STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of
CONSUMERS ENERGY COMPANY
for authority to increase its rates for the generation and distribution of electricity and for other relief
_____/

Case No. **U-21870**

REPLY BRIEF OF THE GREAT LAKES RENEWBLE ENERGY ASSOCIATION

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REPLY BRIEF OF
THE GREAT LAKES RENEWBLE ENERGY ASSOCIATION

The Great Lakes Renewable Energy Association (GLREA) files this Reply Brief in accordance with the schedule established by the Administrative Law Judge (ALJ).

I. THE COMMISSION HAS JURISDICTION AND AUTHORITY TO FIND THAT THE ESTABLISHMENT OF VIRTUAL POWER PLANTS IS NECESSARY FOR A UTILITY TO COMPLY WITH STANDARDS OF REASONABLENESS AND PRUDENCE

Contrary to the unsupported conclusionary statement of Consumers Energy in its Initial Brief,[1] the Commission has the jurisdiction and authority to find that the establishment of Virtual Power Plants (VPPs) is necessary to comply with standards of reasonableness and prudence. As GLREA noted in its Initial Brief, the Commission is assigned the statutory duty, as recognized judicially, to establish just and reasonable rates, and to require utilities to engage in reasonable and prudent practices and policies. The Commission is also required to consider affordability in its ratemaking decisions.

In addition, recent statutory amendments reinforce the Commission's authority to require utilities to undertake waste reduction programs, to pursue optimal demand response programs, and to implement Integrated Resource Plans (IRPs) and Renewable Energy Plans (REPs). The purposes and objectives set forth in Section 1001, MCL 460.1011 also establishes Legislative intent to encourage the implementation of cost effective diversified energy resources. The Legislature has also demonstrated its intent to promote distributed generation by increasing the cap of such resources from 1% to 10%, pursuant to Section 177(3), MCL 460.1173(3), and to provide for compensation to DG customers pursuant to Section 177(2), MCL 460.1177(2), and

[1] The Company's Brief, p 451, asserts without support, that "…the Commission has no authority to require the company to purchase or otherwise exercise the managerial discretion to use VPPs." The Company's Initial Brief, p 454, asserts that …the Commission has no legal authority "to implement near term VPP programs."

by clarifying pursuant to Section 179, MCL 460.1179 that DG customers own outright the renewable energy credits (RECs) applicable to their DG resources.

Taking all of this statutory authority as a whole, to be read harmoniously *in para materia*, the Commission can readily find that the failure of a utility to implement VPPs would be unreasonable and imprudent, justifying downward rate adjustments associated with avoidable capital investment and operational costs that are avoidable (such as utility investment in high cost peaking units and incurring high operation costs, when compared to lower cost resources obtainable from VPPs).

II. THE IMPLEMENTATION OF VPPs, INCORPORATING BOTH DISPATCHABLE AND NON-DISPATCHABLE RESOURCES, SHOULD BE CONSIDERED REASONABLE AND PRUDENT

While Consumers Energy's Initial Brief (pp 451) notes some differences between GLREA Witness Boehnke and CEO Witness Kenworthy concerning the definition of VPPs, GLREA reasserts that it would be reasonable and prudent for the company to implement VPPs which aggregate both dispatchable and non-dispatchable resources. In this regard, aggregating the various resources from dispatchable resources certainly would be reasonable and prudent to reduce peak demand, and to avoid incurring unnecessary investment and operational costs to address peak demands, which occur during limited periods during the year. As supported by GLREA Witness Boehnke's testimony, the aggregation of VPP resources to reduce loads overall also should be considered reasonable and prudent, because it can contribute to reducing both peak loads and can also avoid unnecessary avoidable investment and operational costs during non-peak periods.

