STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)))))))	Case No. U-21534

QUALIFICATIONS AND DIRECT TESTIMONY OF

TAYLER BECKER

MICHIGAN PUBLIC SERVICE COMMISSION

July 26, 2024

QUALIFICATIONS OF TAYLER BECKER
CASE NUMBER U-21534
PART I

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

A. My name is Tayler Becker, and my business address is the Michigan Public Service Commission's (MPSC or Commission) office at 7109 West Saginaw Highway, Lansing, Michigan 48917.

Q. By whom are you employed and in what capacity?

A. I am employed by the MPSC as Manager of the Distribution Planning Section in the Energy Resources Division.

Q. Would you please outline your educational background?

A. I earned a Bachelor of Science degree in Engineering Technology from Lawrence Technological University in 2012. Since joining the Commission in 2012, I have participated in the 2018 Wisconsin Public Utility Institute's Energy Utility Course, the 2019 Institute of Public Utilities (IPU) Power Grid School through Michigan State University (MSU), the 2019 IPU Intermediate Course through MSU, the 2021 IPU Power Grid School II through MSU, the 2021 Michigan Infrastructure Council (MIC) Asset Management (AM) Champion program, multiple single-day IPU sessions, and the 2023 Fit Leader's Program. I completed the required State of Michigan Emergency Operations Center (SEOC) training supported by the Federal Emergency Management Agency (FEMA) necessary to serve at the SEOC in emergency situations. I have also completed 10 Pipeline and Hazardous Materials Safety Administration (PHMSA) Inspector Training and Qualification lead courses as a Gas Safety Engineer, which consist of: 1) PHMSA-PL1250 (Safety Evaluation of Gas Pipeline Systems), 2) PHMSA-PL1255 (Gas Pressure Regulation and Overpressure Protection), 3) PHMSA-

PL1310 (Plastic and Composite Materials), 4) PHMSA-PL3242 (Welding and Welding Inspection of Pipeline Materials), 5) PHMSA-PL3256 (Pipeline Failure Investigation Techniques), 6) PHMSA-PL3293 (Corrosion Control of Pipeline Systems), 7) PHMSA-PL3257 (Pipeline Safety Regulation Application and Compliance Procedures), 8) PHMSA-PL3291 (Fundamentals of SCADA System Technology and Operation), 9) PHMSA-PL3292 (Safety Evaluation of Inline Inspection (ILI)/Pigging Programs), and 10) PHMSA-PL3355 (Safety Evaluation of Control Room Management Programs).

Q. Would you please outline your professional experience?

A. In May 2010, I began working at the Michigan Department of Transportation as an Engineering Intern in the Central Soils Laboratory and, later, the Load-Rating Program. As an intern, I performed many job functions including, but not limited to, subsurface investigations, quality control and asset management functions, structural analysis, traffic safety, and bridge inventory maintenance.

After graduating from Lawrence Technological University, I was hired as a Public Utilities Engineer in the Smart Grid Section of the MPSC where I oversaw the deployment of Advanced Metering Infrastructure (AMI) in Michigan and performed research functions related to data privacy and cybersecurity concerns with AMI deployment. I served as a member of the Smart Grid Consumer Collaborative while employed in the Smart Grid Section.

In August 2013, I accepted a position in the Gas Operations Section as a Gas Safety Engineer performing Operations and Maintenance (O&M) inspections, construction inspections, and incident investigations related to

pipeline systems in Michigan. The inspections and investigations were performed to ensure compliance with the Michigan Gas Safety Standards related to system design, cathodic protection, public awareness, damage prevention, odorization, leak survey, and control room management. I also represented PHMSA as their agent representative in Michigan to assist in inspection and failure investigation efforts.

In February 2018, I accepted a position as a Public Utilities Engineer in the Electric Operations Section. My primary responsibilities involved overseeing system reliability and power quality in Michigan, serving as an expert witness in electric distribution rate cases, revising and enforcing the Service Quality and Reliability Standards for Electric Distribution Systems and Technical Standards for Electric Service rules, performing investigations, maintaining annual pole inspection submittals, and supporting Integrated Resource Plan (IRP) work.

In March 2021, I was promoted to a Public Utilities Engineering Specialist in the Electric Operations Section. My primary responsibilities were to serve as an electric distribution expert witness in rate cases and IRP cases, provide technical assistance on matters involving the National Electrical Safety Code (NESC), and support MI Power Grid initiative functions. Additional responsibilities involved supporting formal and informal complaints, monitoring utility service interruption restoration efforts following severe weather events, and reviewing various investment plan submittals.

In September 2022, I was promoted to Manager of the Gas Safety South Section in the Gas Safety & Operations Division. My responsibilities included directing, coordinating, and supervising programs, activities, and staff assigned to the section. The programs were related to pipeline safety and the Michigan Gas Safety Standards.

In January 2024, I accepted my current position as Manager of the Distribution Planning Section in the Energy Resources Division where my responsibilities include directing, coordinating, and supervising programs, activities, and staff assigned to the section. Review and evaluation of electric distribution plans is a primary function of the section.

Q. Have you provided a leadership role in Commission activities prior to assuming your current position?

A. Yes. In February 2019, I was selected as a workgroup chair to lead the Commission's response on the electric portion of the Statewide Energy Assessment (SEA) in Case No. U-20464. As a follow up to the recommendations provided in the SEA, I was selected as the project co-lead for updating the Technical Standards for Electric Service in Case No. U-20630 under the Grid Security and Reliability Standards workgroup which is one of the many stakeholder initiatives under MI Power Grid launched in the fall of 2019. I also served as a volunteer candidate through the National Association of Regulatory Utility Commissioners (NARUC) to assist in the development of power quality regulations in Sri Lanka.

Q. Have you previously presented testimony before the Commission?

A. Yes. I have presented testimony in the following cases:

Case No.	Case Description
U-20134	Consumers Energy Electric Rate Case
U-20165	Consumers Energy IRP Case
U-20471	DTE Energy IRP Case
U-20591	I&M IRP Case
U-20697	Consumers Energy Electric Rate Case
U-20963	Consumers Energy Electric Rate Case
U-21090	Consumers Energy IRP Case
U-20836	DTE Electric Rate Case
U-21189	I&M IRP Case
U-21224	Consumers Energy Electric Rate Case
U-21297	DTE Electric Rate Case
U-21389	Consumers Energy Electric Rate Case

Q. Have you provided technical expertise to support Staff's position in any other cases before the Commission prior to this proceeding?

A. Yes. Some of the larger cases are identified below.

Case No.	Case Description
U-17102	Data Privacy
U-20169	DTE Electric Storm Response Investigation
U-20332	Fred Chapman Complaint
U-20633	Integration of Resource/Distribution/Transmission Planning
U-20828	Consumers Energy COVID-19 Temporary Waiver

QUALIFICATIONS OF TAYLER BECKER
CASE NUMBER U-21534
PART I

1	U-21154	I&M Meter Testing Waiver

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present the MPSC Staff's (Staff) position and recommendations regarding DTE Electric Company's (Company or DTE) alternatives considered to the overhead-to-underground conversion in the present case and deviations in proposed spend between the 2023 Distribution Grid Plan (DGP), filed September 29, 2023 in MPSC Case No. U-20147, and the present case.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am sponsoring the following exhibit:

S-20.0 (TJB-1) Company Discovery Response

Alternatives Considered Through Benefit-Cost Analysis

Q. Please provide an overview of the alternatives to overhead-to-underground conversion in the present case.

A. Beginning on page 65 of Company witness Satvir Deol's testimony, the Company describes the benefit-cost analysis (BCA) for the Appoline pilot project and explains that the Appoline pilot project was compared with two alternatives – Pole Top Maintenance and Modernization (PTMM) and overhead rebuild. The BCA for the Appoline and Buffalo-Charles overhead-to-underground pilot projects is provided in Company Exhibit A-23, Schedule M13, and provides calculated benefit-to-cost ratios (BCR) for each investment option and compares the options to alternatives.

Q. Does Staff have concerns with the alternatives considered?

A. Yes. Although Staff appreciates the efforts to develop and share a BCA approach, Staff opines that the PTMM alternative considered is incomplete and not considered a true alternative following Staff's review. The Commission has ordered[1] BCAs be informed by the provisions of the National Standard Practice Manual (NSPM). The NSPM[2] glossary defines a BCA as "a systematic approach for comparing the benefits and costs of alternative options to determine whether the benefits exceed the costs over the lifetime of the program or project under consideration." The PTMM and overhead rebuild alternative options compared to the overhead-to-underground conversion should be true, finished alternatives that evaluate total costs in the BCA. The PTMM program is similar to an operations and maintenance activity involving inspection and testing of equipment and, where necessary, replacement of failed equipment on the overhead distribution system that does not involve converting 4.8 kV circuits to 13.2 kV. In contrast, the Appoline and Buffalo-Charles overhead-to-underground projects involve the installation of new cable with 13.2 kV conversion capability.[3],[4] To illustrate further, assuming PTMM is selected as the preferred alternative to overhead-to-underground conversion, if the inspections under the PTMM result in pole and pole-top replacements, the work will not completely make the circuits 13.2 kV capable. The remaining work necessary to convert the circuit to 13.2 kV leaves

[1] Refer to 7/27/22 Commission Order in Case No. U-20898, p. 9.
[2] See National Standard Practice Manual for Benefit Cost Analysis of Distributed Energy Resources, August 2020, p. xviii, available at NSPM-DERs_08-24-2020.pdf (nationalenergyscreeningproject.org) (accessed July 12, 2024).
[3] Refer to Company witness Deol's testimony, p. 70.
[4] Refer to Company Exhibit No. A-23, Schedule M11, p. 3.

PTMM an "unfinished" alternative compared to the overhead-to-underground conversion with no consideration or methodology in the BCA to account for the additional work needed to make PTMM "finished" and prove an "apples-to-apples" comparison. In addition to the PTMM work, further work will be needed to convert to 13.2 kV which, to Staff's understanding, is not being considered in the analysis. It is Staff's understanding that DTE's future goal is to convert all circuits to 13.2 kV, making comparisons to true, finished alternatives an important aspect of BCA to ensure alternative investment options are complete with all benefits and costs considered. One option could be to include the projected costs associated with converting from 4.8 kV to 13.2 kV in the future with the PTMM option. It is not clear how the Company has applied a comparable PTMM alternative to the overhead-to-underground conversions to achieve the status of weighing an option against a true alternative.

Q. What is Staff's recommendation to the Company regarding alternatives considered?

A. Staff recommends the Company improve its BCA alternative analysis in future distribution plans and contested cases by applying comparable alternatives to prove true and complete alternatives have been considered.

Difference in Proposed Spending Between DGP and Present Case

Q. When was the Company's most recent DGP filed?

A. The Company filed its 2023 DGP on September 29, 2023 in MPSC Case No. U-20147.[5] The Company filed its present rate case on March 28, 2024, six-months after the DGP filing.

Q. How does the projected spending in the 2023 DGP compare to the projected spending in the present case?

A. Company witness Allen Kryscynski describes the role and approach of the 2023 DGP as it relates to the present case and states the investments in the case are consistent with the long-term vision laid out in the DGP.[6] Staff issued discovery to the Company aimed to compare the 2023 DGP proposed spending with the proposed spending in the present case.[7] The Company's discovery response to STDE-14.16 demonstrates that, with the exception of the Technology & Automation spend category, several unplanned and planned[8] spend categories show a cumulative increase of over $335 million more in 2025 projected spending under the present case when compared to the 2023 DGP. The variances provided are as follows:

Emergent Replacements: 27% (+$107 million)

Customer Connections, Relocations & Other: 2% (+$5 million)

Tree Trimming: 71% (+$100 million)

Preventive Maintenance: 24% (+$2 million)

Infrastructure Resilience & Hardening: 22% (+$71 million)

[5] U-20147-0095, Filing: U-20147-0095 (site.com).
[6] Refer to Company witness Kryscynski's testimony, pp. 30-32.
[7] Refer to Staff Exhibit No. S-20.0 (TJB-1), pp. 1-2.
[8] Refer to Company witness Kryscynski's testimony, p. 38.

Infrastructure Redesign & Modernization: 13% (+$53 million)

Technology & Automation: 0% (-$1 million)

Q. What are the Company's reasons for the increases in projected spending in the present case?

A. Based on the Company's discovery response, the increase in the Emergent Replacements unplanned category is largely attributed to incorporating more recent years into the five-year average and increased inflation rates. The Tree Trimming spend amount of $140 million in the DGP was an error, while the difference in spend under Preventative Maintenance was a result of an inflation adjustment. Finally, the Company is requesting recovery of over $120 million more in the present case under the Infrastructure Resilience & Hardening and Infrastructure Redesign and Modernization planned categories. The largest increases under the planned categories are attributed to three primary reasons – increase in Customers Experiencing Multiple Interruptions (CEMI) investments (after the Company forecasted a ramp down), increase in 4.8 kV Hardening, and an increase in City of Detroit Infrastructure (CODI) to expand isolation down (ISO down) areas being worked on.

Q. What is Staff's recommendation to the Company regarding DGP and rate case alignment?

A. Staff recognizes that spending plans may change from the time a DGP and rate case are filed; however, the amount of additional spend in the present case compared to the DGP filed six-months prior is alarming. The spend amounts provided in the DGP are large, and to see actual amounts requested in a rate case

even higher than what was in the DGP is disappointing. One of the primary purposes of any electric distribution plan is to provide transparency into projected distribution system investments, which includes best efforts in sharing accurate spend projections. The increase in spending in the present case beyond what was included in the 2023 DGP calls into question the Company's ability to provide transparent and accurate investment plans to customers and interested parties. Staff recommends the Company improve upon aligning spending plans between the two filings and communicate decisions to increase or decrease spending in categories after a DGP is filed. Staff proposed a distribution plan annual update approach[9] in its comments to the Company's 2023 DGP that could serve as a platform to communicate changes in projected spend.

Q. Please summarize your recommendations.

A. Staff's recommendations are as follows:

1. Staff recommends the Commission order the Company improve its BCA alternative analysis in future distribution plans and contested cases by applying comparable alternatives to prove true and complete alternatives have been considered.

2. Staff recommends the Commission order the Company improve upon aligning spending plans between DGP and rate case filings and instruct the Company to communicate its decisions to increase or decrease spending in categories after a DGP is filed.

[9] Refer to Staff's 3/15/24 Comments in MPSC Case No. U-20147, pp. 18-19.

Q. Does this conclude your testimony?

A. Yes.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)))))))	Case No. U-21534

QUALIFICATIONS AND DIRECT TESTIMONY OF

JONATHAN J. DECOOMAN

MICHIGAN PUBLIC SERVICE COMMISSION

July 26, 2024

QUALIFICATIONS OF JONATHAN J. DECOOMAN
CASE NUMBER U-21534
PART I

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

A. My name is Jonathan J. DeCooman. My business address is the Michigan Public Service Commission's work site at 7109 West Saginaw Highway, Lansing, Michigan 48917.

