June 13, 2023

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

Via E-Filing

RE: MPSC Case No. U-21297

Dear Ms. Felice:

The following is attached for paperless electronic filing:

Direct Testimony and Exhibits of Douglas B. Jester on behalf of Michigan Environmental Council, Natural Resources Defense Council, Sierra Club, and Citizens Utility Board of Michigan (Exhibit MEC-1 through MEC-6); and

Proof of Service.

Sincerely,

Digitally signed by Christopher M. Bzdok
DN: cn=Christopher M. Bzdok, o=Olson, Bzdok & Howard, PC, email=chris@envlaw.com, c=US
Date: 2023.06.13 09:15:04 -04'00'

Christopher M. Bzdok
chris@envlaw.com

xc: Parties to Case No. U-21297

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-21297

DIRECT TESTIMONY OF DOUGLAS B. JESTER

ON BEHALF OF

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

June 13, 2023

TABLE OF CONTENTS

I. INTRODUCTION

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

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

Q. On whose behalf is this testimony being offered?

A. I am testifying on behalf of Michigan Environmental Council ("MEC"), Natural Resources Defense Council ("NRDC"), Sierra Club ("SC") and the Citizens Utility Board of Michigan ("CUB"), collectively identified as MNSC.

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

A. I have worked for more than 30 years in utility industry regulation and related fields. My work experience is summarized in my resume, provided as Exhibit MEC-1.

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

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

- Case U-17473 (Consumers Energy Company Plant Retirement Securitization);
- Case U-17096-R (Indiana Michigan 2013 PSCR Reconciliation);
- Case U-17301 (Consumers Energy Renewable Energy Plan 2013 Biennial Review);
- Case U-17302 (DTE Energy Renewable Energy Plan 2013 Biennial Review);
- Case U-17317 (Consumers Energy 2014 PSCR Plan);
- Case U-17319 (DTE Electric 2014 PSCR Plan);
- Case U-17671-R (UPPCO 2015 PSCR Reconciliation);

- Case U-17674 (WEPCO 2015 PSCR Plan);
- Case U-17674-R (WEPCO 2015 PSCR Reconciliation);
- Case U-17679 (Indiana-Michigan 2015 PSCR Plan);
- Case U-17688 (Consumers Energy Cost of Service and Rate Design);
- Case U-17689 (DTE Electric Cost of Service and Rate Design);
- Case U-17698 (Indiana-Michigan Cost of Service and Rate Design);
- Case U-17735 (Consumers Energy General Rates);
- Case U-17752 (Consumers Energy Community Solar);
- Case U-17762 (DTE Electric Energy Optimization Plan);
- Case U-17767 (DTE General Rates);
- Case U-17792 (Consumers Energy Renewable Energy Plan Revision);
- Case U-17895 (UPPCO General Rates);
- Case U-17911 (UPPCO 2016 PSCR Plan);
- Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- Case U-17990 (Consumers Energy General Rates);
- Case U-18014 (DTE General Rates);
- Case U-18089 (Alpena Power PURPA Avoided Costs);
- Case U-18090 (Consumers Energy PURPA Avoided Costs);
- Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- Case U-18091 (DTE PURPA Avoided Costs);
- Case U-18092 (Indiana Michigan Power Company PURPA Avoided Costs);
- Case U-18093 (Northern States Power PURPA Avoided Costs);
- Case U-18094 (Upper Peninsula Power Company PURPA Avoided Costs);
- Case U-18095 (Wisconsin Public Service Company PURPA Avoided Costs);

- Case U-18096 (Wisconsin Electric Power Company PURPA Avoided Costs);
- Case U-18224 (UMERC Certificate of Necessity);
- Case U-18232 (DTE Renewable Energy Plan);
- Case U-18255 (DTE Electric General Rates);
- Case U-18322 (Consumers Energy General Rates);
- Case U-18406 (UPPCO 2018 PSCR Plan);
- Case U-18408 (UMERC 2018 PSCR Plan);
- Case U-18419 (DTE Certificate of Necessity);
- Case U-20072 UPPCO 2017 PSCR Reconciliation);
- Case U-20111 (UPPCO Tax Cuts and Jobs Act of 2017 Adjustment);
- Case U-20134 (Consumers Energy General Rates);
- Case U-20150 (UPPCO Revenue Decoupling Mechanism Complaint);
- Case U-20162 (DTE General Rates);
- Case U-20165 (Consumers Energy Integrated Resource Plan);
- Case U-20229 (UPPCO 2019 PSCR Plan Case);
- Case U-20276 (UPPCO General Rates);
- Case U-20350 (UPPCO Integrated Resource Plan);
- Case U-20359 (I&M 2019 General Rate Case);
- Case U-20471 (DTE Integrated Resource Plan);
- Case U-20479 (SEMCO 2019 General Rate Case);
- Case U-20561 (DTE 2019 General Rate Case).;
- Case U-20591 (Indian Michigan Power Company IRP);
- Case U-20642 (DTE Gas 2020 General Rate Case).;
- Case U-20649 (Consumers Electric Voluntary Green Pricing).;

- Case U-20650 (Consumers Gas 2020 General Rate Case);
- Case U-20697 (Consumers Electric 2020 General Rate Case);
- Case U-20713 (DTE 2020 Voluntary Green Pricing);
- Case U-20836 (DTE Electric 2022 General Rate Case);
- Case U-20874 (Alpena Power 2022-23 EWR Plan Case);
- Case U-20875 (Consumers Energy 2022-23 EWR Plan Case);
- Case U-20876 (DTE Electric 2022-23 EWR Plan Case);
- Case U-20877 (Indiana Michigan 2022-23 EWR Plan Case);
- Case U-20878 (NSP 2022-23 EWR Plan Case);
- Case U-20879 (UPPCO 2022-23 EWR Plan Case);
- Case U-20880 (UMERC 2022-23 EWR Plan Case);
- Case U-20881 (DTE Gas 2022-23 EWR Plan Case);
- Case U-20882 (MGU Gas 2022-23 EWR Plan Case);
- Case U-20883 (SEMCO Gas 2022-23 EWR Plan Case);
- Case U-20889 (Consumers Karn Retirement Securitization);
- Case U-20963 (Consumers Energy Electric Rate Case);
- Case U-21015 (DTE Securitization Case);
- Case U-21048 (Consumers Energy 2022 PSCR Plan);
- Case U-21081 (UMERC 2021 IRP);
- Case U-21090 (Consumers Energy 2021 IRP);
- Case U-21189 (Indiana Michigan 2022 IRP);
- Case U-21193 (DTE Electric 2022 IRP); and
- Case U-21224 (Consumers Energy 2022 Electric Rate Case).

Additionally, I have testified as an expert witness before the Public Utilities Commission of Nevada in Case No. 16-07001 concerning the 2017-2036 integrated resource Plan of NV Energy; and before the Missouri Public Service Commission in Case Nos. ER-2016-0179, ER-2016-0285, and ET-2016-0246 concerning residential rate design and electric vehicle ("EV") policy, revenue requirements, cost of service, and rate design. I testified before the Kentucky Public Service Commission in Case No. 2016-00370 concerning municipal street lighting rates and technologies. I testified before the Massachusetts Department of Public Utilities in Case Nos. DPU 17-05 and DPU 17-13 concerning EV charging infrastructure program design and cost recovery. Before the Rhode Island Public Utilities Commission, in case 4780, I testified concerning Advanced Metering Infrastructure and EV charging infrastructure. Before the Delaware Public Service Commission, I testified regarding EV charging infrastructure in case 17-1094. I testified before the Georgia Public Service Commission in Case No. 4822 concerning PURPA avoided cost. I testified before the Colorado Public Utilities Commission in Cases No. 20A-0204E and 20A-195E concerning cost recovery for EV charging infrastructure. I also testified before the Minnesota Public Utilities Commission in Case No. 22-432 regarding EV charging rate design.

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

Q. What is the purpose of your testimony?

A. I am testifying on behalf of MNSC regarding DTE Electric's ("DTE") request to increase rates and related matters. Specifically, I will address DTE's performance generally, reliability, residential affordability, return on equity and cost of capital, characterize an affordable budget for DTE Electric in this rate case, a distribution reliability strategy, retirement and costs of MERC, and EV charging infrastructure programs.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following exhibits:

Exhibit MEC-1:	Resume of Douglas B Jester
Exhibit MEC-2:	Affordable Budget for DTE Electric
Exhibit MEC-3:	MERC Volumes and Revenues, discovery response MNSCDE-11.3 and attachment.
Exhibit MEC-4:	MERC Projected Volumes and Revenues for PSCR Forecast Period, discovery response MNSCDE-2.12 and attachment
Exhibit MEC-5:	MERC Retirement Date and Depreciation Life, discovery responses 1.11d-e.
Exhibit MEC-6	MERC Capital and O&M Expense by Year

II. <u>OVERVIEW OF CASE</u>

Q. Please summarize your perspective on the present case.

A. The essentials of this case are well-summarized by Attachment 1 and Attachment 2 to DTE Electric's Application. Attachment 1 illustrates that the projected revenue deficiency is $619 million, of which $124 million is due to projected increases in operations and maintenance ("O&M"), $42 million is for an increase in Return on Equity, $29 million is

for increasing cost of debt and $292 million is for increase in rate base. This increase in revenue is approximately 11.8% above the revenue expected from continuation of the rates currently in use.

Because much of the projected increase in rate base is in the distribution system, the costs of which are heavily allocated to residential customers, secondary commercial customers, and lighting, Attachment 2 shows that residential customers will see an average 13.9% rate increase, secondary customers will see an average 11.5% rate increase, lighting rates will increase an average of 14.2% and primary customers will see an average 7% rate increase.

In addition, DTE Electric requests approval of an Investment Recovery Mechanism that will lead to further rate increases in the form of a surcharge added to rates as yet additional capital spending is done.

III. DTE ELECTRIC'S PERFORMANCE - GENERALLY

Q. What is the relevance in this case of DTE Electric's performance?

A. A respected paper on this subject states:

> …some describe the role of regulation as "balancing" the interests of shareholders and consumers. A balance presumes opposition of interests. But customers' and shareholders' legitimate interests – reasonable prices, reasonable returns, satisfied customers, and satisfied shareholders – are consistent and mutually reinforcing. High quality performance and efficient consumption benefit multiple interests: consumers, shareholders, bondholders, employees, -- the environment and the nation's infrastructure. What regulation must balance is not competing private interests but competing components of the public interest – e.g., long-term vs short-term needs, affordable rates vs efficient price signals, environmental values vs global competitiveness.
>
> …Universal, reliable, safe service at reasonable rates doesn't happen by itself. In short, regulation is necessary to align private behavior with the public interest.

> Regulation defines standards for performance, then assigns consequences, positive and negative, for that performance. The purpose of regulation is performance.[1]

DTE Electric's overall performance is relevant in judging whether its proposals are reasonable and prudent, and particularly in drawing attention to those aspects of this case that should be most carefully scrutinized. The Commission may also consider overall performance when it authorizes a level of return on equity, as a positive or negative consequence of DTE Electric's performance.

Q. What are the most important metrics to consider when evaluating DTE's performance?

A. Former Governor Snyder identified these as Adaptability, Reliability, Affordability, and Protection of the Environment. Adaptability is an attractive consideration, but I am not aware of any metrics that are systematically reported and allow a comparison of the adaptability of utilities. Reliability, Affordability, and Protection of the Environment contain most of components of the public interest that concern electric utilities. A report was published by the Citizens Utility Board of Michigan in 2022, which was prepared by me and my staff at 5 Lakes Energy and undertakes such comparisons between states and between Michigan utilities based on 2020 data.[2] We are currently beginning to prepare a similar report based largely on 2021 data (these delays between the year on which we report and the publication date reflect lags in reporting of relevant data by the US Department of Energy's Energy Information Administration and the US Bureau of the Census).

[1] Hempling, S. Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction. American Bar Association Section of Environment, Energy, and Resources. 2013.

[2] Citizens Utility Board of Michigan, Utility Performance Report – 2022 Edition, available at https://www.cubofmichigan.org/utility_performance_report_2022_edition.

Q. Please summarize your assessment of DTE Electric's performance?

A. Since DTE Electric serves approximately 45% of electricity delivered to Michigan residents and businesses, its performance is reflected in Michigan's overall performance. Put simply, Michigan and DTE Electric performance is somewhat below median in all respects except the level and cost-effectiveness of its energy efficiency programs. It is particularly poor in reliability and its residential rates are high.

DTE Electric's pollution emissions are high primarily due to its continuing reliance on fossil-fueled generation, which is being addressed in DTE's Integrated Resource Plan, Case No. U-21193, on a schedule that overlaps this case; I will therefore not testify further about DTE Electric's emissions.

I further address DTE Electric's reliability and residential rates below.

IV. DTE ELECTRIC'S RELIABILITY

Q. Please summarize DTE Electric's reliability.

A. Generally, DTE Electric's distribution reliability is amongst the worst in the country. The US Department of Energy's Energy Information Administration ("EIA") requires electric utilities to file various reports, including Form 861. Form 861 annually provides a number of statistics for each electric utility for each state in which it operates. The most recent EIA compilation of Form 861 data covers the year 2021. In 2021, there were 174 investor-owned electric utility ("IOU") – state service territories that reported reliability data to EIA.

The most comprehensive reliability statistic included in Form 861 is the System Average Interruption Duration Index ("SAIDI"), which is the average minutes of outage the utility's customers experienced during the year. DTE Electric in Michigan had SAIDI of 927.4

minutes per customer in 2021. This was 15th highest amongst the IOU-state service areas in the United States.

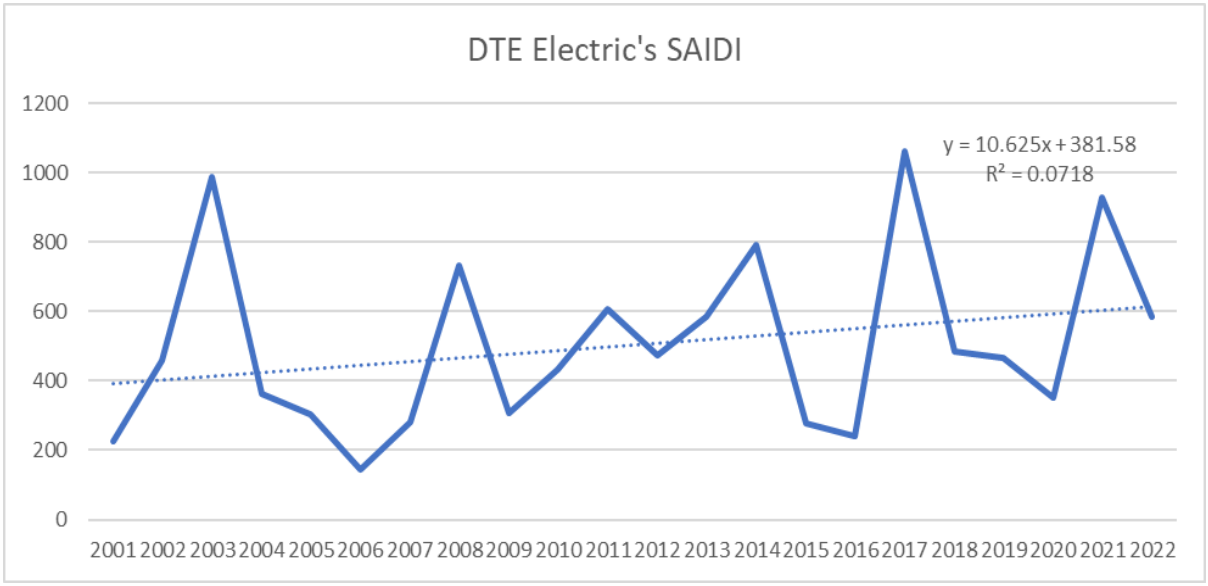
Form 861 also includes the System Average Interruption Frequency Index ("SAIFI"), which is the average number of power interruptions per customer over the year, excluding momentary interruptions of less than 5 minutes duration. DTE Electric in Michigan had SAIFI of 1.58 outages per customer in 2021. This was 59th highest amongst the IOU-state service areas in the United States.

