RIVENOAK
LAW GROUP PC
Valerie J. M. Brader
Admitted in Michigan
valerie@rivenoaklaw.com

June 13, 2023

VIA ELECTRONIC CASE FILING

Ms. Lisa Felice, Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Highway
Lansing, MI 48917

Re: **MPSC Case No. U-21297**: In the matter of the Application of **DTE ELECTRIC COMPANY** for the authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.

Dear Ms. Felice:

Enclosed for filing please find the ***Direct Testimony, Part 2 from the Michigan Municipal Association for Utility Issues to DTE Electric Company*** for the above referenced case.

Should you have any questions or comments regarding this matter, please do not hesitate to contact my office.

Sincerely,

Valerie J.M. Brader

Counsel to the Michigan Municipal Association for Utility Issues

cc: w/enclosure: Parties of Record

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **DTE ELECTRIC COMPANY** for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.	U-21297 ALJ Sharon L. Feldman

---

TESTIMONY OF RICHARD BUNCH

ON BEHALF OF

THE MICHIGAN MUNICIPAL ASSOCIATION FOR UTILITY ISSUES

JUNE 13, 2023

CONTENTS

I. INTRODUCTION & QUALIFICATIONS

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

A. My name is Richard Bunch. I am Executive Director of the Michigan Municipal Association for Utility Issues ("MI-MAUI"). I am also a senior consultant at 5 Lakes Energy, LLC. My business address is 220 MAC Ave, Suite 220, Lansing, MI.

Q. On whose behalf is this testimony being offered?

A. I am testifying on behalf of Michigan Municipal Association for Utility Issues (MI-MAUI).

Q. What is MI-MAUI?

A. MI-MAUI is a non-profit membership association formed by Michigan municipal governments to provide them with a collective voice and technical support in their relationships with regulated utilities and in Michigan Public Service Commission proceedings.

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

A. I have worked since 2015 in positions related to clean energy, primarily on behalf of local governments. A significant portion of that work has included analysis of MPSC rate and other cases and supporting local government participation in rate cases and other MPSC proceedings. From 2015 to 2017 I organized and led the Municipal Street Lighting Coalition, a group of 24 municipalities served by DTE Energy, which intervened in Cases U-17767 and U-18014 and participated in the subsequent MPSC-ordered street lighting collaborative. I organized and supported intervention of several municipalities receiving street lighting services from Consumers Energy in cases U-20134, U-20697 and U-20963. I have submitted comments in several other case dockets on behalf of MI-MAUI

and have participated in various MI Power Grid working groups and the Electric Distribution Planning working group. I directed MI-MAUI's intervention in DTE Energy's Voluntary Green Power case U-20713.

In the field of consumer protection, I am president and board chair of the Washington Public Interest Group (WashPIRG), an independent, non-partisan, non-profit organization based in Seattle that works to protect consumers and promote good government. I am also an officer of the WashPIRG Foundation, an affiliated research and public education organization. I was Executive Director of WashPIRG from 1989 to 1992 and worked on a number of consumer protection issues during that time and in more junior positions prior to that. I also served until 2020 as an officer of the PIRG in Michigan (PIRGIM) Education Foundation, a non-partisan consumer protection and good government public education and research organization based in Ann Arbor.

I am currently a stakeholder co-chair of the Commission's Data Analysis and Regulatory Review working group, and I am a member of the Commission's Low Income Energy Policy workgroup.

My energy-related work experience, educational and professional development background are summarized in my resumé, provided as **Exhibit** MAU-1.

Q: Please list your training and education relevant to the field of utility regulation.

EUCI Outdoor Street Lighting Conference, June 2019

EUCI Electric Cost-of-Service - Essential Concepts for a Changing Industry, July 2019

MSU-IPU Accounting and Ratemaking course, September 2020

EUCI Utility Green Tariffs: A to Z course, November 2020

MSU-IPU Advanced Regulatory Accounting and Auditing course, October 2021

NRRI Regulatory Training Institute, Regulating Public Utility Performance course, current

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

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

- Case U-20530 (I&M PSCR Reconciliation case)
- Case U-20561 (DTE Electric Company Electric General Rate Case).
- Case U-20697 (Consumers Energy Company Electric General Rate Case);
- Case U-20836 (DTE Electric General Rate Case)
- Case U-20963 (Consumers Energy Electric Rate Case)
- Case U-21087 (DTE Electric PrePay case)

I have testified before the Kentucky Public Utilities Commission in rate cases 2020-349 and 2020-350, the combined Kentucky Utilities and Louisville Gas & Electric electric and gas rate cases.

Q. What is the purpose of your testimony?

A. I am testifying on behalf of MI-MAUI regarding DTE Electric's (the Company) communication and coordination with local units of government and its street lighting service, rates, and tariffs.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring the following exhibits:

Exhibit MAU-9	Resume of Rick Bunch
Exhibit MAU-10	Rate Schedule No. E1 (February 23, 2017)
Exhibit MAU-11	Excerpt from WP RAB-1 U-20561 Lighting Rate Model

Exhibit MAU-12	Excerpt of Direct Testimony of K.D. Johnson, Case No. U-18255
Exhibit MAU-13	Discovery Response MAUIDE-1.40a
Exhibit MAU-14	Discovery Response MAUIDE-1.42
Exhibit MAU-15	Discovery Response MAUIDE-4.20
Exhibit MAU-16	Discovery Response MAUIDE-1.33a
Exhibit MAU-17	Discovery Response MAUIDE-1.32
Exhibit MAU-18	DTE Conversions v. Leotek Recommended
Exhibit MAU-19	Discovery Response MAUIDE-1.2
Exhibit MAU-20	Discovery Response MAUIDE-4.3
Exhibit MAU-21	Discovery Response MAUIDE-1.3
Exhibit MAU-22	Excerpt from Direct Testimony of R. Belllini, Case No. U-20561
Exhibit MAU-23	Excerpt from Direct Testimony of R. Belllini, Case No. U-20836
Exhibit MAU-24	Excerpt from DTE Initial Brief, Case No. U-20836
Exhibit MAU-25	Federal Highway Safety Administration Data
Exhibit MAU-26	Discovery Response MAUIDE-8.1
Exhibit MAU-27	Discovery Response MAUIDE-2.2
Exhibit MAU-28	Discovery Response MAUIDE-1.5b
Exhibit MAU-29	Night Patrol Outage Rates
Exhibit MAU-30	Direct Testimony of R. Hess, Case No. U-20836
Exhibit MAU-31	Ann Arbor Streetlight Outage Data
Exhibit MAU-32	Discovery Response MAUIDE-3.2a Supplemental

Exhibit MAU-33	Discovery Response MAUIDE-1.20
Exhibit MAU-34	MAUIDE-1.19 Night Patrol Results
Exhibit MAU-35	MAUI Bunch streetlight electric sales forecast reduction for outages

II. PURPOSE AND OVERVIEW OF MAUI TESTIMONY

Q. Why has MI-MAUI intervened in this rate case?

A. MI-MAUI's local government members are concerned about the impact of the Company's poor record on electric reliability and high rates on the residents and business they serve. Our members are also concerned about reliability and cost of the Company's street lighting service, an important service our members provide to their communities and one of their largest energy uses and costs.

Q. What are the key themes of MI-MAUI's testimony in this case?

A. MI-MAUI observes that the Company is failing to meet the reliability needs of its customers in many ways, despite charging rates higher than other utilities.

Foremost, the Company seeks yet again to raise its rates, in some cases dramatically, despite its poor reliability and price performance. For instance, the Company is seeking to raise rates on streetlights more than 13%, only a few months after securing an increase exceeding 15% in its previous rate case. Despite all the spending that the Company claims necessitates these rate hikes, the Company has failed to deliver any clear improvement in either reliability or lighting quality for customers.