Q. By whom are you employed and in what capacity?

A. I am employed by the Michigan Public Service Commission (MPSC or Commission) in the Energy Resources Division. I am a Public Utilities Engineering Specialist in the Resource Optimization and Certification (ROC) Section, which is responsible for assisting in the implementation of Public Act 341 of 2016 and evaluating applications for transmission siting pursuant to Public Act 30 of 1995.

Q. Would you please provide an outline of your educational background?

A. I earned a Bachelor of Science in Mechanical Engineering from Saginaw Valley State University (SVSU) in 2016. I successfully completed the Fundamentals of Engineering Mechanical examination in August 2017. Since joining the Commission, I have attended several training seminars, including: a Long-Term Load Forecasting in MS Excel seminar held by Electric Utility Consultants, Inc. (EUCI) in August 2018; training seminars held by the Mid-Continent Independent System Operator (MISO) relating to modeling using the Electric Generation Expansion Analysis System software in September 2018, January 2019, and June 2019; multiple teleconference training sessions conducted by Energy Exemplar on modeling using the Aurora XMP™ software, including participating in its pilot program to become "core certified" in this software in June 2020; a conference on Integrated Resource Planning contemporary topics held by EUCI in March 2019; Introductory and Advanced week-long Annual Regulatory Studies Programs held by the Institute of Public Utilities (IPU) in August 2019; a ratemaking course held by IPU in

October 2019; a multi-day conference on Regional Transmission Organization Fundamentals held by the Wisconsin Public Utility Institute in April 2021; and a conference on energy storage off-take contracts and Power Purchase Agreements (PPAs) held by EUCI in May 2023.

Q. Would you please outline your professional working experience?

A. In September 2015, I began working through a cooperative program between SVSU and Means Industries, Inc. As a Co-op Engineer, I assisted a cross-functional engineering team in developing and implementing process improvements for the manufacture and assembly of automotive clutch parts and clutch assemblies. I was also responsible for performing quality measurements and analysis of the mechanical properties of clutch plates and other components at several points in the manufacturing process.

In June 2018, I accepted a position as a Public Utilities Engineer in the Generation and Certificate of Need, now ROC, Section of the MPSC. At the Commission, I am part of a cross-functional group responsible for evaluating regulated utilities' integrated resource plans (IRPs). I am responsible for evaluating certain environmental and generation capital costs filed in utility rate case applications. I was a member of the MPSC Staff (Staff) work group that supported the Commission's statewide review of the supply, engineering, and deliverability of electricity and contingency planning of the electric system, pursuant to the Commission's Order in Case No. U-20464.[1] I was a member of multiple Staff work groups in the MI Power Grid initiative relating to the following topics: Energy Programs and Technology Pilots,

[1] *In the matter, on the Commission's own motion, to issue a report on the state's supply, engineering, and deliverability of natural gas, electricity, and propane and contingency planning, as requested by the Governor,* 2/7/2019 Order, MPSC Case No. U-20464.

Integration of Distribution/Transmission/Resource Planning, and Competitive Procurement.[2]

In June 2023, I accepted my current position as a Public Utilities Engineering Specialist in the ROC section. In addition to my previous responsibilities, I also act as Staff lead in the review of generating resource addition and retirement proposals outside of IRPs. I also serve as lead of Staff's internal energy storage work group, whose work includes participating in the review of energy storage proposals in utility case filings and researching best practices for the evaluation of energy storage resources in utility planning processes.

Q. Have you previously filed testimony before the Commission?

A. Yes. I have prepared and filed testimony in the following cases before the Commission:

- Case No. U-20165: Consumers Energy's 2018 IRP;
- Case No. U-20162: DTE Electric's 2018 Electric Rate Case;
- Case No. U-18091: DTE Electric's Remanded Avoided Cost Calculation;
- Case No. U-20350: Upper Peninsula Power Company's 2019 IRP;
- Case No. U-20359: Indiana Michigan Power Company's 2019 Electric Rate Case;
- Case No. U-20561: DTE Electric's 2019 Electric Rate Case;
- Case No. U-20591: Indiana Michigan Power Company's 2019 IRP;
- Case No. U-20697: Consumers Energy's 2020 Electric Rate Case;
- Case No. U-20963: Consumers Energy's 2021 Electric Rate Case;
- Case No. U-21090: Consumers Energy's 2021 IRP;

[2] *In the matter, on the Commission's own motion, to establish MI Power Grid,* 10/17/2019 Order, MPSC Case No. U-20645.

- Case No. U-20836: DTE Electric's 2022 Electric Rate Case;
- Case No. U-21189: Indiana Michigan Power Company's 2021 IRP;
- Case No. U-21224: Consumers Energy's 2022 Electric Rate Case;
- Case No. U-21193: DTE Electric's 2022 IRP;
- Case No. U-21297: DTE Electric's 2023 Electric Rate Case;
- Case No. U-21389: Consumers Energy's 2023 Electric Rate Case; and
- Case No. U-21374: Consumers Energy's 2023 VGP Filing.

Q. Have you provided technical analysis in any other cases?

A. Yes, I provided technical analysis in Case No. U-20276, Upper Peninsula Power Company's electric rate case related to its requests for its Escanaba hydroelectric facilities; in Case No. U-20471, DTE Electric's IRP regarding cost and performance assumptions for the modeling of new and existing fossil fueled generation resources; and in Case No. U-20599, Northern States Power Company's IRP regarding modeling inputs and demand, energy market, and fuel price forecasting.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide MPSC Staff's (Staff's) review and recommended adjustments to the Commission for capital expenditures requested by DTE Electric Company (DTE or the Company) in the "Other Power Generation – Non-Routine" category included on page 2 of Exhibit A-12, Schedule B5.1, and select pilot projects included on page 17 of Exhibit A-12, Sch. B5.4. A summary of my recommended adjustments is provided at the end of this testimony.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following exhibits:

Exhibit S-10.0: Blackstart Project redacted scoping documents;

Exhibit S-10.1: Comparison of requested, approved, and actual non-routine capital expenditures from Case No. U-21297;

Exhibit S-10.2: Monthly 2023 capital expenditures for select non-routine projects**;**

Exhibit S-10.3: Company discovery responses on Slocum cost increases**;**

Exhibit S-10.4: Slocum Pilot scoping document;

Exhibit S-10.5: Identification of contract work for Trenton Channel Battery;

Exhibit S-10.6: Breakout of 'Other Costs' category for Trenton Channel Battery;

Exhibit S-10.7: Company discovery responses on ANM pilot; and

Exhibit S-10.8: Comparison of DGP and rate case project requests.

Q. Were these exhibits prepared by you or under your supervision?

A. Yes, these exhibits were prepared by me from data supplied by the Company in response to Staff data requests or information included in the Company's initial filing.

Blackstart Projects

Q. What requests for recovery of capital expenditures is the Company making for its Blackstart Projects?

A. Lines 37 through 39 on page 2 of Exhibit A-12, Schedule B5.1, include costs associated with projects to support the North American Electric Reliability Corporation's (NERC) Black Start plan.[3] Company witness Margaret E. Guillaumin provides limited details on each of the three Blackstart Projects on pages 46 through 48 of her testimony.

Q. What are the total capital expenditures requested for each of these projects in the instant case?

A. Requests for the three Blackstart Projects are included on lines 37 through 39, page 2 of Exhibit A-12, Schedule B5.1, and are summarized below:

Blackstart Project #	Exhibit Reference	Historical Period ($000)	Bridge Period ($000)	Test Year ($000)
10570 & 20255	A-12, B5.1, page 2, line 37	20,743	12,633	-
17611	A-12, B5.1, page 2, line 38	53	8,102	-
18320	A-12, B5.1, page 2, line 39	1,063	4,445	-

[3] Testimony of Margaret E. Guillaumin, p. 45.

Q. Has the Company provided details on the scope of and the need for each of these projects?

A. The Company provided a general scope of each project and identified the different areas of work projected to take place in each year; however, details were limited due to the nature of the projects containing Critical Energy Infrastructure Information. Project scoping documents were also provided, with all details fully redacted outside of project budgets.[4]

Q. Has the Company requested recovery of capital expenditures for the three Blackstart Projects in previous rate case filings before the Commission?

A. Yes, the Company has included requests for recovery of capital expenditures for Blackstart Projects in the previous two electric rate cases: Case Nos. U-20836 and U-21297. In Case No. U-20836, the Commission disallowed all projected bridge and test year expenditures, citing information in the case that cast doubt on the Company's forecasted expenditures. In the previous case, Case No. U-21297, the Commission did not adopt a full disallowance of project costs recommended by the Administrative Law Judge and other parties, finding that these projects are necessary to maintain grid security.[5] However, the Commission found merit in Staff's partial disallowances, which aligned project costs with updated projections while accounting for the pattern of over projections for these projects.[6]

Q. How have the Company's projections for capital spending for these projects in previous electric rate cases compared to its actual spending?

[4] Exhibit S-10.0.
[5] 12/01/23 Commission Order, Case No. U-21297, pp. 42-43.
[6] *Id.,* at, pp. 43-44.

A. Exhibit S-10.1 is data that was provided by the Company in response to a discovery request. It includes a comparison of requested, approved, and actual capital expenditures for non-routine projects over the time-period considered in the last rate case. As demonstrated in column (s) of lines 47 through 49, there were significant discrepancies between the forecasted and actual bridge period capital expenditures.[7] These discrepancies are even more pronounced the farther out the projections are, with actual expenditures for the initial 11-months of the bridge period in column (g) being much closer to the Company's projections than comparing actual to requested expenditures for the final 12-months of the bridge period, shown in column (m). In general, even with the significant disallowances made by the Commission, the approved amounts for the Blackstart Projects were closer to actual project spend than the Company's initial requests.[8]

Q. Since its initial filing, has the Company provided updated actual or projected capital spending for these projects?

A. Yes. In response to a discovery request, the Company provided actual capital expenditures in 2023 for its non-routine projects, included on page 2 of Exhibit A-12, Schedule B5.1. Exhibit S-10.2 provides this information, as well as a comparison of the actual spend in 2023 for each project with the estimated spending provided in the initial filing. As evidenced by column (q), rows 37 through 39, in Exhibit S-10.1 for the Blackstart Projects collectively, the Company overestimated actual spending in 2023 by $1.366 million, or approximately 8.5%. However, when comparing the projected 2023

[7] Exhibit S-10.2.
[8] Exhibit S-10.2, lines 47-49, columns (f) and (l).

expenditures from Case No. U-21297 included in column (s), which were made approximately a year earlier than those in column (q), each project has a much more significant discrepancy--when combined, representing an overestimation of $2.5 million, or approximately 14%.

Q. What recommended adjustments does Staff have for the Commission regarding the three Blackstart Projects?

A. Staff is recommending the following partial disallowances to capital expenditure requests for the three Blackstart Projects:

Blackstart Project #	Exhibit Reference	2023 Bridge Period Disallowance	2024 Bridge Period Disallowance
10570 & 20255	A-12, B5.1, page 2, line 37	($297,000)	($314,020)
17611	A-12, B5.1, page 2, line 38	($54,000)	($852,460)
18320	A-12, B5.1, page 2, line 39	($1,015,000)	($62,300)

Q. Why is Staff recommending these specific adjustments for the Blackstart Projects?

A. Staff's recommended adjustment will align bridge period capital expenditures with each projects' actual expenses for 2023 and adjusts 2024 expenses based on the forecasted error in 2-years forward capital expenditure estimates for the Blackstart Projects made in

Case No. U-21297. Making such an adjustment to the 2024 capital expenditure estimates is appropriate given the consistent overestimation of these project costs, detailed in my testimony as well as in Staff's testimony in the prior rate case.[9] It is unreasonable to support the requested amounts when the Company has consistently overestimated costs for the Blackstart Projects. Therefore, the Commission should adopt Staff's partial disallowance of $1,366,000 and $1,228,780 in 2023 and 2024 bridge period capital expenditures for the three Blackstart Projects.

Slocum Battery Pilot

Q. What requests for recovery is the Company making for its Slocum Battery Pilot?

A. The Company is requesting recovery of the remaining project capital expenditures for construction and achievement of commercial operations for the Slocum Battery Pilot (Slocum). The Company is requesting recovery of $7.6 million and $10.1 million in 2022 and 2023 capital expenditures related to initial engineering work, issuance of Request For Proposals (RFP), and securing long-lead equipment.[10] The Company is also requesting recovery of a projected $26.8 million and $0.1 million in 2024 and 2025 capital expenditures, respectively, to achieve commercial operations for Slocum in November 2024.[11] Total costs for Slocum are now projected to total $44.7 million.

Q. Has the Company previously requested recovery of capital expenditures for the Slocum Battery Pilot?

A. Yes. The Company has presented the Slocum pilot and requested recovery of expenses for its development in the previous two electric rate cases, Case Nos. U-20836 and U-

[9] Staff witness DeCooman Testimony in Case No. U-20836.
[10] Testimony of Margaret E. Guillaumin, pp. 48-49.
[11] *Id*.

21297. Much of the information presented in this case has been presented in previous cases, with some information refined as the project has developed. In its Order in Case No. U-21297, the Commission rejected the full disallowance of Slocum's costs recommended by some parties and instead adopted Staff's partial disallowance of $3.5 million in projected capital expenditures due to a pattern of discrepancies between actual expenditures and the Company's projections for this pilot.[12]

Q. How have the Company's past projections of capital expenditures for Slocum compared to actual expenses?

A. As demonstrated on line 40, column (r) of Exhibit S-10.2, the Company's projections for 2023 expenditures in this case were very close to actual spending, with less than a 1% difference. The Company's projections for 2023 expenditures in the previous case, Case No. U-21297, were 2% above the actual project spend for 2023.[13]

Q. Have there been any significant developments or changes to the Slocum Battery Pilot's timelines or costs?

A. Yes. While the Company has maintained its timeline from Case No. U-21297 for Slocum to achieve commercial operations in November 2024, costs have increased significantly since that case. In Case No. U-21297, the Company estimated the total capital expenditures for construction of Slocum at $34.7 million.[14] The Company provided an updated estimate of total project costs for Slocum at $44.7 million in this filing.[15]

[12] 12/01/23 Order in Case No. U-21297, p. 244.
[13] Exhibit S-10.2, line 40, column (t).
[14] Testimony of Justin L. Morren in Case No. U-21297, p. 49.
[15] Testimony of Margaret E. Guillaumin, p. 49.

Q. Did the Company provide an explanation of what caused the approximately $10 million increase in the estimated cost of Slocum?

A. In response to a data request from Staff, the Company provided a breakout that compared the project cost estimates from the instant case to the estimates from the previous electric rate case, Case No. U-21297. This response, sponsored as Exhibit S-10.3, includes an explanation of the cause of each category's cost increase. This comparison of project costs has been included below:

Table 1. Comparison of Slocum costs between cases.