Form 861 also includes the Customer Average Interruption Duration Index ("CAIDI"), which despite its name is the average duration of a customer outage per outage occasion, which has the algebraic relationship that SAIDI = SAIFI * CAIDI. DTE Electric in Michigan had CAIDI of 586 minutes per customer outage in 2021. This was 6th highest amongst the IOU-state service areas in the United States.

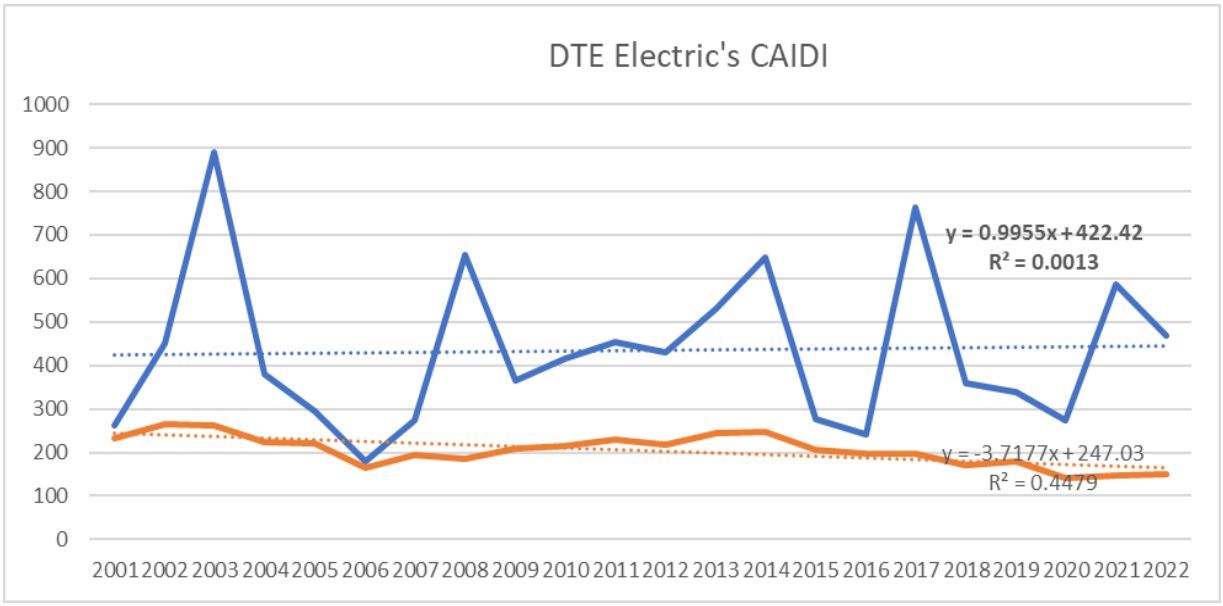
Q. Is DTE Electric's reliability problem a recent development?

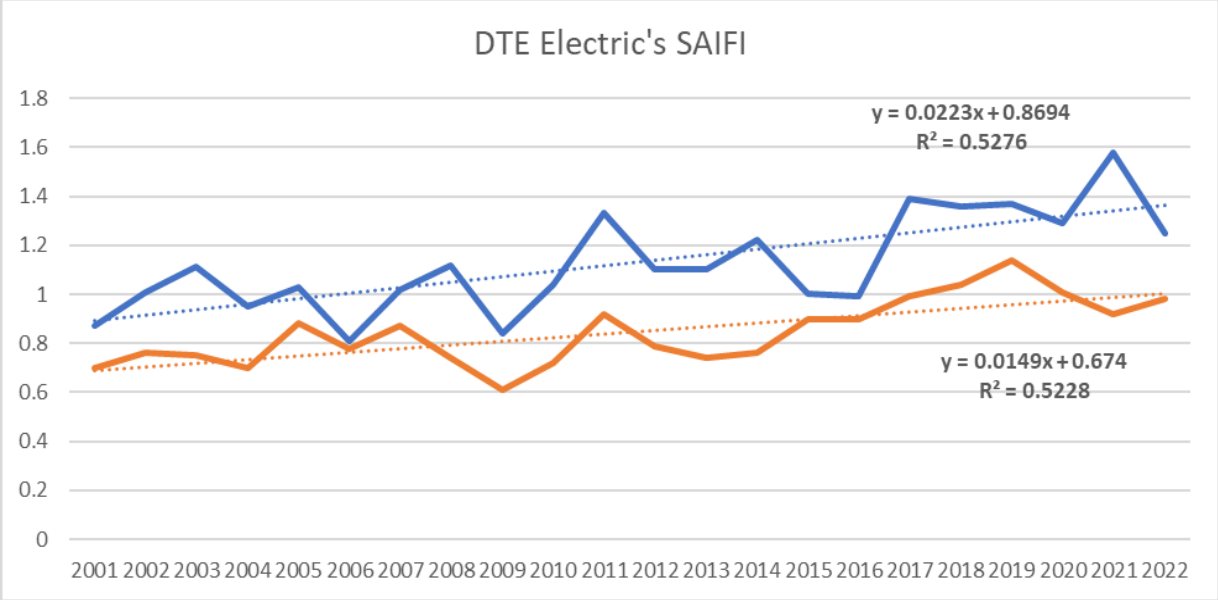
A. No. The Commission has required DTE Electric to report SAIDI, SAIFI, and CAIDI annually in the docket for Case No. U-16065. I prepared the following graphs illustrating those data.

The graph below shows that DTE Electric's SAIDI has not changed much since 2001, though there are significant variations between years. There is an upward trend that is not statistically significant.

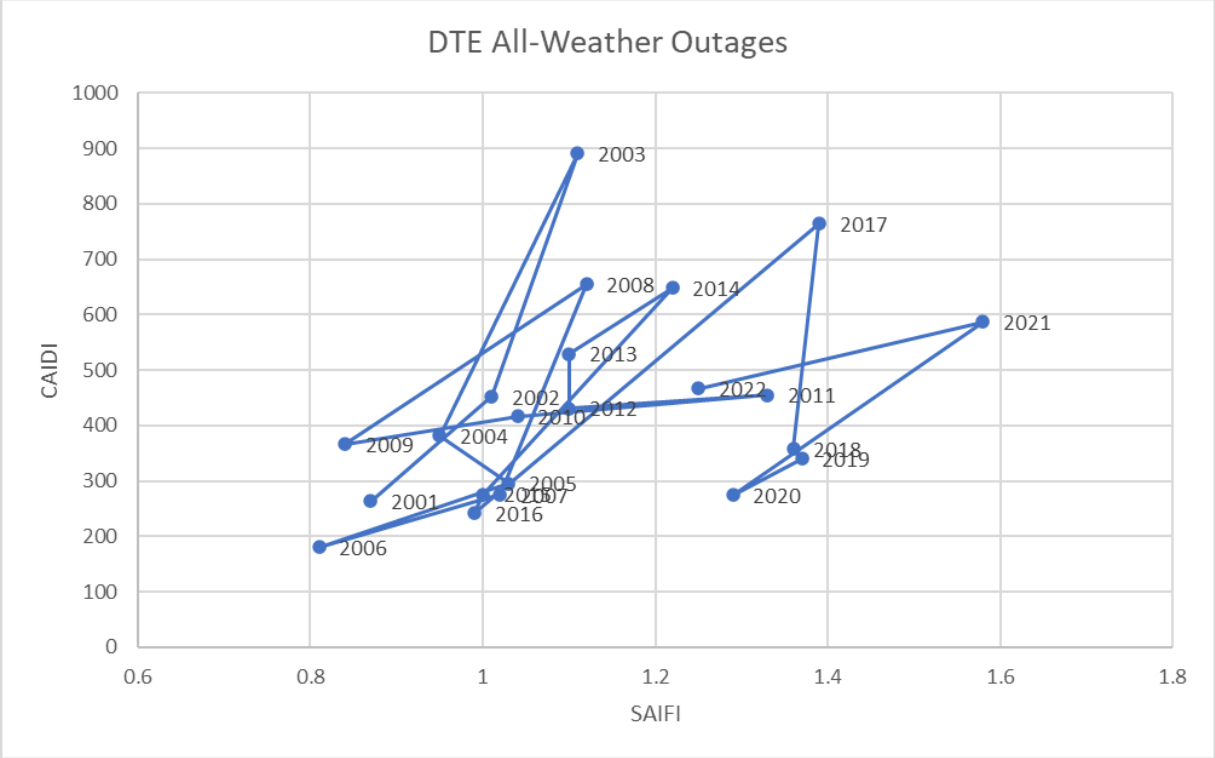


The following graphs show that DTE Electric's CAIDI has not changed much since 2001 but there has been a recent upward trend in SAIFI.





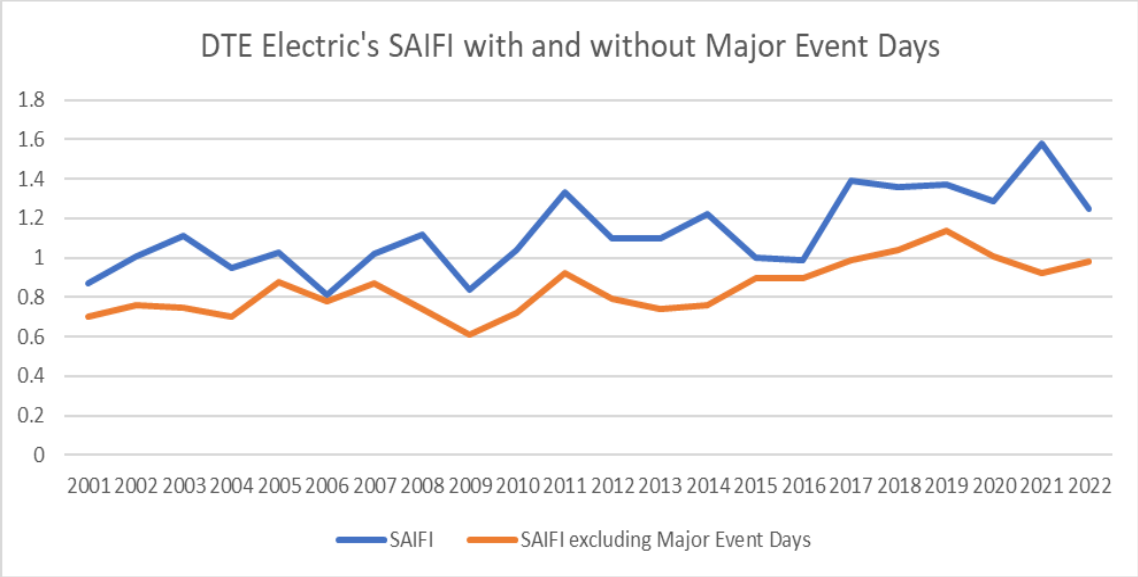
Since SAIFI and CAIDI are not statistically independent, with both tending to be larger due to storms, it is also useful to consider how they have evolved over time as shown in the following graph. This graph shows that, with the exception of 2011, DTE Electric's SAIFI fluctuated relatively near to 1.0 until 2017 and has since fluctuated around 1.4, while CAIDI does not appear to have changed materially.



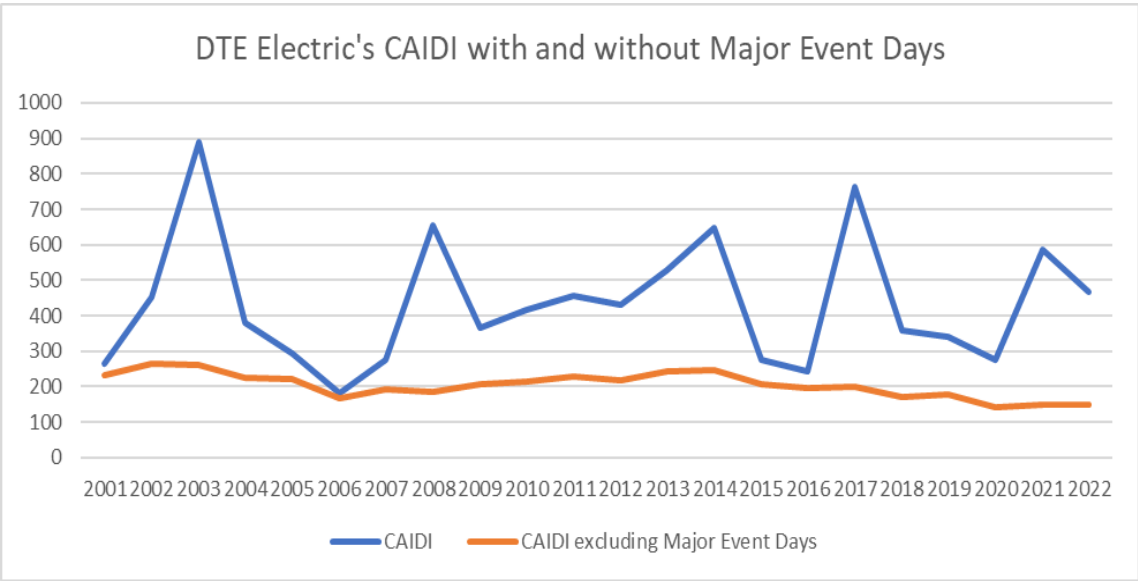
Q. How important are storms in DTE Electric customers' outage experiences?

A. Storms are a significant aspect of the outages experienced by DTE Electric customers. The Commission is well aware of this, having opened numerous dockets to review storm response. This can also be seen statistically. In addition to requiring utilities to report SAIDI, SAIFI, and CAIDI, the EIA also allows them to report these statistics excluding Major Event Days. Major Event Days are calendar days during which more than 10% of a utility's customers experience an outage, so are typically days with significant storms. Because the exclusion of Major Event Days only excludes outages on the Major Event Day and does not exclude outages that are ongoing during the restoration process following a Major Event Day, CAIDI and SAIDI excluding Major Event Days nonetheless include significant storm outages. SAIFI, however, is reported based on the day the outage began so that SAIFI excluding Major Event Days includes only more modest storms and non-storm outages. The following graph illustrates that SAIFI and SAIFI excluding Major

Event Days has been increasing, and that the difference between these reflecting the frequency of outages starting on Major Event Days has also been increasing.

