

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission’s own motion,	)	
to open a docket for certain regulated electric	)	
utilities to file their distribution investment and	)	
maintenance plans and for other related,	)	Case No. U-20147
uncontested matters.	)	
_____	)	

COMMENTS OF THE
MICHIGAN ENERGY INNOVATION BUSINESS COUNCIL
AND
ADVANCED ENERGY UNITED

Introduction

On September 29, 2023, DTE Electric (“DTE” or “Company”) filed with the Michigan Public Service Commission (“Commission”) in Case No. U-20147 its 2023 Distribution Grid Plan (“Plan”) for the 2024-2028 planning period. Pursuant to an October 24, 2023 Order, the Commission established a schedule for submitting initial comments and reply comments concerning the Plan. The Michigan Energy Innovation Business Council (“Michigan EIBC”)¹ and Advanced Energy United (“United”; collectively “Michigan EIBC/United”)² appreciate the

¹ The Michigan Energy Innovation Business Council is a trade organization tasked with growing Michigan’s advanced energy economy by fostering opportunities for innovation and business growth and offering a unified voice in creating a business-friendly environment for the advanced energy industry in Michigan.

² Advanced Energy United is a national business association representing leading companies in the advanced energy industry. United supports a broad portfolio of technologies, products, and services that enhance U.S. competitiveness and economic growth through an efficient, high-performing energy system that is clean, secure, and affordable.

opportunity to provide comments on the Company's Plan as well as the Commission's and Staff's continued interest in planning for the future of the grid.

Michigan EIBC/United are pleased to see that DTE includes "clean," "affordable," and "reliable" among its planning objectives.³ Poor reliability is an especially significant issue in Michigan that the Commission and stakeholders have been working to address in several dockets and workshops. Moreover, working to ensure a clean, affordable, and reliable grid is critical to meeting Michigan's energy policy goals, including achieving 100% clean energy by 2040.⁴ Michigan EIBC/United are also glad to see that the Company recognizes that "investment in the grid is critical to meet the changing needs of customers, including adoption of electric vehicles ("EVs"), distributed generation ("DG"), and the evolving ways in which customers are interacting with the grid."⁵ Responsibly directing investment to prioritize customer preferences and benefits will not only strengthen the grid, but also help customers reduce energy expenses and improve overall public well-being. This includes enabling third party-owned distributed energy resources ("DERs"), facilitating access to EVs, and making it easier to use other advanced energy technologies. Michigan EIBC/United also appreciate the Company's concern with environmental justice issues throughout its territory⁶ and pursuit of federal grant dollars.⁷ Making sure that changes made under this Plan are equitable and fairly distributed ensures that everyone can benefit from both the

³ Michigan Public Service Commission, DTE Electric's 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 17.

⁴ 2023 PA 235.

⁵ Michigan Public Service Commission, DTE Electric's 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 6.

⁶ *Id.*, p. 165-174.

⁷ Grid Deployment Office, Increasing Real-Time Response Via Adaptive Networked Microgrids, United States Department of Energy, October 2023, available at https://www.energy.gov/sites/default/files/2023-11/DOE_GRIP_2076_DTE%20Electric%20Corp_v4_RELEASE_508.pdf.

economic and environmental impacts of an improved distribution system. Finally, as Michigan leads the Midwest in clean energy jobs,⁸ it is expected that grid modernization will continue to support this trend across the state, including in the Company's territory.

Comments

Overall Comments

First and foremost, given that DTE submitted its Plan to the Commission on September 29, 2023, it is clear that the Plan was drafted prior to and without the benefit of the new Clean Energy and Climate Action Package signed by Governor Whitmer on November 28, 2023, which became effective on February 27, 2024. The legislation includes a number of crucial changes, as detailed below, including an overarching requirement that Michigan's utilities meet at least 50% of their generation needs using renewable energy by 2030 and 100% of their generation needs using clean energy by 2040.⁹ Because these new laws represent a significant change in state energy policy that will impact all aspects of the utility's distribution and generation systems, Michigan EIBC/United recommend that the Commission ask DTE to review its previous submission and update it per the new legislation and its new standards. Particularly, it is important that DTE ensure that any changes related to the new legislation are reflected in the Company's modeling and cost projections. There is no reason to wait until future distribution planning cycles to make these updates and, in fact, there may be lost opportunities if changes are not made to this Plan.