Widespread, extended outages over the past year have put reliability of electric service in the spotlight more than ever before. Because electric distribution infrastructure generally occupies public easements that local governments have responsibility to manage for the

public benefit, DTE's maintenance and improvement efforts should be coordinated with local units of government. Testimony provided by MI-MAUI witnesses in this case will demonstrate that DTE was essentially unable to communicate with local governments for many hours during grid outages. It also fails to communicate and coordinate with local governments in infrastructure planning. This failure has significant fiscal and service consequences for local governments, as well as driving up costs and slowing the pace of DTE's reliability efforts. It is imperative that the Commission require DTE to better coordinate and communicate with local units of government, and to implement short-term reliability solutions for local government and other critical facilities to ensure continuity of critical services and protection of vulnerable community members during outages while the Company's longer-term reliability initiatives roll out over a longer period of time.

Last, local units of government are more familiar than DTE with the sting of accountability when they fail to meet community expectations. They are especially frustrated when DTE's failures make it impossible for them to deliver local government services to the satisfaction of their constituents. It is appropriate, then, in this proceeding for MI-MAUI to offer expert testimony proving that DTE's earnings significantly exceed those of comparably situated utilities, raising the question of why DTE is repeatedly given the opportunity to earn above-average returns when its performance lags behind its peers.

Q. What issues will your testimony address?

A. I will address the Company's policies and practices on communication and coordination of infrastructure projects with local governments, and the Company's streetlighting rates and quality of service.

III. DTE'S COMMUNICATION AND COORDINATION WITH LOCAL GOVERNMENTS IS DEFICIENT, HINDERING PROVISION OF VITAL SERVICES DURING EMERGENCIES AND IMPOSING UNNECESSARY INFRASTRUCTURE COSTS ON LOCAL UNITS OF GOVERNMENTS AND RATEPAYERS

Q. Why are local units of government frustrated with DTE?

A. Local units of government are frustrated with DTE because the Company is failing to meet standards of service reliability important to their constituents while demonstrating little interest or commitment in working with and supporting local leaders to improve the situation.

Q. What changes would local government leaders like to see DTE make?

A. Priorities vary from place to place, and include in no particular order:

- Better communication from DTE during service interruptions. Local emergency services leaders desire to have greater influence in DTE restoration priority decisions. They need better communication during line-down situations so they can coordinate with DTE to protect public safety and deploy personnel efficiently.
- Better resiliency support for critical municipal facilities and services, and for facilities that serve vulnerable residents and provide other critical services. Information sharing about vulnerable residents, known to DTE, who may be at risk during a service interruption or extreme weather event.

- More transparency about general reliability performance, at geographically granular resolutions that permit resiliency and emergency services planning and planning of infrastructure projects and economic development efforts.
- Much better communication of energy infrastructure project planning to support coordination ofscheduling with municipal and other infrastructure projects, reducing overall project costs and inconvenience to community members.
- More creative and persistent collaboration with local leaders to implement innovative and/or quickly deployable reliability and resilience solutions.

Many local leaders feel that DTE is not interested to share its plans with them to look for synergies, cost sharing and faster progress. With fervent support from community members, community leaders want to intensively explore options for undergrounding more wires and infrastructure, but often feel that they cannot elicit interest or genuine engagement from DTE.

Q. What actions do you recommend the Commission to take to address this situation?

A. DTE is investing heavily in its distribution infrastructure in large part to improve reliability and resilience. The Commission should make approval of DTE's plans, and recovery of costs, contingent on improved coordination with local units of government or proof that such coordination is not likely to produce efficiencies or hasten reliability improvements. The Commission should make clear that DTE's capital investment plans should be shared and coordinated with local government leaders. The Company must adopt practices that are normal in other utilities in the state by making an evaluation of coordination opportunities a standard part of the planning process, such that energy infrastructure projects can occur in cooperation with other local infrastructure projects

to reduce costs, alleviate inconvenience and accelerate timelines. The Commission should also make clear that the Company's performance in these regards will color not only its return of costs and investments, but its returns on investment.

IV. DTE'S STREETLIGHTING RATE DESIGN IS CREATING BAD AND UNINTENDED OUTCOMES AND SHOULD BE REFORMED

Q. Why is streetlighting important to local units of government?

A. Street lighting is important for three general reasons, First, street lighting is a highly visible government service – there is a streetlight out front of most people's homes and workplaces. Communities hold their local governments accountable for the reliability and quality of that service. Second, it is often the largest energy expenditure that local governments pay, and rate changes can significantly impact budgets. Third, local governments have various policy goals that depend on effective and efficient street lighting, including climate change, public safety and placemaking objectives.

Q. Please summarize your concerns with DTE's municipal streetlighting services.

A. DTE is incurring unnecessary and unreasonable capital expenditures in its provision of streetlighting services. In operations and maintenance, it is spending too much money on some things and not enough on others, resulting in persistently bad outage performance. Streetlight rates make customers pay for services they don't receive: the electric sales forecast assumes streetlights are always in working order, using electricity, and customers seldom receive bill credits even for long outages. Aside from cost and reliability issues, the Company's practices generally over-illuminate streets, causing light pollution, light trespass, wasted energy, and avoidable public health, environmental and climate impacts.

Q. How much have DTE's streetlight rates increased in recent years?

A. DTE's authorized required revenue for E1 municipal streetlighting services at the time it filed case no. U-18014 on 2/1/2016 was $50,317,000. In the instant proceeding, the Company proposes required revenue for E1 streetlighting of $67,746,000, which would represent an increase of about 35% over the rates in effect in 2016.

During that period, the number of streetlights DTE serves has risen from 191,795 to 199,098, an increase of less than 4%.[1] Expressed on a per-capita basis, the average annual cost per streetlight will have risen 29.7%, an average of about 3.8% per year, since 2016 if DTE's proposed rates are allowed to go into effect.

During that same period, US core inflation averaged 3.0% per year, compounding over seven years to 23.0%. DTE's streetlight rates have therefore risen at a rate 26% faster than inflation since 2016, if the proposed rates are allowed to go into effect.

This rate of increase, driven largely by growth in rate base of street lighting assets, is especially striking when one considers that a very substantial portion of streetlighting system improvements have been financed out of pocket by customers. The biggest change in DTE's street lighting system over the past few years has been the transition to LED lighting. Except in the case of failed mercury vapor streetlights, the Company requires customers to pay most of the costs of LED conversions.

Q. Have customers who invested in new LED lights experienced greater reliability?

A. One reason customers are willing to pay more is if they get better service, and specifically better reliability. Customers invest in LED conversions largely in hopes of

[1] DTE Exhibit A-25, Schedules O1 and O2.

saving money on lower rates, but also for the prospect of greater reliability. Community members notice and they complain to their government representatives when they notice streetlights out in their neighborhoods.

LED luminaires are expected to experience fewer outages than older HID technologies for several reasons: first, as a fleet they are simply newer. Second, unlike HIDs, they do not have lamps that burn out and need to be replaced, on average, every eight years. Better reliability is also a driving motive behind many of the capital investments DTE has made in its streetlighting assets over the past decade, starting with LED conversion costs the Company pays that are added to rate base. In sum, a lot of money has been spent by local governments and DTE over the past decade in hopes that the streetlights will stay on more reliably.

And yet, little if any progress has been realized. In 2017, DTE reported a total of 20,670 streetlight outages, and in 2022 it reported 19,730 outages – approximately a 4.5% drop. However, this statistic is missing a key fact: in 2017, the Company began night patrol, and outages discovered by the Company during night patrol – 4,685 of them in 2022 – are not included in these reported outage totals. Assuming outages discovered in night patrol would eventually have been reported by citizens or governments (as in 2017), reliability has actually gotten noticeably worse, with a total outage number in 2022 of 24,415 – an outage increase of 16% in five years. To sum up: while DTE is reporting outages decreased by 4.5% in the last five years, if one adds back in the outages DTE discovered itself but are not included in this count, then streetlight outages are up by 16% in the last five years.

