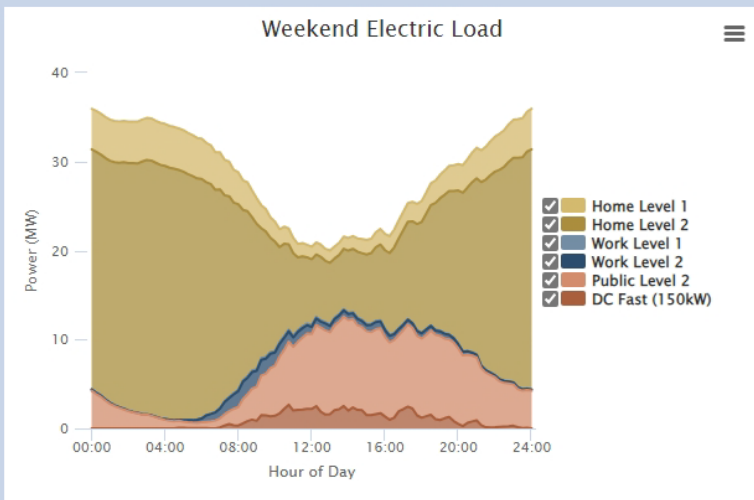
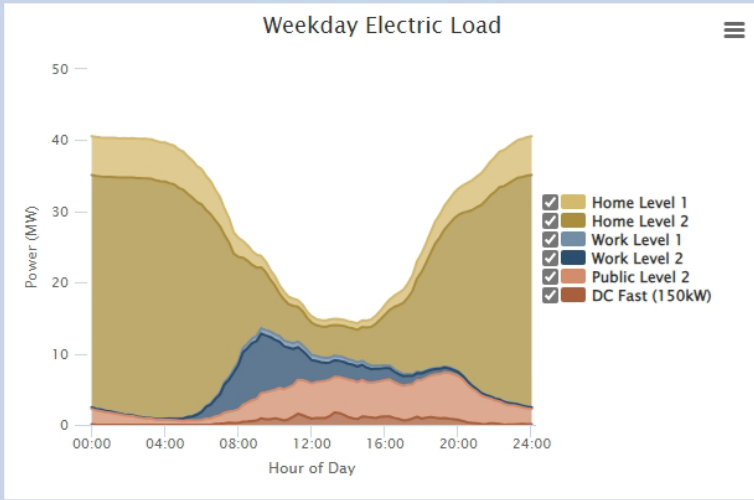
Board and Executive Committee Member, For Love of Water (FLOW), 2019 - present

Class Shares of 2022 CP				
Class	3CP (Su)	6CP (Su+F)	12 CP	9CP (Sp+Su+F)
Residential Service	49.3272%	47.1142%	45.4806%	45.0876%
Time of Use	0.3741%	0.3902%	0.4254%	0.3901%
Residential Space Ht	4.2304%	3.5557%	2.9530%	3.2554%
Total Residential	53.9317%	51.0602%	48.8590%	48.7330%
General Service	18.6376%	19.1729%	19.6615%	20.0534%
Secondary Schools	0.7621%	0.8122%	0.8480%	0.8707%
Large General Service	3.9302%	4.1108%	4.2640%	4.2507%
Commercial Secondary	23.3299%	24.0959%	24.7735%	25.1747%
D-11/Other Primary	20.4486%	22.4307%	23.7509%	23.5452%
Primary Schools	1.0572%	1.0094%	0.9482%	1.0088%
Interrupt Supply	0.5142%	0.5787%	0.6283%	0.6195%
Metal Melt Process Heat	0.6385%	0.6512%	0.7401%	0.7607%
Interrupt Rider	0.0000%	0.0000%	0.0000%	0.0000%
Total Primary	22.6585%	24.6701%	26.0675%	25.9341%
D-9 OPL Residential	0.0000%	0.0030%	0.0075%	0.0022%
D-9 OPL Commercial	0.0000%	0.0115%	0.0286%	0.0082%
E-1 Street Light	0.0000%	0.0628%	0.1558%	0.0447%
E-2 Signals	0.0799%	0.0966%	0.1081%	0.1032%
Allocator for Season	Summer	Fall	Winter	Spring
Weight (Seasonal Increment)	1.8265%	1.6318%	71.9096%	24.6321%