III. THE COMMISION SHOULD ADOPT GLREA'S DEFINITION OF THE RESOURCES COMPRISING VPPs

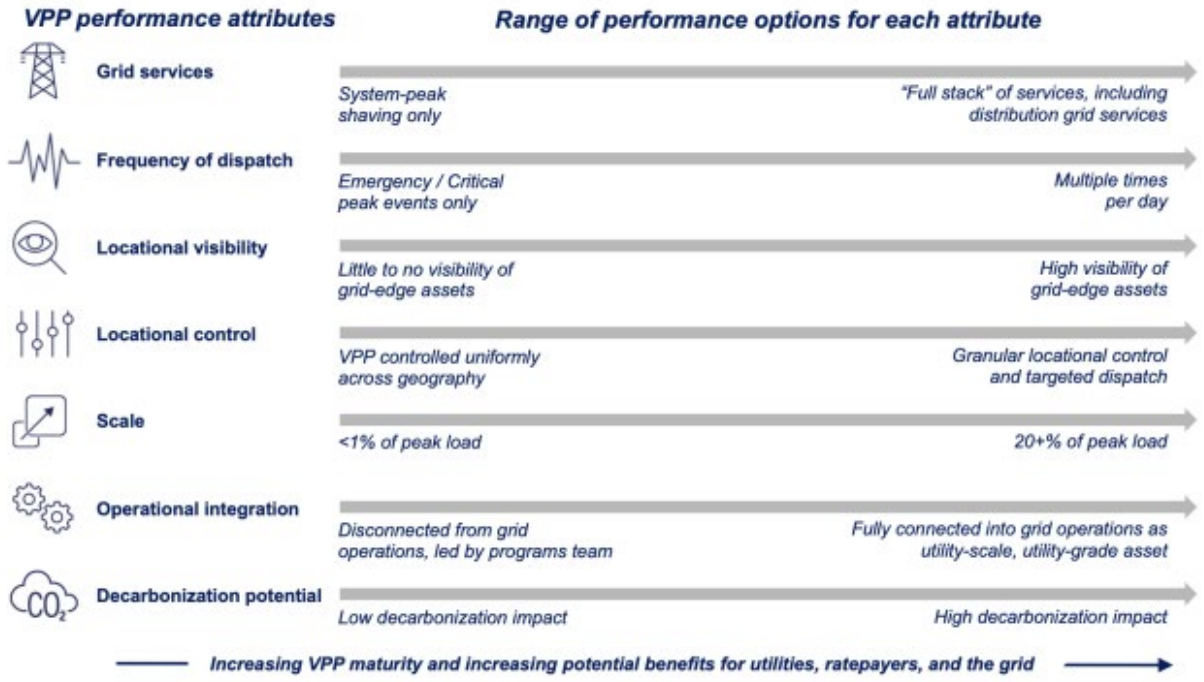
The Company's Initial Brief (pp 451) attempts to discuss variances in the definition of VPP resources as presented by GLREA Witness Boehnke and CEO Witness Kenworthy. The Company's Brief states:

> "GLREA witness Richard Boehnke offered an even broader definition, stating that a VPP is "generally considered a connected aggregation of [DER] technologies," but disagreed that dispatchability is required. 4 TR 3332-3333. Mr. Boehnke seems to include EWR, DR, and DERs in his concept of VPPs. See 4 TR 3327- 3329."

GLREA asserts that the definition presented by its Witness Boehnke is fully appropriate. GLREA Witness Boehnke testified (4 TR 3277-3278) as to the definition of VPPs from the Department of Energy,

> "VPPs are aggregations of distributed energy resources (DERs) such as rooftop solar with behind the-meter batteries, electric vehicles (EVs) and chargers, electric water heaters, smart buildings and their controls, and flexible commercial and industrial loads that can balance electricity demand and supply and provide utility-scale and utility-grade grid services like a traditional power plant. VPPs enroll DER owners—including residential, commercial, and industrial electricity consumers—in a variety of participation models that offer rewards for contributing to efficient grid operations."