The other key outage metric is length of outage. Again, despite all the spending, things have only gotten worse. In 2017, the average standard outage lasted 3.6 days and Total Duration Days (adding in extended outages) lasted 6.08 days on average. In 2022, the average standard outage lasted 4.7 days and Total Duration Days was 7.24 days.[2]

In sum, when we count all known outages, their frequency has increased, and they have gotten longer. Customers can be forgiven for wondering when the constant drumbeat of rate increases is going to bring them any benefit.

Because DTE does not track outages by lighting type, it is not possible to determine if the LED lights are experiencing fewer outages (as one would expect). Thus, LED lights are likely overpaying for outages, but it is not possible to determine by how much with certainty.

Q. Earlier, you noted that customers invest in LED substantially to save money on rates. How is that investment turning out?

A. It's turning out to be a terrible deal, because DTE tariffs unreasonably inflate the costs of LEDs, and communities that have paid to install LEDs are essentially subsidizing those who have remained on HIDs. Specifically, LED costs have risen at double or three times the rate of lighting increases as a whole in the last five years, as explained below.

As context, the general expectation has been that LEDs would reduce customer costs because they would need less maintenance and would use less electricity compared to HID luminaires. This notion has been reinforced by LED conversion proposals presented to customers by DTE that project annual savings and attractive payback periods.

[2] DTE Exhibit A-25, Schedules O1 and O2.

Over time, though, DTE has contrived to chip away at these purported cost advantages. O&M costs allocated to LEDs are now higher than for their HID equivalents, essentially offsetting any difference in energy costs. This is despite the fact that the LED fleet is much newer than the other lighting, and therefore is less likely to require as much attention. The only reason, these days, that LEDs served by DTE have lower rates than their HID equivalents is because customers have contributed so much of the capital cost to install them, which keeps required revenue lower than it otherwise would be.

The best way to understand LED rate trends is through longitudinal comparison of costs of the same luminaires over time.

The most prevalent LED luminaire in DTE's fleet is the 65w luminaire served by overhead wires, counting 36,094 in witness Bellini's workpapers.[3] Its proposed rate is $20.16/month. In 2018, the rate for this same luminaire was $12.21 per month.[4] That is a 65% rate increase for the Company's most common LED luminaire, almost double the overall rate of increase in lighting rates, itself hardly a pedestrian trend.

The second most-prevalent LED luminaire in DTE's fleet is the 135w overhead luminaire, numbering 19,504 when the instant case was filed.[5] Its proposed rate is $28.65 per month. In 2017, its rate was $13.90/month.[6] The rate for this luminaire has more than doubled in six years, achieving three times the rate growth of DTE's overall lighting fleet.

Q. Have LEDs gotten a lot more expensive to buy?

[3] Witness Bellini WP RAB U-21297 Lighting Rate Model, E1-Opt 1-OH worksheet.
[4] See Exhibit MAU-10
[5] Witness Bellini WP RAB U-21297 Lighting Rate Model, E1-Opt 1-OH worksheet.
[6] See Exhibit MAU-10.

A. No – not at all. The current cost to DTE for the 65w LED discussed above is $169.09. The current cost to DTE of the 135w LED luminaire discussed above is $283.64.[7] The costs for these same luminaires in 2019 were $167.99 and $281.79, respectively.[8] Both models have increased only about $2 in cost – an inconsequential change. Thus, DTE's cost increases cannot be fairly attributed to material costs, which are largely borne by communities adopting LED lights up-front.

Q. What else could explain why LED rates have risen so much faster than for other lights?

A. An important factor is that LEDs are paying, as a group, significantly more than their cost of service, whereas in 2017 they were paying slightly less than their cost of service. The proposed rate for the 65w overhead LED is $5.84/year more than its cost of service. The proposed rate for the 135w overhead LED is $8.34 more than its cost of service.[9] As a group, Company-owned LEDs would pay $910,950 – nearly $1 million – more than their cost of service if the proposed rates were adopted.[10]

Q. If LEDs are paying more than their cost of service, are there other lights that are paying less than their cost of service?

A. Yes. If the proposed rates were adopted, HID streetlights served by overhead wires would pay, collectively, $1,348,033 less than their cost of service.[11] Put plainly, efficient LED lights are subsidizing the less-efficient HID lights they are supposed to be replacing. It is bad public policy for energy-efficient technologies to subsidize inefficient technologies,

[7] Bellini, WP RAB U-21297 Lighting Rate Model, E1-Opt 1-OH worksheet.
[8] See Exhibit MAU-11.
[9] WP RAB-1 Lighting Rate Model, Output, column GD.
[10] Sum of cells GM48:GN87 in WP RAB-1 Lighting Rate Model, Output.
[11] Sum of cells GM4:GM47 in WP RAB-1 Lighting Rate Model, Output.

and it is especially unfair to customers who have a reasonable expectation of a fair return on their up-front investment in LEDs.

Q. What are the consequences of LEDs being above their cost of service and overhead HIDs being below their cost of service?

A. Rates that are not consistent with cost of service send price signals to customers that cause them to make inefficient decisions. In this case, one obvious consequence is that customers are discouraged from investing in LEDs because the payoff period on the up-front investment (Contribution in Aid of Construction or CIAC) required is artificially lengthened.

To illustrate more concretely, consider again the 65w LED fixture described above. Its proposed annual rate is $247.80. Historically, DTE has used it to replace the 100w HPS luminaire (I believe the Company now uses the 58w LED for this particular conversion). The 100w HPS luminaire's proposed rate is $279.35/year (fully $57.96/year lower than cost of service). The $31.56 difference between the two proposed annual rates represents post-conversion savings that pay back the customer's CIAC payment. If the CIAC were a fairly typical $250, the payback period would be almost 8 years.[12]

Now consider the customer's potential savings from this same conversion if the two luminaires were priced at witness Bellini's cost of service. The LED would cost $254.90/year and its HID equivalent would cost $364.40/year, a savings of $109.50/year offering a payback period on the initial investment of only 2.28 years. This is obviously a much more compelling value proposition for the customer.

[12] All the figures in this example draw from data in witness Bellini's WP RAB-1 Lighting Rate Model, Output.

Q. Is there any evidence that these skewed rates have actually slowed the pace of conversion to LEDs?

A. Yes, there is. We have only to compare the pace of HPS-LED conversions to the pace of MV-LED conversion to see that up-front cost matters. Mercury vapor conversion CIACs are lower because the Company contributes labor costs toward their conversion; also the Company converts any burned-out MV fixture to LED at no cost to the customer.

In 2012, DTE had 94,681 mercury vapor fixtures in service, which had dwindled to 24,465 as of 2022: almost 75% of mercury vapor fixtures had been converted to LED over that period. In 2021, there were 98,070 HPS fixtures in service, down to 57,383 in 2022 – a much more modest 41.5% reduction in numbers.[13] The conversion of MVs to LEDs has proceeded at almost twice the clip of HPS-LED conversions.

The projected future pace of HPS conversions is even more concerning. Witness Bellini projects only 26,140 more HPS conversions through 2030.[14] 31,243 HPS fixtures would remain in service after 2030. In contrast, witness Bellini projects that only 447 MV fixtures will remain in service at the end of 2030.

It's clear that artificially high rates for LEDs and artificially low rates for many of their HID equivalents are slowing the conversion to LED.

Q. How has this cross-technology rate subsidy come about?

A. It is partly an artifact of an agreement reached in U-18014 to slowly adjust lighting rates to match their costs of service. As explained by DTE witness Johnston:

> *In addition to the disparity in the lighting model's cost based rates for lights which were fed from overhead service versus*

[13] All figures here taken from Direct Testimony of R. Bellini, at 8, table 2.
[14] Bellini, WP RAB U-21297 Lighting Forecast, Summary sheet.

underground service, some of the rates for both overhead and underground-fed LED lights were also below their cost to serve and the lighting model's cost based rates for both overhead and underground-fed HID lights were above their cost to serve. The final rate design in MPSC Case No. U-18014 employed a gradual move towards cost of service rates within the lighting class with a focus on first reducing the cost of service disparity between LED and HID rates and capping the overall rate impact to any individual municipality to 3 times the overall rate increase for the lighting class.[15]

In addition, during this period the Company provided administrative support to many lower-income communities to help them secure grants and other financing to convert their lights to LED. Even at full cost of service, LED lights would be cheaper than the below-cost rates their HID predecessors were paying, thus avoiding any rate shock to these communities when rates were fully adjusted.

