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June 1, 2021

Michael C. Rampe
Attorney
Consumers Energy
One Energy Plaza
Jackson, MI 49201

Re: Consumers Energy Electric Distribution Infrastructure Investment Plan Draft Comments

Dear Mr. Rampe,

The Michigan Energy Innovation Business Council (Michigan EIBC) and Advanced Energy Economy (AEE) appreciate the opportunity to provide feedback to Consumers Energy's Electric Distribution Infrastructure Investment Plan (EDIIP) draft. We have been active stakeholders working with Consumers in multiple MI Power Grid Work Groups and look forward to continuing to work with the Company as it prepares to submit its upcoming integrated resource plan.

If there are any questions or concerns related to these comments, feel free to contact us directly.

Regards,

/S/

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/S/

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BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

Comments in response to Consumer Energy’s 2021)
Electric Distribution Infrastructure Investment Plan)
(EDIIP).)
_____)

Case No. U-20147

Introduction

Advanced Energy Economy and the Michigan Energy Innovation Business Council (collectively AEE/Michigan EIBC) appreciate the opportunity to provide comments in Docket No. 20147 relating to Consumers Energy’s (Consumers or the Company) Electric Distribution Infrastructure Investment Plan (EDIIP). We appreciate Consumers’ efforts to align its integrated resource planning (IRP) process with this EDIIP and see this as an important step in fully valuing the contributions that distributed energy resources (DERs) can bring to all aspects of the electricity system.

Given the size of the EDIIP draft report, our comments are focused on certain components of the plan rather than the entire document. Our comments below primarily address six different sections from the EDIIP: metrics, the Grid Services Platform, Consumers’ proposed benefit-cost analysis framework, integrated resource plan alignment and integrated planning, emerging topics, and Consumers’ five-year distribution plan spending. Generally, our comments seek clarification relating to certain aspects of the plan as well as aim to provide Consumers with best practices and useful resources as the Company prepares its final draft of the EDIIP. We look forward to continuing to work with Consumers and the Commission to advance the EDIIP process and planning in general.

Summary of Comments and Recommendations

The comments below highlight sections within the EDIIP where AEE/Michigan EIBC believe there are opportunities for Consumers to expand upon the plan to better incorporate advanced energy technologies, apply best practices in planning, and consider alternative means to improve grid performance and reliability. We appreciate that Consumers has recognized the potential of distributed energy resources, including energy storage, distributed solar, demand response, and

non-wires solutions. However, we believe that the EDIIP can go further in laying out a plan for more fully incorporating these technologies and solutions, which includes a more ambitious consideration of performance-based regulation as directed by the Commission in Case No. U-20697¹.

As discussed in more detail below, our primary recommendations are as follows:

- The proposal around PBR and incentives should be more ambitious with regard to where performance improvement is targeted and the timeline for implementation, particularly with respect to the potential of DERs to meet system needs and defer or avoid traditional utility capital spending.
- We are generally supportive of the Grid Services Platform (GSP) concept, and would like to see additional details on how this platform can be used to create a more robust market for third-party products and services to serve customers and to also provide valuable services to utilities.
- Regarding benefit-cost analysis, we recommend that Consumers review the recently released National Standard Practice Manual for DERs and adopt appropriate elements to more fully capture the range of costs and benefits that will be associated with its grid modernization efforts.
- We support better integration and alignment of load forecasting between the IRP and the EDIIP but recommend more granular forecasts be developed to better plan for increased DER deployment and beneficial electrification. While the Company has begun to include EVs within the load forecast, we believe it should also do the same with building electrification.
- As the Company considers non-wires alternatives (NWAs or Non-Wires Solutions, NWS in the Company's plan) in its planning process, we see an opportunity to expedite its proposed 10-year NWS pilot program and recommend that the Commission develop incentive mechanisms for NWSs to promote rapid adoption of these technologies.