More specifically, there are several provisions in the new statute that may require updates to the Plan. For example, provisions in Public Act ("PA") 235 raise the soft cap on each utility's DG

⁸ Clean Jobs Midwest, 2023 Report, available at <https://www.cleanjobsmidwest.com/state/michigan>.

⁹ 2023 PA 235.

program from 1% to 10% of peak load.¹⁰ The increase in each utility's DG program cap will enable more customers to connect their rooftop solar systems. Therefore, it is essential DTE ensures that its modeling includes expectations for greater deployment of rooftop solar in the coming years. Additionally, PA 235 requires the state's utilities to procure 2,500 MW of utility-scale energy storage capacity by 2030.¹¹ Some of this storage might be distribution-connected and, as such, DTE should consider whether and how this additional storage may increase the flexibility and resiliency of its system. Separately, PA 229 increases the energy waste reduction standards for electricity to a minimum of 1.5% annually (with incentives maximized at 2.17%).¹² It would be useful for the Company to update the Plan to reflect these new energy efficiency standards and ensure that the utility is best able to take advantage of energy efficiency resources. Finally, PA 229 allows utilities to implement building electrification plans that enable the switching from gas to electric heating and appliances.¹³ It would be beneficial for DTE to begin, through the distribution system planning process, to consider increased electrification of the built environment and the impacts that may have on the distribution system.

An additional reason to direct the Company to update and resubmit its Plan stems from its recent receipt of a \$22.9 million grant under the U.S. Department of Energy ("DOE") Grid Resilience and Innovation Partnerships ("GRIP") Program.¹⁴ DTE even alludes to this need for an update reflecting new GRIP program dollars in the Plan, stating "(a)s of mid-September 2023, DTE has

¹⁰ *Id.*

¹¹ *Id.*

¹² 2023 PA 229.

¹³ *Id.*

¹⁴ Grid Deployment Office, Increasing Real-Time Response Via Adaptive Networked Microgrids, United States Department of Energy, October 2023, available at https://www.energy.gov/sites/default/files/2023-11/DOE_GRIP_2076_DTE%20Electric%20Corp_v4_RELEASE_508.pdf.

yet to be notified on the award of the grant.”¹⁵ The DOE Grid Deployment Office announced the award in October 2023, after the Company’s submission of the Plan to the Commission. According to the DOE, the funded projects “will lay the foundation for developing a 100% renewable adaptive networked microgrid...” to incorporate renewable energy and improve reliability with increased demand.¹⁶ DTE’s cost share associated with the grant amounts to just over \$22.9 million.¹⁷ Because it appears that work under the GRIP Program grant overlaps with the work outlined in the Plan, it would be useful to see in an updated plan identifying specifically where the federal dollars (and the Company’s matching funds) will be spent and why. Such information would also be beneficial to future rate cases and other proceedings to ensure that these federal dollars are being spent on the most effective and future-looking programs and policies to keep the grid reliable, clean, and affordable for the Company’s ratepayers.

If the Commission is not inclined to direct the Company to update and resubmit its Plan, Michigan EIBC/United offer several comments on the Plan as filed. As a prefatory matter, Michigan EIBC/United note that in its 2022 Integrated Resource Plan (“IRP”) settlement, the Company agreed to a decrease in the use of coal plants, to bring additional energy storage onto the grid, and to work with customers to use energy more efficiently.¹⁸ The Company has also publicly committed to achieving net zero carbon emissions by 2050.¹⁹ A properly designed and

¹⁵ Michigan Public Service Commission, DTE Electric’s 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 196.

¹⁶ Grid Deployment Office, Increasing Real-Time Response Via Adaptive Networked Microgrids, United States Department of Energy, October 2023, available at https://www.energy.gov/sites/default/files/2023-11/DOE_GRIP_2076_DTE%20Electric%20Corp_v4_RELEASE_508.pdf.