GLREA Witness Boehnke (at 4 TR 3279) presented a chart summarizing the performance attributes to be obtain from VPPs as follows:



As can be seen, VPPs are aggregations delivering grid services. Those grid services can be procured from a wide variety of resources, including EWR, DR, and DERs. For example, to reduce system peak in a targeted area, buildings with poor insulation could be insulated, permanently reducing peak load and supporting system reliability without dispatch.

IV. THE VALUE AND PRACTICABILITY OF VPPs HAS BEEN ESTABLISHED BY THE POSITIVE RESULTS OBTAINED FROM IMPLEMENTATION OF VPPs ON A NATIONAL BASIS

GLREA also asserts that the value and practicability of VPPs has been established by their successful implementation in other states. GLREA summarized these successful results in GLREA Witness Boehnke's Direct Testimony (at 4 TR 3295-3300), as summarized in GLREA's Initial Brief (pp 23-27). GLREA's Initial Brief (p 42) stated:

> "…in the 2025 Department of Energy's Liftoff Report, 18 VPP aggregations are discussed in detail with a total of 30 GW peak demand supplied by VPPs. While it is true that some have recently been more recently deployed, several of the case studies listed show significant time and scale: Connected Solutions in Massachusetts has been implemented since 2019, the Brooklyn Queens Demand Management program since 2014, Arizona Public Service (APS) Cool Rewards

program since 2017, or the LUMA Customer Battery Energy Sharing Program since 2023 to name a few."[2]

V. THE COMPANY'S FAILURE TO EVEN STUDY OR ANALYZE THE VALUE AND PRACTABILITY OF VPPs IS UNREASONABLE AND IMPRUDENT

GLREA asserts that the failure of the company to study and analyze the value and practicability of VPPs is itself unreasonable and imprudent. As shown in GLREA's exhibits comprising the company's responses to GLREA discovery, it appears undisputed that the company has failed to consider VPPs in their infrastructure planning, as documented by the company's discovery response admissions:

1. "The Company has not quantified the impacts of EE, DR, or DER programs on its distribution infrastructure planning."[3]
2. "Any potential deemed or calculated impacts of the EE, DR, and DER programs do not currently impact distribution infrastructure planning."[4]
3. "The Company does not currently account for the locational or temporal value of DERs, and does not currently measure impacts of DERs on the operational performance of the grid."[5]
4. "Has the Company performed any internal Benefit-Cost Analysis (BCA), Net Present Value (NPV) analysis, or cost-per-kW-year comparison that quantitatively demonstrates that VPPs, even at a pilot scale, are financially worse than the equivalent capacity from a proposed traditional generation asset?" Response "No, the Company has not performed this analysis."[6]

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[2] Department of Energy, January 2025,"Pathways to Commercial Liftoff: VPPs 2025 Update" Accessed at https://virtual-peaker.com/wp-content/uploads/2025/09/2025-Jan-LIFTOFF_DOE_VirtualPowerPlantsUpdate.pdf

[3] Revised Exhibit GLREA-2, page 41, CECO Response U21870-GLREA-0301, by CECO Witness Kelly, August 26, 2025.

[4] Revised Exhibit GLREA-2, page 42, CECO Response U21870-GLREA-CE-0302 by CECO Witness Kelly, August 26, 2025.

[5] Revised Exhibit GLREA-2, page 40, CECO Response U21870-GLREA-CE-0299 by CECO Witness Gast, August 26, 2025

[6] Revised Exhibit GLREA-3, page 24, CECO responses U21870-GLREA-CE-0810, CECO Witness McPhail, October 30, 2025.

Further, the Company's responses to GLREA's discovery reveals the lack of investigations undertaken by the company concerning VPPs, as supported by the following examples:

Question:

6. Please provide all cost-benefit analyses that have been conducted on Virtual Power Plant (VPP) programs and proposals

a. What assumptions were made regarding customer participation rates, technology costs, delivered peak impacts, and avoided company infrastructure costs?
b. How is it anticipated that VPPs would be funded by the company?
c. What is the percentage of peak demand was calculated that could be addressed through VPPs? Response:

Response:

The Company has not conducted any cost-benefit analysis on VPP programs or proposals. Please note that this response does not cover any DR or EE programs and proposals.

a. As stated above, the Company has not conducted any cost-benefit analysis on VPP programs or proposals.
b. The Company has not developed a position on how VPPs would be funded.
c. The Company has not conducted these calculations.[7]

Question:

7. What percentage of the company's total R&D budget is allocated to VPPs and other distributed energy resources (DERs)? Please provide a breakdown of this spending for the last three years.

a. What research has been funded? At what levels?