Annual Class Share Weighted by Seasonal Capacity Increment	DTE Projected Annual Class Share by 4CP
45.4807%	47.8340%
0.4152%	0.4196%
3.0607%	3.4875%
48.9566%	51.7411%
19.7313%	20.5234%
0.8514%	0.8270%
4.2521%	3.9763%
24.8349%	25.3267%
23.6184%	20.1388%
0.9661%	1.8002%
0.6232%	0.5316%
0.7419%	0.3733%
0.0000%	0.0000%
25.9496%	22.8439%
0.0060%	0.0000%
0.0228%	0.0000%
0.1241%	0.0000%
0.1062%	0.0884%

Results for Detroit, Michigan

In the Detroit area, supporting a fleet of 40,000 plug-in electric vehicles would result in the following electric load profile:



[Download load profile data](#)

Change Assumptions

These assumptions are based on the location you chose: **Detroit**.

Plug-in Electric Vehicles in the Fleet ?

1,000 10,000 30,000 More

40000

For reference, there were approximately 9,030 plug-in electric vehicles on the road in the Detroit area as of the end of 2018.

Average Daily Miles Traveled per vehicle ?

25 miles 35 miles 45 miles

Average Ambient Temperature ?

-4°F (-20°C) 68°F (20°C)
 14°F (-10°C) 86°F (30°C)
 32°F (0°C) 104°F (40°C)
 50°F (10°C)

Plug-in Vehicles that are All-Electric ?

25% 50% 75%

Plug-in Vehicles that are Sedans ?

20% 50% 80%

Mix of Workplace Charging

20% Level 1 and 80% Level 2
 50% Level 1 and 50% Level 2
 80% Level 1 and 20% Level 2

Access to Home Charging ?

50% 75% 100%

with the following mix:

20% Level 1 and 80% Level 2
 50% Level 1 and 50% Level 2
 80% Level 1 and 20% Level 2

Preference for Home Charging ?

60% 80% 100%

Home Charging Strategy ?

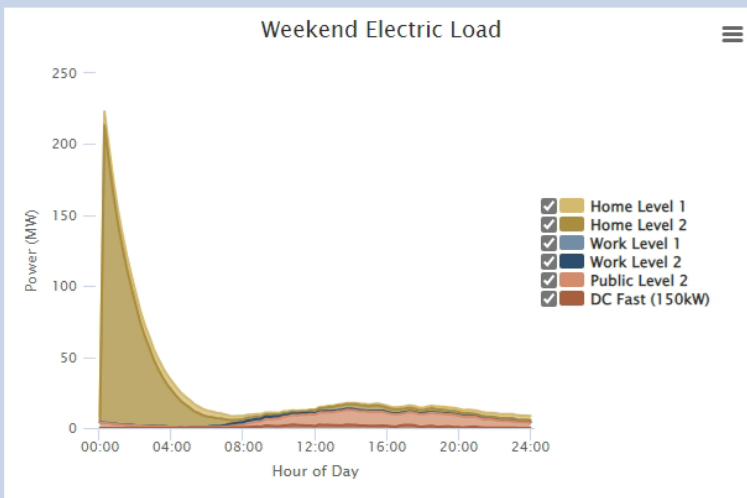
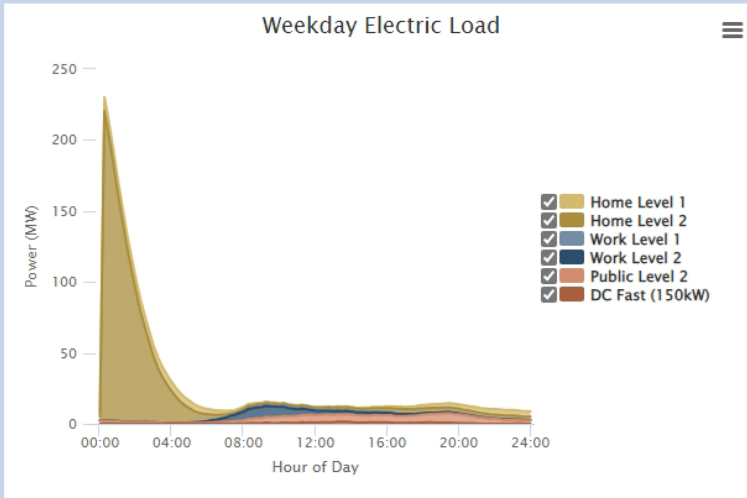
Immediate – as fast as possible
 Immediate – as slow as possible (even spread)
 Delayed – finish by departure
 Delayed – start at midnight