Description	U-21297	U-21534	Variance	Reason for Variance
Battery Materials	$15.0	$20.0	$5.0	Raw lithium prices increased
Demo & Installation Labor	$5.4	$7.4	$2.0	Labor escalation based on actual competitive bids received
Electrical Infrastructure	$8.5	$8.5	$0.0	
Engineering & Permits	$1.0	$1.9	$0.9	
Overheads (Indirects)	$4.8	$6.9	$2.1	Adjustment based on cost increases for material and labor
Total	$34.7	$44.7	$10.0	

Q. Did Staff request any additional explanation for the cause of these cost increases?

A. Yes. Staff asked additional questions to characterize the cost increases in specific cost categories, which have been included in Exhibit S-10.3. These additional questions established that contracts have been signed for all remaining project work and provided some additional details into the nature of the specific cost increases in some categories.

Q. Does Staff have any recommendations for the Commission regarding the Company's requests for recovery of capital expenditures for Slocum?

A. Staff recommends the Commission disallow $2,177,871 in bridge period capital expenditures for the Slocum Battery pilot. This adjustment removes the additional

capital expenditures for project overheads identified in Exhibit S-10.3 and more precisely defined in the project scoping document.[16]

Q. Why is Staff recommending a disallowance of this increase in project overheads for Slocum?

A. Staff is recommending this disallowance due to the Company not adequately supporting the nature of this cost increase. The Company initially identified the cause of this increase as being due to increases to the cost of material and labor. When asked to further detail how specific cost increases to materials and labor resulted in this $2.1 million in additional overheads and why this couldn't be anticipated prior to this point in the project's development, the Company explained that project overheads vary proportionally based on changes to materials and labor and are not fixed.[17] However, Staff does not find this to be an adequate explanation for these cost increases. Not only did the Company not provide any specific walkthrough or explanation as to how increases to project labor or materials directly lead to increases to project overheads, but its explanation that project overheads vary proportionally with these costs is not supported by the actual cost increases in these categories.

Q. What does Staff mean when it says that project overheads for Slocum do not vary proportionally with project materials and labor costs?

A. As demonstrated on page 1 of Exhibit S-10.3, while project materials and labor costs both increased from the estimates provided in Case No. U-21297, project overheads did not increase proportionally. Project materials increased by $5 million, or 25%, while project

[16] Exhibit S-10.4.
[17] Exhibit S-10.3, p. 5.

labor increased by $2 million, or 37%. Combined, these two categories saw cost increases between the two cases of $7 million, or a 34% increase. Meanwhile, the increase of $2.177 million in project overheads is an increase of almost 45%. Staff finds it unreasonable to approve the requested increase of nearly 50% of the Company's internal project overheads, particularly when the Company's explanation is not supported by the data presented.

Trenton Channel Battery

Q. What requests for recovery is the Company making for its Trenton Channel Battery project in this case?

A. As identified on page 50 of Company witness Guillaumin's testimony, the Company has estimated and is requesting recovery of $5.3 million in 2023 capital spending to bid and award equipment and procure long-lead materials. The Company is projecting to spend $120.7 million in 2024 for the delivery of major equipment and to begin site preparation and construction in the fourth quarter of 2024. In 2025, the Company is projecting to spend $291.9 million to take delivery of batteries and electrical equipment and complete construction of the substation and Battery Energy Storage System (BESS) electrical switchyard.[18] Commercial operations are expected to begin in 2026.[19]

Q. Has the Company previously requested recovery of capital expenditures for the Trenton Channel Battery project?

A. Yes. The need for this battery was first identified in the Company's 2022 IRP, and the July 26, 2023 approved Settlement Agreement in Case No. U-21193 aligned the

[18] Testimony of Margaret E. Guillaumin, p. 50.
[19] *Id*.

Company's storage capacity build plan through 2025 with the development of the Trenton Channel Battery.[20] In the Company's previous electric rate case, Case No. U-21297, the Company requested recovery of all projected capital expenditures for this project through November 2024. In its Order in Case No. U-21297, the Commission adopted Staff's proposed disallowance of all project costs for the Trenton Channel Battery, which had not received internal budgetary approval.[21] This brought the approved total for this project to the $9 million needed to complete engineering work identified in its approved budget.

Q. Has the Company received full internal budgetary approval for the Trenton Channel Battery?

A. Yes. As identified on page 50 of the testimony of Company witness Guillaumin, the project received full internal Company approval in October 2023.

Q. How have the Company's past projections for project costs for the Trenton Channel Battery compared to actual expenditures?

A. Exhibit S-10.2 includes a comparison of actual 2023 capital expenditures for select non-routine projects with the Company's estimates in this case and in the previous electric rate case, Case No. U-21297. As indicated in column (r) of line 41 of Exhibit S-10.2, the Company's projections for its 2023 capital expenditures in this case were very close to the actual project spend, with a difference of less than 1%. However, when comparing this to the projection for 2023 capital expenditures included in the previous case, Case No. U-21297, there was an overestimation of over 400% of actual costs. This is likely

[20] Settlement in Case No. U-21193, approved by the Commission on 07/26/23, p. 10.
[21] 12/01/23 Order in Case No. U-21297, p. 44.

explained by changes to the project schedule and potential impacts of the Commission's partial disallowance, but even compared to the $9 million in capital spending approved by the Commission, the Company underspent its approved amounts by $3.8 million. This underscores the uncertainty of costs associated with large non-routine projects at this stage in development, prior to the issuance of contracts for project work or the start of construction.

Q. Has the Company received any additional approvals from the Commission for the Trenton Channel Battery?

A. Yes. Contracts with the Engineering, Procurement, and Construction contractor and battery vendor, totaling $334 million in project spend, were presented to the Commission in Case No. U-21566. The Commission approved these contracts in March 2024.[22] The Company estimates that $89 million in additional project work not included in these contracts is needed to complete the Trenton Channel Battery.[23]

Q. Did the Company provide any additional information on the scope of work for the remaining $89 million in estimated project costs?

A. Yes, the Company provided a general description and high-level cost estimate for the project work that makes up the remaining $89 million in estimated costs in its initial filing.[24] Exhibit S-10.5 includes the Company's responses to Staff data requests, which provide a more detailed description of certain components, and provided a breakout of

[22] 3/15/24 Order in Case No. U-21566, p. 4.
[23] Testimony of Margaret E. Guillaumin, p. 50.
[24] *Id*.

project work, which is included in the Commission approved contracts and the remaining $89 million of other project work.[25]

Q. Did the Company provide more details into the non-contract project work included in the '[Trenton Channel Energy Center] TCEC other costs' category on page 3 of Exhibit S-10.5?

A. Yes, Exhibit S-10.6 is data that the Company provided to Staff, which breaks out the 'TCEC other costs' category on page 3 of Exhibit S-10.5 into more details. Exhibit S-10.6 also identifies whether the work in each category will be performed under a contract. Line 11 provides the total for all non-contracted work included in the 'TCEC other costs' category, totaling $59.36 million.

Q. Does Staff have any recommendations for the Commission regarding the Company's requests for recovery of capital expenditures for the Trenton Channel Battery?

A. Staff recommends a partial disallowance of $1,612,000 and $8,298,000 in bridge period and test year capital expenditures for the Trenton Channel Battery project. Staff's disallowance is a flat percentage adjustment to the non-contracted work identified on line 11 of Exhibit S-10.6.

Q. What is the basis for Staff's partial disallowance of non-contracted project work for the Trenton Channel Battery?

A. Staff is recommending this partial disallowance of the $59.36 million in non-contracted project work identified in Exhibit S-10.6 to represent the uncertainty in these estimates, which don't have a contract or other information to support these estimates. Staff's

[25] Exhibit S-10.5.

recommended disallowance would adjust the bridge period non-contracted work by 10% of the total estimate, and in the test year by 20%. The increase to this adjustment in the test year accounts for the increasing uncertainty with estimates farther out into the future, where the costs are less defined.

Q. Is Staff's recommended adjustment supported by any additional project specific evidence?

A. Adjusting projected capital expenditures for certain non-routine projects is a well-established practice to account for uncertainties with a utility's cost estimates. Staff has recommended, and the Commission has approved, adjustments based on the state of a non-routine project's development, or the class of cost estimate used to support a utility's requests, in numerous electric rate cases.[26] When comparing the requested, approved, and actual capital expenditures for non-routine projects in Exhibit S-10.1, oftentimes the amounts approved by the Commission exceed the Company's actual spending, even when the Commission has made a disallowance.

Q. How will Staff's recommended disallowance impact rate base in this case?

A. As identified by the Company, this project is not expected to reach commercial operations until March 2026.[27] Therefore, this project is classified as construction work in progress (CWIP), and it will not impact the revenue requirement given the use of an Allowance for Funds Used During Construction (AFUDC) offset. However, Staff felt it important to identify the potential for these costs to not actually be incurred, given the

[26] See the Testimony of Staff witness Lisa Kindschy, Case No. U-21297 and the Testimony of Staff witness Jonathan DeCooman, Case Nos. U-20697 and U-20963.
[27] Testimony of Margaret E. Guillaumin, p. 51.

lack of contracts to establish pricing and the tendency for the Company's cost estimates to vary significantly at this stage in project development.

NWA: Adaptive Networked Microgrids Pilot:

Q. What is the nature of the project 'NWA: Adaptive Networked Microgrids Pilot'?

A. Company witness Shannen M. Hartwick describes this pilot opportunity in her testimony. DTE has applied for grant funding from the United States Department of Energy (DOE) through the Infrastructure Investment and Jobs Act (IIJA) to expand the Company's non-wires alternative (NWA) work. This project would expand deployments at O'Shea Solar Park and Port Austin substation to incorporate Adaptive Networked Microgrids (ANM) into these sites. The Company plans for at least one additional distributed energy resource (DER) site to be installed both at the O'Shea substation Solar Park and at Port Austin substation to allow for these resources to work with existing DER installations to create dynamic microgrids.[28]

Q. What requests for recovery of capital expenditures is the Company making for the ANM pilot in this case?

A. The Company has identified the total estimated cost of the pilot at approximately $46 million, with approximately $1 million in funding expected from the Company's partners and $23 million in grant funding expected from the DOE. The Company included its requests for recovery for the ANM pilot on page 17, line 26, of Exhibit A-12, Schedule B5.4, and included the assumed offset from outside contributions and DOE grant funding on line 27 of the same exhibit. The Company is requesting recovery of $4,606,000 and

[28] Testimony of Shannen M. Hartwick, pp. 76-77.

$25,550,000 in the bridge and test years, respectively. This is assumed to be offset by partner contributions and DOE grant funding totaling $2,609,000 and $13,110,000 in the bridge and test years, respectively.

Q. Has the Company previously requested recovery of capital expenditures for the ANM pilot in an electric rate case?

A. No. While the Company identified this pilot as a potential opportunity to develop microgrids while leveraging federal funding through the IIJA in its previous electric rate case, Case No. U-21297, the Company did not include any costs for this project in its requests in that case.[29]

Q. Please describe the alternative sources of funding outside of its base rates that the Company is seeking to fund the ANM pilot.

A. As detailed in the testimony of Company witness Hartwick, the Company has formed a partnership with associated business organizations and research institutes, which will provide approximately $1 million in funding for the pilot.[30] The Company is seeking a grant from the DOE through the IIJA and, if awarded, expects that half of the pilot costs, or $23 million, would be covered by this grant funding.[31]

Q. What is the status of the Company's grant application with the DOE for the ANM pilot?

A. The Company provided an update on the status of its grant application with the DOE in response to Staff's discovery requests, sponsored as Exhibit S-10.7. The Company identified the status of required documentation as part of the bid package and provided a general timeline of the project, including the scope of work in each phase, as well as a

[29] Testimony of Brian L. Hill, Case No. U-21297, p. 68.
[30] Testimony of Shannen M. Hartwick, pp. 76-77.
[31] *Id*.

detailed project budget. When asked in a follow up data request for an update on the status of the DOE's review of the Company's grant application, there was no additional update to provide.[32]

Q. Has the Company indicated whether it would continue to develop this project if it does not receive the full amount of grant funding from the DOE?

A. The Company indicated that, if an agreement cannot be reached during award negotiations, it does not anticipate continuing to develop this pilot.[33]

Q. Does Staff have any recommendations for the Commission regarding the Company's requests for recovery of capital expenditures for the ANM pilot?

A. Yes. Staff recommends a full disallowance of all requested capital expenditures for the ANM pilot, totaling $4,588,307 and $25,550,184 in the bridge and test years, respectively. Staff is also recommending the corresponding partner contributions and grant funding which offset a portion of these costs be credited, to ensure this pilot has no impact on the revenue requirement, totaling $2,608,544 and $13,109,827 in the bridge and test years, respectively. While Staff is generally supportive of this pilot and the value that it could provide the Company through the development and operation of adaptive microgrids, Staff does not find it appropriate to include this pilot in rates when the status of the Company's grant application is uncertain, particularly given the Company's indication it would likely not proceed with this project if this grant funding is not approved.

[32] Exhibit S-10.7, p. 8.
[33] Exhibit S-10.7, p. 9.

Q. Did the Company provide any additional information that could impact the development of this pilot and Staff's position on the recovery of requested capital expenditures?

A. Prior to the filing of this testimony but after Staff's position had been finalized, the Company submitted a discovery request, which has been sponsored as Exhibit S-10.8. Exhibit S-10.8 is a comparison of project cost requests for certain distribution investments in the Company's distribution grid plan (DGP) and requests for those same projects in this case. Line 6 of Exhibit S-10.8 identifies spend for the NWA projects and includes a comment appearing to indicate that the Company has received a grant from the DOE for the ANM pilot. There is no other mention of this grant being awarded in any other part of the filing, nor was this mentioned in Staff's discovery requests directly asking for the status of this grant application. Without any further confirmation of the result of the Company's award negotiations with the DOE and assurance that the $23 million in grant funding has been awarded to the Company, Staff does not find it reasonable to approve the Company's request for recovery of capital expenditures for the ANM pilot.

Q. If the Company was to receive the full anticipated grant funding from the DOE and proceeds with this pilot, could it still seek recovery of pilot costs?

A. Yes. Given the value that this pilot would provide to the Company and the potential to leverage federal funding to reduce the impact to ratepayers, Staff finds the ANM pilot to be worth further consideration by the Company. Staff's primary concerns with this pilot is the lack of confirmation of this grant award and the uncertainty that leaves the pilot in. Therefore, Staff would encourage the Company to include the costs for this pilot in a

future rate case if the Company can provide evidence that it has successfully negotiated for the full grant award package and is proceeding with its development.