Although the objectives for the process was to gradually move toward cost of service, the actual effect over the past several rate cases have resulted in LED rates rising well above their cost of service while the rates for overhead-fed HID lights remain well below their cost to serve.

Q. Is there any reason for the Commission to continue adjusting lighting rates slowly to bring them closer to their costs of service?

A. I believe there is not. Rate adjustments to achieve cost of service can be gradual, but six years is long enough, especially when we observe that the gradual adjustments aren't working in a rational way – LED rates overshot the mark while many HID rates are still

[15] Exhibit MAU-12

too low. These unexpected outcomes somehow resulted in a perverse subsidy of HID lights by LED lights, undermining the price signals that rates ought to be sending to encourage energy efficient choices. Furthermore, lower-income communities that were in danger of rate shock had rates been adjusted all at once in 2017 have now had plenty of time and encouragement to switch over to LED – and many of them have. At this point, I can no longer support the policy of slowly adjusting rates toward cost of service – it is not achieving its intended purpose in an appropriate timeframe and it is having unintended, perverse consequences.

Therefore, I recommend that the Commission order that rates be set according to the methodology used to calculate "COS Total Rate" in witness Bellini's WP RAB U-21297 Lighting Rate Model, Output, columns AP:AU. I do not recommend adopting the COS rates currently shown in witness Bellini's workpaper because I have several more recommendations to follow here to further reflect the lower costs of LEDs.

V. THE COMMISSION SHOULD ODER DTE TO STOP CHARGING CIAC FOR LED CONVERSIONS

Q. Why does DTE charge customers for planned conversions of HID streetlights to LED technology?

A. The basic reason to assess a CIAC fee for any project is if the customer is receiving a special service or benefit that other customers don't benefit from and shouldn't have to pay for through rates.

CIAC may initially have made sense when LED streetlights were relatively new to the market and were not the standard choice. Now, however, LEDs are the standard choice. Customers should not pay extra up front to get the same kind of light everybody else is,

or should be, getting. Standard costs should be built into rates, not recovered up front from customers.

Further, a properly conducted LED conversion program need not cost more on a unit basis. If there is little or no marginal cost difference between installing a new LED versus servicing or replacing an existing HID, then the customer receiving the LED is causing no cost that ought to be recovered directly from them through CIAC.

Q. How does the cost of installing a new LED compare to the cost of servicing an HID fixture?

A. In 2022, the average CIAC fee per HID-LED conversion was about $280 ($3,984,315 total cost/14,213 conversions).[16] Most HID-LED conversions are planned; in 2022 only 538 of the 14,213 conversions were of failed MV fixtures,[17] meaning that the vast majority of HID-LED conversions were planned.

In 2022, the average cost of a reactive service restoration following an outage report was $408.[18] Not all of these outages were caused by HID luminaire or lamp problems, but the Company has been unable to provide outage statistics and costs by luminaire type, so this is the best figure available. It is most appropriate to use costs of reactive outage responses because, going forward, the Company proposes no longer to re-lamp HID fixtures predictively, that is, before they fail. All HID service calls will be reactive, in response to outage reports.

[16] See Exhibit MAU-13.
[17] See Exhibit MAU-14.
[18] See Exhibit MAU-15.

Although LED luminaires are somewhat more expensive than replacement HID luminaires or lamps, planned, group conversions to LED are much more efficient than reactive restoration of scattered HID fixtures reported as out.

The opportunity cost of waiting to respond to a report of a burnt-out HID, rather than replacing it proactively as part of a group conversion project, is therefore about $128 ($408 for the average reactive visit - $280 total cost for HID-LED conversions). Yet, the Company requires customers to pay significant CIAC *for the choice that saves the Company money*. Not only that, but servicing the HID under current rates perpetuates the steep HID rate subsidy I discussed earlier, and perpetuates the use of far more electricity than is necessary to light the street. This is a deeply troubling practice.

Q. How do you recommend the Commission address your concerns?

A. The Commission should order the Company to stop charging CIAC for HID-LED conversions. LEDs are today's standard lighting choice, and getting them should not require a special payment as if the light were decorative or experimental. Further, the choice to convert to LED causes no marginal cost compared to the alternative of servicing the existing LED – in fact, it probably costs less. As these customers are not causing a marginal cost, they should not be asked to pay a cost to have LED streetlights.

Q. Won't customers who have paid CIAC to get LEDs over the years want a credit when latecomers start getting no-cost LEDs?

A. While credits are a potential solution, they are not obviously necessary, provided that rates are simultaneously brought into alignment with cost of service, such that the customers realize the savings they were expecting. The delay on other communities

receiving LEDs will also mean communities that invested will be benefitted relative to those who did not make such an investment.

Next, I will argue that the cost of converting to LED should be even lower because the Company is spending too much on LED luminaires.

VI. THE COMMISSION SHOULD DISALLOW EXCESSIVE SPENDING ON LED LUMINAIRES THAT ARE TOO BRIGHT FOR WHERE THEY ARE INSTALLED

Q. How should DTE choose what luminaire to install in any given location?

A. It should choose a luminaire that meets the standards for roadway lighting published in ANSI/IES RP-8 relevant to the location where it will be installed. Chief among these standards is luminance, described simply as how much light is needed in that location. Major roads and intersections, in general, need more light, and residential streets need less light.

Q. Does DTE observe the standards of ANSI/IES RP-8?

A. Although it claims to, in practice it does not. In many cases its project designs explicitly do not meet the standards, and in other cases its lighting equipment and design choices err in their interpretation of the standards. In general, the result is excessive lighting, which is more costly than a properly-selected light, confers no appreciable benefit, and may actually be harmful to public safety, human health, habitat and environmental values.

Q. Can you describe how DTE's street lighting designs depart from ANSI/IES RP-8 standards?

A. Yes, I can. DTE prepares lighting designs for new installs and for lighting conversions

and relocations. Most of those designs are for lighting conversions instead of new roadway lighting, so I will discuss that scenario.

When DTE is asked to convert HID lights to LED, a rigorous design process would first determine how much light is needed in the target locations per ANSI/IES RP-8. Variables including the height, spacing and setback of poles, width and traffic volume of roadway, type of paving used, density of tree cover, location of sidewalk with respect to street, and more. But DTE does not routinely conduct this kind of assessment. Instead, DTE uses the incumbent lights as a proxy indicator in place of de novo site evaluation. For example, if DTE determines that a street is now illuminated by 100w HPS fixtures, it will make the simplifying assumption that it should install its default LED replacement, the 58w LED, without evaluating actual site factors.

Q. Why should DTE not follow the design of existing lights when converting to LEDs?

A. There are two problems with DTE's practice.

First, the Company assumes, without basis, that the current lights meet today's ANSI/IES RP-8 streetlight standard. Witness Bellini stated that, when replacing luminaires on pre-existing infrastructure, the Company does not evaluate whether the original lumen output of the incumbent luminaire complied with today's ANSI/IES RP-8 streetlight standard.[19] It is very unlikely that the pre-existing lights do comply, however, since most legacy streetlights were installed before the current standard even existed. Instead of properly evaluating the site, "The Company's approach for replacing luminaires on pre-existing infrastructure is to restore the incumbent luminaire to its original lumen output."[20] This

[19] See Exhibit MAU-16.
[20] *Id.*

approach complies with the RPS-8 standard only if the incumbent luminaire complies – and it probably doesn't.

Second, DTE misinterprets the ANSI/IES RP-8 standards as an absolute minimum level, when in fact the standard sets a minimum *average* level. Stated another way, DTE aims to install luminaires that will stay above the ANSI target values even when their light output diminishes up to 30% (known as the L70 value). But the correct interpretation of the standard is a light that will average the ANSI target value over its life, not a light that will hit the target value at the end of its life.