Workplace Charging Strategy ?

Immediate – as fast as possible
 Immediate – as slow as possible (even spread)
 Delayed – finish by departure

Results for Detroit, Michigan

In the Detroit area, supporting a fleet of 40,000 plug-in electric vehicles would result in the following electric load profile:



[Download load profile data](#)

Change Assumptions

These assumptions are based on the location you chose: **Detroit**.

Plug-in Electric Vehicles in the Fleet

1,000 10,000 30,000 More

40000

For reference, there were approximately 9,030 plug-in electric vehicles on the road in the Detroit area as of the end of 2018.

Average Daily Miles Traveled per vehicle

25 miles 35 miles 45 miles

Average Ambient Temperature

-4°F (-20°C) 68°F (20°C)
 14°F (-10°C) 86°F (30°C)
 32°F (0°C) 104°F (40°C)
 50°F (10°C)

Plug-in Vehicles that are All-Electric

25% 50% 75%

Plug-in Vehicles that are Sedans

20% 50% 80%

Mix of Workplace Charging

20% Level 1 and 80% Level 2
 50% Level 1 and 50% Level 2
 80% Level 1 and 20% Level 2

Access to Home Charging

50% 75% 100%

with the following mix:

20% Level 1 and 80% Level 2
 50% Level 1 and 50% Level 2
 80% Level 1 and 20% Level 2

Preference for Home Charging

60% 80% 100%

Home Charging Strategy

Immediate – as fast as possible
 Immediate – as slow as possible (even spread)
 Delayed – finish by departure
 Delayed – start at midnight

Workplace Charging Strategy

Immediate – as fast as possible
 Immediate – as slow as possible (even spread)
 Delayed – finish by departure

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.

Case No. U-21534

Proof of Service

On the date below, an electronic copy of **Direct Testimony and Exhibits of Douglas B. Jester on behalf of Citizens Utility Board of Michigan, Sierra Club, Michigan Environmental Council, and Natural Resources Defense Council (Exhibits CUB-17 through CUB-19)** was served on the following:

Name/Party	E-mail Address
Administrative Law Judge Hon. Sally Wallace	wallaces2@michigan.gov
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Utility Workers Union of America, Local 223 Benjamin L. King	bking@michworkerlaw.com

Michigan Energy Innovation Business Council, Institution for Energy Innovation, Foundry Association of Michigan, Advanced Energy United, and Energy Michigan Timothy J. Lundgren Laura A. Chappelle Justin K. Ooms	tlundgren@potomaclaw.com lchappelle@potomaclaw.com jooms@potomaclaw.com
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Michigan Cable Telecommunications Association Sean P. Gallagher	sgallagher@fraserlawfirm.com
PROTEC (The Michigan Coalition to Protect the Public Rights of Way) Michael J. Watza	mike.watza@kitch.com

{signature on following page}

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

Troposphere Legal, PLC
Counsel for MEC, NRDC, SC & CUB

Date: July 25, 2024

By: _____

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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.

Case No. U-21534

Confidential Proof of Service

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Administrative Law Judge Hon. Sally L. Wallace	wallaces2@michigan.gov
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The statements above are true to the best of my knowledge, information and belief.

Date: July 25, 2024

By:



Troposphere Legal, PLC
 Counsel for MEC, NRDC, SC & CUB

Digitally signed by Breanna Thomas
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