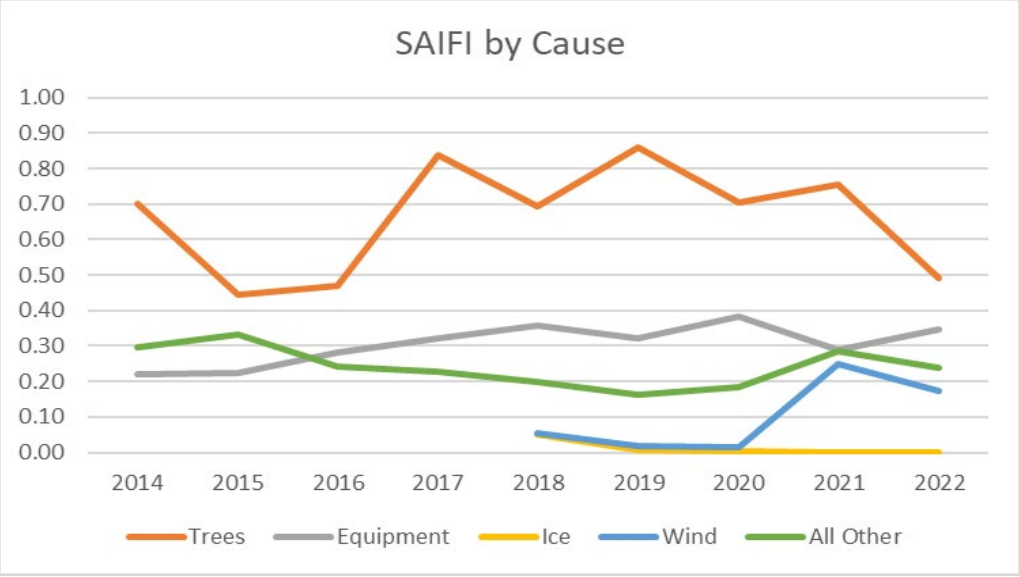


The next graph shows that DTE Electric's CAIDI excluding Major Event Days has improved in recent years while CAIDI has not obviously improved. This pattern suggests that DTE Electric's recent efforts to improve reliability have improved outage restoration but that restoration following storm outages continues to be problematic.



Q. What are the primary causes of DTE's outages?

A. Since 2014, DTE has reported in its annual reports filed in the docket of Case No. U-16065 the percentages of outages due to major causes. Initially, they categorized outages as due to trees, equipment, and all other. Beginning in 2018, they began categorizing outages as due to trees, equipment, ice, wind, and all other. Since these categories require some judgement by the line workers making repairs, it is highly likely that the wind category partly captured events that were previously labeled as trees and events that were previously labeled as "all other". With that caveat regarding interpretation, these data can be helpful in understanding the causes of DTE Electric's outages. Additionally, percentages of highly varying amounts of outages could be misleading about physical trends, since a change in the frequency of one category would change the percentages of outages due to other categories. I therefore multiplied the percentage of outages due to each cause by the SAIFI for each year to obtain a SAIFI for each outage cause. The following graph displays these data.



This graph illustrates that trees have been and remain the most important cause of outages.[3] There may be a recent trend of improvement in SAIFI due to trees, but these data cannot yet demonstrate that because the apparent improvement is within the range of historical variation and because the effect of the addition of wind as a cause category on the attribution of outages to trees cannot be determined. There does seem to be an increasing trend of outages attributed to equipment, but that trend seems to mirror inverse changes in the "all other" category, which suggests that there may be variations in attribution practices rather than real events.

Q. What do you conclude about DTE Electric's reliability problem?

A. DTE Electric's reliability is poor and has been persistently so. It has long had particularly bad performance in outage restoration. There are indications of improvements in outage restoration under non-storm conditions but no overall improvements. The frequency of outages seems to be increasing. While a substantial majority of outages has been and continues to be caused by trees, there is an as-yet uncertain indication of improvements in tree-caused outage rates offset by outages due to wind. There may be a mild upward trend in outages due to equipment but that may be illusory as there is an offsetting trend in outages due to "all other" causes.

DTE Electric has been engaged in a tree-trimming "surge" using enhanced tree trimming practices ("ETTP") since 2019.[4] DTE reports that circuits recently trimmed to the ETTP have significantly reduced outages on the treated circuits and currently project that upon

[3] DTE witness Shannen Hartwick testifies that "[t]ree-caused outages account for two-thirds of the time that customers spend without power". SMH-15:9-10.

[4] Hartwick Direct, SMH-16:6-7.

completion of the surge, their customers will experience a 40% reduction in outage events due to trees.[5] In addition to a reduction of events, tree trimming would be expected to reduce restoration times since tree removal will be needed less frequently to gain access to lines or equipment to make repairs. The data I presented above are consistent with, but do not demonstrate, reliability improvements due to DTE Electric's tree-trimming surge.

The data presented above continue to show that DTE Electric's outage restoration times are long but also show that they are improving when excluding Major Event Days. As an indication of the importance of storm outages in DTE's outage performance, I used the Form 861 outage data discussed above and computed the national average, weighted by customer numbers, of SAIDI and SAIDI excluding Major Event Days. Nationally, SAIDI excluding Major Event Days is 27% of SAIDI. For DTE, SAIDI excluding Major Event Days is 15% of SAIDI.

These data suggest that DTE Electric's reliability problem is principally due to trees and storms. These are likely related.

V. DTE ELECTRIC'S RESIDENTIAL RATES

Q. Please summarize DTE Electric's residential rates.

A. Rate designs vary between utilities and states, based on a variety of considerations. It is therefore both impractical and of limited value to compare detailed rates. Rather, it is helpful to consider the cost of electricity to residential customers, calculated as the total revenue from residential customers divided by the electricity delivered to residential customers. I obtained 2022 Form 861M (the monthly version of Form 861 referenced

[5] Hartwick Direct, SMH-23:19 through SMH-24:14.

earlier), which does not contain all of the statistics from Form 861 but does include sales, revenue, and customer count by month from each reporting utility. I calculated annual revenue from and sales to residential customers for each investor-owned utility – state service area and calculated the ratio of these to obtain electricity cost to residential customers per kWh. Data are available for 144 service areas of investor-owned utilities. I then ranked these utility service areas by residential cost per kWh and calculated the percentile of customers with residential electricity cost less than or equal to the cost for each utility. In 2022, DTE Electric customers paid electricity costs of 18.37 cents per kWh, which was the 74.3th percentile of investor-owned utility residential customers in the United States. Almost all IOUs with higher residential electricity cost are in Hawaii, Alaska, California, and New England. In EIA's East North Central Division, which includes Ohio, Michigan, Indiana, Illinois, and Wisconsin, only Upper Peninsula Power Company had higher residential electricity cost in 2022 than did DTE. The national average residential cost of electricity was 15.47 cents per kWh, so DTE customers paid 19% above the national average rate.

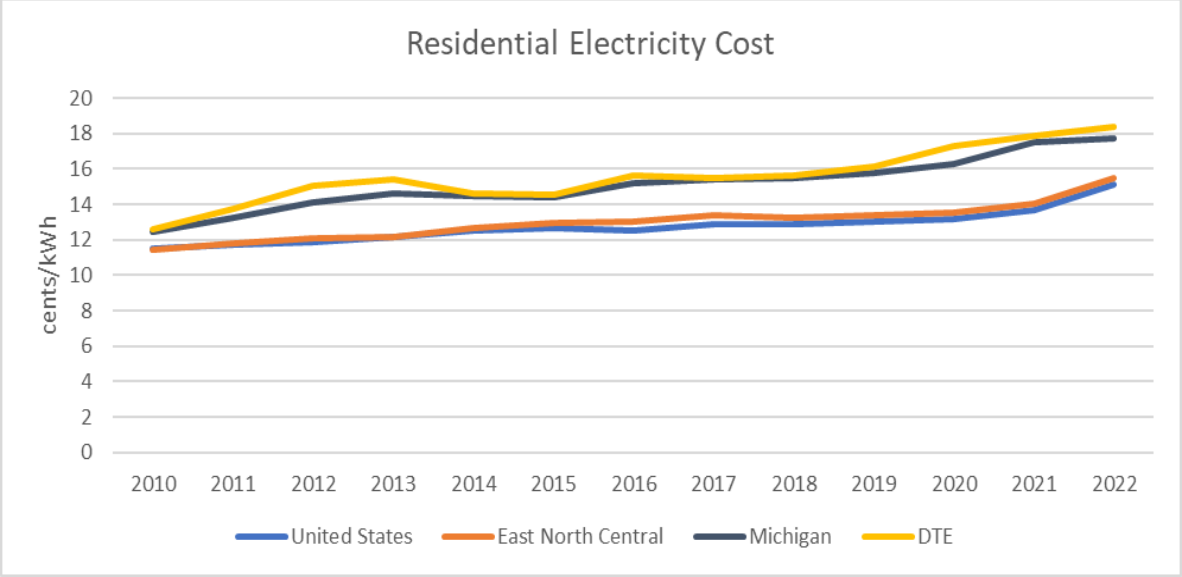
Q. What does DTE propose to be the cost of residential electricity in this case?

A. I summed the projected MWh sales and proposed revenue for all of the residential rate schedules in Exhibit A-16 Schedule F3 to determine the average residential cost proposed by DTE in this case. DTE proposes that the average residential customer pay 20.18 cents per kWh in the projected test year. Other investor-owned utilities will increase rates between 2022 and the projected test year, so the percentile placement of DTE Electric's residential customers in the projected test year is unknown. In 2022, this proposed cost per residential kWh would have been in the 80.5th percentile.

Q. Is DTE Electric's high residential cost of electricity a recent development?

A. No, it is an accumulating problem. I extracted DTE Electric customer cost per kWh from annual Form 861 data for 2010 through 2021, from Form 861M data for 2022, and obtained averages for the United States, the EIA East North Central Division, and for Michigan from the EIA Electricity Data Browser[6] for the same years. The Electricity Data Browser uses Form 861 data for these same statistics, so these are comparable, but the Electricity Data Browser does not provide data by individual utility.

The following graph shows DTE Electric residential electricity cost per kWh compared to the United States, East North Central Division, and Michigan from 2010 through 2022.

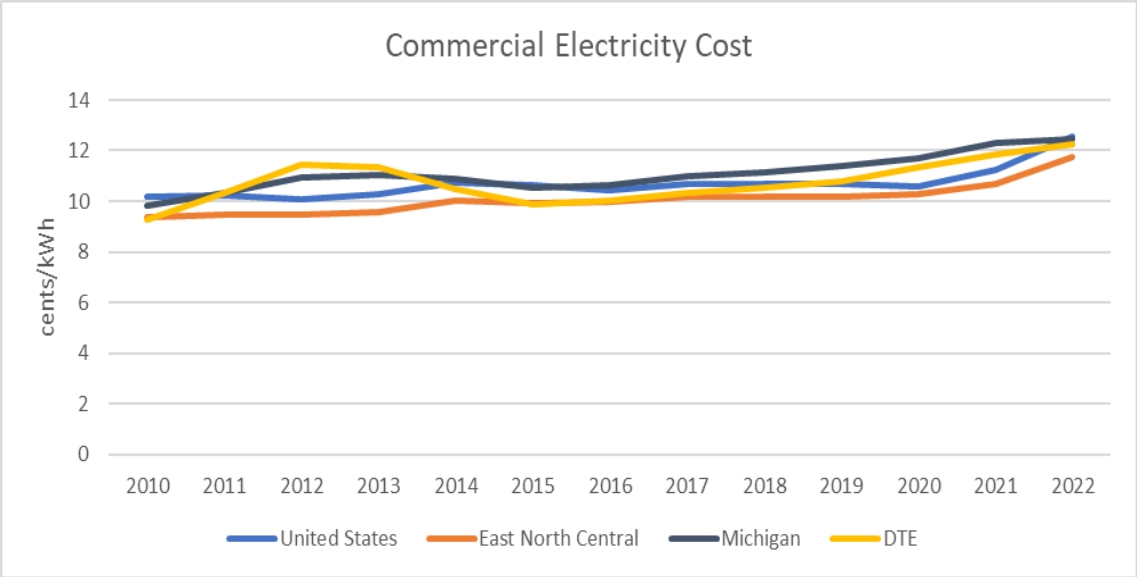


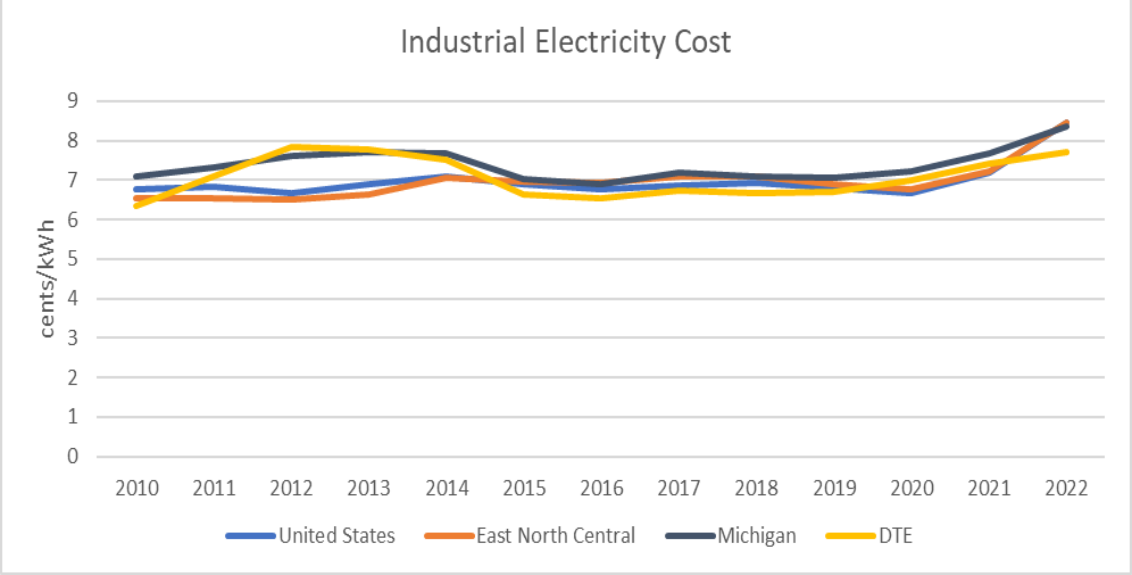
Although not shown here, Michigan, hence presumptively DTE Electric, residential electricity costs were below national average from 2000 until 2009. Thus, DTE Electric

[6] See https://www.eia.gov/electricity/data/browser/#/topic/7?agg=0,1&geo=i0004&endsec=u&linechart=ELEC.PRICE.US-ALL.A&columnchart=ELEC.PRICE.US-ALL.A&map=ELEC.PRICE.US-ALL.A&freq=A&start=2010&end=2022&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0.

residential electric rates have been consistently increasing faster than national and regional residential costs.