Summary of Recommendations

Q. What recommendations are Staff providing to the Commission regarding the Company's requests for approval of non-routine capital expenditures for projects included in Exhibit A-12, Schedules B5.1 and B5.4?

A. Staff recommends the following adjustments to capital expenditures for non-routine projects included on page 2 of Exhibit A-12, Schedule B5.1:

- Line 37 - Blackstart Project 10570 & 20255: Partial disallowance of $297,000 and $314,000 in 2023 and 2024 bridge period capital expenditures, respectively;
- Line 38 - Blackstart Project 17611: Partial disallowance of $54,000 and $852,460 in 2023 and 2024 bridge period capital expenditures, respectively;
- Line 39 - Blackstart Project 18320: Partial disallowance of $1,015,000 and $62,000 in 2023 and 2024 bridge period capital expenditures, respectively;
- Line 40 - Slocum Battery Pilot: Partial disallowance of $2,177,871 in 2024 bridge period capital expenditures;
- Line 41 - Trenton Channel Energy Center BESS: Partial disallowance of $1,612,000 and $8,298,000 in 2023 and 2024 bridge period capital expenditures, respectively. This adjustment does not impact rate base due to the project being classified as CWIP with an AFUDC offset.

Staff recommends the following adjustment to capital expenditures for projects included on page 17 of Exhibit A-12, Schedule B5.4:

• Line 27 - NWA: Adaptive Networked Microgrids: Full disallowance of $4,588,307 and $25,550,184 in 2024 bridge period and test year capital expenditures, respectively.

• Line 28 – Offset of ANM pilot for partner contributions and grant funding, credited as $2,608,533 and $13,109,827 in 2024 bridge period and test year capital expenditures, respectively.

Q. Does this conclude your testimony?

A. Yes, it does.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)	Case No. U-21534

QUALIFICATIONS AND DIRECT TESTIMONY OF

ROGER A. DOHERTY

MICHIGAN PUBLIC SERVICE COMMISSION

July 26, 2024

QUALIFICATIONS OF ROGER A. DOHERTY
CASE NUMBER U-21534
PART I

Q. Would you please state your name and business address for the record?

A. My name is Roger A. Doherty. My business address is 7109 West Saginaw Highway, Lansing, Michigan 48917.

Q. What is your position and by whom are you employed?

A. I am the Manager of the Resource Adequacy and Forecasting Section within the Energy Resources Division of the Michigan Public Service Commission (MPSC or Commission).

Q. Would you please outline your educational background?

A. I earned a Bachelor of Science Degree in Biosystems Engineering and a Bachelor of Science Degree in Environmental Studies & Applications with a Specialization in Environmental Economics from Michigan State University in 2005. Since joining the MPSC Staff (Staff), I have attended several training programs hosted by the Michigan State University Institute of Public Utilities, including the Annual Regulatory Studies Program sponsored by the National Association of Regulatory Utility Commissioners (August 2017), Modeling Utility Financial Impacts in a Dynamic World (September 2017), and Grid School (April 2018). I have also attended several EUCI training courses, including Resource and Portfolio Planning, Modeling and Monetizing Uncertainty and Risk Associated with Renewables (August 2017); Long-Term Load Forecasting in MS Excel (August 2018); and the Integrated Resource Planning Summit (March 2019).

Q. Would you please outline your professional background?

A. In July 2006, I began working for the State of Michigan in the Michigan Energy Office as a Staff Engineer. At the Michigan Energy Office, I was responsible for

a variety of technical assistance and financial incentive programs for energy efficiency and renewable energy projects in the industrial, commercial, and residential sectors. I also was responsible for energy code compliance programs, economic development programs focused on technology roadmaps, and advanced energy technology acceleration services.

In June 2017, I joined the MPSC as a Public Utilities Engineer within the Resource Adequacy and Retail Choice Section, now known as the Resource Adequacy and Forecasting Section. At the MPSC, I evaluate integrated resource plans (IRP) and resource adequacy plans of utilities and alternative electric suppliers, review capacity demonstrations to ensure they meet federal and state requirements, and develop/analyze generation expansion planning models. I became the Manager of the Resource Adequacy and Forecasting Section in December 2022.

Q. Have you previously testified in cases before the Commission?

A. Yes, I have testified in the following cases:

Case No.	Description
U-18444	Contested case proceeding for determining the process and requirements for a forward locational requirement under MCL 460.6(w).
U-20165	Consumers Energy Company's IRP pursuant to MCL 460.6(t).
U-20300	Alpena Power Company's IRP pursuant to MCL 460.6(t).
U-20471	DTE Electric Company's IRP pursuant to MCL 460.6(t).
U-20591	Indiana Michigan Power Company's IRP pursuant to MCL 460.6(t).

U-20766	Consumers Energy Company's reconciliation of its 2019 demand response (DR) program costs.
U-20793	DTE Electric Company's reconciliation of its 2019 DR program costs.
U-20836	DTE Electric Company's electric rate case.
U-20963	Consumers Energy Company's electric rate case.
U-21044	DTE Electric Company's reconciliation of its 2020 DR program costs.
U-21080	Consumers Energy Company's reconciliation of its 2020 DR program costs.
U-21081	Upper Michigan Energy Resources Corporation's IRP pursuant to MCL 460.6(t).
U-21090	Consumers Energy Company's IRP pursuant to MCL 460.6(t).
U-21189	Indiana Michigan Power Company's IRP pursuant to MCL 460.6(t).
U-21233	Consumers Energy Company's reconciliation of its 2021 DR program costs.
U-21224	Consumers Energy Company's electric rate case.
U-21242	DTE Electric Company's reconciliation of its 2021 DR program costs.
U-21193	DTE Electric Company's IRP pursuant to MCL 460.6(t).
U-21297	DTE Electric Company's electric rate case.
U-21370	Upper Michigan Energy Resources Corporation's State Reliability Mechanism case.
U-21389	Consumers Energy Company's electric rate case.
U-21410	Consumers Energy Company's reconciliation of its 2022 DR program costs.

QUALIFICATIONS OF ROGER A. DOHERTY
CASE NUMBER U-21534
PART I

1	U-21461	Indiana Michigan Power Company's electric rate case.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide Staff's recommendations on DTE Electric Company's (DTE or the Company) electric rate case regarding Demand Response (DR).

Q. Are you sponsoring any exhibits?

A. No.

Q. Does Staff have any recommendations regarding Demand Response?

A. Yes. I will describe Staff's recommendations related to the treatment of previously disallowed capital costs from the Company's 2021 DR reconciliation, as well as the recommendation that the Company expand its analysis of the cost effectiveness of its DR programs in future cases.

Q. What is the Company requesting with respect to the disallowed capital in the 2021 DR Reconciliation?

A. Company witness Keegan O. Farrell describes the Company's request on pages 24 and 25 of his direct testimony. The Company is requesting Commission approval to recover $1,672,895 in capital costs for the SmartCurrents program that were originally disallowed in the Company's 2021 DR reconciliation (Case No. U-21242).

Q. Does Staff agree with the Company's request to recover these costs?

A. No. Staff's recommendation with respect to these costs has not changed. Staff supported this disallowance because the Company significantly exceeded what was preapproved in the Company's 2019 Integrated Resource Plan (Case No. U-20471) for this program, failed to communicate with Staff that it was exceeding

investment by more than 10% as previously agreed, and that the benefits from the increased investment did not exist or were unclear. Staff argued for this disallowance in the 2021 DR Reconciliation, as well as the 2022 DR Reconciliation (Case No. U-21403) where the issue reemerged. The Company and Staff reached settlement agreements in both the 2021 and 2022 DR Reconciliation cases that incorporated this disallowance, and the Commission approved those settlements in the January 19, 2023 Order in Case No U-21242 and the March 15, 2024 Order in Case No. U-21403. The Company should not be allowed to recover these investments in this case.

Q. Does an adjustment need to be made to incorporate Staff's recommendation that this disallowance remain?

A. No. As stated by Company witness Farrell on page 25 of his direct testimony, the Company did not include the disallowed capital in its balance sheet. An adjustment would be necessary if the Commission were to agree with the Company that the previously disallowed costs should now be recovered.

Q. What is Staff recommending with respect to the analysis of the cost effectiveness of its DR programs?

A. Staff is recommending the Company expand its analysis of the cost effectiveness of its DR programs to include all DR programs, as well as its interruptible rates. The Company has been including cost effectiveness analysis in its DR reconciliation cases for some of its DR programs, specifically its CoolCurrents, Smart Savers, SmartCurrents, and Rider 12 programs. Staff would like to see similar analysis of the Company's remaining DR programs, including its

interruptible rates. This analysis should look at each program and/or rate individually and compare the costs of the program/rate to the benefits. The benefits of each program should incorporate reasonable assumptions about the impact of recent and future changes at the Midcontinent Independent System Operator (MISO), such as potential changes to Load Modifying Resource Accreditation. The Company should perform an analysis of each program that includes historical costs and a separate analysis that excludes any sunk costs and looks only at future costs and/or future cost projections. The Company should include customer incentives, including lower rates, as part of the cost of these programs/rates. The Company should also include a reasonable portion of any costs shared by multiple programs (or the entire DR portfolio) in the analysis of each individual program. The Company should include this analysis in its next DR Reconciliation or General Rate Case, whichever happens sooner.

Q. Does this conclude your testimony?

A. Yes.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)))))))	Case No. U-21534

QUALIFICATIONS AND DIRECT TESTIMONY OF

ALLAN D. FREEMAN

MICHIGAN PUBLIC SERVICE COMMISSION

July 26, 2024

QUALIFICATIONS OF ALLAN D. FREEMAN
CASE NUMBER U-21534
PART I

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

A. My name is Allan David Freeman, and my business address is 7109 W. Saginaw Hwy., Lansing, MI 48917.

Q. By whom are you employed and in what capacity?

A. I am employed by the Michigan Public Service Commission (MPSC or Commission) as an Assistant to the Division Director in the Energy Resources Division.

Q. Please describe your educational background.

A. I hold three degrees. In 2000, I earned a Juris Doctor and a Masters of Public Administration, both from the University of Pittsburgh. I earned a Bachelor of Arts in International Relations from Michigan State University in 1996.

Q. What is your professional background?

A. In 2009, I began working for the MPSC in the Energy Markets Section in the Operations and Wholesale Markets Division. My responsibilities included representing Michigan and advocating policy objectives during meetings of the Organization of MISO States (OMS) and the Organization of Pennsylvania-New Jersey-Maryland Interconnection (PJM) States, Inc. I coordinated regulatory oversight and policy formation among the states. Additionally, I collaborated to perform analysis and evaluation on the elements of existing and future market designs. I served as co-chair of OMS's Market and Tariff workgroup. I attended the Eastern Interconnection States' Planning Council, Federal Energy Regulatory Commission (FERC), Midcontinent Independent System Operator (MISO), and PJM Interconnection stakeholder work groups and committee meetings. Lastly, I drafted speeches for MPSC Commissioners (Commissioners).

In 2015, I became an Executive Policy Advisor in the Research Section of the Strategic Operations Division. In this role, I advised the Commissioners on policy and technical matters pertaining to the Commission's regulatory and policy-making responsibilities across all regulated sectors. I assisted the Commissioners during deliberations on decisions in general rate cases, certificate of need proceedings, energy law implementation, and electricity and natural gas fuel cost cases. Additionally, I negotiated decisions on behalf of the Commissioners. I conducted research on emerging jurisdictional, structural, and technical issues in the utility industries. I represented the Commissioners in various capacities and functions involving industry and the public.

In 2020, I became the Assistant to the Division Director in the Energy Resources Division. This division is responsible for implementation of the State's Clean & Renewable Energy and Energy Waste Reduction Act, evaluating certificate of necessity and integrated resource plan filings, reviewing Smart Grid utility investments, administration of Michigan's gas and electric customer choice programs, and electric resource adequacy and modeling. I assist the Energy Resources Division Director in program planning, policy and procedures development, and research. I review testimony for contested case proceedings. I represent the Director in meetings, settlement conferences, and task forces. I serve as the MPSC Staff (Staff) lead for our internal electric vehicles team. Lastly, I co-chaired the Commission's Diversity, Equity, and Inclusion initiative.

Q. Have you received any work-related training since your employment with the MPSC?

A. Yes, I have attended several programs hosted by the Institute of Public Utilities (IPU) at Michigan State University: the Michigan Forum on Economics and Regulatory Policy, the Annual Regulatory Studies Program, IPU's Grid and Rate Schools, the National

Regulatory Research Institute, and several Advanced Regulatory Studies Program sessions.

Q. Have you previously filed testimony before the Commission?

A. Yes. I have filed testimony in the following cases: U-20836, DTE Electric's 2022 Rate Case; U-21224, Consumers Electric's 2022 rate case; U-21279, DTE Electric's 2023 rate case; U-21389, Consumers Electric's 2023 rate case; and U-21461, Indiana Michigan Power Company's 2024 rate case.

Q. Have you worked to analyze any cases filed before the Commission?

A. Yes, in my role as Commission Advisor, I assisted in the deliberations on many different types of cases. I was intimately involved in both electric and gas rate cases, Certificate of Need proceedings, Integrated Resource Plan (IRP) cases, Securitization proceedings, reliability dockets, renewable energy cases, and the MI PowerGrid stakeholder initiatives.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present MPSC Staff's analysis of DTE Electric's (DTE or the Company) electric vehicle (EV) rate case proposals.

Q. Are you sponsoring any exhibits?

A. No.

Electric Vehicle Proposals

Q. What is the current status of DTE Electric's Charging Forward Program?

A. The Company's EV program has matured and grown in scope since its 2019 inception in Case No. U-20162. Some programmatic elements have become permanent, like Education and Outreach, the Emerging Technology Fun, and Program Administration.[1] Other elements are still in the pilot stage, like Home Charger Rebates, Home Charger Install, EV Rebates, Business Charger Rebates, Business Charger Installation, eFleet Charger Rebate, eFleet Battery Support, School Bus Chargers, and Charging Hubs.[2] The Company continues to use regulatory asset accounting treatment.[3] To date, DTE Electric has spent $51.3 million for its EV programs.[4]

Q. Is DTE Electric actively seeking federal dollars for its EV programs?

A. Staff appreciates the Company's efforts to take advantage of the Federal Government's various EV funding sources. Given the multiple funding resources and DTE Electric's various EV efforts, it can be challenging to keep track of everything. Staff requests that in its next rate case, the Company provide a list of what federal EV programs they have

[1] Prefiled Direct Testimony of Company witness Pina Bennett, p. 5.
[2] *Id.*
[3] *Id*.
[4] *Id*., at, p. 6.

applied for, and, if successful, how much funding they were awarded. This information would be useful in analyzing future EV funding requests.

Q. How does Staff view the School Bus Chargers program?

A. Staff is excited to see how this program develops. It offers a great opportunity for policy entrepreneurship. In its next rate case, Staff would like the Company to share in detail how the program is performing, and the early lessons learned.