A hypothetical example illustrates the difference. Assume a location that the RP-8 standard specifies has a recommended target for maintained average luminance of 7 foot-candles. DTE's approach would result in installing a light that produces 10 foot-candles when new, and over time depreciates to 7 foot-candles before replacement. This approach would produce average luminance of 8.5 foot-candles over the life of the luminaire – not the 7-foot-candles that the standard actually calls for. The Company's misinterpretation would result in this example in an average maintained luminance 21% higher than the 7 foot-candle average maintained luminance set by the RP-8 standard.

Bellini states in direct testimony that DTE selects luminaires that "can achieve minimum roadway luminance and illuminance target values that complies with ANSI/IES RP-8 standards." (RAB 24:1-3).

Bellini himself states the standard is a "recommended target value for maintained average luminance."[21]

[21] See Exhibit MAU-17.

Q. Does the Company's primary LED manufacturer, Leotek, recommend a light that complies with the average lighting minimum, or one that complies with DTE's interpretation of an end of light minimum?

A. It recommends a light that complies with the average lighting minimum. In other words, Leotek recommends less bright light than what DTE selects.

Q. Should the Company follow the LED crossover recommendations if its primary LED manufacturer, Leotek?

A. Yes, it should.

Bellini says that Leotek's medium standard would result in DTE installing LEDs that put out significantly fewer lumens than the incumbent HIDs did when new.[22] He is correct – but this is a feature, not a bug, of LEDs. A big part of the value proposition of LEDs is that lighting performance can be maintained with fewer lumens. It's widely understood that LEDs require significantly less energy to produce lumens, but they are also much better at delivering those lumens on target. If they waste fewer produced lumens, they can produce fewer to begin with. LEDs lose fewer lumens within the fixture itself, lose fewer lumens going off-target to uplight, backlight and glare, and have much better controlled light distribution patterns than HIDs. LEDs also have superior Color Rendering Index to HPS lights in particular, meaning they can provide the same level of visual task support with fewer lumens. One should expect an LED to output significantly fewer lumens than the HID it replaces.

[22] *Id.*

Q. Does choosing higher-output LEDs than the RPS-8 standard and the manufacturer recommend result in excessive and unreasonable spending?

A. Yes, it does.

Remarkably, and possibly motivated by the flawed reasoning described above, DTE's proprietary crossover standards significantly exceed even Leotek's high standard. To replace a 100w HPS fixture, Leotek's medium replacement is the 30-watt LED, which would cost DTE $120.[23] DTE's choice for this conversion, though, is a 58w LED, costing $152.73 – a difference of $32.73.

To replace a 250w HPS, Leotek recommends its 89w LED, costing DTE $201.82. DTE, however, uses the 135w LED costing $283.64, a more than $80 difference.

These are significant cost differences, amplified even more when indirect and overhead costs are added to them. This overspending has a direct and significant impact on rates, and creates no benefit for customers.

Q. What should the Commission do about DTE's unreasonable spending on LED luminaires?

A. What the Commission should do is the same thing it would do if a utility built a power plant that had 20% greater capacity than needed, or an office building with 50% more space than it needed: it should disallow the unreasonable expense. The unreasonable expense, in this case, is what the Company earns on the excessive spending.

Q. How can you calculate how much DTE has overspent on LEDs?

[23] Bellini, Lighting Rate Model.

A. I can use witness Bellini's workpaper to find the difference in cost between the Leotek-recommended model and the LEDs that chose to install instead. My calculations are provided in my Exhibit MAU-18. I performed this translation only for LED models that the Company has deployed in significant numbers.

Using this approach, I find that DTE has overspent on unnecessarily bright LED luminaires in the amount of $5,835,192.

Q. Does this amount fully capture all unnecessary spending on LEDs that has been added to rate base over the years?

A. No, it does not. Capital expenditures also generate indirect and A&G expenses that are added to rate base. I have not attempted to estimate these add-on costs.

Q. How much does this overspend on LEDs increase DTE's required revenue?

A. At DTE's requested rate of return of 5.6986%, the amount overspent on LEDs would return $332,524 in the projected test year.

Q. What is your recommendation to the Commission to correct DTE's excessive spending on LED luminaires?

A. I recommend the Commission reduce DTE's required revenue for E1 streetlighting by $332,524.

VII. THE COMMISSION SHOULD DISALLOW DTE'S PROPOSED INCREASE IN STREETLIGHT O&M SPENDING

Q. How much is DTE proposing to increase streetlight O&M spending?

A. DTE proposes to spend $5,714,242 in the projected test year, up from $3,774,876 in

2022, a 51% increase (direct lighting O&M costs in account 596). There are additional unreasonable amounts in general O&M costs allocated to lighting.

Q. Should the Commission approve this increase in spending?

A. No, because it is unreasonable in several ways:

- The projected test period spending is projected using incorrect historical data.
- The O&M projection assumes growth of programs the Company says it actually plans to reduce.
- Allocation of O&M costs to streetlighting includes a substantial amount of uncollectible expenses, which streetlight customers did not cause and should not be required to pay.

Q. What erroneous data is used to support the test-year projected spending?

A. DTE Exhibit A-13, Schedule C5.6, line 23 shows projected Distribution O&M expenses based on historical spending.[24] Historical test period spending is shown as $5,206,000, supporting a projected test period amount of $5,714,000. However, in response to discovery, witness Bellini stated gave a different historical figure of $3,774,876.[25] When asked to explain the discrepancy, Bellini stated, "The table in MAUIDE-1.2 shows 2022 actuals, whereas the costs for 2022 in Exhibit A-13 Schedule C5.6 were based on projections at the time financials were established in the instant case."[26] Therefore, $3,774,876 is the correct historical figure that should serve as the basis for future projections.

Q. What changes in streetlighting preventative maintenance spending are projected?

[24] DTE Exhibit A13, Schedule C5.6.
[25] See Exhibit MAU-19.
[26] See Exhibit MAU-20.

A. In the historical test year (2021), preventative spending totaled $962,387. In 2022, that total fell to $664,562.27

In the projected test year, the Company proposes to increase preventative maintenance spending to $1,654,855.28

It seems unlikely the Company will successfully (after years of cuts), suddenly be able to execute a 40% increase in preventative maintenance spending. Given that DTE itself projected (when its direct testimony was prepared) that the Company would spend approximately $5.2M in total streetlighting in 2022, but had actually spent a little less than $3.8M when the books closed, it seems unreasonably ambitious. This is especially odd given that expensive categories of preventative maintenance are being discontinued.

Q. What changes in streetlight preventative maintenance programs does DTE plan?

A. In direct testimony, witness Bellini states that the Company intends to stop preventive re-lamping of HPS luminaires at the end of 2023 (RAB 15:23). Therefore, no relamping expense should be included in the projected test period.

Q. Does the projected test period include costs for the re-lamping program it said in testimony would be discontinued in that year?

A. Yes. The projected test period includes $167,191 for relamping. This amount should be disallowed entirely.

Q. Are there other costs related to LED washing practices that the Company can reasonably reduce?

A. Yes. In its order in case no. U-20836, the Commission disallowed 50% of DTE's

[27] See Exhibit MAU-21.
[28] See Exhibit MAU-19.

proposed spending on its LED washing program, holding that the Company had failed to demonstrate that a 5-year washing schedule was needed and that a 10-year schedule was more appropriate. Based on a 10-year washing schedule, LEDs that should be washed in the projected test period are those that were installed in 2014. However, all those LEDs have already been washed. Witness Bellini himself previously testified, "… LED luminaires originally installed from 2009 through 2013 were washed in 2018, LED luminaires originally installed in 2014 will be washed in 2019, LED luminaires installed in 2015 will be washed in 2020, and so on."[29] Similarly, Bellini said, "LED luminaires originally installed in 2016 will generally be washed in 2021, LED luminaires installed in 2017 will generally be washed in 2022, and so on."[30] Nevertheless, the Company now proposes to spend $384,427 in the projected test year on LED washing – more than double the amount spent in any previous year, and a figure that is consistent with the Company seeking reimbursement for a 5-year washing schedule instead of the 10-year cadence the Commission has found to be reasonable.