¹⁷ *Id.*

¹⁸ Michigan Public Service Commission, Order Approving Settlement. Case No. U-21193, available at <https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/0688y000008puPjAAI>, p. 3-4, 7, 14.

¹⁹ “DTE Energy - Net Zero Carbon Emissions by 2050.” *DTECleanEnergy.Com*, DTE Electric, available at <https://dtecleanenergy.com/downloads/DTE%20Pathway%20to%20Net%20Zero.pdf/>.

implemented distribution system plan will be a critical component to meeting these commitments as well as satisfying the aforementioned new statutory obligations.

While supportive of the need for increased grid reliability and resiliency among Michigan's electric utilities, Michigan EIBC/United encourage the Commission to consider any electric distribution infrastructure plan in the context of establishing policies and practices that target new and novel ways of improving reliability and resiliency, such as supporting customer or third party-owned DERs, microgrids, and non-wires alternatives ("NWAs"). For example, DTE proposes to spend approximately \$25 billion to convert portions of its electric grid from 4.8 kV to 13.2 kV.²⁰ This investment could support increased automation, hosting capacity, and grid modernization, but it is not clear from the Plan specifically how DTE plans to ensure that these investments will drive grid modernization and increased deployment of DERs, demand response, microgrids, and NWAs. Additionally, wherever the Commission considers any kind of incentive or disincentive, it should take into account whether a utility is providing additional benefits to customers and developing innovative programs that it would otherwise lack financial motivation to provide. Therefore, Michigan EIBC/United propose that the Commission keep this focus on innovation in mind when evaluating DTE's Plan and its proposed programs in future dockets.

Grid Reliability Plan vs. Distribution System Plan

As currently filed, the Plan does not reflect the full intended scope of distribution system planning. Under its Plan, the Company states that it will increase reliability and resilience during extreme weather, accelerate response to customer outages, and increase grid capacity that accommodates

²⁰ Michigan Public Service Commission, DTE Electric's 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 114.

the changing current and future energy needs of all customers.²¹ Unfortunately, the Plan fails to truly account for or request the changes to make these intentions a reality. DTE fails to consider that a modernized grid will invite new marketplace participants and actively encourage adoption of DERs, EVs, and other advanced technologies for the benefits that they will bring to the grid and customers. DTE's failure to cast a broad net will be a loss for Michigan, as advanced energy and transportation technologies can lead to benefits for its economy, ratepayers, and job market for years to come. If the Commission declines to require the Company to submit a more complete distribution system plan, it should recognize that the Plan is limited in scope to short-term reliability, limited technological growth, and is insufficient as a distribution system plan as contemplated by Commission precedent²² and MI Power Grid's aim to "maximize the benefits of the transition to clean, distributed energy resources for Michigan residents and businesses."²³

DERMS

Michigan EIBC/United acknowledge that increased deployment of DERs and the evolving role of the customer may benefit from the use of DER Management System ("DERMS") technologies. With regard to DERMS, the Plan states: "These fundamental changes in customer capabilities form the basis for investment in DERMS (Distributed Energy Resource Management System) and enhancements to the ADMS, as the system used to manage the distribution grid, and to support coordination with DER."²⁴ As stated previously, Michigan EIBC/United are not opposed to the

²¹ *Id.*, p. 6-7.

²² *See, e.g.*, Michigan Public Service Commission, Docket No. U-20147, Order dated August 20, 2020, pp. 37-38. *See also* Michigan Public Service Commission, Docket Nos. U-17990 and U-18014, Order dated October 11, 2017, p. 17.

²³ *See* Michigan Public Service Commission, MI Power Grid, available at <https://www.michigan.gov/mpsc/commission/workgroups/mi-power-grid>.

²⁴ Michigan Public Service Commission, DTE Electric's 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 145.

Company investing in DERMS technologies, as long as such investments are necessary and supported. In general rate case dockets, the Commission has made it clear that to justify spending on DERMS, the Company must fully explain how investments in a DERMS program would benefit reliability, how a DERMS would be integrated into existing distribution automation systems, and how a DERMS would be sequenced with other technologies and utilized to benefit customers.