Q. Does Staff have any concerns about the Company's Charging Hubs proposal?

A. Staff is increasingly concerned about DTE Electric's Charging Hubs plans. The Commission first approved the Company owning (and thus getting cost recovery for) the Charging Hubs in November 2022. The Charging Hubs pilot was announced with fanfare. However, the Charging Hubs are still in the design and planning stage. Company witness Bennett briefly touches upon the Charging Hub pilot status in a single paragraph in her testimony.[5]

Staff finds this insufficient and requests a more detailed explanation of why the Company's efforts are moving along so slowly. Staff wants the Company to either offer a more complete Charging Hub analysis and explanation in its reply testimony or hold an interested parties meeting to discuss why there has been such slow momentum to this pilot. Additionally, in the future, Staff expects a much more thorough Charging Hubs explanation in both the Company's next rate case and its EV annual report.

Q. Does Staff have any suggestions for DTE's Emerging Technology Fund?

A. Staff participates in an ex officio role with the Emerging Technology Fund committee. Earlier this year, the Company selected its first funding recipients. These projects offer a

[5] Prefiled Direct Testimony of Company witness Bennett, p. 11.

great opportunity to learn more about EV engineering and policy. Since the Emerging Technology Fund is funded in through the traditional rate case process, Staff would like a yearly update about the pilots and what the Company has learned from them. This report would be included in future Company's rate case filings until the Emerging Technology Fund ends. If the Company does not file a rate case within a calendar year, the report then should be included in the Company's yearly EV annual reports.

Q. What is a Transportation Electrification Plan (TEP)?

A. The movement toward transportation electrification will require additional planning and will result in necessary investments by regulated electric utilities in the coming years. A TEP details how a regulated electric utility will navigate these challenges. A TEP documents how a regulated electric utility plans to address the operational, policy, and system impacts of electric vehicles in its footprint. Unlike rate cases which typically involve a single year, a TEP examines an intermediate time frame in the future. The TEP docket is intended to create dialogue among all interested parties. The TEPs are informational only and are not intended for cost recovery. A regulated electric utility can only recover its costs in a traditional rate case.

Q. What has the Commission done to date with TEPs?

A. The Commission opened Case No. U-21538 to be a repository for TEPs. In Case No. U-20836, the Commission asked DTE Electric to file a TEP. Subsequently, the Commission also directed Consumers Energy and Indiana Michigan Power Company to do the same. Both Consumers Energy and DTE Electric have already filed their plans.

Q. What should a TEP contain?

A. In Case No. U-21492, the Commission directed Staff to create draft TEP filing requirements. The draft filing requirements have been posted in the docket for all interested parties to review. All comments are due by July 22, 2024, and any reply comments are due by August 12, 2024. Additionally, there will be a virtual interested parties meeting on August 21, 2024. The Commission will then issue a TEP filing requirements order later this year.

Q. Since DTE Electric's TEP was filed before the draft filing requirements were issued, how should the Commission address their current TEP?

A. The Company's current rate case is not the appropriate venue for discussion and criticism of its TEP. Rates cases are increasingly becoming more complex and have a strict time frame. Instead, Staff proposes to adopt a similar strategy as the Commission is employing in Case No. U-20147 for its examination of distribution plans. Staff will work with the Company to set up a process for all interested parties to review and comment on their TEP. Additionally, there would be a period for any reply comments. This proposed schedule would be filed in Case No. U-21538. Such a process would allow for a more robust and holistic TEP conversation outside of the restrictions found in a rate case.

Q. How much is the Company requesting in its current rate case for its EV programs?

A. DTE Electric is requesting $24,980,000 to fund its proposed EV efforts. To put this number in perspective, the Company has spent a total of $51.3 million for its EV program to date.[6]

Q. What is Staff's reaction to the Company's proposed EV budget?

A. In its current rate case, DTE Electric is proposing to begin its TEP implementation. Staff appreciates the Company's ambition and its commitment to an EV future. However, Staff

[6] Prefiled Direct Testimony of Company witness Bennett, p. 4.

advocates for a more cautious approach with rate payers' dollars at this juncture. As Company witness Bennett noted in her testimony, EVs are still relatively new and evolving.[7] While EV adoption continues to increase, the pace has slowed. The Company can still achieve many of its EV goals, while adopting a more cautious approach to program spending.

Q. Is Staff recommending any disallowances to reflect a more cautious EV approach going forward?

A. Company witness Bennett's Exhibit A-12, Schedule B5.9, presents DTE Electric's EV cost projections. After analyzing the exhibit, Staff is recommending two disallowances. First, Staff recommends an $8,000,000 disallowance to the Company's Business and eFleet Charger Rebates program. Additionally, Staff recommends a $1,000,000 disallowance for its Residential Customer Rebate program.

Q. What is Staff's rationale for the $8,000,000 disallowance?

A. In Company witness Bennett's Exhibit A-12, Schedule B5.9, Line 18, the Company is requesting $16,002,000 for its Business and eFleet Charger Rebates. This line item includes public, fleet, and multi-user dwellings programs. DTE Electric proposes a number of changes to its existing programs for these three segments.

Staff recommends an $8 million disallowance. The Business and eFleet Charger Rebates $16 million request is the foundational piece of the Company's overall $24,980,000 proposed EV budget request. Staff is uncomfortable with this large, requested amount. It represents a significant increase from past rebate programs. Instead, Staff would like to see the Company implement a scaled down rebate effort. By moving at a more

[7] Prefiled Direct Testimony of Company witness Bennett, p. 50.

deliberate speed, DTE Electric would still be able to discover if its revised rebates plans accomplish their intended goals.

Q. What is Staff's rationale for the $1,000,000 disallowance?

A. In Company witness Bennett's Exhibit A-12, Schedule B5.9, Line 17, the Company is requesting $3,126,000 for its Residential Customer Rebate program. This is an increase from its last rate case. These rebates have been part of DTE Electric's efforts since its inception. However, as the Company's EV programs have matured, these rebates make less sense now. Any rebate program needs to be narrowly focused to address a specific EV policy challenge.

Staff agrees with DTE Electric that the low-income segment faces unique challenges for EV adoption and infrastructure. The Company is proposing some changes to its existing EV programs to better focus on this segment. Before awarding the full $3,126,000, Staff would like to see if the Company's efforts successfully address these challenges. If these revised programs have a real impact, DTE Electric can seek additional funding in a subsequent rate case. Consequently, Staff recommends a $1,000,000 disallowance.

Q. Please summarize Staff's recommendations below.

A. Staff's recommendations are as follows:

1. In its next rate case, DTE Electric should provide a list of all federal EV dollars it has been awarded.

2. In its next rate case, the Company will discuss in detail its School Bus Charger program and share any initial results from the program.

3. DTE Electric will provide a more detailed explanation on why the Charging Hubs project is moving so slowly.

4. In its next rate case, the Company will provide a report on the results from the initial awards from its Emerging Technology Fund.

5. The discussion and evaluation of DTE Electric's TEP will be deferred to a future date and proceeding, as per Staff's proposal.

6. An $8,000,000 disallowance for the Company's Business and eFleet Charger Rebates program.

7. A $1,000,000 disallowance for the Company's Residential Customer Rebates program.

Q. Does this conclude your testimony?

A. Yes.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)	Case No. U-21534

EXHIBITS OF

ENERGY RESOURCES DIVISION

MICHIGAN PUBLIC SERVICE COMMISSION

July 26, 2024

DTE

ENERGY SUPPLY PAT REVIEW REQUEST FORM

PAT-AT Agenda Date:	[redacted]		Scope Change	X	New Revision
PMP Project ID:	10570		Schedule Change		Realized Risk
PAT LVL/REV:	[redacted]				

Project Site:	[redacted]	Project Complexity:	[redacted]
Unit:	[redacted]	Project Start Date:	[redacted]
Outage Related?	[redacted]	Constr. Start Date:	[redacted]
Current IRR:	[redacted]	Project I/S Date:	[redacted]
SAP Profit Center #:	[redacted]	Investment Reason:	[redacted]
WBS Element:	[redacted]		
Project Type/Systems:	[redacted]		
Reconciliation Category:	[redacted]		

Project Title: [redacted]

PMP Problem Description & Project Objective *(Project deliverables* Sum benefits-attach extra sheets if required)*:

[redacted]

Brief Project Scope Summary *(Summarize products & services provided)*

[redacted]

Reason for Submittal *(State reason for submittal, categorize requested dollar amount changes, and explain any estimate at completion (EAC) benefits or IRR changes)*:

[redacted]

SAP Budget Approval	Prior Years	2022	2023	2024
Previously Approved PAT:	$210,781	$20,742,740	-$17,696,356	$1,549,580
PAT Change Request:	$0	$0	-$798,289	$693,835
Current PAT Request:	$210,781	$20,742,740	-$18,494,645	$2,243,415
Total PAT Request:	$4,702,291	Total PAT Change:		-$104,454

Forecast Charge Categories	Current Approved PAT Form				Forecast Changes				Revised PAT Forecast				
	Prior Years	2022	2023	2024	Prior Years	2022	2023	2024	Prior Years	2022	2023	2024	Project Total (EAC)
DTE Labor (Direct)	$71,576	$173,094	-$62,670	$21,532	$0	$0	-$87,244	$2	$71,576	$173,094	-$149,914	$21,534	$116,290
Contract Labor (Direct)	$75,290	$1,530,954	$362,697	$45,000	$0	$0	-$458,344	$1,930,100	$75,290	$1,530,954	-$95,647	$1,975,100	$3,485,697
Material (Direct)	$0	$18,125,254	$1,776,075	$1,271,727	$0	$0	-$199,644	-$1,250,000	$0	$18,125,254	$1,576,431	$21,727	$19,723,412
Other (Direct)	$171	$2,325	-$19,927,426	$0	$0	$0	-$1,715,781	-$456	$171	$2,325	-$21,643,207	-$456	-$21,641,167
Shared Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Indirects	$63,744	$911,113	$154,968	$211,321	$0	$0	$1,662,724	$14,189	$63,744	$911,113	$1,817,692	$225,510	$3,018,059
Sub-Total	$210,781	$20,742,740	-$17,696,356	$1,549,580	$0	$0	-$798,289	$693,835	$210,781	$20,742,740	-$18,494,645	$2,243,415	$4,702,291
Calculated Risk	$0	$0	$250,000	$500,000	$0	$0	$0	$1,250,000	$0	$0	$250,000	$1,750,000	$2,000,000
TOTAL	$210,781	$20,742,740	-$17,446,356	$2,049,580	$0	$0	-$798,289	$1,943,835	$210,781	$20,742,740	-$18,244,645	$3,993,415	$6,702,291
							Change in Total EAC:	$1,145,546					

Project Developer:	Avani Saraiya	APPROVAL DISPOSITION:				
Project Engineer:	Sunith George	Without Risk:				
Project Manager:	Paul Duran	With Risk:	X	Approved by:	Ryan Randazzo	Date: 10/24/2023

See SWI (Standard Work Instruction) ALLPP-SWI-03-004-011-0643 for instructions on filling out this form

Form: ALLPP-FM-0013 Rev: 8 Date: 01/25/2022

DTE

ENERGY SUPPLY PAT REVIEW REQUEST FORM

PAT-AT Agenda Date:	[redacted]		Scope Change	X	New Revision
PMP Project ID:	20255		Schedule Change		Realized Risk
PAT LVL/REV:	[redacted]				

Cancel

Project Title: [redacted]

Project Site:	[redacted]	Project Complexity:	[redacted]
Unit:	[redacted]	Project Start Date:	[redacted]
Outage Related?	[redacted]	Constr. Start Date:	[redacted]
Current IRR:	[redacted]	Project I/S Date:	[redacted]
SAP Profit Center #:	[redacted]	Investment Reason:	[redacted]
WBS Element:	[redacted]		
Project Type/Systems:	[redacted]		
Reconciliation Category:	[redacted]		

PMP Problem Description & Project Objective *(Project deliverables* Sum benefits-attach extra sheets if required):*

[redacted]

Brief Project Scope Summary *(Summarize products & services provided)*

[redacted]

Reason for Submittal *(State reason for submittal, categorize requested dollar amount changes, and explain any estimate at completion (EAC) benefits or IRR changes):*

[redacted]

SAP Budget Approval	2023	2024	2025	2026
Previously Approved PAT:	$29,173,678	$0	$0	$0
PAT Change Request:	-$100,184	$0	$0	$0
Current PAT Request:	$29,073,494	$0	$0	$0
Total PAT Request:	$29,073,494	Total PAT Change:		-$100,184

Forecast Charge Categories	Current Approved PAT Form				Forecast Changes				Revised PAT Forecast				
	2023	2024	2025	2026	2023	2024	2025	2026	2023	2024	2025	2026	Project Total (EAC)
DTE Labor (Direct)	$249,599	$0	$0	$0	$1	$0	$0	$0	$249,600	$0	$0	$0	$249,600
Contract Labor (Direct)	$1,370,729	$0	$0	$0	$0	$0	$0	$0	$1,370,729	$0	$0	$0	$1,370,729
Material (Direct)	$178,064	$0	$0	$0	$0	$0	$0	$0	$178,064	$0	$0	$0	$178,064
Other (Direct)	$27,096,556	$0	$0	$0	-$614,551	$0	$0	$0	$26,482,005	$0	$0	$0	$26,482,005
Shared Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Indirects	$278,730	$0	$0	$0	$514,366	$0	$0	$0	$793,096	$0	$0	$0	$793,096
Sub-Total	$29,173,678	$0	$0	$0	-$100,184	$0	$0	$0	$29,073,494	$0	$0	$0	$29,073,494
Calculated Risk	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL	$29,173,678	$0	$0	$0	-$100,184	$0	$0	$0	$29,073,494	$0	$0	$0	$29,073,494
						Change in Total EAC:		-$100,184					

Project Developer:	A. Saraiya	APPROVAL DISPOSITION:				
Project Engineer:	S. George	Without Risk:				
Project Manager:	P. Duran	With Risk:	X	Approved by:	Ryan Randazzo	Date: 12/27/2023

See SWI (Standard Work Instruction) ALLPP-SWI-03-004-011-0643 for instructions on filling out this form

Form: ALLPP-FM-0013 Rev: 8 Date: 01/25/2022

DTE

ENERGY SUPPLY PAT REVIEW REQUEST FORM

PAT-AT Agenda Date:	[redacted]		Scope Change	X	New Revision
PMP Project ID:	17611		Schedule Change	X	Realized Risk
PAT LVL/REV:	[redacted]				

Cancel

Project Title: [redacted]

Project Site:	[redacted]	Project Complexity:	[redacted]
Unit:	[redacted]	Project Start Date:	[redacted]
Outage Related?	[redacted]	Constr. Start Date:	[redacted]
Current IRR:	[redacted]	Project I/S Date:	[redacted]
SAP Profit Center #:	[redacted]	Investment Reason:	[redacted]
WBS Element:	[redacted]		
Project Type/Systems:	[redacted]		
Reconciliation Category:	[redacted]		