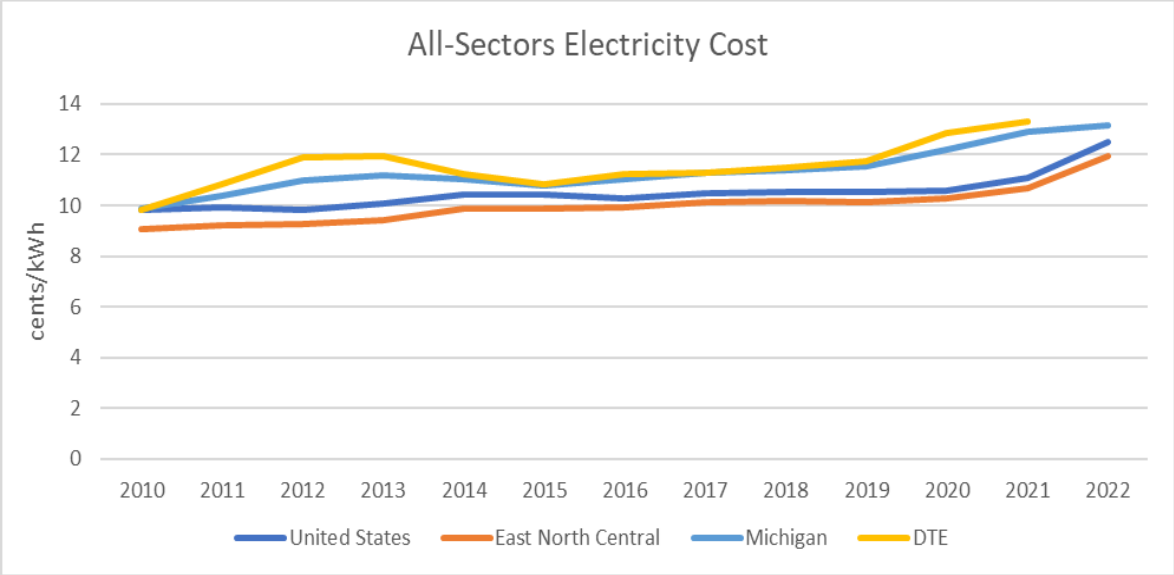
In contrast, DTE Electric commercial electric costs and industrial electric costs have been increasing in line with national and regional costs.





Q. What is the cause of DTE Electric's high residential electricity costs per kWh?

A. Residential electricity costs per kWh are, tautologically, the utility's total revenue requirement, multiplied by the share of those costs allocated to residential customers, divided by residential sales. The following graph illustrates that DTE Electric, hence Michigan started with costs per kWh sold to all sectors that were nearly identical to the national average and somewhat higher than the average for the East North Central Division. Since then, DTE Electric and Michigan costs per kWh for all sectors have increased materially faster than national and East North Central costs per kWh for all sectors.



Over that same period, DTE and Michigan industrial and commercial costs per kWh have remained close to national and East North Central Division costs, while DTE and Michigan residential costs per kWh have increased faster than national and East North Central residential costs per kWh. It is clearly the case that DTE costs per kWh have increased faster than the national average and that those costs have been allocated disproportionally to residential customers. DTE Electric has maintained the affordability of electricity for its industrial and commercial customers, while deteriorating affordability for residential

customers. This must either be due to DTE Electric's cost increases being in categories that are disproportionately allocated to residential customers or that DTE Electric allocates an unusual share of costs to residential customers, or both.

Q. What is driving DTE's high increase in costs per all-sectors kWh?

A. DTE's revenue requirements are determined in the usual fashion of cost-of-service regulation. Operating expenses are passed through, and capital investments are recovered over time through depreciation, but the undepreciated value of capital investments earns "return on capital". Higher depreciation increases near-term revenue requirements but reduces future revenue requirements by reducing the amount of net capital in use by the utility. "Return on capital" is determined as a weighted sum of accumulated deferred income tax at no cost, debt at actual interest rates, and equity with a return on equity determined by the Commission. Thus, in an accounting sense, the ratios of operating expenses to sales, the ratio of plant to sales, a low ratio of accumulated depreciation to plant, or a high return on capital must in aggregate explain DTE Electric's high cost per all-sectors kWh. To my knowledge, this analysis has not previously been done. Doing so is a current project of my firm, but the work will not be completed timely for use in this case.

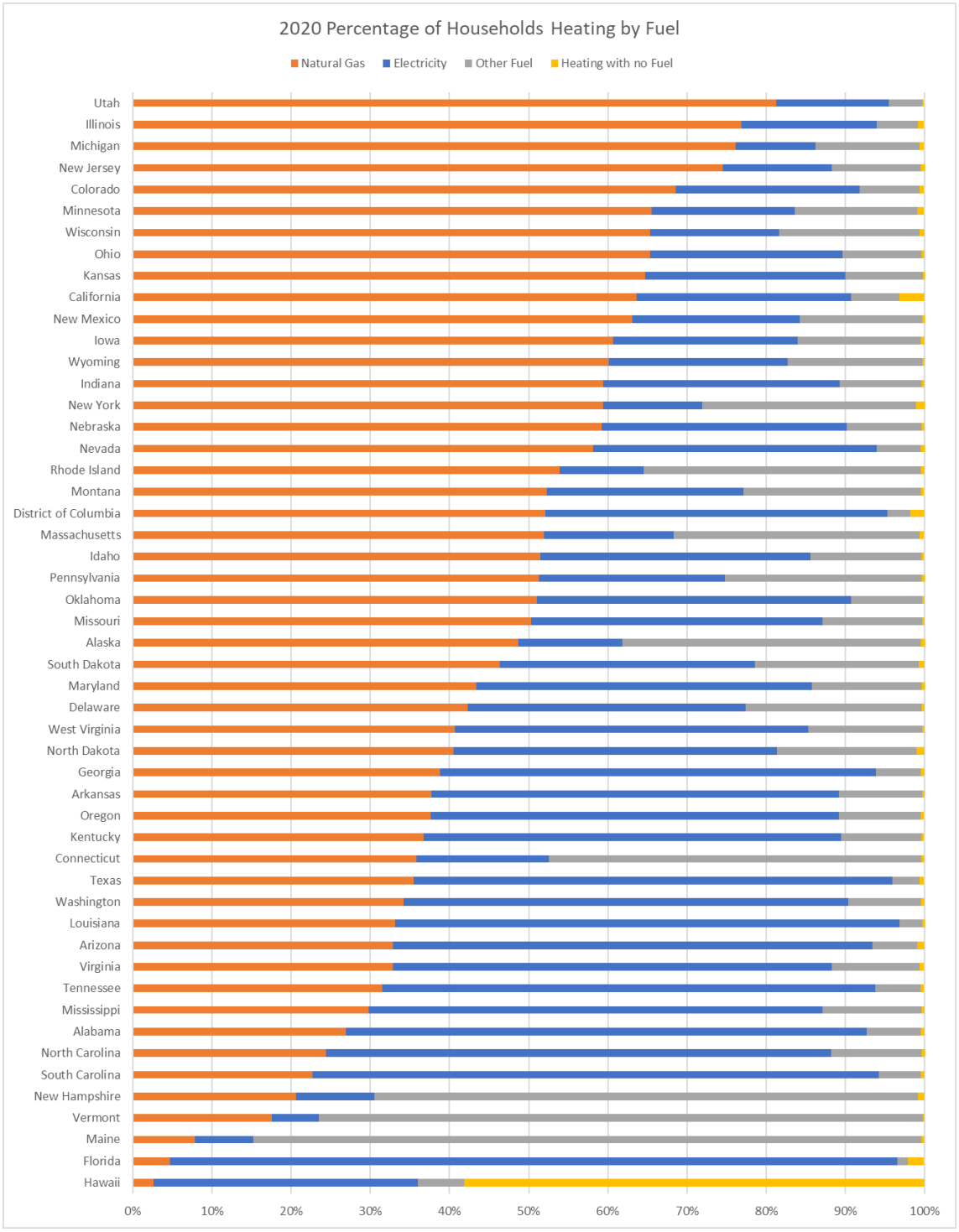
We do know that DTE Electric has long received a higher return on equity than the average for investor-owned electric utilities, due to what stock analysts have deemed the Commission's longstanding "constructive" approach to regulation; I discuss this below. It

is also well-established that high returns on capital induce inefficient additional capital investment.[7]

Q. Michigan utilities often say that residential electricity bills in Michigan are relatively low. Is that consistent with your claim that cost per kWh is high?

A. Yes, but it does not justify DTE Electric's high residential rates. A very large proportion of Michigan residents use natural gas for space and water heating, which reduces average electricity consumption compared to other places. The following graph based on data from the US Census Bureau American Community Survey illustrates this.

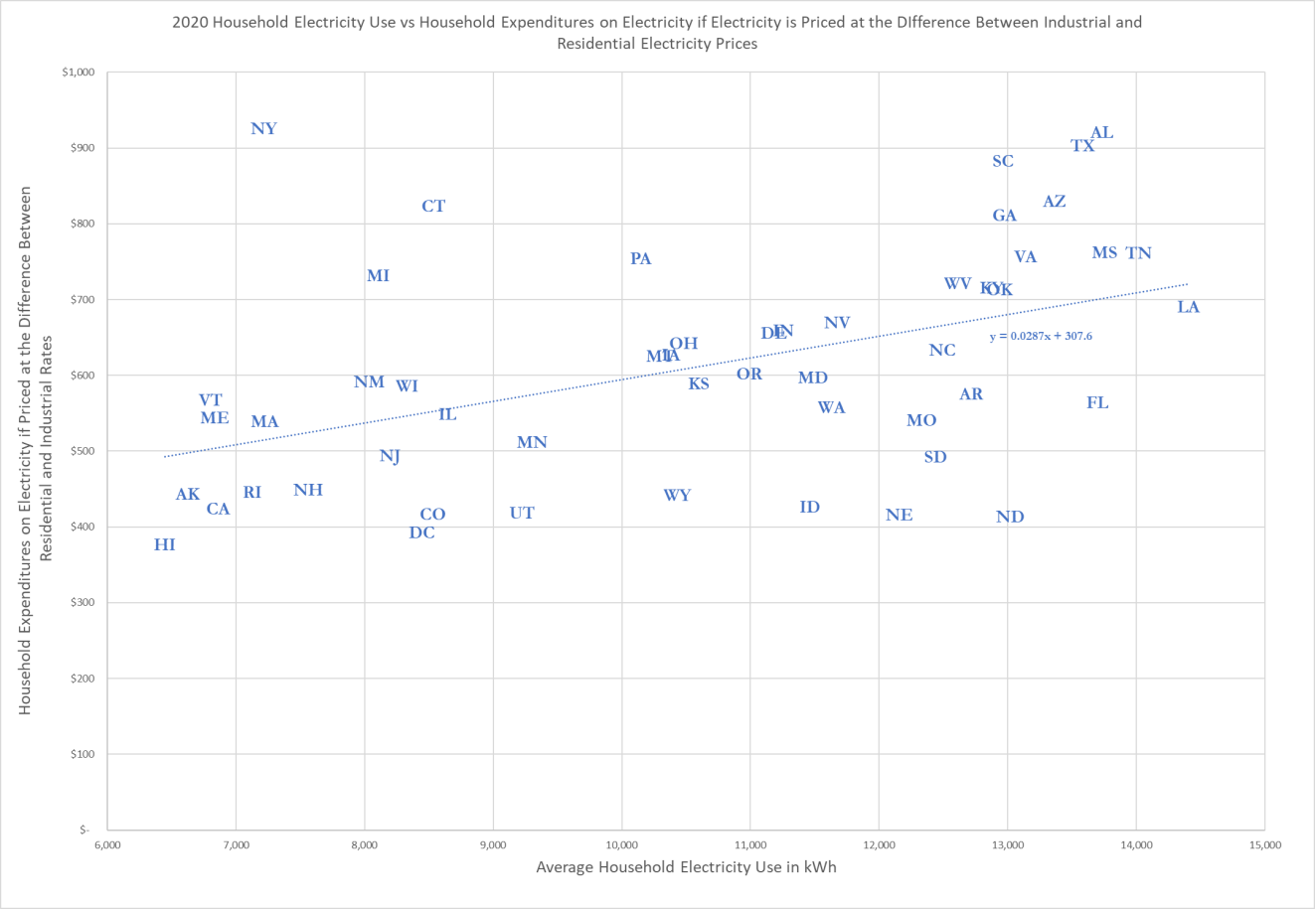
[7] Averch, H.; Johnson, L. 1962. Behavior of the Firm Under Regulatory Constraint. American Economic Review 52(5) 1052-1069.



This makes simplistic comparisons of residential electric utility bills across places irrelevant.

Q. Utilities have costs that do not vary with kWh delivered per customer, which could cause costs per kWh to be high. Does that explain DTE Electric's high cost per kWh?