¹ Michigan Public Service Commission Order, Docket No. U-20697 <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000HwkyAAB>

- As Consumers performs a hosting capacity analysis (HCA) to identify potential circuits to incorporate DERs, we recommend that in Phase 2 of this plan, the Company move beyond validating the “go” areas with EPRI DRIVE and analyze the “no-go” areas in parallel to more quickly identify more areas with available hosting capacity that did not clear the initial screens.
- Finally, as the Company considers its five-year capital spending plan, we ask Consumers to further consider how DERs could serve as replacements to proposed traditional grid investments for reliability. Given the very significant proposed five-year capital investment plan totaling nearly \$4 billion, with about \$1.9 billion for reliability improvements alone, this seems like a worthwhile effort that we believe is aligned with the Commission’s guidance regarding the EDIIP.

Detailed Comments

Section II. Framing

We generally agree with the overall framing presented by Consumers, but as a general comment, we would like to see Consumers articulate its view of the role of third-party providers of energy products and services to both customers and the Company. A key purpose of conducting a more transparent distribution planning process, as Michigan is doing, is to engage with these companies and to understand how the distribution system must evolve, to not just accommodate DERs, but to leverage DERs for customer and grid benefit. Consumers has begun to do that with this EDIIP, for example, in Section IV (Grid Modernization and Longer-Term View), but overall, we believe that more can be done, especially in light of the rapidly changing nature of the DER marketplace and DER capabilities. Positioning for greater third-party involvement will be necessary for Consumers to achieve the vision that is has laid out in Figure 2,² particularly around issues of providing customers with greater control over energy use and costs, optimizing system cost and sustainability. Importantly, there are strong linkages between the ability to leverage third-party and customer capital investment in distribution system planning and operations and the performance-based ratemaking (BR) elements of the EDIIP. As discussed in more detail below, one goal of PBR is to address utility financial incentives and disincentives

² EDIIP at page 8.

that could either hurt or help efforts to engage third-party providers of energy products and services.

Metrics: Historical and Expected Performance

We appreciate that the Company provides a range of metrics to ensure system reliability and improved performance. Broadly, the metrics appear to balance meeting the immediate needs of the distribution system with investment in critical enhancements. With that said, within each category, we believe there are opportunities to further explain the underlying methodologies and assumptions.

We look forward to reviewing the detailed proposal for the “Sustainability” metrics in the 2021 IRP. Specifically, we strongly recommend that the Company reconsider the intended approach to use “system load factor” and instead substitute “peak load reduction” as an EDIIP sustainability metric. AEE and the experts at Navigant (now Guidehouse) explored peak reduction in Massachusetts and Illinois.³ The results for all scenarios demonstrated strong benefits that consistently outweighed the costs. The exercise offers a useful foundation for Michigan. With the goals of long-term affordability, reliability, performance, and control, peak demand reduction is a superior metric to system load factor. While both metrics serve to offer insight into the value of system investments and load management strategies, prioritizing peak load reduction will create more distribution system savings by directly targeting a key driver of distribution system cost.

Effective peak load reduction can improve reliability and delay (or even avoid) system upgrades. Improved load factor, on the other hand, can be achieved through increases in energy consumption without any reduction in peak demand and possibly even increases in demand. While an improving load factor does spread system costs across a greater number of billing determinants, thereby lowering rates, that result is only a distributional effect, and total system costs are not necessarily diminished. Additionally, more energy usage, while it can lower rates but not total system costs, adds new costs to customers through fuel and emissions associated

³ Peak Demand and Reduction Strategy <https://info.aee.net/hubfs/PDF/aee-peak-demand-reduction-strategy.pdf?t=1446657847375>

with volumetric energy usage. Peak demand reduction can restrain or avoid new system costs without counterproductive increases in energy usage and associated costs.