PMP Problem Description & Project Objective *(Project deliverables? Sum benefits-attach extra sheets if required):*

[redacted]

Brief Project Scope Summary *(Summarize products & services provided)*

[redacted]

Reason for Submittal *(State reason for submittal, categorize requested dollar amount changes, and explain any estimate at completion (EAC) benefits or IRR changes):*

[redacted]

SAP Budget Approval	2022	2023	2024	2025
Previously Approved PAT:	$52,772	$1,417,349	$3,900,000	$0
PAT Change Request:	$0	$588,165	-$588,165	$0
Current PAT Request:	$52,772	$2,005,514	$3,311,835	$0
Total PAT Request:	$5,370,121	Total PAT Change:		$0

Forecast Charge Categories	Current Approved PAT Form				Forecast Changes				Revised PAT Forecast				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	Project Total (EAC)
DTE Labor (Direct)	$14,850	$17,817	$498,796	$0	$0	$3,883	-$95,130	$0	$14,850	$21,700	$403,666	$0	$440,216
Contract Labor (Direct)	$24,050	$500,000	$1,324,000	$0	$0	-$403,806	$583,456	$0	$24,050	$96,194	$1,907,456	$0	$2,027,700
Material (Direct)	$0	$736,838	$3,455,660	$0	$0	$928,829	-$928,829	$0	$0	$1,665,667	$2,526,831	$0	$4,192,498
Other (Direct)	$0	$0	$6,178	$0	$0	$0	$0	$0	$0	$0	$6,178	$0	$6,178
Shared Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Indirects	$13,872	$162,694	$1,368,428	$2,739	$0	$59,259	-$116,387	-$2,739	$13,872	$221,953	$1,252,041	$0	$1,487,866
Sub-Total	$52,772	$1,417,349	$6,653,062	$2,739	$0	$588,165	-$556,890	-$2,739	$52,772	$2,005,514	$6,096,172	$0	$8,154,458
Calculated Risk	$0	$0	$1,752,946	$0	$0	$0	-$28,536	$0	$0	$0	$1,724,410	$0	$1,724,410
TOTAL	$52,772	$1,417,349	$8,406,008	$2,739	$0	$588,165	-$585,426	-$2,739	$52,772	$2,005,514	$7,820,582	$0	$9,878,868
						Change in Total EAC:		$0					

Project Developer:	H. Mueller	APPROVAL DISPOSITION:				
Project Engineer:	T. Lutze	Without Risk:				
Project Manager:	D. Martino	With Risk:	X	Approved by:	Date:	11/21/2023

See SWI (Standard Work Instruction) ALLPP-SWI-03-004-011-0643 for instructions on filling out this form

Form: ALLPP-FM-0013 Rev: 8 Date: 01/25/2022

DTE

ENERGY SUPPLY PAT REVIEW REQUEST FORM

PAT-AT Agenda Date:	[redacted]		Scope Change	X	New Revision
PMP Project ID:	18320	X	Schedule Change		Realized Risk
PAT LVL/REV:	[redacted]				

Project Title: [redacted]

Project Site:	[redacted]	Project Complexity:	[redacted]
Unit:	[redacted]	Project Start Date:	[redacted]
Outage Related?		Constr. Start Date:	[redacted]
Current IRR:		Project I/S Date:	[redacted]
SAP Profit Center #:	[redacted]	Investment Reason:	[redacted]
WBS Element:	[redacted]		
Project Type/Systems:	[redacted]		
Reconciliation Category:	[redacted]		

PMP Problem Description & Project Objective *(Project deliverables? Sum benefits-attach extra sheets if required):*

[redacted]

Brief Project Scope Summary *(Summarize products & services provided)*

[redacted]

Reason for Submittal *(State reason for submittal, categorize requested dollar amount changes, and explain any estimate at completion (EAC) benefits or IRR changes):*

[redacted]

SAP Budget Approval	2021	2022	2023	2024
Previously Approved PAT:	$2,910	$1,062,644	$6,433,823	$0
PAT Change Request:	$0	$0	-$2,433,484	$445,149
Current PAT Request:	$2,910	$1,062,644	$4,000,339	$445,149
Total PAT Request:	$5,511,042	Total PAT Change:		-$1,988,335

Forecast Charge Categories	Current Approved PAT Form				Forecast Changes				Revised PAT Forecast				
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	Project Total (EAC)
DTE Labor (Direct)	$1,270	$61,894	$55,388	$0	$0	$0	-$345	$0	$1,270	$61,894	$55,043	$0	$118,207
Contract Labor (Direct)	$0	$154,248	$4,371,808	$0	$0	$0	-$1,717,657	$153,254	$0	$154,248	$2,654,151	$153,254	$2,961,653
Material (Direct)	$0	$685,773	$1,240,090	$0	$0	$0	-$425,075	$215,100	$0	$685,773	$815,015	$215,100	$1,715,888
Other (Direct)	$0	$646	$249	$0	$0	$0	$447	$0	$0	$646	$696	$0	$1,342
Shared Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Indirects	$1,640	$160,083	$766,288	$0	$0	$0	-$290,854	$76,795	$1,640	$160,083	$475,434	$76,795	$713,952
Sub-Total	$2,910	$1,062,644	$6,433,823	$0	$0	$0	-$2,433,484	$445,149	$2,910	$1,062,644	$4,000,339	$445,149	$5,511,042
Calculated Risk	$0	$0	$8,368,220	$0	$0	$0	-$7,868,220	$5,356,555	$0	$0	$500,000	$5,356,555	$5,856,555
TOTAL	$2,910	$1,062,644	$14,802,043	$0	$0	$0	-$10,301,704	$5,801,704	$2,910	$1,062,644	$4,500,339	$5,801,704	$11,367,597
							Change in Total EAC:	-$4,500,000					

Project Developer:	A. Saraiya	APPROVAL DISPOSITION:				
Project Engineer:	T. Lutze	Without Risk:				
Project Manager:	P. Duran	With Risk:	X	Approved by:	Date:	11/22/2023

See SWI (Standard Work Instruction) ALLPP-SWI-03-004-011-0643 for instructions on filling out this form

Form: ALLPP-FM-0013 Rev: 8 Date: 01/25/2022

Case No.: U-21534
Requestor: Staff
Question No.: STDE-3.3
Respondent: M. Guillaumin

U-21297 A-12 B5.1 Page 2 Requested Capital Expenditures
Steam, Hydraulic, and
Other Power Generation -- Non-Routine
($000)

Line No.	(a) Description	(b) Requested	(c) Approved	(d) Actual	(e) Requested to Actual	(f) Approved to Actual	(g) Requested Percent Error	(h) Requested	(i) Approved	(j) Actual	(k) Requested to Actual	(l) Approved to Actual	(m) Requested Percent Error
		Projected Bridge Period											
		12 mos. ending 12/31/2022	12 mos. ending 12/31/2022	12 mos. ending 12/31/2022	12 mos. ending 12/31/2022	12 mos. ending 12/31/2022	12 mos. ending 12/31/2022	11 mos. ending 11/30/2023	11 mos. ending 11/30/2023	11 mos. ending 11/30/2023	11 mos. ending 11/30/2023	11 mos. ending 11/30/2023	11 mos. ending 11/30/2023
44	**Other Power Generation - Non-Routine:**												
45	Blue Water Energy Center (CCGT)	11,632	11,632	11,777	(145)	(145)	-1%	6,822	22	(4,667)	11,489	4,689	-246%
46	Benton Harbor Transformer	-	-	5,506	(5,506)	(5,506)	-100%	-	-	(4,819)	4,819	4,819	-100%
47	Blackstart Project 1	21,082	20,743	20,743	339	(0)	2%	4,859	3,230	9,747	(4,888)	(6,517)	-50%
48	Blackstart Project 2	55	55	53	2	2	4%	1,010	761	808	202	(47)	25%
49	Blackstart Project 3	1,035	1,035	1,063	(27)	(27)	-3%	11,095	8,518	2,828	8,267	5,690	292%
50	Site Security Project 9	-	-	-	-	-		-	-	-	-	-	
51	Slocum Battery Pilot	8,494	7,562	7,562	932	0	12%	9,752	8,777	9,561	191	(784)	2%
52	2025/2026 Battery	-	-	0	(0)	(0)	-100%	24,098	9,000	5,195	18,903	3,805	364%
53	Other Power Generation - Non-Routine - TOTAL	42,298	41,027	46,703	(4,405)	(5,676)	-9%	57,636	30,308	18,653	38,982	11,654	209%
54	**TOTAL NON-ROUTINE**	154,546	149,772	160,212	(5,666)	(10,439)	-4%	248,972	109,660	161,274	87,697	(51,614)	54%

Case No.: U-21534
Requestor: Staff
Question No.: STDE-3.3
Respondent: M. Guillaumin

U-21297 A-12 B5.1 Page 2 Requested Capital Expenditures
Steam, Hydraulic, and
Other Power Generation -- Non-Routine
($000)

Line No.	(a) Description	(n) Requested 23 mos. ending 11/30/2023	(o) Approved 23 mos. ending 11/30/2023	(p) Actual 23 mos. ending 11/30/2023	(q) Requested to Actual 23 mos. ending 11/30/2023	(r) Approved to Actual 23 mos. ending 11/30/2023	(s) Requested Percent Error 23 mos. ending 11/30/2023
44	**Other Power Generation - Non-Routine:**						
45	Blue Water Energy Center (CCGT)	18,454	11,654	7,110	11,344	4,544	160%
46	Benton Harbor Transformer	-	-	687	(687)	(687)	-100%
47	Blackstart Project 1	25,941	23,973	30,490	(4,549)	(6,517)	-15%
48	Blackstart Project 2	1,065	816	861	204	(45)	24%
49	Blackstart Project 3	12,130	9,553	3,891	8,239	5,662	212%
50	Site Security Project 9	-	-	-	-	-	-
51	Slocum Battery Pilot	18,246	16,339	17,122	1,123	(784)	7%
52	2025/2026 Battery	24,098	9,000	5,195	18,903	3,805	364%
53	Other Power Generation - Non-Routine - TOTAL	99,933	71,334	65,356	34,577	5,978	53%
54	**TOTAL NON-ROUTINE**	403,517	259,433	321,486	82,031	(62,053)	26%

Michigan Public Service Commission
DTE Electric Company
Actual 2022 - 2023 Capital Expenditures
Steam, Hydraulic, and
Other Power Generation -- Non-Routine
($000)

MPSC Case No.: U-21534
Requestor: Staff
Question No.: STDE-2.1a
Respondent: M. Guillaumin

Line No.	(a) Description	(b) Actual Bridge Jan-23	(c) Actual Bridge Feb-23	(d) Actual Bridge Mar-23	(e) Actual Bridge Apr-23	(f) Actual Bridge May-23	(g) Actual Bridge Jun-23	(h) Actual Bridge Jul-23	(i) Actual Bridge Aug-23	(j) Actual Bridge Sep-23	(k) Actual Bridge Oct-23	(l) Actual Bridge Nov-23	(m) Actual Bridge Dec-23	(n) Actuals 2023	(o) U-21534 Projected 2023	(p) U-21297 Projected 2023	(q) U-21534 Overestimation/ (Underestimation) 2023	(r) U-21534 Percent Difference 2023	(s) U-21297 Overestimation/ (Underestimation) 2023	(t) U-21297 Percent Difference 2023
34	**Other Power Generation - Non-Routine:**																			
35	Blue Water Energy Center (CCGT)	81	91	(1,429)	52	56	(3,163)	29	(341)	26	26	(95)	45	(4,622)	(4,512)	6,822	110	2%	11,444	248%
36	BWEC Transmission Upgrades	-	-	-	-	-	-	-	-	(4,819)	-	-	-	(4,819)	(4,819)	-	(0)	0%	4,819	100%
37	Blackstart Project 10570 & 20255	1,596	(61)	1,420	1,189	1,385	1,851	321	313	2,333	(659)	59	347	10,094	10,390	4,888	297	3%	(5,206)	52%
38	Blackstart Project 17611	2	21	4	19	2	22	21	418	237	36	26	1,151	1,959	2,013	1,489	54	3%	(470)	24%
39	Blackstart Project 18320	37	168	644	28	22	18	171	73	244	702	722	156	2,985	4,000	11,168	1,015	34%	8,183	274%
40	Slocum Battery Pilot	773	4,399	293	145	162	869	267	249	1,179	452	771	556	10,117	10,111	10,367	(6)	0%	250	2%
41	Trenton Channel Energy Center BESS	-	-	-	6	581	1,750	1,192	65	97	622	882	65	5,260	5,253	26,431	(7)	0%	21,171	402%
42	Northeast 11-1 Decommissioning	-	-	-	-	0	-	-	2	5	-	40	113	159	294	-	134	84%	(159)	100%
43	Other Power Generation - Non-Routine - TOTALS	2,489	4,618	931	1,440	2,209	1,346	2,001	779	(698)	1,179	2,405	2,433	21,133	22,730	61,165	1,598	8%	40,032	189%

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.8
Respondent: M. Guillaumin
Page: 1 of 1

Question: 8. Referencing the Slocum Battery pilot, in Case No. U-21297, the total costs for the Slocum pilot were estimated at $34.7 million, which has increased to $44.7 million in this case. Please provide a detailed comparison of project cost estimates for Slocum between these two cases, including a breakout into project cost categories with as much detail as possible. For any cost categories with a significant change from previous estimates (10% or >$1 million), please explain the cause of this difference, including any supporting data if available.

Answer: Please see table below:

Description	U-21297	U-21534	Variance	Reason for Variance
Battery Materials	$15.0	$20.0	$5.0	Raw lithium prices increased
Demo & Installation Labor	$5.4	$7.4	$2.0	Labor escalation based on actual competitive bids received
Electrical Infrastructure	$8.5	$8.5	$0.0	
Engineering & Permits	$1.0	$1.9	$0.9	
Overheads (Indirects)	$4.8	$6.9	$2.1	Adjustment based on cost increases for material and labor
Total	**$34.7**	**$44.7**	**$10.0**	

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.1a
Respondent: M. Guillaumin
Page: 1 of 1

Question: 1. Referencing the discovery response STDE 3-8:
a. What, if any, portion of project work did the Company contract out for this pilot?

Answer: The Company utilized contract support for engineering, permitting, site preparation, installation, quality assurance, startup, and commissioning.

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.1b
Respondent: M. Guillaumin
Page: 1 of 1

Question: 1. Referencing the discovery response STDE 3-8:
b. Regarding the increase in costs for battery materials, what portion of the 25% cost increase is due to the rising price of raw lithium?

Answer: The entire $5 million cost increase shown in discovery response STDE-3.8 was due to the rising price of raw lithium.