Response:

The Company does not have the requested type of R&D budget.[8]

[7] Revised GLREA Exhibit 2, p 18; U-21870-GLREA-CED-0275, Company Witness McPhail, August 26, 2025.

[8] Revised GLREA Exhibit 2, p19, U-21870-GLREA-CE-0276, Company Witness McPhail, August 26, 2025.

Question:

28. How does the company's internal analysis compare the cost and benefits of a VPP to a traditional company asset (e.g., a natural gas peaker plant or a substation upgrade)?

a. Please provide examples of these comparative analyses.
b. What assumptions underpin this analysis?

Response:

The Company has not completed cost/benefit analysis of VPPs compared to traditional company assets.[9]

Question:

29. For all VPP-related research, pilots, and investments, please provide a detailed breakdown of the costs and the quantifiable avoided costs of implementation (e.g., deferred T&D investments, avoided peaker plant costs, wholesale market savings).

Response:

The Company has not completed research, pilot studies, or investments into VPPs.[10]

The inescapable conclusion is that the Company is not and has not investigated the potential of Virtual Power Plants, what VPPs other states have deployed, or the cost savings achievable from implementation of VPPs. As a result, the lack of the Company's ability to procure and aggregate Virtual Power Plants is a direct result of the Company's lack of investigation regarding the benefits of VPPs.

GLREA therefore urges the Commission to order specific, measurable, achievable, relevant, and time-bound actions to rapidly assess the potential of VPPs and enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers.

[9] Revised GLREA Exhibit 2, pp 38; U-21870-GLREA-CE-0297; Company Witness Gast, August 26, 2025.

[10] Revised GLREA Exhibit 2, pp 39; U-21870-GLREA-CE-0298, Company Witness Gast, August 26, 2025.

VI. THE COMPANY FAILS TO PROVIDE PERSUASIVE REASONS TO JUSTIFY ITS DELAY AND RESISTANCE TO TIMELY IMPLEMENTATION OF VPPs IN ITS SERVICE TERRITORY

A. The Separate EWR and DR Programs do not Justify the Lack of Progress in Implementing VPPs

The Company's existing and separate EWR and DR programs do not justify the lack of progress in implementing VPPs in the Company's service territory. The Company's Initial Brief (pp 451-452) states:

> "The Company already has robust EWR and DR programs in place, and the Company continually considers ways to improve those programs to deliver cost-effective savings for customers. The results of those programs are considered in separate proceedings. For example, see Case Nos. U-21680, U-21671, and U-21829."

As discussed in GLREA Witness Boehnke's direct testimony (4 TR 3312-3313) and GLREA's Initial Brief, the Energy Waste Reduction programs were sufficient to deliver results for their initial purpose, in a time of limited load growth. However, despite historical successes, if the EWR programs were "robust" enough in their current form to help meet the current needs of load growth, they should be used as procurable assets in infrastructure planning, which they are not as admitted in the discovery responses of Company Witnesses Kelly, Gast, and McPhail.

B. The Company's Claimed Lack of Technical Capability is Not an Excuse for Continued Delays in Implementing VPPs

The Company's Initial Brief (pp 451-452) erroneously states that it lacks technological capability to implement VPPs, and that the technology is not mature enough to support VPP implementation, as follows:

> "Consumers Energy has not developed an additional VPP program that involves the dispatch of DERs connected to the Company's distribution system. As discussed in more detail below, the Company does not agree that the technology is mature enough to support immediately implementing such a program and does not have the technological capability needed to effectively run such a program. As required by the Commission, the Company is committed to conducting a DER Management System ("DERMS")

> stakeholder working group and obtaining robust stakeholder input, including analysis of VPPs, before seeking funding for a DERMS. Nothing further should be required in this proceeding."