Prior to making investments in a DERMS, it is important for the Company to first consider the business case for establishing such a DERMS and whether or not a less extensive deployment or use of third-party vendors may be able to provide some or all of the needed functionality and DER management services that the Company seeks. Additionally, any investment in DERMS must accommodate third-party participation and move beyond mere coordination of utility-owned DERs. According to the Plan: “The initial deployment of DERMs will be to integrate all Company owned DER that is not connected through SCADA as well as all existing DR programs and systems such as Interruptible air conditioning and heating to the ADMS. Once these integrations are done, major third-party integrations will be prioritized depending on the implementation of market aggregators, FERC2222, or tariff programs.”²⁵

Michigan EIBC/United further assert that any investment in DERMS must be leveraged to improve and expedite the interconnection process for DERs. The Company states: “In the next few years, as Interconnections become more common, work will be undertaken to merge the new service, method of service, and interconnection process into a single workflow. This transition will occur

²⁵ *Id.*, pp. 240-241.

over several years in multiple steps and all of the investments for this transition have not been completely quantified, however, it is likely that much of the work done on interconnection processing will be used to enhance new service processing.”²⁶ Michigan EIBC/United recognize the need for the Company to integrate data from advanced metering infrastructure (“AMI”), GIS, customer information systems, interconnection, power-flow models, and SCADA, in order to see the complete picture of the network and the impact of incoming DERs. The Company should work expeditiously to pursue this transition and enable the safe and timely interconnection of DERs. Any request for cost recovery of DERMS investments should include a clear timeline indicating when DTE expects such integration efforts to occur, including those not involving utility-owned assets, and a good faith commitment to abide by that timeline. Given capabilities and cost of DERMS technologies, any investment must be more than just a means for DTE to manage Company-owned DERs and must expediently integrate and utilize third-party assets.

Hosting Capacity Data

Improving access to system data will be key to enabling a future grid with high levels of DER deployment and more electrified energy end uses in a cost effective and equitable manner. Michigan EIBC/United strongly aver that the timely sharing of adequate data is necessary to efficiently and quickly deploy DERs, and that such sharing can be done securely without risk to customers or the utility. Hosting capacity data should be required to be updated more frequently than once a year to accommodate the growing DER market. For a hosting capacity or load carrying capacity analysis to provide the most benefit, it must be updated whenever major changes occur

²⁶ *Id.*, pp. 248.

on a circuit.²⁷ Additionally, the Company should be required to provide a more detailed timeline for “other public facing enhancements.”²⁸ The Plan states: “The loading capacity map will be updated once a year based on the annual planning cycle. Internal enhancements to streamline the update process and incorporate specific study data will be ongoing. Enhancements to the hosting capacity and loading capacity maps to increase frequency of updates and increase detail of data will be directly dependent on completion of the ADPS scope. There is currently no specific timeline for public facing enhancements.”²⁹ Overall, the Company must ensure that the provided data is accurate and as current as possible, and should be required to provide a more specific and urgent timeline for the completion of public facing enhancements.

There are examples of utilities in other states that are able to provide updates to public hosting capacity and load carrying capacity maps on a more frequent basis. For example, Pepco Holdings, an Exelon Company, generates a report on a monthly basis that shows those feeders that require updated hosting capacity information due to a change of 500 kW or more in generation on that feeder.³⁰ Additionally, Commonwealth Edison in Illinois provides updates to its hosting capacity data on a quarterly basis. As stated by the utility’s director of engineering strategy in recent testimony: “In response to the feedback that we have received from our stakeholders, ComEd plans to transition to quarterly map updates by the end of 2023. This transition will allow our customers

²⁷ Steve Steffel, Pepco Holdings - an Exelon Company, “Hosting Capacity – Lessons Learned” (November 2018), presented at NARUC Annual Meeting, available at <https://pubs.naruc.org/pub/EDC90F3E-A16E-AAEE-2FBF-63D6DAC9AEAC>, at slide 41.

²⁸ Michigan Public Service Commission, DTE Electric’s 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, pp. 249.

²⁹ *Id.*, p. 249.