Thus, 100% of the LED washing expense -- $384,427 -- should be disallowed.

Q. Why is a 10-year schedule the right schedule?

A. As MAUI's testimony in U-20836 also discussed the comprehensive, peer-reviewed Illumination Engineering Society study indicated that almost all LED models need not be washed until at least ten years after they are installed. See Exhibit MAUI-XX.

The Company's position has been that its streetlights get dirtier than others, and need to be washed more often. As it stated in its brief in U-20836, "Plainly, an LED in Phoenix,

[29] See Exhibit MAU-22.
[30] See Exhibit MAU-23.

Arizona will be impacted differently from dirt depreciation than the same LED in the metro-Detroit area."[31]

Q. Do streetlights in Detroit get dirtier than those in Phoenix?

A. No. Dust storms are frequent in Phoenix – they happen one to three times a year – coating streetlights in dust.[32] Most of the inland western US experiences blinding dust storms periodically, which deposit grit on streetlights.

Q. What reasons did DTE cite for needing to wash more frequently than average?

A. DTE cited two factors: higher truck traffic and road salt splashes, specifically comparing Detroit to Phoenix.[33] Neither of these two factors is a reasonable hypothesis that would require Detroit's lights to be washed more thoroughly.

Q. Does Detroit have greater truck traffic than Phoenix specifically, or more than most of the rest of the country?

A. No. Michigan's urban traffic is made up of 5.6% truck traffic; only four states have fewer trucks in their urban traffic than Michigan. Nor is Arizona one of them: there, urban traffic is approximately 8.7% trucks.[34] Additionally, Michigan's vehicle miles travelled are not extraordinarily high or low when compared to other states – compare Arizona's 10,288 to Michigan's 8,757. Moreover, since Phoenix's metro area is actually larger by population than Detroit's,[35] so traffic volumes overall are likely to be larger. Truck traffic is therefore

[31] Ex MAUI-XX DTE Initial Br. U-20836 at 192-193.
[32] Ex. MAUI-XX (Maricopa County Emergency Management, *Are You Ready for Dust Storms?*, 2017. Available at https://www.maricopa.gov/DocumentCenter/View/32609/Dust-Storm-Brochure?bidId=).
[33] See Exhibit MAU-24.
[34] See Exhibit MAU-25.
[35] U.S. Census data places the population of the Phoenix-Mesa-Chandler metro area in 2020 at 4,860,338; the population of the Detroit-Warren-Dearborn metro area in 2020 was reported to be 4,317,384.

not higher in Detroit than the national average, so that is not a reason to wash our streetlights more often than the expert-recommended level.

Q. Please summarize your recommendations for streetlight preventive maintenance in the projected test period.

A. The Commission should authorize the following projected test-year spending:

Activity	Amount
Group relamping	$0
Post Inspection/Painting	$718,810
LED washing	$0
Night Patrol	$384,427
Total	$1,103,237

Q. Do you have any other concerns about projected streetlight direct O&M spending in account 596?

A. Yes, I do. Staffing levels and costs are projected to almost double from the historic test year to the projected test period. This increase is not warranted by any program plans or growth.

The five-year (2018-2022) average spending on Supervisory & Administration was $1,228,584,[36] with no consistent trend from beginning to end of the five years. Projected test period spending is $2.608,165 – more than double the five-year average.

Witness Bellini attributes the increase in spending on staff to:

1) New hires for unfilled positions

[36] See Exhibit MAU-26.

2) Inflation impacting various costs including employee salaries

3) Increase in administrative costs [37]

These factors do not nearly explain or justify doubling staff costs compared to the historical averages. While many organizations are increasing staff post-pandemic, an annual increase of greater than 10% is likely unrealistic and unjustified by any plans that witness Bellini has described. I recommend the Commission approve total spending on Supervisory and Administration staff in the projected test period of $1,279,807, figured as a 10% increase on the 2022 total of $1,163,461.

Q. Do you have any concerns about O&M costs allocated to lighting?

A. Yes, I do. Uncollectible costs are now being allocated to all rate schedules according to revenue, as a result of the Commission's order in U-20836. I argue that allocating uncollectibles to a rate class that has created less than $400 in uncollectibles in three years is unjust.

DTE's streetlight customers pay their bills. The precise sum total of uncollectibles attributed to DTE's E1 streetlight customers from 2017-2020 was $388.[38]

In case no. U-20940, the Commission held: "The question of whether to pay–or not to pay–the utility bill rests with the individual customer, not the class in which that customer is situated."[39] This statement is not correct with regard to local units of government, who as a class do not have latitude to decide not to pay a utility bill. Indeed, DTE confirmed that it is unaware of any municipal bankruptcy or any other legal

[37] See Exhibit MAU-27.
[38] See Exhibit MAU-28.
[39] Case No. U-20940, December 9, 2021 Order, p. 189-190.

proceeding since 1997 that has relieved any of its municipal streetlighting customers of the obligation to pay in full an accurate and valid streetlighting bill.

Considering the legal status of local units of government, the vital public service they provide with streetlighting, and the confirming fact that streetlight customers generate effectively zero uncollectibles, I argue that the reasoning behind the Commission's order to allocate uncollectibles according to revenue should not apply to streetlighting. Instead, this forces streetlighting customers to pay a large increase that is unrelated to their cost of service that cannot reasonably be applied to municipal streetlighting customers. Accordingly, I recommend that the Commission disallow allocation of $651,000 to E1 streetlighting, and order that amount be re-allocated among other rate classes according to revenue.

Q. Please summarize your recommendations to the Commission regarding streetlight O&M expenses.

A. The Commission should disallow all projected test-period spending on relamping and LED washing. It should sharply reduce the Company's proposed increase in Supervisory and Administration staff. The Commission should approve the following amounts:

Description	Projected test year spending
Preventative maintenance	$1,103,237
Supervisory & Administration	$1,279,807
Outage Restoration	$1,451,222
Total approved	$3,834,266
Total proposed	$5,714,232

Total disallowed	$1,879,966

Additionally, the Commission should disallow allocation of uncollectible expense to the streetlighting class, in the amount of $651,000.A.

VIII. THE COMMISSION SHOULD ORDER REPORTING AND FINANCIAL MEASURES TO CREATE GREATER ACCOUNTABILITY FOR QUALITY OF STREETLIGHT SERVICE AND FAIRNESS TO CUSTOMERS

Q. How does DTE avoid accountability for reliability of its streetlight services?

A. DTE has the only comprehensive information about streetlight outage frequency and duration experienced by its customers, but with only one exception (City of Ann Arbor) it declines to share that information with customers.

DTE avoids financial accountability for its reliability performance in two ways. First, it includes in rates the cost of electricity it knows its streetlights are not using during outages. Second, it continues to charge customers full cost for streetlights they know are not working, often at length.

Q. Why is customer-specific information about streetlight outages important?

A. Local units of government are accountable to the communities they serve to provide a high level of service. They cannot deliver high-quality lighting services when they have no comprehensive and reliable information about the performance of their lights. Because DTE declines to share customer-specific outage statistics with every customer except Ann Arbor, customers have no way – short of regular, time consuming visual inspections – to know if they are receiving the service they are paying for. Such a drastic step should be wholly unnecessary because DTE has all the information that customers need.

If customers received regular, reliable data about their streetlight reliability, they could hold DTE accountable for its performance. They could work with DTE to facilitate maintenance such as tree trimming or reliability investments such as LED conversions. As matters stand now, customers are literally and figuratively in the dark.