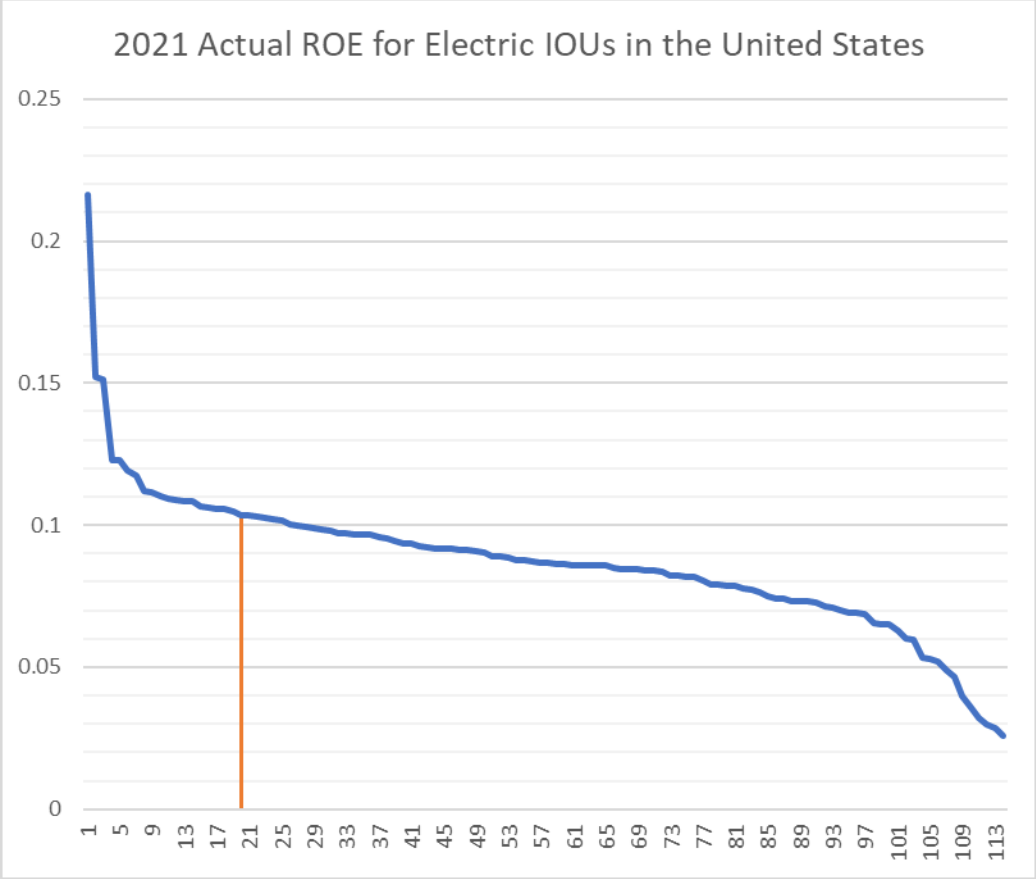
A. No. Power production costs vary geographically due to varying availability of generation resources, with Hawaii, Alaska, and New England having particularly high generation costs. Overall residential bills and rates include both this effect and costs of distribution. Since industrial rates generally contain primarily generation and transmission costs, the difference between residential rates and industrial rates is a good proxy for distribution costs. The following graph shows for each state in 2020 the average residential annual electric utility bill less the cost of supplied power at industrial rates, vs the average annual kWh delivered to residential customers. It is obvious that Michigan utilities have a much higher cost of distribution than do most other states with similar average household electricity use. The difference between Michigan distribution costs and the trendline of distribution costs at the same level of average household electricity use (exemplified by New Mexico, Wisconsin, Illinos, New Jersey, Colorado and the Districit of Columbia) is approximately $200 per year. It is particularly notable that Wisconsin, which is likely the State most similar to Michigan in vegetation and weather, has annual residential distribution costs approximatley $130 less per household than does Michigan.



VI. DTE'S RETURN ON EQUITY AND COST OF CAPITAL

Q. How high has DTE Electric's ROE been compared to other utilities?

A. I obtained FERC Form 1 data from all investor-owned utilities in the United States from 2010 through 2021. 2022 data are not yet complete. I excluded utilities lacking retail customers and determined actual ROE for all 114 utilities with retail customers and filed Form 1 for 2021. DTE Electric's actual ROE was 10.33%, which was the 20th highest amongst these utilities. The following graph shows the distribution of ROEs of these utilities cumulatively from the right. Rank from highest to lowest ROE is shown across the horizontal axis, so the highest ROE reported is on the left side of the graph and the lowest is on the right side of the graph. The vertical line at rank 20 identifies DTE Electric.



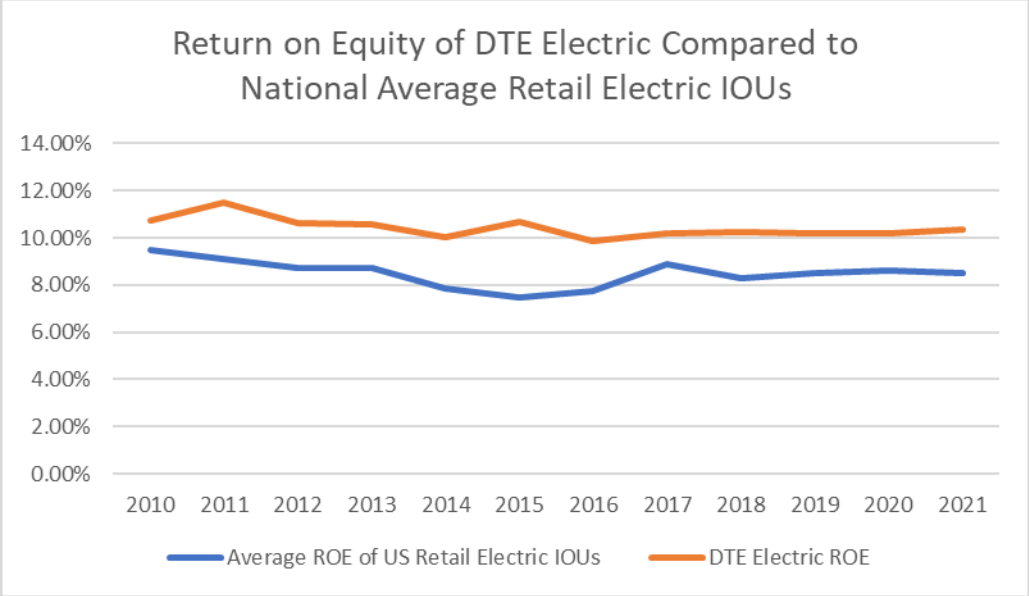
The median actual ROE of IOUs with retail customers in 2021 was 8.69%.

Q. In economic theory, ROE should vary with the equity share of utility financing. Is that a consideration here?

A. I used the same FERC Form 1 data to determine the weighted average returns to permanent capital, incorporating net income, preferred stock dividends and interest on long-term debt as the returns to permanent capital, divided by the sum of common equity, preferred stock, and long-term debt. DTE Electric's 2021 actual return to permanent capital was 7.07%, which was the 31st highest amongst these utilities. The median actual return to permanent capital of IOUs with retail customers in 2021 was 6.41%.

Q. Is this a long-standing pattern or specific to 2021?

A. It is a long-standing pattern. As a simple illustration of this, the following graph displays DTE Electric's actual ROE for each year from 2010 through 2021 and the average actual ROE for all IOUs reporting on FERC Form 1 in each of those years that had retail customers. The national average ROE in 2021 was 8.5%, in contrast to DTE Electric's 10.33%



Q. What do you conclude about DTE Electric's return on capital?

A. The Commission has been generous with DTE Electric, authorizing ROE and cost of permanent capital well above the returns obtained by most other utilities across the United States. And, the Commission has done so despite DTE Electric's poor performance on the major metrics of electric utility performance. It is particularly important to note that one of the ways in which DTE performs poorly is rates, which are made higher by high ROE.

Q. How should the Commission respond to this evidence?

A. The Commission should lower DTE Electric's ROE until it is commensurate with DTE Electric's performance. Since DTE Electric's performance is below median for investor-owned utilities, its ROE should be below median for investor-owned utilities. An ROE at or below the national average of about 8.5% would be just and reasonable.

VII. HOW THE COMMISSION SHOULD APPROACH THIS CASE

Q. In light of your preceding analysis, how should the Commission approach this case?

A. The Commission should focus on the two objectives of improving DTE Electric's distribution reliability and reducing DTE Electric's high residential rates.

Q. How can the Commission make progress on both of these objectives when it appears that improving distribution system reliability requires additional spending?

A. To improve affordability for DTE Electric's customers, the Commission must demand the DTE Electric take a more austere approach to spending than it proposes, across all spending categories. The most effective way for the Commission to do this is to limit rate increases to an acceptable level and make that objective drive its review of revenue requirements. This top-down approach will force consideration of tradeoffs rather than just evaluating each component of spending independently. Lowering DTE Electric's return on capital would also incent greater capital discipline in their spending.

To improve reliability in the context of a focus on affordability, the Commission should support those spending categories that are clearly important and beneficial, and use its ability to structure regulatory incentives to focus DTE Electric on cost-effective improvements in reliability.

VIII. AN AFFORDABLE BUDGET FOR DTE ELECTRIC

Q. What do you mean by an affordable budget for DTE Electric?

A. As I documented earlier in this testimony, DTE Electric's cost per kWh residential electricity is high. DTE Electric's proposal in this case is to continue increasing the cost of residential electricity at a rate that substantially exceeds national electricity cost trends and general inflation rates, making DTE Electric's residential electricity even less affordable. In the long run, if DTE Electric's costs increase faster than inflation, it forces households to reduce the consumption of other goods and services. Therefore, a good benchmark for the Commission Is whether DTE Electric's costs per kWh increase faster than the general inflation rate. If the Commission allows cost increases greater than inflation, DTE Electric's affordability compared to other utilities will further deteriorate. If the Commission limits cost increases to a pace that is less than inflation, DTE Electric's affordability compared to other utilities will likely improve. Thus, for this testimony I examine how the Commission can limit DTE Electric's residential cost increases to the general inflation rate. This approach at least serves to prevent DTE Electric's affordability from getting worse.

Q. What general inflation rate are you using as the benchmark?

A. DTE developed its operations and maintenance cost forecasts by applying inflation factors, then making additional adjustments.[8] They based these forecasts on normalized 2021 expenses. However, DTE's current rates were based on projections in the preceding rate case, No. U-20836, which had a projected test year of November 1, 2022 through October

[8] Direct testimony of Theresa M. Uzenski, TMU-35:7-24.

31, 2023.[9] The present case is based on a projected test year of December 1, 2023 through November 30, 2024.[10] Thus the relevant period of inflation is the 13-month period by which the projected test year has moved forward.

Exhibit A-13, Schedule C5.15 provides the inflation factors used by DTE Electric in the present case. For purposes of this testimony, I adopt those inflation factors. In particular, since the period over which the projected test year shifts between Case No. U-20836 and the present case is largely in calendar year 2023, I apply that inflation factor of 3.2% pro-rated to 13 months and round up to a single decimal point, for a benchmark cost increase of 3.5%.

Q. If you apply your benchmark cost increase to residential costs per kWh, what residential revenue increase is available?

A. Projected revenue from electric sales based on the rates currently in place is provided by DTE Electric in their Unbundled Cost of Service ("UCOS") study.[11] Projected production revenue from Total Residential sales is $1,363,972,000 and projected distribution revenue from Total Residential sales is $1,247,366,000, for combined Total Residential revenue of $2,611,338,000. Inflation of 3.5% on that revenue would increase revenue by $91,397,000 to a total of $2,702,735,000. In contrast, DTE Electric claims a Total Residential revenue requirement of $1,431,079,000 for production and $1,559,610,000 for distribution, for a combined Total Residential revenue requirement of $2,990,688,000, and a combined Total Residential revenue deficiency (proposed revenue increase) of $379,351,000. Thus, DTE

[9] U-20836 Amended Application, para. 7.

[10] U-21297 Application, para. 7.

[11] Exhibit A-16, Schedule F1.1.

Electric's proposed Total Residential revenue in this case exceeds the inflation-based benchmark by $287,954,000.

Q. Please explain how you constructed an affordable budget for DTE Electric, based on this benchmark.

A. I summarize these calculations in Exhibit MEC-2. Exhibit MEC-2 is based on Exhibit A-16 Schedule F1.2, DTE Electric's UCOS study in this case.

First, I assumed an authorized return on equity ("ROE") of 9.25%. This is the ***increased*** ROE that the Minnesota Public Utilities Commission awarded Xcel on June 2, 2023.[12] On that basis, I modified the weighted average cost of capital shown in Exhibit A-14, Schedule D1 from 5.6986% to 5.3166%.[13] This change reduced the Total Residential revenue requirement for production by $26,873,000 to $1,404,206,000 and reduced the Total Residential revenue requirement for distribution by $38,431,000 to $1,521,179,000, for a total reduction in revenue requirements of $65,303,000, leaving a revenue requirement exceeding my inflation-based benchmark by $222,651,000.

Second, I reduced operations and maintenance expenses for both production and distribution by a reasonable productivity factor. According to Federal Reserve economic data, Nonfarm Business Sector Labor Productivity for All Workers, indexed to 100 for 2012, was 112.715 as of June 1, 2023 which reflects an average annual improvement of 1.21%. DTE based their O&M projections on 2021 calendar year and is projecting costs for a year beginning one month earlier than 2024, or almost exactly three years after the

[12] To be added when order is in the docket 21-630.

[13] This total cost of capital includes Accumulated Deferred Income Tax at zero cost and a number of other low-cost capital sources. For comparison to the analysis in an earlier section, this corresponds to a return on permanent capital of 6.655%, which is still well above the 2021 national median of 6.41%.

historical test year. On that basis, if DTE and its suppliers are improving productivity at the same rate as the overall economy, they should have achieved productivity gains of about 3.53%. Applying this productivity adjustment to both production and distribution O&M left a combined production and distribution Residential revenue requirement that was $187,017,000 in excess of my inflation-based benchmark.

I am not endorsing DTE's estimates of the costs of fuel and purchased power nor the income taxes embedded in base production and distribution expenses, but those costs are unlikely to be materially changed by Commission decisions in the present case, so I did not change those cost projections.

In order to adjust revenue requirements in relation to adjustments in rate base, I assumed that depreciation and other taxes in production expenses are proportional to production rate base and that depreciation and other taxes in distribution expenses are proportional to distribution rate base. I then searched for the amount of distribution rate base reduction necessary to reduce combined residential Total Base Revenue Requirement to the inflation-based benchmark amount of $2,702,735,000. That result was $1,673,200,000. Of course, reduction in production rate base can offset some of this required decrease in distribution rate base, though because distribution capital is more heavily allocated to residential customers than is production capital, it would take a larger reduction in production rate base to achieve the same reduction in residential revenue requirements that is accomplished by reducing distribution rate base.

Thus, as an indicator of the decisions necessary to avoid increasing residential rates by more than inflation, it could be accomplished by reducing return on equity to 9.25%,

implementing a 3.5% reduction in O&M costs for both production and distribution, and reducing distribution rate base by about $1.673 billion.

Q. Is it practical to reduce the distribution rate base by $1.673 billion below the level proposed by DTE Electric?

A. According to Exhibit A-12, Schedule B5, Line 7, DTE Electric's 2021 distribution capital spending was authorized to be $1.204 billion and its actual 2021 distribution capital spending was $69.593 million higher at $1.274 billion. Distribution capital spending in the 23-month bridge period in this case is projected to total $2.822 billion and distribution capital spending in the projected test year is $1.556 billion. It seems impractical in this case to reduce the distribution rate base by $1.673 billion below the level proposed by DTE Electric in this case.

However, it should be noted that out of the $1.556 billion DTE Electric proposes to add to distribution plant in the projected test year, only $424.413 million is for emergent replacements and the remaining $1.131 billion is for connections, infrastructure resilience, infrastructure redesign, technology and automation and is therefore reasonably subject to the Commission's discretion. Additionally, projected test year capital spending on depreciable assets for corporate staff is $109.129 million, and IT expenditures in the projected test year are $170.490 million and these also include costs over which the Commission has some discretion.

If the Commission were to adopt my recommendation to reduce DTE Electric's ROE to the national average of 8.5%, a similar calculation to that described above leads to the conclusion that rates could be held to my inflation-adjustment benchmark by reducing distribution capital additions in this case by only $1.243 billion.