Notably, " the Company does not agree that the technology is mature enough to support immediately implementing such a program **and does not have the technological capability needed to effectively run such a program.**" Yet, customers have paid hundreds of millions of dollars for Advanced Metering Infrastructure, additional infrastructure, and the Energy Waste Reduction Programs, and the Company still claims that it does "not have the technological capability needed to effectively run such a program." If so, the costs associated with these programs should not be assigned to customers. And, this lack of capability is a reason why the GLREA recommends the Commission open opportunities to third-party VPP operators. The Company's failure to innovate should not be an excuse for the Commission to obstruct innovation. While MISO is slowly addressing a piece of this challenge in the FERC order 2022 proceedings, the Commission should not prevent the ability of VPPs to deliver grid services and to effect cost savings for ratepayers.

C. The Company Fails to Support its Claims That a VPP Program Cannot be Implemented on a Prompt Basis

The Company also fails to support its claims that a VPP program cannot be implemented on a prompt basis. The Company's Initial Brief (p 452) states:

> CEO witness Kenworthy recommended that the Commission require the Company develop and file a VPP program within six months that incudes "program tariffs, aggregator contracts, enrollment channels, capacity targets, and measurement and verification," and adopt a benefit-cost framework with credits for "resource adequacy, ancillary services, and T&D deferrals, with pay-for-performance settlement." 4 TR 3214. The Commission should reject this recommendation because Consumers Energy does not agree that VPPs are mature and ready for implementation within six months. 3 TR 1609."

The GLREA agrees with witness Kenworthy that the Commission should require the Company to develop a VPP program on a prompt basis. The GLREA recommends several

interim steps to provide reliable, affordable, and targeted implementation of VPPs to maximize benefits to all parties. Ultimately, GLREA advocates that the Commission should require specific, measurable, achievable, relevant, and time-bound actions to rapidly assess the potential of VPPs and enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers to enable rapid load growth in Michigan through: (1) Increased utilization of existing capacity and grid assets (2) Limiting the risk to ratepayers of large stranded assets and (3) Providing downward pressure on energy bills while investing in local supply, distribution, and demand flexibility infrastructure.

Further, as stated in the GLREA's Initial Brief (p 42):

> "in the 2025 Department of Energy's Liftoff Report, 18 VPP aggregations are discussed in detail with a total of 30 GW peak demand supplied by VPPs. While it is true that some have recently been more recently deployed, several of the case studies listed show significant time and scale: Connected Solutions in Massachusetts has been implemented since 2019, the Brooklyn Queens Demand Management program since 2014, Arizona Public Service (APS) Cool Rewards program since 2017, or the LUMA Customer Battery Energy Sharing Program since 2023 to name a few.[11]

Further, as discussed in the GLREA's Initial Brief (p 24), the National Grid ConnectedSolutions program was launched in under four months and provides up to 250 MW of peak shaving benefits, reducing peak demand by 2% in 2024.

D. The Company Fails to Explain why VPP's May Not Fit Into Michigan's Legal and Regulatory Construct

The Company fails to provide any explanation as to why VPPs may not fit into Michigan's legal and regulatory construct. The Company's Initial Brief (p 452) states:

> While other states may be testing use of VPPs, that does not mean that the same types of VPPs will fit into the legal and regulatory construct in Michigan or will work for a utility operating in MISO. 3 TR 1609. Delivering benefits to the grid such as asset deferral

[11] Department of Energy, January 2025,"Pathways to Commercial Liftoff: VPPs 2025 Update" Accessed at https://virtual-peaker.com/wp-content/uploads/2025/09/2025-Jan-LIFTOFF_DOE_VirtualPowerPlantsUpdate.pdf

would require the development of sophisticated VPPs, but these types of VPPs are not easily or rapidly built. 3 TR 1611. As noted in CEO's Exhibit CEO-3, these sophisticated VPPs may require the installation of additional hardware and software, and the Company is in no position to deploy these types of VPPs until it has made the necessary foundational investments, such as a DERMS. 3 TR 1611- 1612."