Q. Isn't it enough that DTE reports system-wide outage and restoration data in its rate case filings?

A. No, it is not. Providing system-wide outage data to a customer as a proxy for their specific outage performance data is no more meaningful than telling a residential customer that they can reliably judge reliability of their own service by reference to DTE's overall reliability metrics. Similarly, Exhibit A25, Schedules O1 and O2 are useful for an overall ratemaking proceeding but tell us nothing about DTE's reliability performance serving specific customers.

One might hypothesize that with such a large population of streetlights, reliability performance would be reasonably consistent from place to place. If that were the case, customers could judge quality of their service by reference to Exhibit A25, and there would be no need to award individual outage credits because they could be included equitably in rates. However, it is far from the case that outage rates are consistent across DTE's service territory.

Q. How much do streetlight outage events vary in frequency across DTE's service territory?

A. Night patrol data for 2022 showed enormous variation in outage rates among customers. Night patrol provides a robust measure of reliability because the patrols inspect a large sample of lights, and in some cases the entire population of lights in a community, The

lowest outage rate found for a customer was 0% and the highest was 35%.[40]. One might suspect that communities with high night patrol outage rates are small and that their small sample of lights is not statistically representative. While several of the communities with the highest outage rates were, in fact, very small, larger communities were also present at the top of the list. For example, one community with 2,536 lights was found to have a 12.5% outage rate by night patrol. This number is deeply concerning and strongly suggests that the surveillance and reporting methods the Company is employing are ineffective. For my immediate purpose here, though, these outliers demonstrate why customer-specific reporting of outage rates and durations is a must. These results also tell us that customers who are paying the same rates are receiving wildly varying reliability of service. Further, as I will explain below, customers almost never see their bills reduced when their lights are out. Customers who are experiencing 30% outage rates should not be paying the same as customers with outage rates close to 0%.

Q. Do community-specific outage data support the suggestion that some local units of government bear substantial responsibility for their high outage rates?

A. No, there is no support for this suggestion in the outage data.

This idea was raised in rebuttal by DTE in case no. U-20836. In that docket, witness Raymond Hess from the City of Ann Arbor filed testimony analyzing monthly, in-depth outage reports from DTE to show that close tracking of outages reveals much higher outage rates than DTE's system-wide reporting admits to.[41] The updated numbers for Ann Arbor

[40] See Exhibit MAU-29.
[41] See Exhibit MAU-30,at 8..

that include data for 2022 confirm this remains true. Ann Arbor is the only customer for which this data is compiled.

I compiled the periodic outage reports that DTE provides to Ann Arbor to cover all of 2022.[42] I found that DTE reported 700 "standard" events impacting 915 lights and 102 "follow-up" events impacting 390 lights that were closed in 2022, for a total of 1,305 lights with reported problems in 2022. Ann Arbor has 5,288 E1 streetlights.[43] This means that about one in four Ann Arbor streetlights experienced a reported outage in 2022, disregarding that some lights may have experienced multiple, unique outages. Bear in mind that these outages do not include those identified and repaired by DTE's night patrol program, which found another 485 outages in 2022 (discussed below).

Would we expect Ann Arbor's observed outage rate to be a reasonably proxy for DTE's entire system? 2021 and 2022 night patrol data for a selection of MI-MAUI member communities indicates it would be.[44] In 2021, Ann Arbor had a 2.15% outage rate during night patrol, which was well below average among the eight customers shown, which vary considerably in location, size and socioeconomic profile. In 2022, Ann Arbor had 5.25% and 4.01% outage rates in two separate night patrol sweeps, slightly above average for the communities sampled but hardly an outlier. In sum, there is no evidence in the data to suggest that Ann Arbor has an unrepresentative outage rate or that Ann Arbor is partly to blame for having a high outage rate.

Q. Do the night patrol data show a wide variation in customer streetlight outage experience?

[42] Exhibit MAU-31.
[43] Exhibit MAU-32.
[44] Exhibit MAUI-32.

A. Yes. They range from an outage rate that is essentially non-existent to a rate of : 17.8% in 2021 and 12.6% in 2022 for the Washtenaw County Road Commission's lights. WCRC does not manage many lights, and many of them are at interchanges and roundabouts outside of city limits. It is of great concern if one in six (or more recently one in eight) lights at these locations are not working, because cars approach these locations at high speeds. Thus, some streetlighting customers experience much worse reliability than others. This also points to the particular value of night patrol for streetlights that are in high-traffic (and low-residential) locations, where reporting by citizens is the least likely to occur but the lighting may provide particular public safety value.

Q. Has MI-MAUI raised this concern in previous proceedings?.

A. Yes, we have. In case no. U-20836, MAUI requested that the Commission require DTE to amend its streetlighting tariffs to require regular reporting of outage data. The Commission did not adopt this recommendation, stating that "…MI-MAUI/Ann Arbor fail to provide any specific language or revisions to the current tariffs or clearly explain their request."[45] I remedy that shortcoming below.

Q. Did DTE support MAUI/Ann Arbor's advocacy for streetlight data disclosures in U-20836?

A. No, DTE opposed our recommendations, citing three grounds.

First, DTE claimed that outage reporting is unnecessary because it is based on the premise that all streetlight outages are the result of failed company equipment or unreasonably long repair times.[46] This objection may have relevance in the discussion about outage credits to

[45] Case no. U-20836, final order p. 417.
[46] Case no, U-20836, final order p. 416.

follow, but it is not relevant to a discussion about outage reporting. Customers need to know about outages whether or not they are caused by failed company equipment or long repair times; in fact, it may be more important for customers to know about outages outside of the Company's control so they can do something about it themselves. Further, customers are just as interested in outage frequency as outage duration; MAUI/Ann Arbor made, and make, no assertion that all streetlight outages are the result of unreasonably long repair times.

Second, DTE claimed that creating data reports for each customer would be unreasonably burdensome.[47] This assertion was supported by no description of why the process would be burdensome to the Company, or if it were so why that burden would be unreasonable balanced against customers' legitimate interest in tracking reliability of the service they pay for. It is a curious assertion, however, because we know that DTE receives most outage reports electronically, complete with location data, and clearly the dispatch system they use to send crews to repair lights knows where those lights are. MI-MAUI, Ann Arbor and other MAUI members are prepared to work with the Company to create an agreed protocol to specify standard format, content and frequency of reporting. Outage reporting need not require the Company to provide randomly varying information at randomly varying times subject only to the curiosity and wandering attention of customers.

Finally, DTE also averred that reporting specific outage data to individual customers is unnecessary because DTE is already transparent in its system-wide community lighting performance metrics. I have already addressed this claim, above, and shown by logic and

[47] Case no, U-20836, final order, p. 416.

actual evidence why system-wide metrics are not useful indicators of community-specific reliability performance.

Q. Are you prepared to provide specific language or revisions to the current tariffs, responsive to the Commission's order in case no. U-20836?

A. Yes, I am. I recommend that the Commission order DTE to amend its E1 tariff with the following language: "Any E1 streetlight customer may request to receive from the Company a calendar-year report, to be delivered by the Company on or before February 28 of the following year, providing, at a minimum, streetlight outage occurrence counts, average outage durations and counts of outages lasting longer than 14 days, covering all E1 streetlights served under all of the customer's accounts. Customers with more than 5,000 E1 streetlights may request to receive quarterly reports containing the same information, to be delivered by the Company within two months of the end of each calendar quarter."

By specifying the timing of reports and standard content, my intent is to reduce reporting burden on DTE.

The Commission in its order should make clear that DTE must include outages discovered by night patrol in its reports. Regardless of who identifies and reports the problem, these are instances where a light is not working, and the customer has the right to know about it. It may be appropriate for DTE to break out night patrol outages in a separate section of the report, so that its efforts to discover and quickly address outages become known to the customer.

Because there are various other details to work out, I also recommend that the Commission order the Company to collaborate with Staff, MI-MAUI and other interested intervenors to

recommend an agreed outage report request process for customers, standardized report format, data protocols and delivery method.

Q. Why are streetlight outage credits important to customers?

A. Nobody wants to pay for something they don't receive. Local units of governments are financially accountable to the communities they serve to ensure the public tax dollars they collect are used judiciously and effectively. Streetlights are one of few – if not the only – class of customers that does not receive automatic outage credits.