Q. What should the Commission conclude from your discussion of how to develop an affordable budget for DTE Electric?

A. To accomplish the dual objectives of improving DTE Electric's distribution system reliability and residential affordability, DTE Electric and the Commission will need to focus on these objectives and work diligently to find economically efficient solutions. Simply spending generously on the distribution system to improve reliability will not suffice.

Q. Other than a careful examination of DTE Electric's proposals, is there any other action the Commission could take?

A. Yes. The Commisison could order DTE Electric to file a residential affordability plan with its next rate case, with the objective of limiting residential rate increases to the rate of inflation. Such a plan would give DTE Electric an opportunity to directly address this issue.

IX. RELIABILITY IMPROVEMENT STRATEGY

Q. What affordable strategy can the Commission pursue that will also lead to improved reliability?

A. The Commission can and should make choices in this and other cases with the intent of affordably improving reliability. However, management of the distribution system consists of many decisions about maintenance, repair, and investment in many different locations, triggered by a variety of events. Thus, it is important that DTE Electric face incentives that engage its management and workers in this effort.

Q. What are the key choices the Commission should make in this case with the intent to affordably improve reliability?

A. The Commission should continue to support enhanced tree trimming, on a five-year cycle, while encouraging DTE Electric to come to future cases with a risk-based approach to cycle time or a conditions-based approach to tree trimming. This will optimize the most effective strategy to improve reliability.

The Commission should also support other expenditures, including capital expenditures, that provide immediate reliability and safety improvements, such as the removal of arc wire in Detroit[14] and the program that DTE Electric has labeled "Frequent Outage Programs".[15] However, all other distribution capital should be thoroughly scrutinized and subjected to an affordability budget. In particular, the Commission should be wary of committing to starting or ramping up spending programs without the benefit of two sources of improved understanding: the audit of DTE Electric's physical distribution system and distribution system management previously ordered by the Commission,[16] and the next iteration of DTE Electric's distribution investment and maintenance plan that is to be filed with the Commission on September 30, 2023.[17] The audit and the distribution investment and maintenance plan will both serve to help the commission ensure that any distribution system expenditures are economically efficient in addressing customer needs.

[14] U-20836, Order dated November 18, 2022, p. 94.

[15] Direct testimony of Morgan Elliott Andahazy, MEA-49:6 through MEA-55:2.

[16] U-21305, Order dated October 5, 2022.

[17] As Ordered on September 8, 2022 in Case No U-20147.

Q. How can the Commission construct appropriate incentives for the affordable improvement of DTE Electric's reliability?

A. I recommend that the Commission use all of the tools that are available to it as economic regulators. These include the following, each of which I discuss later:

- Improve estimates of the customer cost of lost power
- Link return on equity to reliability performance
- Focus utility staff incentive compensation on reliability
- Management review and compensation disallowance
- Use cost trackers to ensure targeted spending
- Disallowances
- Provide non-utility financing mechanisms for extraordinary investments
- Carefully apply investment recovery mechanisms

Q. What is the value of improving estimates of the customer cost of lost power, and how can the Commission obtain improved estimates?

A. The Commission will in future be making a series of economic judgements about which and how much distribution system spending is beneficial to customers, given the necessary tradeoffs between reliability and affordability. In the present case, DTE Electric uses the Interruptions Cost Estimation Calculator as developed by Nexant, Inc. and the Lawrence Berkeley National Laboratory ("LBNL").[18] Although that calculator was modestly updated

[18] Direct testimony of Michael S. Cooper, MSC-57:22-24.

in 2018,[19] it is based on a 2015 LBNL report.[20] Based on my review, that report is weak for outages over 8 hours duration due to lack of data and does not provide values for outages over 16 hours duration, although much of the outage experience for DTE Electric customers is longer than 16 hours. The report explicitly says that "For resiliency considerations that involve planning for long duration power interruptions of 24 hours or more, the nature of costs change and the indirect, spillover effects to the greater economy must be considered. These factors are not captured in this meta-analysis."[21]

The 2015 LBNL report does not distinguish between large-area and small-area outages, although it seems obvious that widespread outages reduce the opportunities for customers to mitigate harm from an outage. Many Michigan outages are due to storms that cause widespread outages, and often under difficult weather conditions.

The 2015 LBNL report does not distinguish between low-income and higher-income residential customers, even though the effects of an outage on a low-income customer that lacks the cash or credit to mitigate harm will be different than for a higher-income customer that can spend cash to mitigate harm.

It is also notable that the 2015 LBNL report acknowledges limited data from the Great Lakes region.[22]

[19] See technical report at https://eta-publications.lbl.gov/sites/default/files/ice_calculator_recent_updates.pdf.

[20] Sullivan, M., Schellenberg, J, and Blundell, M. 2015 Updated Value of Service Reliability Estimates for Electric Utility Customers in the United States. Lawrence Berkeley National Lab, available from https://eta-publications.lbl.gov/sites/default/files/lbnl-6941e.pdf.

[21] Ibid, p. xiv.

[22] Ibid, p. xiv.

The Commission can take steps to improve the estimates of the customer value of lost power used in Michigan by seeking technical assistance from the research team at Lawrence Berkeley National Lab and requiring Michigan utilities to collect relevant data after each outage for analysis by LBNL or another appropriate organization. I recommend that the Commission so instruct DTE in this case.

Q. How should the Commission link return on equity to reliability performance?

A. The Commission can construct a formula linking return on equity to outage statistics. It would be important, however, to also link return on equity to affordability of electricity to avoid incenting DTE Electric to spend excessively to reduce outages. For now, I recommend that the Commission adopt my earlier recommendation and simply follow a policy that if reliability and affordability are below national average, then return on equity should be below national average. I recommend that the Commission act on this recommendation in the present case.

Q. How should the Commission focus utility staff incentive compensation on reliability?

A. The Commission can limit the recovery of staff incentive compensation and can certainly encourage DTE Electric to focus its incentives more strongly on issues of concern to the Commission, such as distribution system reliability and residential rates. Current policy is to require that recovery of incentive compensation is dependent on showing that the incentive compensation programs provide benefits to customers in excess of the expense.[23] In the present case, DTE Electric proposes measures such as the maintenance of debt ratings, customer satisfaction scores, employee engagement, employee safety, distribution

[23] Cooper Direct, MSC-54:4-9.

system reliability, generation availability, and nuclear on-line reliability loss factor.[24] It is laudable that DTE Electric is already including distribution system reliability in its incentive compensation scheme. Notably, it does not include customer safety, downed line performance, and only considers distribution system reliability excluding Major Event Days. There is room to increase the importance of the distribution system in the Company's incentive compensation. Residential affordability could also be included.

The Commission can and should require that incentive compensation be focused on areas in which the utility most needs improvement. For example, in the present case DTE Electric justifies inclusion of retention of the Company's existing debt ratings based on the interest costs it projects if its rating is downgraded. This is not an improvement and might therefore be considered an inappropriate element of the incentive compensation program, and excluded from cost recovery.

Q. How can the Commission apply management review and compensation disallowance?

A. The Commission can also make a determination about how well management is performing and, on that basis, disallow cost recovery of a portion of executive compensation. To focus management attention on reliability, the Commission could simply advise DTE Electric in the present case that it expects to see improvements in reliability and that absence of improvement can trigger executive compensation disallowances.

[24] Cooper Direct, MSC-55:8 through MSC-59:21.

Q. How can the Commission use cost trackers to ensure targeted spending on reliability improvements?

A. Historically, DTE Electric has not always spent funds intended to support distribution system reliability on those purposes. The Commission can create cost trackers for this purpose.

Q. How can the Commission use disallowances as an incentive for greater reliability?

A. The Commission can disallow costs that are incurred as a result of prior failures to properly operate and maintain the distribution system. For example, the Commission should give particular attention to the analysis of excess costs due to DTE Electric's past failure to maintain a proper tree-trimming cycle that is presented in the testimony of my colleague Robert Ozar.

Q. How can the Commission provide non-utility financing mechanisms for extraordinary investments?

A. By extraordinary investments, I mean investments that the utility would not commonly make. A good example would be undergrounding distribution lines in selected locations. In those cases, the Commission can apply the logic it uses elsewhere to determine contributions in aid of construction. In the case of undergrounding, the Commission could direct DTE Electric to demonstrate the level of operations and maintenance savings that result from undergrounding and allow undergrounding projects to go forward upon agreement by another party to pay contribution in aid of construction to cover the balance. Contribution in aid of construction for distribution system improvements will be difficult for DTE Electric to decide since several to many customers will be involved, requiring a collective decision. DTE Electric is not set up to make such collective decisions, but local

governments do so routinely. So, DTE Electric could offer undergrounding or other extraordinary investments upon payment of contribution in aid of construction by the host community. Host communities could choose to finance such payments from general revenue, by special assessment to the benefiting properties, or from grants. A number of grant categories might be available for such measures as a result of the Infrastructure Investment and Jobs Act and the Inflation Reduction Act. In my opinion, a program of this kind could be approved in an ex parte case. The Commission should request that DTE Electric develop such a proposal, which would incent some communities to pursue such investments. Any such investments would help reduce storm outages and benefit other DTE Electric customers.

Q. What do you mean in saying that the Commission should carefully apply investment recovery mechanisms?

A. An investment recovery mechanism can be a useful way for the Commission to provide for the cost recovery of investments while holding the utility accountable for spending the projected amounts. Costs not incurred will then not be recovered from customers. However, an investment recovery mechanism should be carefully applied so that it only covers a series of investments that the Commission is convinced are reasonable and prudent and for which the utility can be held accountable for both outputs and results.

X. MERC

Q. Please explain MERC.

A. MERC is the Midwest Energy Resources Company. It is a wholly-owned subsidiary of DTE Electric, providing coal transportation services to DTE Electric and to third-party

customers through a terminal in Superior, WI.[25] All costs of MERC are included in this rate case and revenues from third-party sales are processed through PSCR accounts and cases. MERC's costs that are proposed to be recovered in this case are addressed in the testimony of D. C. Milo.[26] Mr. Milo presents $2.643 million in capital expenditures for MERC in the bridge period and $1.5 million in capital expenditures for MERC in the projected test year.[27] He presents $3.615 million in O&M expense for MERC Fuel Handling in the projected test year.[28]

Q. What concerns do you have regarding MERC in this case?

A. MERC is a coal-handling facility. As shown in Exhibit MEC-3, which was provided by DTE Electric in response to discovery request MNSCDE-11.3, external revenues to MERC have declined from $41.883 million in 2010 to a projected $3.100 million in 2023 as external volume has declined from 8.051 million tons to a projected 0.6 million tons in 2023. DTE Electric volume has declined from 10.763 million tons in 2010 to a projected 4.821 million tons in 2023. As shown in Exhibit MEC-4, discovery response MNSCDE-2.12 and attachment, DTE projects that its own volumes will continue to decline in each year of the five-year PSCR forecast, reaching 3.810 million tons in 2026 and 4.123 million tons in 2027. According to the same exhibit, DTE projects that its external volumes and revenues will decline even more markedly in each year of the five-year PSCR forecast, reaching zero in 2027.

[25] Direct testimony of David C. Milo, DCM-5:9-12.

[26] Milo Direct, DCM-5:20 through DCM-10:16.

[27] Exhibit A-12, Schedule B5.2.

[28] Exhibit A-13, Schedule C5.2.

Concurrent with this case, in Case No. U-21193, DTE Electric proposes an integrated resource plan that includes the conversion of Belle River from coal to gas in 2025 and 2026, retirement of two units of Monroe in 2028, and the remaining two units of Monroe in 2035. Although the Commission has not yet acted in that case (in which I am a witness), a reasonable reading of the record to-date suggests that this retirement schedule for DTE Electric's remaining coal units will be adopted with the possibility that the last two units of Monroe will retire earlier. In consequence, I would expect DTE Electric volume through MERC will significantly decline in the near future. This declining volume calls into question the appropriateness of continuing to operate MERC.

Witness Milo's testimony does not discuss either the declining volume of activity at MERC or the impending retirement of DTE Electric's remaining coal units. Exhibit MEC-5 shows that DTE Electric has not determined an expected retirement date and that MERC assets are currently being depreciated with a 24.7-year life. Thus, investments in the projected test year would partially remain in DTE Electric's rate base until approximately 2048, 13 years after DTE Electric's proposed retirement of the last two Monroe units.

Q. Has DTE reduced the costs of MERC as coal volumes have declined?

A. No. Exhibit MEC-6 displays MERC capital and O&M expenditures for most years from 2013 through the 2024 test year as well as the MERC volumes in those years, and the ratios of expenditures to volumes. Capital expenditures per ton are increasing from $0.18 in 2022 to $0.49 in 2024. O&M expenditures in 2022 are increasing from $0.49 to $0.67 in 2024.

Q. MERC is only a portion of DTE Electric's coal supply. Do you have the same concerns about other fuel supply costs as you do regarding MERC?

A. Yes. Witness Milo describes continuing investments in railcars.[29]

Q. What action do you recommend the Commission take with respect to MERC in this case?

A. I recommend the Commission take three steps. First, I recommend that the Commission require DTE Electric to present in its next rate case a plan for the retirement of MERC. This plan must demonstrate the least-cost retirement date for MERC, considering the retirement schedules of DTE Electric's coal plants as determined by the Commission in Case No. U-21193 and the availability of coal if MERC is retired while some coal units continue to operate. This plan should also address the appropriate plan for retirement of DTE Electric's coal transportation assets as shipments to DTE Electric's coal units decline.

Second, I recommend that the Commission require DTE Electric to propose in its next depreciation case that MERC, including any future capital expenditures, be fully depreciated by its planned retirement date and that any coal transportation assets held by DTE Electric also be fully depreciated by their expected retirement dates.

Third, I recommend that the Commission disallow the proposed capital expenditures at MERC pending a determination of its retirement date and disallow proposed capital expenditures on coal transportation equipment pending a determination of the appropriate retirement schedule for that equipment.

[29] Milo Direct, DCM-8:4-8.

XI. ELECTRIC VEHICLE CHARGING INFRASTRUCTURE PROGRAMS

Q. Please summarize DTE Electric's EV program proposals.

A. As described in the testimony of DTE Electric witness Kelsey Peterson[30], the Company proposes in this case to make some of elements of its Charging Forward pilot program permanent, while proposing to continue other elements and to add two new programs to Charging Forward: Community Chargers and School Bus Chargers.

DTE Electric also indicates that they will publish a comprehensive Transportation Electrification Plan ("TEP") in Q4 2023, detailing the Company's investment plan through 2028.

In relation to their program proposals, DTE Electric proposes several tariff modifications.

Finally, they provide a benefit-cost analysis ("BCA") in this case[31] and promise a broader framework for BCA for future programs as part of the TEP.[32]

These proposals and the BCA respond to the Commission's Order in Case No U-20836, which included encouragement that DTE Electric make some programs permanent, supported by a BCA. That Order was, in part, responsive to my testimony in Case No U-20836. DTE's TEP appears to be of their own volition but is a welcome development.

[30] Direct testimony of Kelsey Peterson, KP-4:21 through KP-67:18.