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.1c
Respondent: M. Guillaumin
Page: 1 of 1

Question: 1. Referencing the discovery response STDE 3-8:
c. When did the Company execute a contract/purchase order for the battery materials?

Answer: The Company issued the purchase order for the materials in December 2022.

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.1d
Respondent: M. Guillaumin
Page: 1 of 1

Question: 1. Referencing the discovery response STDE 3-8:
d. What specific cost increases to materials and labor resulted in project overheads being underestimated by $2.1 million in the previous rate case? Why were these costs not able to be identified prior to this point in the project development?

Answer: Overheads proportionately vary based on changes to material and labor costs, and therefore are not fixed. The $2.1 million increase is a result of cost increases in labor and materials on the project.

Attachment: None.

ENERGY SUPPLY PAT REVIEW REQUEST FORM

PAT-AT Agenda Date:	12/20/2023		
PMP Project ID:	17986		
PAT LVL/REV:	PAT 2	REV 0	

	Scope Change	X New Revision	Cancel
	Schedule Change	X Realized Risk	

Project Title: Slocum Lithium-Ion Battery Energy Storage System

Project Site:	PKRS	Project Complexity:	High
Unit:	Slocum	Project Start Date:	7/14/2021
Outage Related?	Yes	Constr. Start Date:	9/11/2023
Current IRR:	N/A	Project I/S Date:	11/15/2024
SAP Profit Center #:	0202R293	Investment Reason:	9 Environmental
WBS Element:	I-000023-0112		
Project Type/Systems:	22 Peakers		
Reconciliation Category:	Engineering & Long Lead for Future Projects		

PMP Problem Description & Project Objective *(Project deliverables? Sum benefits-attach extra sheets if required):*

PROBLEM DESCRIPTION: As River Rouge Power Plant (RRGPP-retired May 31, 2021), St. Clair Power Plant (STCPP), and Trenton Channel Power Plant (TCHPP) take steps to cease coal-fired operation over the next year, DTE is looking into reliable clean energy technologies for the capacity market.
Slocum (located on the TCHPP property) has been selected for a 14MW lithium-ion (Li-ion) battery energy storage system (BESS) with an intended discharge duration of 4 hours. Upon retirement of the Slocum Diesel Generators (DGs), a utility scale Li-ion BESS would be installed at the existing peaking generator point of interconnection.

PROJECT OBJECTIVE: To have a lithium-ion battery energy storage system to store excess energy generated (from the grid) during non-peak hours and for consumption during peak hours.

Brief Project Scope Summary *(Summarize products & services provided)*

This project includes:
1. Engineering to determine the optimal Li-ion BESS utilizing the existing peaking generator point of interconnection.
2. Installation of a utility scale lithium-ion battery storage system.

Reason for Submittal *(State reason for submittal, categorize requested dollar amount changes, and explain any estimate at completion (EAC) benefits or IRR changes):*

Request $5.38M in previously approved but unreleased funding, release $1.19M in Calculated Risk and provide an $10M to construct and close out project. Total PAT Change based on the following:

DTE Labor: Increased $431K based on current assumptions for project team and DO Sub-Station labor.
Contract Labor: Increased $7.63M. $5.34M Site Demolition/Construction labor bids/POs higher than original estimate (Bids with C/O allocations = $8.43M vs initial allocation $3.1M), $900K additional A/E costs, $690K raw material (Lithium) price increase from previous BESS estimate, $315K DO A/E, $175K Current estimates for ancillary services, $110K Demolition support. Year over year adjustments were made to pull additional A/E work into 2023.
Material: Increased $803K driven by additional PDC cost $500K, increased DO Estimate $150K, IT/Security material not in previous request $60K, PDC automation $50K, Temp Aux Power Transformer $41K, and other misc materials.
Other: Increased $77K. Additional system impact studies not captured in original estimate.
Shared Cost: N/A.
Indirects: Increased $2.19M based on above changes and current indirect rates.
Calculated Risk: Decreased $1.19M

P2R0 211123	2021A	2022A
DTE Labor (Direct)	3,723	79,564
Contract Labor (Direct)	61,429	6,639,135
Material (Direct)	-	400,804
Indirects	5,016	442,165
Sub-Total	70,168	7,561,668
Calculated Risk	-	-
Total	70,168	7,561,668

SAP Budget Approval	Prior Years	2023	2024	2025
Previously Approved PAT:	$7,631,836	$8,500,000	$12,000,000	$0
PAT Change Request:	$0	$1,611,298	$14,831,603	$129,104
Current PAT Request:	$7,631,836	$10,111,298	$26,831,603	$129,104
Total PAT Request:	$44,703,841	Total PAT Change:		$16,572,005

Forecast Charge Categories	Current Approved PAT Form				Forecast Changes				Revised PAT Forecast				
	Prior Years	2023	2024	2025	Prior Years	2023	2024	2025	Prior Years	2023	2024	2025	Project Total (EAC)
DTE Labor (Direct)	$83,288	$200,145	$158,319	$0	$0	-$61,572	$482,516	$10,746	$83,288	$138,573	$640,835	$10,746	$873,442
Contract Labor (Direct)	$6,700,564	$5,436,838	$12,538,319	$0	$0	$535,212	$6,997,080	$100,000	$6,700,564	$5,972,050	$19,535,399	$100,000	$32,308,013
Material (Direct)	$400,804	$2,265,952	$909,840	$0	$0	-$172,869	$975,879	$0	$400,804	$2,093,083	$1,885,719	$0	$4,379,606
Other (Direct)	$0	$65,000	$5,000	$0	$0	$78,921	$62,067	$0	$0	$143,921	$67,067	$0	$210,988
Shared Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Indirects	$447,180	$1,775,070	$2,524,711	$0	$0	-$11,399	$2,177,871	$18,358	$447,180	$1,763,671	$4,702,582	$18,358	$6,931,792
Sub-Total	$7,631,836	$9,743,005	$16,136,189	$0	$0	$368,293	$10,695,414	$129,104	$7,631,836	$10,111,298	$26,831,603	$129,104	$44,703,841
Calculated Risk	$0	$2,000,000	$2,488,970	$0	$0	-$2,000,000	$807,189	$0	$0	$0	$3,296,159	$0	$3,296,159
TOTAL	$7,631,836	$11,743,005	$18,625,159	$0	$0	-$1,631,707	$11,502,603	$129,104	$7,631,836	$10,111,298	$30,127,762	$129,104	$48,000,000
						Change in Total EAC:		$10,000,000					

Project Developer:	Avani Saraiya	APPROVAL DISPOSITION:	
Project Engineer:	Sunith George	Without Risk:	
Project Manager:	William Casey	With Risk:	

3/4/24

Approved by: Date:

See SWI (Standard Work Instruction) ALLPP-SWI-03-004-011-0643 for instructions on filling out this form

Form: ALLPP-FM-0013 Rev: 8 Date: 01/25/2022

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.9a
Respondent: M. Guillaumin
Page: 1 of 1

Question: 9. The Company references $334 million in capital expenditures for the Trenton Channel BESS which was approved by the Commission in Case No. U-21566. For the remaining $89 million in projected capital expenditures, please:

a. Identify any work that the Company will contract with a third party to complete.

Answer: For the remaining $89 million, the Company will have MISO-related transmission interconnection expenses and will contract with Black & Veatch for Owner's Engineer services.

BESS commodities, environmental, site stabilization, and an auxiliary transformer are also expected to be contracted as a subcontract through the EPC contract.

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.9b
Respondent: M. Guillaumin
Page: 1 of 1

Question: 9. The Company references $334 million in capital expenditures for the Trenton Channel BESS which was approved by the Commission in Case No. U-21566. For the remaining $89 million in projected capital expenditures, please:

b. For any work items identified in part (a), please identify whether the Company has or intends to issue an RFP for this work and the expected timing of the solicitation process.

Answer: Transmission costs are determined by MISO through their interconnection process. Black & Veatch was selected as an owner's engineer through an RFP process in 2023.

To the best of my knowledge and belief, there are no other 3rd party RFPs that are expected to be issued by the Company for this project.

Attachment: None.

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.10
Respondent: M. Guillaumin
Page: 1 of 1

Question: 10. For the capital expenditures requested on line 41 of page 2 of Exhibit A-12, Sch.B5.1, please breakout requested costs, in each time-period, for the Trenton Channel battery into those included in the EPC and battery vendor contracts approved in Case No. U-21566, and those for the remainder of project work.

Answer: Please see table below:

$ millions	Historical	Projected Bridge Period			Projected Test Year
	12 mos. ended	12 mos. ending	12 mos. ending	24 mos. ending	12 mos. ending
Description	12/31/2022	12/31/2023	12/31/2024	12/31/2024	12/31/2025
TCEC EPC Contract	0	0.5	26.0	26.5	27.6
TCEC BESS Contract	0	1.1	49.0	50.1	219.5
TCEC Transformer	0	1.8	2.6	4.4	0
TCEC other costs	0	1.9	43.1	44.9	44.7

Attachment: None.

Michigan Public Service Commission
DTE Electric Company
Trenton Channel Energy Center "Other Costs" Breakdown
($ millions)

MPSC Case No.: U-21534
Requestor: Staff
Question No.: STDE-11.2a
Respondent: M. Guillaumin

Line No.	(a) Cost Category	(b) Historical 12 mos. ended 12/31/2022	(c) Projected Bridge Period 12 mos. ending 12/31/2023	(d) Projected Bridge Period 12 mos. ending 12/31/2024	(e) Projected Bridge Period 24 mos. ending 12/31/2024		(f) Projected Test Year 12 mos. ending 12/31/2025	(g) Contracting Strategy	
1	Interconnection Costs & Permits	$ -	$ 0.1	$ 5.0	$ 5.1		$ 12.4	N/A	
2	BESS Commodities and Environmental Remediatior	$ -	$ -	$ 8.0	$ 8.0		$ 2.0	Supplied by Powin. Contract executed.	
3	Subgrade Stabilization and Fire Suppression	$ -	$ 0.1	$ 5.0	$ 5.1		$ 5.0	Supplied by Motor City Electric under EPC contract. Contract executed.	
4	Auxiliary Transformer	$ -	$ -	$ 0.3	$ 0.3		$ 1.2	Supplied by Motor City Electric under EPC contract. Contract executed.	
5	Insurance	$ -	$ -	$ 1.5	$ 1.5		$ -	N/A	
6	Disposal Costs	$ -	$ -	$ 5.0	$ 5.0		$ -	Supplied by Motor City Electric under EPC contract. Contract executed.	
7	DTE Labor	$ -	$ 0.9	$ 1.1	$ 2.0		$ 1.0	N/A	
8	Owners Engineer and Expert Support	$ -	$ 0.5	$ 2.0	$ 2.5		$ 0.7	Services by Black & Veatch. Contract executed.	
9	Project Overheads	$ -	$ 0.3	$ 3.7	$ 4.0		$ 11.4	N/A	
10	AFUDC	$ -	$ -	$ 2.8	$ 2.8		$ 16.0	N/A	
11	All Non-Contracts	$ -	$ 1.9	$ 34.4	$ 36.2		$ 49.7	$	86.0
			$ 1.75	$ 16.12	$ 17.87	#	$ 41.49	$	59.36

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.17
Respondent: S. Hartwick
Page: 1 of 1

Question: 17. Please provide the latest update on any negotiations between the Company and the DOE for grant funding for the Adaptive Networked Microgrids pilot, including the most recent correspondence between Company and DOE, any planned or scheduled future meetings, and the results of any negotiations so far such as preliminary funding agreements

Answer: The Company objects to this request because it is vague as the reference to "most recent correspondence" is unclear. Without waiving this objection, but subject to it, the Company responds as follows:

The Company received the Selection for Notice of Negotiation. DTE Electric is having weekly meetings with the DOE to track the status of required deliverables for the grant award package.

The status of the required documentation is as follows:

- SF424 – Budget Justification Form – awaiting approval by DOE;
- NEPA (National Environmental Protection Agency) Form – awaiting approval by DOE;
- Community Benefits Outcomes and Objectives (CBOO) – Approved by DOE and being added to the award package;
- Technical Evaluation of Budget (TEB) – to be provided by DOE;
- Statement of Project Objectives (SOPO) – awaiting approval by DOE;

Once the documentation is approved by the DOE, the funding agreement negotiations will begin.

Attachment: None

Co-respondent: Legal

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.18
Respondent: S. Hartwick
Page: 1 of 2

Question: 18. Please provide the Company's grant application to the DOE for the Adaptive Networked Microgrids project or provide a summary of the filing including all relevant details such that Staff can understand the amounts sought in grant funding, any required matching, estimated grant timeline, and any specific parameters or requirements necessary for this pilot to qualify for grant funding.

Answer: Project Scope: Two Adaptative Networked Microgrids (ANMs) will be created at existing NWA project sites in our service area

- Detroit –O'Shea Energy Park
  - New solar site combined with a current project to install one battery
  - ANM Project will install one additional battery and establish two networked microgrids
- Port Austin
  - Existing project underway to install solar site with one battery and a microgrid
  - ANM Project will install an additional solar site, two additional batteries and establish two more networked Microgrids

Amounts sought in grant funding: For a breakdown of the project costs, see U-21534 STDE-3.19a.

Cost Match/Share Requirement: The cost share must be at least 50% of the total project costs. The cost share must come from non-federal sources unless otherwise allowed by law. (DE-FOA-0002740[1], Amendment 7, page 44)

Estimated Grant Timeline:

Engineering Phase – 2024

- Specifications will be developed for the individual components and overall system
- Software (CYME and PSCAD) simulations will be completed

[1] https://www.fedconnect.net/FedConnect/default.aspx?doc=DE-FOA-0002740&agency=DOE

Co-respondent: Legal

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.18
Respondent: S. Hartwick
Page: 2 of 2

- The engineering needed for the Port Austin and O'Shea deployments will be finalized

Development Phase – 2025

- The specifications developed in phase 1 will be implemented by the team in phase 2
- Grid-edge and ADMS software will be developed, tested, and refined
- Hardware-in-the-loop testing will be completed
- Westland Equipment Yard testing will start
- Initial drafts of standards will be developed
- Initial testing, operating and maintenance procedures will be completed

Deployment Phase – 2026

- After the successful completion of development work and engineering due diligence in phases 1 and 2,
- ANMs will be deployed in the field on two distribution circuits

Assessment Phase – 2027

- With ANM deployments completed at Port Austin and O'Shea, the team will focus on monitoring the performance and benefits of the new technology

Parameters or requirements to qualify: To qualify for grant funding, see U-21534 STDE-3.17 for a list of deliverables for the grant award package along with meeting the grant requirements included in DE-FOA-0002740

Attachment: None

Co-respondent: Legal

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-3.19a
Respondent: S. Hartwick
Page: 1 of 1

Question: 19. For the cost estimate provided for the Adaptive Networked Microgrids pilot, please provide:

a. A breakdown of these costs into different cost categories including engineering/site selection, site preparation & development, equipment costs (broken out by major equipment categories such as solar array, battery, and balance of plant), construction, labor, and any overhead or contingencies, in addition to a general breakout of costs into the four different project phases;

Answer: Please see the attached file.