³⁰ Steve Steffel, Pepco Holdings - an Exelon Company, “Hosting Capacity – Lessons Learned,” November 2018, presented at NARUC Annual Meeting, available at <https://pubs.naruc.org/pub/EDC90F3E-A16E-AAEE-2FBF-63D6DAC9AEAC>, at slide 35.

to have a more current view of the DER hosting capacity on our system, reflecting more recently interconnected DERs, allowing them to be better informed before submitting an application.”³¹ Particularly in light of the planned 4.8 kV system conversion upgrade,³² the Company must improve its hosting capacity maps and provide quicker updates to enable more meaningful use by market participants.

DER Forecast

While the Plan dedicates significant discussion to grid readiness, the Company is dismissive of the idea of integrating DERs at higher levels. The Plan states: “However, since adoption levels are still relatively low in Michigan, quantification of these benefits is not fully understood today. In addition to grid benefits, moderate to high levels of DER can also cause localized grid challenges, including voltage and thermal issues impacting power quality in addition to protective device malfunctions.”³³ To gain a better understanding of the grid benefits of DERs, the Company should look to lessons already learned in other jurisdictions. Adoption levels are on the rise, and especially given the recent increase in the DG program soft cap and project size limits (as established in PA 235), the Company should be working to create a distribution system that is ready for DERs.

Michigan EIBC/United appreciate steps already taken or underway that are aimed at getting the grid ready, and applaud the Company for acknowledging that “[i]ncreasing the number of DER on the Company’s system creates a need for enhanced, granular monitoring and sensing capabilities

³¹ Illinois Commerce Commission, Docket No. 22-0486, Rebuttal Testimony of Marina Mondello, Commonwealth Edison Company, at p. 73.

³² Michigan Public Service Commission, DTE Electric’s 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 114.

³³ *Id.*, p. 35.

because DER interacts with the grid in fundamentally different ways than most current generation assets. Consequently, the impact of DER on the grid will need to be managed carefully.”³⁴ There are also potential benefits of DER integration in light of the aging grid infrastructure. According to the Plan: “DTEE is experiencing increasing challenges from its aging infrastructure and faces the need to upgrade and rebuild much of its equipment and facilities.”³⁵ The Plan further states: “Replacement of this infrastructure can no longer be prudently deferred as these assets are now at, or nearing, the end of their useful life.”³⁶ In order to meet these challenges, the Company should explore replacing these aging technologies with advanced energy alternatives. Advanced energy alternatives will likely prove less costly and faster to implement. For example, the Company could use microgrids in its efforts to harden the grid, as was explored in the March 22, 2023 technical conference hosted by MPSC Staff examining 4.8kV Hardening Program alternatives,³⁷ and consistent with the MPSC Order in Case No. U-20836.³⁸ Michigan EIBC/United support the use of microgrids as a cost effective alternative to other grid hardening investments.

As another alternative, the Company should pursue replacing its dependence on fossil fuel peaker resources with the use of battery energy storage. The Plan states: “At the end or edge of the larger grid, the electrical distribution system is dependent on a robust upstream transmission system and generation fleet to ensure consistent reliable power is available to all customers.”³⁹ The Plan further states “The peaker generation units are utilized during planned outages to provide local

³⁴ *Id.*, p. 50.

³⁵ *Id.*, p. 65.

³⁶ *Id.*

³⁷ *Id.*, p. 75.

³⁸ *Id.*

³⁹ *Id.*, p. 105.

system support in the event of any system issues or unexpected power flows,”⁴⁰ and “Without peaker support, and until distribution system mitigations can be developed and constructed, the Company’s ability to serve pockets of customers during adverse system conditions may be negatively impacted.”⁴¹ Instead of natural gas peaker generation units, battery energy storage is an ideal resource to be utilized during outages, and may represent an opportunity to defer or avoid more costly distribution system mitigations.