[31] Peterson Direct, KP-62:16 through KP-67:18.

[32] Peterson Direct, KP-67:9-18.

Q. What program elements does DTE Electric propose to make permanent?

A. DTE Electric proposes to make permanent their Education and Outreach activities, Home Charger Installation offering, eFleet Battery Support, Emerging Technology Fund, and Program Administration costs.[33]

Q. Do you support those proposals?

A. Yes, with the provision that the Emerging Technology Fund should be managed consistent with the Commission's Order on pilot projects,[34] which grew out of the Commission's examination of new and emerging technologies through a staff-led work group.

Although I support making these program elements permanent at this time, I note that future evidence might lead to a need for changes. In particular, as EV market penetration increases, the needs for general Education and Outreach will likely evolve and may diminish while the need to make customers aware of DTE Electric programs and of charging practices will likely continue. Business models in this sector may well evolve, warranting rethinking of program elements like Home Charger Installation.

Q. What current program elements does DTE Electric propose to continue within the Charging Forward pilot program?

A. DTE Electric proposes to continue Home Charger Rebates, Business Charger Rebates, Income-Eligible Rebates, Business Charger Installation, and Charging Hubs.

[33] Peterson Direct, KP-20:14 through KP-38:11.

[34] Case No. U-20645, Order dated February 4, 2021.

Q. Do you support continuing these program elements as pilot activities?

A. Although I believe that the Home Charger Rebates, Business Charger Rebates, and Income-Eligible Rebates program elements could have been made permanent in this case, it is acceptable that they continue until the next DTE Electric rate case, but I urge DTE Electric and the Commission to make those programs permanent in that next rate case.

Q. Do you have any concerns about specific aspects of the continuing pilot activities?

A. Yes. With respect to the Business Charger Rebates program element, there is potential overlap with the State of Michigan's implementation of the National Electric Vehicle Infrastructure ("NEVI") program created by the Infrastructure Investment & Jobs Act.[35] The Commission should require that DTE Electric coordinate its Business Charger Rebate program with NEVI and should monitor that coordination. In my opinion, the coordination between utility programs and the State of Michigan VW Settlement-funded charging infrastructure investments has been productive, providing a comprehensive, orderly approach to meeting statewide infrastructure needs that provides a useful model for DTE's coordination with NEVI.

With respect to Income-Eligible Charger Rebates, DTE Electric indicates that this program element was to launch in Q1 2023 based on an after-the-fact rebate to eligible customers. For low-income vehicle purchasers, uncertainty about eligibility for a rebate and deferred receipt may be a material barrier to a decision to purchase an EV. I strongly recommend that DTE Electric be required to convert this program so that customers can receive the

[35] MDOT, Michigan State Plan for Electric Vehicle Infrastructure Deployment (Version 2.0) (August 2022), available at: https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/MMD/Energy/NEVI/MI-Plan-for-EV-Infrastructure-Deployment.pdf.

rebate at point-of-sale as soon as possible. The Commission should provide that instruction to DTE Electric. A vehicle purchase presents challenges for income-qualified customers, and the challenge of delayed timing to receive a rebate should be avoided. Additionally, the amount of the income-eligible customer rebates is modest and I recommend that the rebate amount be increased. For comparison, in 2020 the Colorado Public Utilities Commission approved a three-year, $5 million equity rebate program for Public Service Company of Colorado offering up-front (i.e., point-of-sale) rebates of $5,000 toward new vehicles and $3,000 toward used vehicles for income-qualified customers.[36]

With respect to the Charging Hubs element of Charging Forward, I note that one of the criteria for a supported Hub is that it be in or near a non-attainment zone for criteria pollutants. EPA recently redesignated the Detroit-area ozone non-attainment areas as in attainment.[37] DTE Electric should examine whether this affects any of its proposed sites and make appropriate adjustments.

I also note that where in the last case DTE Electric claimed that it needed to develop charging hubs because only they had sufficient knowledge of their distribution system to make siting decisions, they now indicate that they will make capacity information available in map form later in 2023.[38]

[36] Commission Decision Granting Application with Modifications at 33-34 (December 23, 2020), Proceeding No. 20A-0204E, Colorado Public Utilities.

[37] See 19 May 2023 entry in Docket EPA-R05-OAR-2022-004, available from https://www.federalregister.gov/documents/2023/05/19/2023-10563/air-plan-approval-michigan-redesignation-of-the-detroit-mi-area-to-attainment-of-the-2015-ozone.

[38] Peterson Direct, KP-46:8-12.

Q. What new pilot program elements did DTE Electric propose?

A. DTE Electric proposes new program elements for Community Chargers and School Bus Chargers.

The Community Chargers program targets the needs of customers who cannot have charging infrastructure at home, by providing overnight charging nearby concentrations of people who cannot have charging infrastructure.[39] This proposal is similar to one that the Commission approved in approving the settlement of Consumers Energy's last rate case, in Case No. U-21224.[40]

The School Bus Charger Pilot would provide charging infrastructure for school bus fleets that is capable of providing demand response service through Vehicle-to-Grid technology.[41]

Q. Do you support these proposals?

A. Yes. I note however, two concerns.

First, in both cases, DTE proposes to own and operate the charging infrastructure. The Commission should remain wary of utility-owned and operated infrastructure that leverages utility assets to compete with competitive market participants. In my opinion, the Community Chargers program presents a clearer case of market barriers leading to market failure than with School Bus Chargers, where the only clear market failure is that DTE

[39] Peterson Direct, KP-49:2 through KP-56:13.

[40] See provision 17 of the Settlement attached to the Commission's Order dated January 19, 2023.

[41] Peterson Direct, KP-56:14 through KP-62:4.

Electric's tariffs prevent someone who operates school bus charging from obtaining full market value for vehicle-to-grid services; this relates to my second concern.

Second, the proposed tariff changes to Rider 14, allegedly to support V2G, is inadequate. Rider 14 was designed around the Commission's inflow-outflow approach to creating a tariff for distributed generation, which charges a customer standard retail rates for inflow and credits the customer for production and transmission for outflow. That is the wrong mental model for vehicle-to-grid, indeed for all storage that is not integrated with behind-the-meter generation. Storage receives power with all of the services and costs of any other power delivery to a customer, so it is appropriate to charge a retail rate for that power. If the customer then uses storage to provide power for their own consumption at a later time, the utility still receives full retail for the power delivered to the customer, and sells a bit more power due to the round-trip losses in the storage system. For storage that discharges to the grid, including vehicle-to-grid, all of the power returned to the grid is sold to another customer at full retail, again with an increase in sales due to round-trip losses in the storage system. The utility and its other customers are not in any way made worse off by such use of storage to time-shift the delivery or power to a time earlier than its actual consumption. The customer with storage however, is made worse off by using Rider 14 for operation of vehicle-to-grid, since they will purchase power at full retail and sell it at production cost only, thereby losing the cost of delivery in the exchange. This is unlikely to be beneficial to the customer and will not be adopted by any economically rational customer.

Q. What is your reaction to the BCA for EV charging programs provided by DTE Electric in this case?

A. The benefit-cost analysis presented by DTE Electric misses the mark. It does demonstrate that non-EV customers will be better off as a result of EV adoption in DTE Electric's service territory because the gross margin from EV charging will exceed DTE Electric's Charging Forward program expenses. This is a valuable demonstration, as I discuss below. However, the benefits of EV charging to society are the mitigation of climate change, avoidance of adverse health effects from vehicle emissions and noise, the avoidance of fuel supply costs and maintenance costs for non-electric vehicles, improvements in economic stability of the national economy and the automobile industry – hence of Michigan's economy- due to reduced importance of fluctuating oil prices, improvements in national security. These benefits are, of course, partially offset by the cost of the electric vehicle and charging equipment, electric vehicle maintenance, and charging electricity. The purchase of electricity by EV owners that provides a gross margin to DTE Electric is just a transfer between participants in the national and Michigan economy.

The demonstration that DTE's marginal revenues from EV charging exceeds its expenditures on EV charging allows the Commission to use logic similar to that of line extensions, wherein returning the gross margin of future sales to the customer leaves all other customers neither better nor worse off than if the new customer had not arrived. If the Commission does not authorize returning full gross margin to the EV-driving customer, then other customers will benefit but it may slow EV adoption and reduce societal benefits. In contrast, line extensions where the Commission authorizes full return of gross margin, or more, to new customers, generally have not been shown to produce any societal benefits. I urge the Commission to begin approaching the question of rebates or partial funding of

new load from the perspective that utility contributions should not exceed gross margin and thereby make other customers worse off, but that the degree to which gross margin is expended on new load vs used to benefit existing load with lower rates should be based on an evaluation of the public benefits of the new load. As a recent example of this approach, the Commission could look to the criteria it adopted for evaluation of proposals under the Low Carbon Energy Infrastructure Enhancement and Development Grants program.[42]

I want to stress again that the revenues from electric vehicle charging that can reasonably be used to fund DTE Electric's transportation electrification programs include all EV charging revenues, and not just those revenues that come from vehicles the purchase of which is attributable to DTE Electric's programs. A customer's decision to purchase an EV is a multi-factor decision and it is nearly impossible to attribute a single purchase decision to any single factor, such as the Company's transportation electrification programs. The Commission should avoid an interpretation of benefits and costs that requires solving for impossible counterfactuals (i.e., EVs purchased that would not have been purchased but for the Company's programs). Considering marginal revenues from EVs on a service territory and system-wide basis appears to be the most natural basis for determining the gross margin that can be used to fund transportation electrification programs. It is also the most reasonable approach from a policy perspective because the total number of EVs and associated revenue can be reasonably calculated. DTE Electric's approach, on the other hand, raises significant attribution questions that will only become harder as the EV market matures.

[42] See https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/activity/EIED-Grant/Low-Carbon-EIED-Grant-RFP.pdf.

Because EV adoption requires that public charging infrastructure be available, it is appropriate to consider that net revenue from all charging, including charging at home, may be invested in supporting adequate public charging infrastructure. This justifies the practices within the Charging Forward pilot of providing distribution system upgrades, make-ready investments, and even rebates to create an essential network of charging locations. A portion of those costs would be provided under CIAC policy based on the net revenue expected from the public charging location itself. To facilitate future permanent program development, the Commission should expect that the calculation of CIAC requirements should be made for all commercial charging locations, public or private, and that allocations of system-wide EV net revenue to cover CIAC will be explicit and guided by policy approved by the Commission. Waiver of CIAC and rebates for public charging, funded by system-wide EV net revenue likely should evolve as an essential charging network is completed; one indicator that public EV charging infrastructure warrants support from system-wide EV net revenue should be whether it is matched by public funds. To the extent that there is system-wide net revenue available beyond the costs outlined above, those funds may be used for continued pilot programs to expand transportation electrification or for investments in equitable transportation electrification outcomes.

Q. What is your reaction to DTE Electric's plan to release a Transportation Electrification Plan later this year?

A. I welcome this announcement, as it represents potential maturation of DTE Electric's Charging Forward programs and provides an opportunity for DTE to share its vision for EV-related programs outside the context of a contested case. In the interest of that TEP

being useful and helpful, I have some recommendations for DTE Electric and the Commission.

First, the TEP should support in DTE Electric's service area, at a minimum, the goal of the MI Healthy Climate Plan to provide charging infrastructure for 2 million electric vehicles in Michigan by 2030, including at least 50% of light duty vehicles and 30% of heavy and medium-duty vehicles.[43] That goal is consistent with the ambitious action required to meet the state's climate goals.[44] For the transportation sector, a 2022 report prepared by Synapse Energy Economics found that EVs must comprise nearly 100% of new cars sold in the state by 2035 to meet the state's climate goals.[45] The Company's TEP should also should integrate with the various Federal and State programs that are designed to encourage transportation electrification.

As I just indicated above, the plan should project the gross margins that DTE Electric will receive from transportation electrification, and that gross margin should serve as a guide to DTE Electric's spending on transportation electrification.

The plan should compare the revenue from transportation electrification to its cost of service and any revenues in excess of cost of service should be addressed through rate reforms that bring revenues from this and other end-uses closer to cost of service.

[43] MI Healthy Climate Plan, available from https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan.

[44] In September 2020, Governor Whitmer issued Executive Directive 2020-10, which sets a goal of achieving statewide carbon neutrality by 2050. The directive also sets an intermediate goal of reducing economy-wide emissions 28 percent below 1990 levels by 2025.

[45] Synapse Energy Economics, Transforming Transportation in Michigan: A Roadmap to the State's 2050 Climate Target at 1, 8-9.

The plan should determine the costs that will be incurred to upgrade distribution systems as electric vehicle penetration increases, and for home charging, employee charging, and other ubiquitous charging, the distribution system upgrades should be socialized and paid for through charging gross margins rather than by charging customers for distribution system upgrades.

The remaining net utility revenues can be used for line extensions to charging locations, charger rebates and other programs, subject to benefit cost analysis. The Commission should seek to maximize societal benefits net of utility costs through utility transportation electrification programs. Remaining net revenues can be used to reduce rates for non-transportation end uses. The Commission will need to formulate the division of net revenue between EV support and rate dilution based on evidence in specific dockets, and that division might appropriately evolve over time. A reasonably good model for this is the TEPs of the Colorado utilities, developed pursuant to statute.[46]

Additionally, the TEP should give careful attention to EV charging load management and grid integration. Our current approach in Michigan is to provide rebates for EV charging infrastructure in return for customers participating in time-of-use rates that will encourage customers to change overnight. This approach is sensible given current power system characteristics and EV adoption. However, within the foreseeable time, this will lead to large surges in demand at the start of low-priced periods. Also within a foreseeable period, the period of high power supply relative to loads will be shifting due to high solar supply. This TEP should begin addressing that future for light-duty vehicles and considering the

[46] See Colorado Public Utility Commission cases 20A-0195E and 20A-0204E.

development of grid integration and load management strategies for medium- and heavy-duty vehicle charging.

XII. SUMMARY AND RECOMMENDATIONS

Q. Please summarize your recommendations to the Commission.

A. I recommend that the Commission approach this entire case with an emphasis on addressing DTE Electric's poor reliability and residential affordability. As a powerful incentive for DTE to address these deficiencies, the Commission should limit return on equity to less than the national average return on equity of investor-owned electric utilities until DTE Electric attains at least national average performance on these key metrics.

I further recommend that the Commission address DTE Electric's unreasonable residential affordability by using disallowances to limit rate increases to approximately the rate of inflation, or about 3.5% over existing residential rates.

The Commission should address DTE Electric's poor reliability by ensuring that DTE Electric continues tree trimming on the schedule they proposed in this case and by supporting essential investments in measures that provide immediate relief from outage problems. However, the Commission should limit investments in the distribution system to what is affordable and focus on providing incentives for DTE Electric and its staff to improve reliability, while awaiting DTE Electric's upcoming distribution system investment plan and the Commission's audit of DTE Electric's distribution system before accelerating investments that will drive up rates.