The foregoing does not suggest that there is no benefit to building electric load in off-peak periods, especially in light of Michigan’s goals regarding economy-wide decarbonization, which is likely to require significant electrification of transportation and buildings.⁴ Provided the added usage is managed properly, this so-called *beneficial electrification* should indeed be encouraged, but to the extent that Consumers or the Commission is interested in pursuing beneficial electrification, we would recommend that separate metrics within the Sustainability category be developed.

Separately, the five “Reliability Performance” metrics that the Company is proposing based on the IEEE standard 1366-2012 are appropriate to measure system-wide performance. The proposal would benefit from additional detail on the process to establish the baseline and the five-year targets for the reliability performance glide path, as well as the SAIFI and CAIDI glide paths.

Lastly, the Company claims it has made improvements on “Control Metrics” and “continues to aspire to top quartile performance” as it relates to customer satisfaction.⁵ We ask that the Company provide additional detail on what this means. While customer satisfaction and engagement are critical, the described customer survey is too subjective and narrow to fully capture the ratepayer experience. We also believe that MW saved through demand response, while important, is not sufficient to capture the degree to which customers are truly in control of their energy costs. We request that the Company propose additional measures to evaluate customer control metrics.

Performance-Based Ratemaking (PBR) Metrics

The Company acknowledges on page 16 that the MPSC instructed that the 2021 EDIIP must include a proposal for PBR via Case No. U-20697. Given that, we believe the “exploration of

⁴ Building a Carbon Neutral Michigan, ED 2020-10 https://www.michigan.gov/whitmer/0,9309,7-387-90499_90704-540278--,00.html; ⁵ Lakes analysis presented in MI Power Grid.

⁵ EDIIP at page 16.

PBR initiatives” in the EDIIP is not sufficient to satisfy the MPSC’s order and, therefore, one of the goals of the EDIIP. We certainly agree that any framework should be carefully crafted to protect customers and avoid perverse incentives. Nevertheless, we view the PBR proposal as overly and unnecessarily cautious and narrow in scope. The Company has an obligation to fulfill the Order in Case No. U-20697 and create a more robust PBR proposal. The company made reference to the process in Minnesota when arguing that “PBR structures should not be imposed in haste, but intentionally and incrementally.”⁶ We would argue that the process in Minnesota has been too slow and has not yet resulted in meaningful incentive realignment. Rather, we encourage Consumers and the Commission to consider more substantive approaches as pursued in Hawaii⁷, which has implemented a comprehensive PBR framework in much less time, even though the effort here is limited to distribution system issues.

That said, we do generally agree with the Company’s description of the purposes of PBR, including reducing the capital bias associated with cost-of-service regulation,⁸ and we support consideration of both incentives and penalties in any PBR framework.⁹ Still, we believe there is a more immediate opportunity to begin to address this issue. Michigan already has good experience with enhancements to cost-of-service regulation via the incentives for select outcomes associated with EWR programs, and this could be a good place to start when considering broader PBR frameworks.

Further alignment between the proposed PBR framework and the Company’s GSP concept could be achieved by including AMI data under the list of components associated with “transparency on system performance” in Figure 7 on page 18. Foundational data for grid operations, such as demand, voltage, and power flow, can be collected by smart meters. Timely sharing of AMI data could be used by the Company and others to achieve outcomes such as accelerated hosting capacity analysis, increased transparency of conservation voltage reduction performance, and improving DER optimization for clean energy. Unlocking access to AMI data for grid operations

⁶ EDIIP at page 17.

⁷ Decision & Order 37802 Hawaii Public Utilities Commission, Docket 2018-0088
<https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A21E27B52242H02093>

⁸ EDIIP at page 17.

⁹ EDIIP at page 18.

would represent a significant step toward the Company’s goal of “transparency on system performance.”