DTE's collaborative effort with Soulardarity and We Want Green Too through the Whole Homes, Whole Community program presents an excellent opportunity to facilitate DER deployment and further equity and environmental justice concerns. Under the settlement reached in Case No. U-21193, DTE will contribute \$8 million over four years to organizations that assist Michigan low-income customers with the installation of energy efficiency improvements, renewable energy, or battery technology, including necessary home repairs to facilitate the installations. DTE, however, did not consider this opportunity in the Plan. It is important that low-income communities have access to and benefit from DERs, but if the local distribution grid in such areas is insufficient to support DERs, it is necessary for DTE to remedy that problem. In fact, intentional deployment of DERs could improve reliability and resiliency of the local distribution grid and may provide benefits to the grid overall as well as to customers it serves through lower cost investments. DER deployment can generally assist with equity and environmental justice issues throughout DTE’s service area. If the Commission directs DTE to revise the Plan as suggested above, greater attention

⁴⁰ *Id.*, p. 106.

⁴¹ *Id.*

to opportunities to incorporate advanced energy solutions to remedy inequity and environmental justice issues is strongly encouraged.

Michigan EIBC/United generally applaud the Company's Technical Training Center ("TTC") DER lab. The Plan states: "The Technical Training Center (TTC) DER lab is DTEE's location to test and validate technology and processes before deployment to the system and validate NWA controls and approaches. The TTC DER lab co-locates the training center of excellence to allow for field and engineering input on new technology with infrastructure to test interactions of technology and compatibility of operating practices."⁴² It will be important for the TTC DER Lab to expand available equipment and not impede growth due to unnecessarily lengthy testing. For example, the Company could use the TTC DER Lab proactively to begin testing meter collars. Lessons learned in other jurisdictions should also be reflected in the lab's work to avoid duplication and lost time.

Electric Vehicles

The Company's approach to EVs is too restrictive, characterizing the EV forecasts in the MI Healthy Climate Plan as defining the upper limit and not "the most plausible."⁴³ The Plan states: "While the Company believes the 2022 IRP reference forecast is most plausible, a high EV adoption forecast was used for the electrification scenario to stress test the grid impacts if EV growth accelerated more quickly than predicted. In the high EV adoption forecast, light duty EV sales will account for 80% of the light duty vehicle sales by 2037 and total EVs on the road will

⁴² *Id.*, p. 236.

⁴³ *Id.*, p. 22.

increase to 2,189,000 in 2037, or 64.4% of the vehicles on the road in DTEE's service territory.”⁴⁴

Instead of embracing the goals of the MI Healthy Climate Plan, the Company characterizes this scenario as a “high EV adoption forecast.” The Company states: “The high EV adoption forecast is aligned with the MI Healthy Climate Plan and assumes 50% of light-duty vehicle sales, 30% of medium-duty and heavy-duty sales, and 100% of bus sales are electric by 2030.”⁴⁵ Instead of this overly conservative approach, Michigan EIBC/United assert that the Company should use the EV adoption goals in the MI Healthy Climate Plan as a baseline at least in comparison to actual EV sales each year.

Further, the Company should recognize and leverage EVs as grid resource that is available now, not just as a grid resource to consider down the road. Vehicle-to-grid (“V2G”) technology allows an EV to draw energy from the grid (typically during periods of low demand) and discharge energy back to the grid (during periods of high demand). The Plan states: “Transportation electrification will be highly dependent on the ability to manage vehicle charging loads, anticipate peak demands, and implement programs to incentivize off peak usage. While programs and incentives are developing, this program is focused on technical integrations to the Company's control systems to ensure cyber security and reliable integration of electrified transportation.”⁴⁶ In the near term, in addition to focusing on technical integrations and cyber security, the Company should be working to capture the grid benefits of EV adoption, and in particular should lay out more concrete plan for the use of V2G technologies. The Plan states: “Longer term, several projects with secondary use and repackaging of transportation storage for grid reuse will be undertaken as batteries become

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.*, p. 238.

available. Vehicle to Grid (V2G) and vehicle to load integrations to the interconnection process including communications integration to allow management are being investigated and demonstrated.”⁴⁷ Overall, the Company should be required to move beyond the investigation and demonstration phase, and should embrace V2G as a grid resource now, rather than waiting to harness the benefits of V2G for its customers. In addition, as it plans for increased transportation electrification and deployment of charging infrastructure, the Company must acknowledge and accommodate the meaningful participation of third-party players in the marketplace.