The Company contends that other states' Virtual Power Plant deployments may not fit into the "legal and regulatory construct in Michigan or will work for a utility operating in MISO." The table below compiles information found in the Department of Energy's Liftoff report showing the variety of VPPs studied in that work, including the Minnkota Power Cooperative Demand Response Program operating in MISO, and delivering roughly 350MW of peak reductions.

Name of the VPP	State	Capacity	ISO/RTO
Arizona Public Service (APS) Cool Rewards	Arizona	160 MW	Western Interconnection (Non-RTO)
San Diego Community Power Solar Battery Savings	California	7.3 MW	CAISO
California Public Utilities Commission (CPUC) Demand Side Grid Support (DSGS)	California	142 MW	CAISO
Ontario IESO Save on Energy Peak Perks	Canada (Ontario)	90 MW	IESO
National Grid ConnectedSolutions	Massachusetts and New York	250 MW	ISO-NE / NYISO
Minnkota Power Cooperative Demand Response Program	North Dakota	350 MW	MISO
LUMA Customer Battery Energy Sharing Program	Puerto Rico	28 MW	LUMA Energy (System Operator)
Rocky Mountain Power (RMP) Wattsmart	Utah	28 MW	Western Interconnection (Non-RTO)
Green Mountain Power (GMP) Energy Storage System (ESS) Leasing Program	Vermont	36 MW	ISO-NE (ISO-New England)

E. The Company Fails to Establish That a VPP Program Must be Delayed due to a Lack of Standardization for VPPs

The Company fails to establish that a VPP program must be delayed due to a lack of standardization for VPPs. The Company's Initial Brief (pp 452-453) states:

> In addition, as the DOE indicated, there is presently a lack of standardization for VPPs, and VPP standardization initiatives are taking place across the industry. 3 TR 1751. But very few of these initiatives are complete, with many only commencing within the last year or yet to commence. Id. The Company is interested in participating in EPRI's FlexIT initiative announced in May 2025, which, among other things, seeks to establish standards for utility-to-VPP/aggregator interactions. 3 TR 1752. Absent this standardization, utilities are required to manage multiple tailored interfaces, data formats, and communication protocols. Id. This type of complexity increases the risk of operational inconsistencies, cybersecurity vulnerabilities, and higher implementation and maintenance costs. The Commission legally cannot, and should not, mandate the implementation of VPPs. Practically, further review or pilots are required to implement VPPs because it would risk system integrity, operational efficiency, and customer reliability. 3 TR 1752.

As discussed in GLREA's Initial Brief (p 45):

> There is a lack of standardization across VPP implementations nationally as many of these aggregations are being procured in response to different needs and supplying different grid services. As such, a "standard" VPP offering would significantly limit the grid services able to be aggregated. In addition, as stated in discovery, the Company has not studied the potential impacts of VPPs and the Demand Response working group initiated by the Commission has not met in over a year. While it may be that some initial standardization implemented by the Company could lead to better long-term outcomes, the Company has not developed such standards, has not researched successful VPP aggregations nationally, and does not include the impact of their EWR programs in their infrastructure planning. So, while it may be reasonable to incorporate some core requirements into a VPP aggregation, the Company has not begun that work and is using this lack of investment as an excuse for inaction.

Further, the Company can procure initial VPPs, aggregating peak reductions that don't require direct control initially. This can be implemented immediately without significant research, without a DERMS, and without any other direct communication to control devices, thus eliminating all the barriers listed by the Company. Additionally, tariff-based payments for grid services can be implemented without the above barriers and complications from the Company. While research and integration of some VPPs directly with the Company's systems may be beneficial, it is not a prerequisite to begin procurement.