Looking specifically at the two metrics the Company is proposing on page 19 of the EDIIP draft, we believe that waiting until 2025 before they take effect is too far in the future. Assuming these would be the first metrics to be implemented, this timeline will delay progress toward enabling PBR and limit potential benefits for Michigan, particularly since we believe additional metrics can and should be considered. We, therefore, ask the Company to consider whether more rapid adoption is possible and also recommend that it consider whether additional performance metrics are appropriate at this time, such as peak load reduction or metrics related to beneficial electrification. For example, the recent Decision & Order 37787 from Hawaii approved comprehensive performance-based regulation including performance incentive mechanisms (PIMs) and metrics and provides a useful model for Michigan to consider.¹⁰ The Hawaii portfolio includes PIMs that provide a framework and evaluation criteria for utilization of AMI, LMI customer affordability, and DER grid services capability, for example. The customer engagement scorecard could be a particularly useful model for the Company to supplement the ratepayer survey. The Hawaii scorecard will report quarterly on the number and percent of customers participating in DER or demand response (DR) programs. Hawaii’s target outcomes align with the goals and system objectives in Michigan; it can serve as a template to enhance the Company’s distribution system planning.

Similarly, we encourage the Company to consider PBR programs established in New York. For example, Con Edison currently earns a return on energy efficiency as if it were a capital expenditure on distribution infrastructure and receives an incentive based on the cost-effectiveness and performance of energy efficiency programs. In Con Edison’s 2019 rate case,¹¹ a key feature was the integration of earnings adjustment mechanisms (EAMs) which act as PIMs to align rewards to the utility for achieving targets that create customer and system benefits.

¹⁰ Decision & Order 37787 Hawaii Public Service Commission, Docket 2018-0088
<https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A21E17B53226E00118>

¹¹ NY DPS 19-E-0065
<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=58901&MNO=19-E-0065>

Lastly, with regard to the shared savings mechanism (SSM) described on page 21, we understand that Consumers is proposing to share savings associated with reduced outages based on the use of a tool that estimates the cost of outages. This does not appear to be an SSM as the term is commonly applied. Normally, SSMs are based on utility cost savings, whereas the costs of outages are societal cost savings and altogether different. While it may be appropriate to consider an incentive mechanism for achieving certain levels of reliability, we believe that the proposed approach improperly conflates utility and societal costs and recommend that a different approach or definition be developed.

Section IV. Grid Modernization and Longer-Term View

The Grid Services Platform (GSP)

AEE/Michigan EIBC generally support Consumers' initiative to develop a GSP that will allow the utility to "effectively integrate increasing amounts of DERs."¹² Taking advantage of DERs and truly maximizing their value - not just to the customers adopting them, but to the grid as a whole- is consistent with efforts to create a reliable and cost-effective grid in the future.

Although still somewhat conceptual in nature, a GSP has the potential to maximize benefits from the projected growth of DERs, DR, and energy efficiency programs. FERC Orders 2222 and 841 are likely to grow the participation of DERs and DR in wholesale markets This provides an opportunity for the GSP to further leverage these new resources for the benefit of the distribution system. With access to wholesale markets comes the opportunity for DER and DR aggregation.

We commend the Company's commitment to integrating various initiatives and activities, as stated on page 71, where the Company states, "This EDIIP, the Company's IRP, electric rate cases, and internal planning build on each other...". We encourage the additional inclusion of major grid modernization assets, such as AMI, to ensure that both existing and forthcoming investments at the grid-edge serve as connective platforms for advancing the Company's GSP pillars of connectivity, interoperability, visibility, and optimization.

¹² EDIIP at page 74.