Non-Wire Alternatives

DTE acknowledges that major technological changes are needed and coming onto Michigan’s grid, including AMI⁴⁸, NWAs⁴⁹, and conservation voltage reduction/voltage-volt-amps reactive (“VAR”) optimization (“CVR/VVO”).⁵⁰ Michigan EIBC/United support DTE’s deployment and use of AMI,⁵¹ particularly in ways that facilitate rapid developments in advanced energy and transportation technologies. Similarly, Michigan EIBC/United appreciate the discussion of CVR/VVO⁵² in connection with DERs.⁵³ But the Plan unfortunately does not make sufficient progress in these areas. In terms of NWAs, Michigan EIBC/United value DTE’s acknowledgment of these technologies, but Michigan EIBC/United aver that DTE’s efforts with these technologies need to move beyond the pilot stage and not wait for project learnings to be included in DTE’s 2025 Distributed Grid Plan. In shortchanging the NWA discussion, the Plan fails to meet the

⁴⁷ *Id.*, p. 239.

⁴⁸ *Id.*, p. 143.

⁴⁹ *Id.*, p. 94.

⁵⁰ *Id.*, p. 141.

⁵¹ *Id.*, pp. 143-144.

⁵² *Id.*, pp. 239-240.

⁵³ *Id.*

Commission’s long-standing expectations for distribution system planning, going back to 2017 when the Commission stated that it “expects that future iterations of utility distribution plans will focus not only on ensuring short term safety and reliability but also leveraging new resources and approaches, such as energy efficiency, renewable energy, storage, line loss, volt/volt-[ampere] reactive [var] optimization, NWAs, and dynamic electric rate structures, to address looming system issues.”⁵⁴ The Company’s failure to evaluate NWAs does more than call into question the completeness of the exercise; it also undermines the prudence of the Plan. As the Commission stated in its August 20, 2020 Order, it “approaches NWAs from a fundamental tenet of utility regulation—that major utility investments (individual projects or groups of investments) should be examined for prudence through an open process and that this should necessarily include an examination of alternatives, whether they are ‘wires’ or ‘non-wires’ in nature, or a combination thereof.”⁵⁵ Thus, DTE should provide additional details on these NWAs and CVR/VVO programs, the program savings, and how the Company plans to use these programs to enable thorough Commission review, especially prior to approval of the \$5.8 billion in strategic capital investment referenced in the Plan.⁵⁶

Heat Pumps

Noticeably absent from the Plan is any reference to heat pumps as a growing means of heating and cooling buildings. This is noteworthy because heat pumps, which rely on electricity, have for the second year in a row outsold natural gas furnaces, which fall outside the scope of distribution

⁵⁴ Michigan Public Service Commission, Docket Nos. U-17990 and U-18014, Order dated October 11, 2017, p. 17.

⁵⁵ Michigan Public Service Commission, DTE Electric’s 2023 Distribution Grid Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 42.

⁵⁶ *Id.*, p. 53.

system plans.⁵⁷ The Plan’s failure to acknowledge this trend means that DTE has likely not considered the effect of heat pumps on the grid. This is a significant shortfall in the Plan and should be addressed in any resubmissions of this Plan and all distribution grid plans moving forward.

Both air and ground source heat pumps provide overall efficiency improvements compared to traditional heating and cooling methods. DOE recently considered the impact of broad adoption of ground source heat pumps, which are typically 20%–50% more energy-efficient than conventional heating and cooling systems,⁵⁸ and concluded that ground source heat pumps require less grid infrastructure investment if deployed on a large scale and could thereby reduce the cost of power for all grid consumers—even those who do not have a ground source heat pump installed.⁵⁹ The growing use of heat pumps, and the potential benefits to be obtained from further encouraging their use should not be overlooked by DTE.