With respect to MERC, the Commission should require DTE Electric to present its plan for the retirement of MERC in its next rate case, and direct DTE Electric to propose depreciation of all current and future MERC and fuel supply assets by MERC's planned

retirement date in its next depreciation case. Pending that plan, the Commission should disallow capital expenditures at MERC.

The Commission should support DTE Electric's Charging Forward proposals, except that

1. the Emerging Technology Fund should be managed consistent with the Commission's orders on pilot projects,
2. require DTE Electric to coordinate its Business Charger Rebates program with the State of Michigan's NEVI implementation plan,
3. Instruct DTE Electric to quickly convert the Low-Income Rebates program to point of sale rebates and increase the rebate amounts to $5,000 for new vehicles and $3,000 for used vehicles,
4. Require DTE Electric to seek third-party implementation of its proposed School Bus Charger program,
5. Reject DTE Electric's proposed use of Rider 14 for vehicle-to-grid services and allow customers with vehicle-to-grid or standalone storage, but without behind-the-meter generation, to receive retail rates for outflow.

The Commission should adopt policies analogous to line extensions for funding EV charging infrastructure programs, considering the gross margin from vehicle charging as the revenue that could appropriately be used to finance EV charging infrastructure and related programs. This logic should be used to structure DTE Electric's upcoming Transportation Electrification Plan.

Q. Does that complete your testimony?

A. Yes.

Douglas B. Jester

Personal Information

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Professional experience

January 2011 – present 5 Lakes Energy

Managing Partner

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

Based on DTE Electric Company
Unbundled Cost of Service, Production by Customer Class
TME November 30, 2024
(thousands of dollars)

Production by Class

Cost of Service Study

PRODUCTION COSTS

		(a)	(b)	(c)	(d)	(e)
		Total Electric	Total Residential	Total Commercial Secondary	Total Primary	E-1 St Lgt D9 OPL E-2 Signals
1	Rate Base	10,684,957	5,212,194	2,719,853	2,727,061	25,849
	Revenues:					
2	Revenue From Electric Sales	3,028,789	1,363,972	755,535	898,311	10,970
3	D13 Present Revenue	7,904	3,642	2,017	2,216	29
4	Misc Revenue	39,227	30,440	5,460	3,266	60
5	Total Adjusted Revenues	3,075,920	1,398,054	763,012	903,793	11,060
	Expenses:					
6	Fuel	926,971	399,736	236,039	286,630	4,566
7	Purchased Power	434,930	170,174	98,259	164,850	1,647
8	O & M Expense	588,518	262,010	150,786	173,224	2,496
9	Depreciation	472,907	233,511	120,270	118,109	1,017
10	Other (Reg Assets, etc)	-	-	-	-	-
11	Remove Reg Assets	-	-	-	-	-
12	Accretion of Loss/ Gain on Sale	-	-	-	-	-
13	Other Taxes	130,998	63,494	33,359	33,811	334
14	Income Taxes	63,508	33,513	15,338	14,540	117
15	Amortizations	-	-	-	-	-
16	Total Expenses	2,617,831	1,162,437	654,052	791,164	10,177
17	Net Oper Income	458,088	235,617	108,960	112,629	882
18	AFUDC & Other	43,595	21,548	11,086	10,868	93
19	Net Adjustments	(2,249)	(1,097)	(572)	(574)	(5)
20	Adj Net Oper Income	499,435	256,068	119,474	122,923	970
21	Rate of Return	4.67%	4.91%	4.39%	4.51%	3.75%
	Return@					
22	5.3166%	568,076	277,112	144,604	144,987	1,374
23	Income Deficiency	68,642	21,043	25,129	22,064	404
24	Base Revenue Def / (Sufficiency)	92,641	28,401	33,916	29,778	546
25	Tree Trim Surge Rev Req	-	-	-	-	-
26	Base Revenue Def/ (Sufficiency) w Tree Trim Surge	92,641	28,401	33,916	29,778	546
27	Less: D13 Incremental Revenues	2,154	992	550	604	8
28	**Total Revenue Def/ (Sufficiency)**	**90,487**	**27,409**	**33,366**	**29,174**	**538**
29	**Total Base Revenue Requirement**	**3,119,276**	**1,391,381**	**788,901**	**927,485**	**11,508**
29	Total Base Revenue Requirement	3,203,172	1,431,079	810,305	950,024	11,764
	Net Reduction	83,896	39,698	21,404	22,538	256

DTE Electric Company
Unbundled Cost of Service, Distribution by Voltage Class
TME November 30, 2024
(thousands of dollars)

Distribution by Voltage

Cost of Service Study

DISTRIBUTION COSTS

		(a)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Total Electric	Residential Secondary	Commercial Secondary	Primary	Subtransmission	Transmission	D-9 OPL Residential	D-9 OPL Commercial	E-1 St Lght	E-2 Signals
1	Rate Base	10,253,072	6,408,389	2,584,162	835,430	83,425	85,820	10,010	24,179	214,975	6,682
	Revenues:										
2	Revenue From Electric Sales	1,964,530	1,247,366	488,147	140,773	13,083	11,759	1,588	6,735	53,819	1,260
3	D13 Present Revenue	685	435	170	49	5	4	1	2	19	0
4	Misc Revenue	71,739	52,199	9,628	3,491	2,137	3,506	21	189	545	23
5	Total Adjusted Revenues	2,036,954	1,300,000	497,946	144,313	15,224	15,269	1,610	6,926	54,383	1,283
	Expenses:										
6	Fuel	-	-	-	-	-	-	-	-	-	-
7	Purchased Power	-	-	-	-	-	-	-	-	-	-
8	O & M Expense	668,255	465,948	143,115	40,330	2,523	3,126	484	1,625	10,680	426
9	Depreciation	598,366	378,455	147,153	39,440	3,185	2,861	1,192	2,571	23,144	366
10	Other (Reg Assets, etc)	-	-	-	-	-	-	-	-	-	-
11	Remove Reg Assets	-	-	-	-	-	-	-	-	-	-
12	Accretion of Loss/ Gain on Sale	-	-	-	-	-	-	-	-	-	-
13	Other Taxes	205,835	129,917	50,452	15,721	1,541	1,572	283	645	5,575	129
14	Income Taxes	47,764	26,370	13,988	4,479	831	803	(71)	175	1,157	31
15	Amortizations	-	-	-	-	-	-	-	-	-	-
16	Total Expenses	1,520,221	1,000,690	354,708	99,969	8,079	8,362	1,888	5,017	40,556	952
17	Net Oper Income	516,734	299,310	143,238	44,343	7,146	6,907	(278)	1,910	13,827	331
18	AFUDC & Other	-	-	-	-	-	-	-	-	-	-
19	Net Adjustments	(2,568)	(1,605)	(647)	(209)	(21)	(21)	(3)	(6)	(54)	(2)
20	Adj Net Oper Income	514,166	297,705	142,591	44,134	7,125	6,885	(280)	1,904	13,773	330
21	Rate of Return	5.01%	4.65%	5.52%	5.28%	8.54%	8.02%	-2.80%	7.87%	6.41%	4.93%
22	Return@ 5.3166%	545,115	340,708	137,390	44,416	4,435	4,563	532	1,285	11,429	355
23	Income Deficiency	30,949	43,004	(5,201)	283	(2,689)	(2,323)	812	(618)	(2,344)	26
24	Base Revenue Def / (Sufficiency)	41,770	58,039	(7,019)	381	(3,630)	(3,135)	1,096	(834)	(3,163)	34
25	Tree Trim Surge Rev Req	8,847	6,051	2,368	352	0	0	3	8	58	6
26	Base Revenue Def/ (Sufficiency) w Tree Trim Surge	50,617	64,090	(4,651)	733	(3,629)	(3,134)	1,099	(826)	(3,105)	41
27	Less: D13 Incremental Revenues	145	92	36	10	1	1	0	0	4	0
28	**Total Revenue Def/ (Sufficiency)**	**50,472**	**63,998**	**(4,687)**	**723**	**(3,630)**	**(3,135)**	**1,099**	**(826)**	**(3,109)**	**40**
29	**Total Base Revenue Requirement**	**2,015,002**	**1,311,363**	**483,460**	**141,496**	**9,453**	**8,624**	**2,687**	**5,909**	**50,710**	**1,301**
29	Total Base Revenue Requirement	2,406,384	1,559,610	579,744	170,411	12,094	11,273	3,213	7,125	61,365	1,549
	Net Reduction	391,382	248,247	96,284	28,916	2,641	2,649	526	1,216	10,655	248
	Combined Base Revenue Requirement	5,134,278	2,702,744	1,272,361							
	Inflation-Based Benchmark - Residential Customers		2,702,735								

MPSC Case No: U-21297

Requester: MNSC

Question No.: MNSCDE-11.3

Respondent: D. Milo

Page: 1 of 1

Question: Refer to discovery responses MNCDE-1.11b and c: Provide the volume of coal transportation services provided by MERC in each calendar year from 2010 through 2022 (and any projection for 2023, if it exists), broken out by service type and broken out between service to DTE Electric Company and service to external customers, as well as total revenue from external customers for the same years.

Answer: See attachment.

Attachment: *U-21297 MNSCDE-11.3 MERC Volume and Revenue*

Midwest Energy Resources Company's (MERC)
DTE Electric Co. & External Tonnage and External Revenues
MNSCDE-11.3

Case: U-21297
Response: MNSCDE-11.3
Respondent: D. Milo

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
DTEEC Volume (Tons)	10,762,631	8,403,358	8,936,034	9,150,332	8,483,785	9,559,414	7,319,865	7,419,037	7,114,116	6,765,785	4,752,391	6,564,373	5,637,290	4,820,500
External Volume (Tons)	8,050,679	5,342,276	5,296,058	5,021,287	5,582,287	4,604,041	2,607,402	2,526,831	2,101,167	1,054,287	717,508	870,876	1,272,731	600,000
External Revenue ($'s):														
Third Party Dock Services	$ 26,011,076	$ 24,767,423	$ 21,413,873	$ 19,661,136	$ 24,488,403	$ 19,332,368	$ 11,141,418	$ 10,040,419	$ 9,083,473	$ 4,005,585	$ 2,517,043	$ 3,870,279	$ 5,256,634	$ 3,000,000
Net Coal & Transportation Sale	15,871,862	1,627,237	5,593,346	6,463,554	4,103,110	2,219,795	878,169	3,150,978	2,334,560	1,643,999	1,127,476	331,936	649,431	100,000
Total	$ 41,882,938	$ 26,394,660	$ 27,007,219	$ 26,124,690	$ 28,591,513	$ 21,552,163	$ 12,019,587	$ 13,191,397	$ 11,418,033	$ 5,649,584	$ 3,644,519	$ 4,202,215	$ 5,906,065	$ 3,100,000

MPSC Case No: U-21297

Requester: MNSC

Question No.: MNSCDE-2.12

Respondent: D. Milo

Page: 1 of 1

Question: Refer to discovery response MNCDE-1.11: Produce the workpapers and/or any other sources of the projections in 1.11b and 1.11c.

Answer: See attachment.

Attachment: U-21297 MNSCDE-2.12 MERC Tonnage and External Revenue

Midwest Energy Resources Company's (MERC)
DTEEC & External Tonnage and External Revenues
2023 - 2027

Case: U-21297
Response MNSCDE-2.12
Respondent D. Milo

	Estimated					
	2023	**2024 (Test Year)**	**2025**	**2026**	**2027**	**PSCR 5-Year**
Volumes (Tons)						
DTE Electric	4,820,500	4,870,500	4,392,500	3,810,000	4,122,500	22,016,000
External - MERC	600,000	500,000	500,000	250,000	-	1,850,000
	5,420,500	5,370,500	4,892,500	4,060,000	4,122,500	23,866,000
Revenues						
Third Party Dock Services	$ 3,000,000	$ 2,500,000	$ 2,500,000	$ 1,250,000	$ -	$ 9,250,000
Net Coal & transportation Sales	100,000	100,000	100,000	50,000	-	350,000
	$ 3,100,000	$ 2,600,000	$ 2,600,000	$ 1,300,000	$ -	$ 9,600,000

MPSC Case No: U-21297

Requester: MNC

Question No.: MNCDE-1.11d

Respondent: D. Milo

Page: 1 of 1

Question: Refer to David Milo's direct testimony and Exhibits A-12, Schedule B5.2 and A-13, Schedule C5.2:

d. Does MERC have an expected retirement date? If yes, when?

Answer: An expected retirement date has not been determined .

Attachment: None

MPSC Case No: U-21297

Requester: MNC

Question No.: MNCDE-1.11e

Respondent: T. Uzenski

Page: 1 of 1

Question: Refer to David Milo's direct testimony and Exhibits A-12, Schedule B5.2 and A-13, Schedule C5.2:

e. What are the expected depreciation lives for the MERC capital projects identified in Exhibit A-12, Schedule B5.2?

Answer: Per the settlement agreement in Case No. U-18150, the depreciation rate for MERC assets is 4.05%. This implies a depreciation life of 24.7 years. However, the last approved depreciation rate for MERC was calculated using an asset balance as of May 31, 2016.

Attachment: *None*

MERC Capital and O&M Expenses by Year

	Capital Expenses ($000)**	O&M Expense ($000)***
2013	3,041	4,091
2014	3,168	4,064
2015	-	-
2016	3,262	3,926
2017	4,363	3,870
2018	3,031	3,829
2019	-	-
2020	1,730	3,576
2021	936	3,293
2022*	1,268	3,412
2023*	1,375	3,521
2024*	2,643	3,615

* Projected Cost; Source: U-21297 A-12, Sch B5.2 and A-13, Sch C5.2

** Source: U-21297 MNSCDE-11.1; and line (20) from U-17767 Ex A-9, Sch B6.8; U-18014 Ex A-9, Sch B6.8; U-18255 Ex A-9, Sch B6.2; U-20162 Ex A-12, Sch B5.2; U-20561 Ex A-12, Sch B5.2; U-20836 Ex A-12, Sch B5.2; U-21297 Ex A-12, Sch B5.2

*** Source: U-21297 MNSCDE-11.2; and line (15), col (f) from U-17767 Ex A-10, Sch C5.2 (line 14); U-18014 Ex A-10, Sch C5.2; U-18255 Ex A-10, Sch C5.2; U-20162 Ex A-13, Sch C5.2; U-20561 Ex A-13, Sch C5.2; U-20836 Ex A-13, Sch C5.2; U-21297 Ex A-12, Sch C5.2

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-21297

PROOF OF SERVICE

On the date below, an electronic copy of **Direct Testimony and Exhibits of Douglas B. Jester on behalf of Michigan Environmental Council, Natural Resources Defense Council, Sierra Club, and Citizens Utility Board of Michigan (Exhibit MEC-1 through MEC-6)** was served on the following:

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[signature page to follow]

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

OLSON, BZDOK & HOWARD, P.C.
Counsel for MEC, NRDC, SC & CUB

Date: June 13, 2023

By: 
Digitally signed by Breanna Thomas
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