On page 11 of Appendix 3, EPRI notes that Consumers “plans to conduct field pilots to evaluate key DER integration of 3rd party-owned, utility-owned, and customer-owned resources”. We appreciate Consumers' recognition of the importance of integration of third-party and customer-owned DER. AEE/Michigan EIBC believe that it is critical that Consumers design their GSP to allow for third-party aggregation and participation of these behind-the-meter resources. Doing so ensures that ratepayers, who bear the costs of installation and maintenance of these systems, are able to benefit from choice in these technologies in order to pay the lowest price possible and receive the maximum financial benefit. More generally, AEE/Michigan EIBC support the development of a robust market for third-party products and services to serve customers and to also provide valuable services to utilities. We believe this is consistent with the goals of the Commission as it relates to distribution planning and the broader MI Power Grid initiative. We also believe a robust marketplace will help address other goals that Consumers has in its EDIIP around utilization of non-traditional resources, deployment of clean energy, and the four concepts underpinning the GSP.¹³ Therefore, we request that Consumers clarify in their EDIIP how third parties will be able to interact with the GSP and fully engage in market opportunities, whether with their own resources, or on behalf of their customers.

As the Company continues to develop its GSP and its grid modernization roadmap. We recommend the Company review “A Playbook for Modernizing the Distribution Grid”, a 2020 report developed by IREC and Gridlab.¹⁴ This report is an initial framework designed to help utilities and regulatory stakeholders assess the merits of proposed distribution initiatives and investments. We recommend that Consumers incorporate this document into the continued development of its grid modernization roadmap to ensure the Company is undertaking the most effective and efficient grid modernization efforts.

BCA Framework

AEE/Michigan EIBC support the use of a comprehensive BCA framework for examining grid modernization investments and appreciate that Consumers is proposing to consider utility,

¹³ Connectivity, Interoperability, Visibility and Optimization. EDIIP at page 75.

¹⁴ Sara Baldwin, Ric O’Connell, Curt Volkmann. A Playbook for Modernizing the Distribution Grid; Volume I: Grid Modernization Goals, Principles and Plan Evaluation Checklist. IREC and GridLab. May 2020. <https://irecusa.org/publications/> and <https://gridlab.org/publications/>.

customer, and societal perspectives. However, as described below, we believe that some elements of this framework should be expanded. Recently, the National Efficiency Screening Project released its *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources*.¹⁵ We recommend that Consumers review this comprehensive guide on BCA for DERs and adopt appropriate elements to more fully capture the range of costs and benefits that will be associated with its grid modernization efforts.

Specifically, in its customer perspective category in *Figure 63: Benefits Categories in BCA Framework Model*, the Company outlines six categories for the customer perspective (avoided outage costs, increased DER integration, increased power quality, increased customer satisfaction, increased customer flexibility and choice, and other benefits). These categories may not fully capture the benefits that residential and commercial customers could realize from DERs. The increased DER integration category is described as “improvements in operating efficiencies resulting in reduced costs”. However, there are other direct monetary benefits that consumers could see from customer owned DERs (e.g., energy arbitrage, demand charge avoidance, decreased bills) and direct resilience benefits seen from distributed resources such as battery storage and electric vehicles (EVs). We ask Consumers to expand upon these benefits categories to effectively encapsulate all potential benefits from the customer’s perspective as it develops its BCA framework.

Section V. IRP Alignment and Integrated Planning

We appreciate that the issue of alignment and integration of planning processes is being given some consideration in this plan. We note that the Commission has an ongoing investigation, via MI PowerGrid, into integrated planning, in which AEE/Michigan EIBC has been an active participant.

We agree with Consumer’s assessment that the nature of the distribution system is changing “from the traditional one-way model to something more dynamic” and that planning must evolve such that “distribution and electric supply options are evaluated all together in a single

¹⁵ National Standard Practice Manual, National Energy Screening Project
<https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/>

streamlined process...”.¹⁶ To that end, we appreciate that Consumers plans to submit the final EDIIP at the same time as its IRP and that it described a single “Electric Planning” division that prepared both plans.¹⁷ This would seem to be an appropriate approach to planning for utilities as they recognize the increasing overlap between various planning processes.

However, there are additional steps that the Company can take to achieve full integration.

Load Forecasting

Load forecasting is an important part of any planning process and we support careful integration of different types of forecasting (e.g., load, DER deployment) across all planning activities, to create a common understanding of needs that will impact planning at all levels. These forecasts will need to become more forward-looking and granular to be useful across all aspects of planning. It appears that Consumers is beginning to do this, for example with its inclusion of forecasts of EV adoption.