Without outage credits, there can be no effective accountability for DTE's streetlight reliability performance. This observation is made readily apparent by the lack of progress reducing outage events, and the persistently long average duration of those events, that I discussed above. In the absence of outage credits, streetlight customers are not receiving the same level of protection all other customers receive under the Service Quality and Reliability rules. The Commission should act to remedy this situation.

Q. Why does DTE oppose payment of streetlight outage credits?

A. As I noted above, in case no. U-20836, DTE argued that the case for streetlight outage credits is based on the premise that all streetlight outages are the result of failed company equipment or unreasonably long repair times. Ann Arbor and MAUI advocated in U-20836 for outage credits that start tolling as soon as an outage is identified and continue until it is resolved. This may have left room to form the impression that we are insensible to the Company's varying level of responsibility for outage occurrences and lengths. This is not the case.

MAUI's view is that customers should not pay for services they do not receive, which is what an outage represents. Granting of outage credits is an inescapable consequence of

recognizing that principle. That is not the same, however, as saying that the Company should never be able to recover credits it pays out. Recovery of outage credits is a topic that can be adapted for streetlights.

Q. How should outage credits for streetlights differ from the credits approach for metered services that was developed in case no. U-20836?

A. The central difficulty with managing outage credits for streetlights is that the great majority of them are not metered. It's hard to know when an outage started and how much time passed before the problem was identified and reported. The premise that outage credits should start tolling only after a certain amount of time has passed after initial report is, therefore, problematic for streetlights.

Another key difference between streetlights and metered services is that most streetlight outages are caused by problems with utility-owned equipment, most often the luminaire or the lamp within it. By comparison, residential outages are more likely to be caused by trees falling on the lines.

A reasonable approach, then, for streetlight outages is to start them tolling 24 hours after the outage is first reported, regardless of whether that report comes from a DTE employee or a member of the public. Although the light may well have been out longer than a day already when it is first reported, this 24-hour delay in tolling gives the Company an opportunity to mobilize quickly, restore service and avoid paying a credit. The grace period also reduces granting of credits for erroneous reports, where the light is working when the crew arrives. This approach also has merit in light of recognition that most streetlight outages are caused by equipment problems within DTE's control, making a long grace period for restoration less justifiable. Quicker tolling provides DTE with a stronger

incentive to perform preventive maintenance, purchase robust and reliable equipment and configure installations with reliability in mind.

An exception to credits that is reasonable is a barring of credits for outages that are attributable to the customer – for instance, if the customer damages DTE's underground infrastructure or if the customer fails to meet contractual obligations for supply of specialty lights. Such instances can be noted during the investigation process for damage or in the notes regarding the reason for the outage

Q. Should DTE generally be allowed to recover in rates the costs of some bill credit costs?

A. Yes. As a general rule, DTE should be allowed to recover credits paid for outages with root causes beyond its direct control. DTE crews can record root causes as they do the work. These causes can be compiled periodically, and DTE can apply periodically to recover credits related to certain kinds of causes as part of required revenue. An illustrative breakdown of outage root causes provided by DTE is attached here as Exhibit 33.

Q. Are there times when DTE should not be allowed to recover bill credits for outages with root causes beyond its control?

A. Yes. Such credits should be recoverable as part of rates only if the Company responds in a reasonable period of time. Even when an outage has been caused by something beyond the Company's direct control, DTE is still ultimately responsible for restoring service and it should have an incentive to work quickly. Because these events are numerous, however, it is impractical to judge them on a case-by-case basis, and the utility will have a clear interest in determining nearly all outages to be attributable to causes beyond its control. My recommendation is that DTE should be allowed recovery for credits related to outages with root causes that are not equipment-based for up to 14 days after the initial report.

Beyond 14 days, no recovery of bill credits should be assumed, but DTE should be able to file an annual report detailing longer-duration outages for which it believes recovery of credits is appropriate.

Q. Please summarize your recommendations for streetlight bill credits.

A. Customers are to receive bill credits for the full tariff rate of a fixture, that start tolling 24 hours after first report to the Company, including night patrol reports, and continue until restoration is achieved. Credits need not be applied in real time; rather, they should be applied to the customer's account after the outage has been resolved, so that the full amount of the credit can be entered in one transaction. The Company can recover bill credits related to outages with root causes beyond its direct control for the first 14 days after the outage is reported, and may annually apply to recover bill credits for long-duration outages for which it can present evidence that it was not responsible for the delay in restoration.

Q. How does DTE overcharge streetlighting customers for electricity?

A. The electric sales forecast is based on a calculation that assumes all streetlights are always working, instead of recognizing that streetlights will experience outages. DTE's electric sales forecast assumes that streetlights consume electricity for a full 4,200 hours per year, with a small number of exceptions for dusk-to-midnight service. We know that's wrong because streetlights use no, or very little, energy during an outage. If the amount of time that streetlights are not working, and not consuming electricity, can be determined with any accuracy, that determination should be used to reduce the electric sales forecast for streetlights. To do otherwise charges streetlight customers for electricity they do not use.

Q. Few streetlights are metered, so how can we determine with any accuracy what percentage of the time they are not working?

A. We can use night patrol results. Because night patrol surveys a high percentage of DTE's streetlight fleet each year, its data can give us an excellent approximation for how often streetlights are not using electricity.

Q. What were the most recent system-wide results for night patrol?

A. In 2022, night patrol inspection of 136,186 streetlights found an average of 3.6% not working on any given night.[48]

Q. Does that mean the streetlight electric sales forecast should be reduced by 3.6%?

A. No. While LED fixtures use no electricity when they are out of commission, HID fixtures have a ballast that continues to use a small amount of energy even if the lamp is burnt out. If the HID luminaire itself has failed, or the wiring or transformer has failed and is delivering no electricity to the fixture, then HID electricity use is zero. However, because the most common cause of an HID outage is lamp failure, it is simplest to assume that a small amount of energy use continues during any HID outage.

Q. Have you been able to determine how much energy is used by HID ballasts in DTE's system?

A. Yes, I have. Witness Bellini's Lighting Forecast workpaper shows HID energy use with and without the ballasts. I copied the relevant data into a new workbook, attached here as my Exhibit XX.[49] First, I calculated how much energy all the ballasts use in a year, assuming they use energy even during outages. Next, I calculated how much energy all the lamps use in a year, reduced by the amount of time they are not using energy because of outages (using the night patrol outage figure for 2022). From there I could easily calculate

[48] U-21297 MAUIDE-1.19 Night Patrol Results
[49] U-21297 MAUI Bunch streetlight electric sales forecast reduction for outages

the kWh/year that should be subtracted from the current electric sales forecast to arrive at a more accurate usage figure that accounts for known outages. All my calculations show at the bottom of the worksheet I created.

Q. By how much should the Commission order DTE to reduce the electric sales forecast to account for known reductions in electric usage during streetlight outages?

A. I recommend that the Commission order DTE to reduce the electric sales forecast for streetlights for the projected test year by 4,508,803 kWh, or approximately 3.25%, and to reduce the revenue requirement for streetlights accordingly.

Q. Should the reduction in kWh used by streetlights be re-allocated to other rate classes?

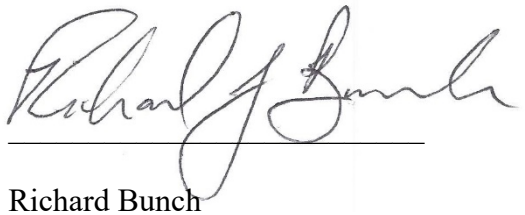
A. No. Nobody is using this energy and therefore nobody should be charged for it.

Q. Does the complete your direct testimony?

A. Yes, it does, though I reserve the right to supplement it if additional discovery is provided.

Q. Do you swear under penalty of perjury that the statements above are true to the best of your knowledge, information and belief?

A. Yes.



Richard Bunch