Compounding this oversight is U.S. Energy Information Administration data indicating that residential gas prices in Michigan are trending upwards.⁶⁰ The Plan needs to contemplate how increasing natural gas prices will and tax credits provided by the Inflation Reduction Act may impact heat pump adoption. A combination of higher gas prices and federal tax credits could spur more customers to adopt heat pumps, yet the Plan makes no reference to this scenario. The lack of

⁵⁷ Takemura, A.F. *Heat pumps outsold gas furnaces again last year – and the gap is growing*, Canary Media, available at <https://www.canarymedia.com/articles/heat-pumps/heat-pumps-outsold-gas-furnaces-again-last-year-and-the-gap-is-growing>.

⁵⁸ See Grid Cost and Total Emissions Reductions Through Mass Deployment of Geothermal Heat Pumps for Building Heating and Cooling Electrification in the United States, November 2023, U.S. Department of Energy, Oak Ridge National Laboratory, available at <https://info.ornl.gov/sites/publications/Files/Pub196793.pdf>.

⁵⁹ *Id.*

⁶⁰ See “Michigan Price of Natural Gas Delivered to Residential Consumers.” United States Energy Information Agency, 29 Feb. 2024, available at www.eia.gov/dnav/ng/hist/n3010mi3m.htm.

any discussion in the Plan about heat pumps renders it impossible to assess how well and to what degree the Plan reflects the potential for heat pumps impact DTE's distribution system.

Further Considerations

Michigan EIBC/United recognize that the Commission does not approve or otherwise enforce the electric distribution infrastructure investment plans filed by Michigan's electric utilities. Nevertheless, proposals from the plans arise in electric rate cases to support capital and other investments and requests for cost recovery. But, as argued in Michigan EIBC/United's comments on Consumers Energy's Electric Distribution Infrastructure Investment Plan,⁶¹ it is precisely because the plans are not actually approved by the Commission and there is minimal opportunity for interested stakeholders and the Commission to vet the plans, that it is imprudent to rely on them as the basis for cost recovery and other reasonableness determinations. Ideally, the Commission could treat the distribution grid plans more like the electric utilities' IRPs, where intervenors provide formal input, and the Commission enters an order approving the IRP with modifications if needed. This could include input on cost-saving measures that advanced energy technologies can offer, including NWAs, microgrids, DERs, and DG. Additional scrutiny on costs is especially important considering that DTE's requested rate increases have been substantially decreased in its past two rate cases.⁶² Implementing such a process, however, may require statutory direction. Until

⁶¹ Michigan Public Service Commission, Electric Distribution Infrastructure Investment Plan for 2024-2028, Case No. U-20147, available at <https://mi-psc.my.site.com/s/filing/a008y000003wAD7AAM/u201470095>, p. 13-14.

⁶² See Case No. U-21297 where the Commission approved a \$368 million rate increase for DTE, a reduction of more than 40% from the \$622 million rate increase the Company initially requested and Case No. U-20836 where DTE requested a \$388 million rate increase, but this Commission granted them a 90% reduction to a \$30,557,000 rate increase. Michigan Public Service Commission, Final Order. Case No. U- 21297, available at <https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/0688y00000At0VBAAZ>, p. 1, 242; Michigan Public Service Commission, Electric Distribution Infrastructure Investment Plan for 2024-2028, Case No. U-20836, available at <https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/0688y0000058iIbAAI>, p. 1, 313.

it is determined that the Commission has such authority, the Commission should encourage electric utilities to make distribution system plans as robust and future-looking as possible to foster a meaningful discussion of the grid, innovation, reliability, resiliency, and impacts on ratepayers. The Commission should also strive to align the filing of utility distribution plans and review of those plans by stakeholders with the general rate case timelines. This way, when these plans or their programs arise in a rate case or other binding proceeding, there is some degree of assurance that multiple alternatives have been considered and that the plan is more than a marketing tool for an unvetted spending plan.

Conclusion

Michigan EIBC/United recognize and appreciate the significant work by DTE to prepare the Plan. However, as detailed, by focusing on reliability and neglecting a full consideration of advanced energy and transportation technologies, the Plan does not reflect the full intended scope of distribution system planning. Michigan EIBC/United are hopeful that the Commission will seek to improve the utility distribution system planning process both by enforcing previous requirements and by striving to better align the distribution system planning process with approvals for ratepayer-funded investments in general electric rate cases.