However, although we appreciate the greater attention to EVs, the Corporate Load Forecast appears to still be primarily backward-looking. We recommend that Consumers also include an assessment similar to that included for EVs, out to 2040, for building electrification. As with EVs, building electrification is expected to add significant load as Michigan works towards meeting its decarbonization goals as outlined in Executive Directive 2020-10. AEE/Michigan EIBC previously commented on this as part of our responses to Commission requests for input in the MI Power Grid Integration of Resource/Distribution/Transmission Planning Workgroup.¹⁸

While it is clear that EVs and building electrification have significant implications for overall load and therefore, IRP planning, they also have implications for distribution system capacity as covered by HVD and LVD programs/forecasts. But with an eye toward integrated planning and this EDIIP, these resources can also provide significant demand management potential. This further highlights the need to work diligently towards a truly integrated, dynamic planning

¹⁶ EDIIP at page 97.

¹⁷ EDIIP at page 98.

¹⁸ Michigan EIBC and AEE Comments, Docket U-20633 <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000HzreTAAR>

framework. On the one hand, electrification of vehicles and buildings drives resource requirements in the context of traditional IRP modeling. But in the context of truly integrated planning and how to best leverage DERs for system benefit, it is important to look beyond the expected contributions to load to consider how assumptions about EVs and building electrification will impact hosting capacity analysis, the use of NWAs to most cost-effectively meet the needs of customers, what types of supply resources are needed, and what investments are needed in the distribution system to best take advantage of these resources.

In particular, we note that the Company describes the LVD program as being “reactive” in that it looks at where loading criteria are being exceeded at the local level, with a simplified approach that applies a 2% annual load growth to plan projects 2-years in advance. We note that advanced analytics can generate previously unobtainable insights from granular AMI data, such as voltage, current, and power. These advances can enable more proactive integration of the last-mile utility distribution into load forecasting and other previously reactive utility processes. We recommend that utilization of grid-edge data be an area of further focus for refinement, both to better understand load growth at a more granular level, but also to determine the ways in which DERs can be fully integrated to manage load at the local level.

DER Planning

We appreciate that the IRP will consider DR and EWR as electric supply options but we would like to see more details on how that will be accomplished in the next iteration of the EDIIP, as well as how these resources are incorporated into distribution planning. We do have concerns about how distributed generation (largely customer-sited solar and storage) will be handled in the IRP and recommend that more attention be paid to forecasting growth of DG solar and storage, with sufficient granularity to support not just the IRP but also distribution planning. Modeling these resources as a load modifier fails to take into account the additional benefits to the distribution system of distribution-connected solar and seems to be a lost opportunity that could be gained through the development of the IRP and EDIIP at the same time. With the assumption that larger-scale solar is lower cost, there is essentially no opportunity to model smaller-scale solar as a resource in the IRP except perhaps in the Advanced Technology scenario.

The Company indicated that its planned investments in a DERMS will also position it to manage a higher penetration of distributed solar generation and other DERs.¹⁹ DERMS is just one strategy for effectively managing and integrating DERs, and we would recommend that the Commission receive a detailed BCA on use of DERMS versus other integration strategies. While we support the full integration of DERs so that they can provide valuable grid services, we also note that other states have successfully integrated much higher levels of DERs than currently exist in Michigan without the use of DERMS.

The utilization of AMI data to increase hosting capacity for and coordinate operations of DERs represents another opportunity for clean grid-edge resources that appears untapped by the EDIIP. As per our earlier comment under “Grid Services Platform”, we recommend more direct linkages between resource planning and grid modernization investment, especially with regard to AMI - which can play a key role as a ubiquitous grid-edge sensing and computing system.