Attachment: U-21534 STDE3.19a-01 ANM Investment Estimate

U-21534 STDE3.19a-01 ANM Investment Estimate

Grant Program, Function or Activity	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Total
a. Personnel						
Project Manager	$ 162,760	$ 173,826	$ 184,891	$ 195,957	$ -	
Engineer	$ 1,367,184	$ 1,460,135	$ 1,553,086	$ 548,679	$ -	
Operator	$ -	$ 49,607	$ 73,125	$ 7,095	$ -	
Facilitator	$ -	$ 3,839	$ 5,619	$ 591	$ -	
Cable Tester	$ -	$ 1,476	$ 5,936	$ 422	$ -	
Relay Technician	$ -	$ 22,441	$ 90,220	$ 6,419	$ -	
Journeyman electrician	$ -	$ 20,670	$ 30,469	$ 2,956	$ -	
Power Equipment Relay Testing Technician	$ -	$ 11,811	$ 47,484	$ 3,378	$ -	
SCADA Technician	$ -	$ 2,362	$ 9,497	$ 676	$ -	
Communications Technician	$ -	$ 2,362	$ 9,497	$ 676	$ -	
SOC Technician	$ -	$ 1,535	$ 6,252	$ 507	$ -	
Splicer	$ -	$ 7,087	$ 10,526	$ 1,014	$ -	
Overhead Lineman	$ -	$ 5,906	$ 8,697	$ 845	$ -	
Cable Puller	$ -	$ 7,825	$ 11,475	$ 1,182	$ -	
Community Benefit Lead	$ 43,680	$ 44,720	$ 49,920	$ 52,000	$ -	
Corporate Strategy Support	$ 17,125	$ 18,455	$ 19,785	$ 21,115	$ -	
a. Personnel	$ 1,590,749	$ 1,834,057	$ 2,116,479	$ 843,511	$ -	$ 6,384,796
b. Fringe Benefits	$ 604,485	$ 696,942	$ 804,262	$ 320,534	$ -	$ 2,426,223
c. Travel	$ 4,100	$ 4,100	$ 4,100	$ 4,100	$ -	$ 16,400

U-21534 STDE3.19a-01 ANM Investment Estimate

Grant Program, Function or Activity	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Total
d. Equipment						
Substation Relay Panel	$ -	$ 360,400	$ -	$ -	$ -	
House Service Transformer	$ -	$ 8,600	$ -	$ -	$ -	
SCADA Cabinet (RTU)	$ -	$ 79,500	$ -	$ -	$ -	
Telecommunication Equipment	$ -	$ 53,000	$ -	$ -	$ -	
Pole (Pine)	$ -	$ 84,028	$ -	$ -	$ -	
Site Foundation	$ -	$ 2,595	$ -	$ -	$ -	
Pole Top	$ -	$ 30,528	$ -	$ -	$ -	
Down Guy/Anchor Cable	$ -	$ 1,060	$ -	$ -	$ -	
Pole Grounding Conductor	$ -	$ 7,632	$ -	$ -	$ -	
Pole Top Arrestor	$ -	$ 3,053	$ -	$ -	$ -	
Regulator	$ -	$ 100,535	$ -	$ -	$ -	
Smart Monitor	$ -	$ 76,320	$ -	$ -	$ -	
636 ACSR Conductor	$ -	$ 39,442	$ -	$ -	$ -	
Shield Wire / Neutral Wire	$ -	$ 4,435	$ -	$ -	$ -	
Pole (Cedar)	$ -	$ 38,828	$ -	$ -	$ -	
Viper Recloser	$ -	$ 559,680	$ -	$ -	$ -	
Relay Protection	$ -	$ 18,444	$ -	$ -	$ -	
500KCMIL CU EPR Cable	$ -	$ 54,164	$ -	$ -	$ -	
Cable Joints	$ -	$ 13,356	$ -	$ -	$ -	
Cable Pole Terminations	$ -	$ 8,268	$ -	$ -	$ -	
PV Solar Meter	$ -	$ 21,200	$ -	$ -	$ -	
5" PVC Conduit	$ -	$ 56,000	$ -	$ -	$ -	
Communication Gateway	$ -	$ 477,000	$ -	$ -	$ -	
1MW x 4MWh Battery Systems	$ -	$ 6,760,320	$ -	$ -	$ -	
Switchgear	$ -	$ 165,990	$ -	$ -	$ -	

U-21534 STDE3.19a-01 ANM Investment Estimate

Grant Program, Function or Activity	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Total
Grounding Transformer	$ -	$ 407,430	$ -	$ -	$ -	
Battery Control Cable	$ -	$ 33,920	$ -	$ -	$ -	
500kW AC PV modules	$ -	$ 246,280	$ -	$ -	$ -	
Hardware Testing	$ -	$ 200,000	$ -	$ -	$ -	
ADMS Testbed hardware	$ -	$ 100,000	$ -	$ -	$ -	
HIL Upgrades	$ -	$ 200,000	$ -	$ -	$ -	
Pole Top Device Automation Controllers	$ -	$ 110,000	$ -	$ -	$ -	
d. Equipment	$ -	$ 10,322,007	$ -	$ -	$ -	$ 10,322,007
e. Supplies	$ 8,000	$ 10,250	$ 4,000	$ 4,000	$ -	$ 26,250
f. Contractual	$ 1,657,338	$ 6,167,625	$ 8,030,863	$ 1,351,871	$ -	$ 17,207,697
g. Construction	$ -	$ -	$ -	$ -	$ -	$ -
h. Other (inlcuding site acq	$ 110,669	$ 1,134,518	$ 34,516	$ 36,066	$ -	$ 1,315,769
i. Total Direct Charges	$ 3,975,341	$ 20,169,498	$ 10,994,219	$ 2,560,083	$ -	$ 37,699,141
j. Indirect Charges	$ 412,505	$ 2,886,772	$ 1,431,408	$ 288,678	$ -	$ 5,019,363
k. **Totals**	$ 4,387,846	$ 23,056,270	$ 12,425,627	$ 2,848,760	$ -	$ 42,718,503

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.7a
Respondent: S. Hartwick
Page: 1 of 1

Question: Referencing the grant application process for the Adaptive Networked Microgrids pilot detailed in discovery response STDE-3.17:
a. Does the Company have any indication on the status of the DOE's review process for its grant application, such as an anticipated time for a formal response or any kind of deadlines for these grants to be awarded?

Answer: The Company has no further update to what was provided in STDE-3.17.

Attachment: None

MPSC Case No: U-21534
Requester: Staff
Question No.: STDE-11.7b
Respondent: S. Hartwick
Page: 1 of 1

Question: Referencing the grant application process for the Adaptive Networked Microgrids pilot detailed in discovery response STDE-3.17:
b. If the Company does not receive its full anticipated grant funding for this pilot from the DOE, does the Company still plan to continue to develop this pilot?

Answer: If an agreement on scope and funding level cannot be reached during award negotiations, it is not anticipated the Company will continue development of the Adaptive Networked Microgrids project.

Attachment: None

Line No.	(a)	(b)	(c)	(d)	(e)	(f)
	Technology & Automation					
	Category	**2025 DGP**	**2025 Rate Case**	**Variance**	**Variance %**	**Commentary**
1	Grid Automation	163	151	-12	-7%	
2	Grid Automation Telecommunications	15	15	0	0%	
3	CVR/VVO	5	3	-3	-50%	Reduced to support increased investments in other Technology and Automation projects
4	Capacitor Replacement and Control Program	6	6	0	-7%	
5	NWA Projects	1	17	16	1623%	DTE received DOE grant for Adapative Networked Microgrids that requires a matching investment from the Company.
6	Grid Edge Enablement program	4	5	1	18%	In the Rate Case, the New Technology Evaluation Program is grouped with Grid Edge Enablement program. As such, there is no variance.
7	Vehicle Electrification Projects	1	3	2	150%	Timing of funding shifted due to external customer needs
8	Line Sensors	0	0	0	0%	
9	URD Fault Indicators	3	0	-3	-100%	In the Rate Case, this project is grouped with Grid Automation; however, it is now $1M of spend, not $3M.
10	Large/Medium Sized DER Monitoring and Control	0	0	0	-3%	
11	New Technology Evaluation Program	1	0	-1	-100%	In the Rate Case, the New Technology Evaluation Program is grouped with Grid Edge Enablement program. As such, there is no variance.
12	Grid Management	26	36	10	39%	Addition of Customer Power Status Visibility Project
13	Distribution Planning	13	13	0	-2%	
14	Work Management and Scheduling	14	6	-8	-54%	Reduced to support increased investments in other Technology and Automation projects
15	Asset Management	3	1	-2	-80%	Reduced to support increased investments in other Technology and Automation projects
16	Mobile Technology	6	5	-1	-10%	Reduced to support increased investments in other Technology and Automation projects
17	**Total Technology & Automation**	**261**	**260**	**-1**	**0%**	
18	**Total Strategic Capital**	**995**	**1,117**	**123**	**12%**	

Base Capital					
Category	**2025 DGP ($M)**	**2025 U-21534 ($M)**	**Variance ($M)**	**Variance %**	**Commentary**
Emergent Replacements (Reactive Trouble and Storm Capital)	$399	$507	$107	27%	- Emergent capital is forecasted based upon a five year historical average for each bucket -DGP emergent capital totaled $399 MM for 2025, which was based upon the historical 5-year average in U-21297, which averaged investments from 2017 to 2021, less the projected Emergent Reduction due to Strategic Spend -For the instant electric rate case, emergent increased to $507 MM because the 5-year average dropped 2017 and includes 2022 -The five-year average increased by $63M primarily driven by -Replacing lower investment of $313M in 2017 to a higher investment of $485M in 2022 -Increased inflation rates in 2022, driven by a 4.4% increase (3.6% to 8%) -The remaining $45M difference is due to an inflation adjustment to convert the 2022 dollars to 2025 dollars, using an average inflation of 3% per year
Customer Connections, Relocations and Others	$296	$301	$5	2%	
Total Base Capital	**$695**	**$808**	**$113**	**16%**	

Maintenance Programs					
Category	**2025 DGP ($M)**	**2025 U-21534 ($M)**	**Variance ($M)**	**Variance %**	**Commentary**
Tree Trimming	$140	$240	$100	71%	The $140M in the DGP is an error, it should have been $153M. Therefore, the variance should have been $87M, which is the incremental Regulatory Asset increase discussed in witness Rachel Steudle testimony.
Preventive Maintenance	$10	$12	$2	24%	For the instant rate case, preventative maintenance is based upon $11.3 million for the historic test year and $1 million due to inflation adjustment to convert 2022 actuals to 2025 dollars.
Total Maintenance Programs	**$150**	**$252**	**$102**	**68%**	

Infrastructure Resilience & Hardening					
Category	**2025 DGP**	**2025 Rate Case**	**Variance**	**Variance %**	**Commentary**
Pole and Pole Top Maintenance and Modernization	$121	$121	$0	0%	
4.8 KV Hardening	$95	$125	$30	32%	The increase is to accelerate the program to allow it to finish in 2026
4.8 KV Automatic Pole Top Switch (APTS)	$5	$5	($0)	0%	
SCADA Pole Top Device	$2	$2	$0	2%	
Steel Pole Highway Crossings	$5	$5	$0	0%	
System Cable Replacement	$20	$17	($3)	-17%	Reduced to support increased investments in CEMI & 4.8kV Hardening to accelerate the removal of arc wire
Underground Residential Distribution (URD Cable)	$15	$14	($2)	-10%	Reduced to match Commission IRM approval amount
Subtransmission Disconnect Switches	$3	$3	$0	0%	
Circuit Switchers	$2	$2	($0)	-5%	
Circuit Breakers	$15	$13	($2)	-16%	Reduced to match Commission IRM approval amount
Substation Regulators	$1	$1	($0)	-18%	Reduced to support increased investments in CEMI & 4.8kV Hardening to accelerate the removal of arc wire
Batteries & Chargers	$3	$3	$0	1%	
Substation Outage Risk	$2	$9	$7	365%	Shifting Chestnut investment from 2024 to 2025 to accommodate increased 2024 McGraw investment
Station Upgrades	$9	$6	($3)	-37%	Reduced to support increased investments in CEMI & 4.8kV Hardening to accelerate the removal of arc wire
Mobile Fleet	$2	$2	($1)	-25%	Reduced to support increased investments in CEMI & 4.8kV Hardening to accelerate the removal of arc wire
Frequent Outage (CEMI) including Circuit Renewal	$20	$62	$42	212%	The Company initially forecasted to ramp CEMI down; however, given the recent reliability performance of our system, the Company has determined that this program needs to continue at its existing funding level until reliability improves
120kV Relays Upgrade for ITC Projects	$0	$2	$2		Added project post DGP submission
DTE-ITC Animal Mitigation	$0	$0	$0		Added project post DGP submission
Total Infrastructure Resilience & Hardening	**$320**	**$391**	**$71**	**22%**	

Infrastructure Redesign & Modernization					
Category	**2025 DGP**	**2025 Rate Case**	**Variance**	**Variance %**	**Commentary**
System Loading	$75	$79	$4	6%	
Substransmission Redesign & Rebuild	$100	$107	$6	6%	
4.8 kV Conversion and Consolidation	$76	$96	$19	25%	Net increase in Conversion projects of 13% (conversion projects are 4.8 kV, CODI, and 8.3 kV).
City of Detroit Infrastructure (CODI)	$126	$147	$21	17%	The largest investment increase is related to the 4.8 kV ISO conversion program to expand the
8.3 kV Conversion and Consolidation	$31	$22	($9)	-28%	number of ISO down areas being worked on in 2025.
Strategic Undergrounding	$5	$16	$11	220%	$11M increase in additional undergrounding projects
Total Infrastructure Redesign & Modernization	**$414**	**$467**	**$53**	**13%**	

Technology & Automation					
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Line Sensors	0	0	0	0%	
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Total Technology & Automation	**261**	**260**	**-1**	**0%**	

Total Strategic Capital	**995**	**1,117**	**123**	**12%**

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	)	Case No. U-21534

PROOF OF SERVICE

Linda G. Brauker, being duly sworn, deposes and says that on July 26, 2024, A.D., she emailed a copy of the attached MPSC Testimony and Exhibits to the persons as shown on the attached list.

Linda G. Brauker

Subscribed and sworn to before me
this 26th day of July, 2024.

Brianna L. Brown, Notary Public
State of Michigan, County of Gratiot
Acting in County of Eaton
My Commission Expires July 4, 2028

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