Battery Storage

We support inclusion of energy storage in the upcoming IRP and would appreciate additional details in the final EDIIP on how Consumers intends to do that beyond the details provided in the current draft EDIIP. We also appreciate that Consumers is including a solar plus storage option as one of four battery configurations in the IRP. We do wonder, however, if the way Consumers is intending to model this option is too constraining, with the battery charging from solar “up to 75% of the time, and not from the grid more than 25% of the time...”²⁰

Regarding the distribution asset upgrade deferral (DAUD) value, we appreciate that Consumers is considering some battery options as both supply and distribution assets and valuing storage as such within the IRP. We would recommend that the estimate of this value not be limited to just capacity. While the use of a single, one time distribution value of storage of \$194/kW, is a good first step, Consumers should be working now to develop a more detailed approach to storage that includes the consideration of other values. Also, selecting a 2 MW size for batteries considered for the DAUD seems large and would likely miss a lot of potential, including behind-the-meter storage and solar plus storage systems, which are becoming increasingly common.

¹⁹ EDIIP at page 102.

²⁰ EDIIP at page 102.

The EDIIP is an opportunity to better consider how energy storage resources are likely to be deployed and how they may impact the IRP. Given the pace of cost reductions taking place with storage, and that both the Commission, via MI Power Grid and other proceedings,²¹ and FERC, via orders 841 and 2222, are actively developing frameworks for storage to provide grid value in various ways, the EDIIP is a key opportunity to begin to consider how storage, in its various forms, can contribute to the grid at all levels.

Electric Vehicles

We are pleased to see additional attention being paid to EVs. Nevertheless, Consumers appears to be evaluating EVs mainly for their potential to create “grid issues” as penetration rises and not considering the opportunity to use EVs for demand response, storage, and resiliency. While we agree that the Company needs to evaluate where EVs may pose challenges, the EDIIP should go further to also consider how to use EVs as grid resources, first starting with EVs as a large, controllable load and then as supply in the future when greater vehicle-to-grid operations are possible. This has significant implications for the types of investment Consumers will be making.

Regarding rate designs to help optimize charging behavior, we ask that the Company clarify whether it is considering EV-specific rates or only whole-home TOU rates. As EV penetration rises, the ability to offer EV-only rates will help improve charging behavior and the use of EVs as grid assets.

Section VI. Emerging Topics

Non-Wires Solutions (NWS)

The EDIIP details Consumers’ plan to gain experience and expand its capabilities with Non-Wires Alternatives (NWAs or Non-Wires Solutions, NWS in the Company’s plan) over a three-phase process spanning 10 years that began in 2017. Consumers has already concluded or is in

²¹ MI Power Grid New Technologies and Business Models Work Group; Michigan Energy Innovation Business Council and Advanced Energy Economy Comments, Docket U-21032 <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000ON9HzAAL>

the middle of completing two large-scale pilots using efficiency and DR to defer grid upgrades. The Company is also exploring the use of customer-sited storage for supply and NWS applications in an additional pilot and anticipates developing more customer-sited distributed generation and storage pilots in the future.

Ultimately, we agree with Consumer's statement that utilities must adapt to new approaches to distribution supply and planning that can serve customers' reliability and in a cost-effective way, and we commend Consumers for the progress it has already made. Consumers' phased and iterative approach is appropriate given the need to develop internal experience with NWAs and gain more information on their capabilities, costs, and deployment timelines. However, Consumers' three-phase approach for pilots extends through 2027, potentially causing the Company to miss NWA opportunities that may be viable in the meantime. We recommend that Consumers explore opportunities to accelerate its NWA timetable. For example, there are several utilities across the US that have experience with NWAs,²² and Consumers could accelerate its schedule by working with its peers to gain experience and learn from projects that have already been successful. Additionally, Consumers could conduct many portions of Phase 3 in parallel with Phase 2 to accelerate the timetable.

We also note that the EDIIP states that Consumers is mostly focusing on capacity expansion and reliability needs for NWAs. New capacity is a relatively small portion of the utility's capital plan, and so broadening the scope of use cases for NWAs would allow the utility to find additional opportunities. For example, some utilities in other states also look for opportunities to use NWAs to serve new business when there is enough lead time. This is a larger category of investment in the capital plan and using NWAs to serve new business is a reasonable target once the utility gains more experience with their pilot programs.

Consumers states that while it achieved a rate of return on pilots through existing incentive mechanisms, there is not a permanent mechanism to incentivize NWAs. Without a mechanism tailored to NWAs, utilities stand to diminish their earnings by engaging in more NWAs.

²² Non-Wires Alternatives: Case Studies from Leading U.S. Projects, Smart Electric Power Alliance, Peak Load Management Alliance, E4TheFuture, November 2018.

Traditional distribution investment is a capital expense, while DR, efficiency, or dispatch rights to customer or third-party owned resources are operating expenses. Avoiding a capital expense through an increase in operating expenses, even if it is the most cost-effective option overall, results in a long-term decrease in earnings for utilities due to the effects of cost-of-service regulation. In order to truly motivate utilities to engage in NWAs, we recommend that the Commission develop incentives for NWAs. Shared savings mechanisms are a good option for NWAs as they align utility earnings with the savings delivered to customers through an NWA project.

Hosting Capacity Analysis

The Company's go/no-go maps provide a base level of information on hosting capacity that provides generalized information on where low-cost interconnection points are likely to be located. However, as the EDIIP points out, the maps lack locational granularity and are all modeled based on a 2 MW installation. We support the Company's plan to create more granular hosting capacity maps and recommend that it begin developing an automated process for generating and updating its maps in as timely a manner as possible, ideally using dynamic grid-edge data from AMI and other grid-edge sources to produce on-demand HCA wherever possible. While this requires more upfront work, it will be less costly over the long run, especially since hosting capacity maps will need updates with greater regularity as DER penetration increases. During the initial part of Phase 2, we also request that the Company move beyond validating the "go" areas with EPRI DRIVE and analyze the "no-go" areas in parallel to more quickly identify more areas with available hosting capacity that did not clear the initial screens.

Section VII: Five-Year Distribution Spending Plan - Capital

Reliability

AEE/Michigan EIBC recognize the importance of investing in grid reliability to ensure that customers receive consistent, reliable electricity service. Many of the expenditures in the over \$1.9 billion the Company is proposing over the next five years such as HVD and LVD pole replacements, DSCADA investments, and ATR loop investments may indeed be necessary to maintain reliability and develop the Company's proposed GSP. However, as the Company

considers these investments, we ask that the Company put further thought into how DERs and energy storage resources could be an effective alternative to some of these circuit upgrades and grid hardening measures the Company is proposing.

Given that the Company is performing a comprehensive hosting-capacity analysis, we see an opportunity for Consumers to turn to DER and ESR resources as a solution to meeting these concerns, especially as storage costs decrease, rather than investing in traditional equipment upgrades. We believe that investment in these resources, rather than traditional equipment upgrades, could be a more cost-effective solution to addressing the Company's reliability concerns and ask the Company to further scrutinize its choice in reliability investments. Were the Company to accelerate the use of PBR, this could provide the proper incentives to more fully consider these options.

That said, AEE/Michigan EIBC appreciate the Company's commitment to investing in energy storage and grid modernization tools that will promote the growth of energy storage on the grid and prepare the system for a future with higher DER penetration. We believe that continued investment in storage and modernization can be an avenue for the Company to provide its customers with clean, reliable electricity in a cost-effective manner.

Conclusion

We applaud Consumers and the Commission for their vision of creating a more iterative and connected planning process. We hope these comments help Consumers to develop plans that enable the Company to maximize the value of distributed energy resources and allow the Company to make meaningful steps to modernizing the grid. We look forward to continuing to work with Consumers and the Commission in future MI Power Grid proceedings as well as in Consumers' upcoming IRP proceeding.