F. The Commission Should Require Prompt Progress Toward Implementation of VPPs Beyond the Minimal Efforts Undertaken Thus Far

GLREA urges the Commission to require prompt progress toward implementation of VPPs which goes far beyond the minimal efforts undertaken thus far. The Company's Initial Brief (p 453) states:

> As to Mr. Kenworthy's recommendation for the development of a benefit-cost framework, the Commission ordered in the Company's last electric rate case that "should Consumers seek recovery for a DERMS in a future electric rate case, it is incumbent on the company to provide a business case for the program, including a comprehensive BCA, that sufficiently identifies the program's costs and benefits to customers." U-21585 Order, pages 117-118. The Commission also stated that "the development of such a business case should provide opportunities for interested persons to provide robust feedback and input into the business case and must include an analysis of the use of VPP." Id. at 118. The Company will comply with this Order to conduct a workgroup and develop a BCA, including analysis of VPPs, prior to seeking DERMS funding. The Company also notes that there are ongoing efforts to standardize a format used to evaluate these types of investments in Case No. U-20898, and the results of those efforts are expected to inform any BCA developed for DERMS and VPPs. 3 TR 1748."

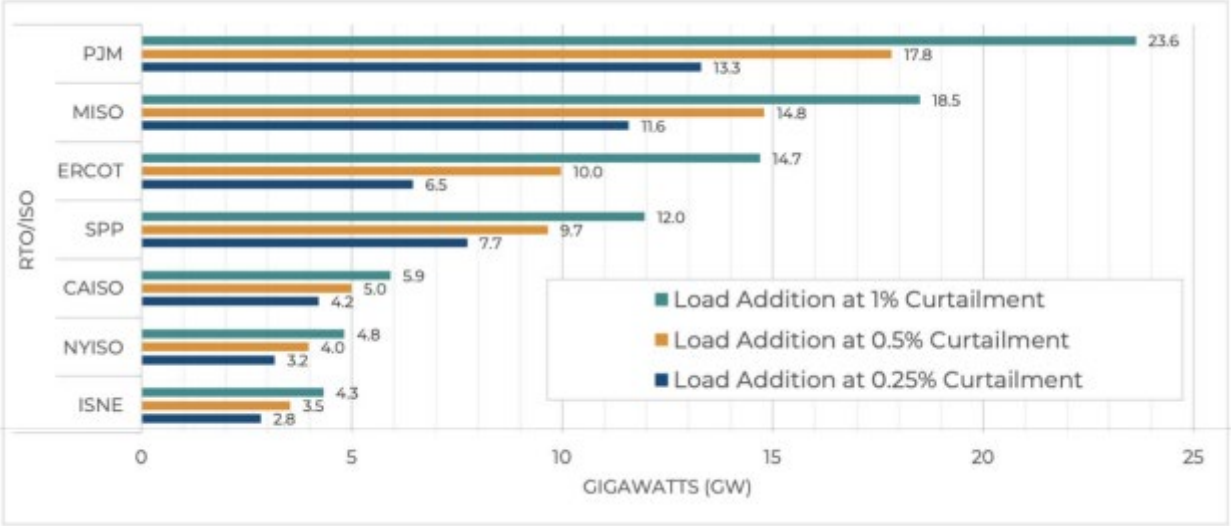
Since the Company has not yet investigated, researched, or explored other utilities' efforts in implementing Virtual Power Plants, GLREA requests the Commission to undertake actions to ensure that the work ordered in previous cases moves forward swiftly. Specifically regarding the development of a DERMS business case, GLREA recommends that the Commission require specific, measurable, achievable, relevant, and time-bound actions to rapidly assess the potential of VPPs and enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers.

G. A Utility Owned and Operated DERMS is not a Prerequisite to the Implementation of a VPP Program

The Company erroneously asserts that "the full integration of VPPs into utility operational systems and a utility owned and operated DERMS" constitutes prerequisites to the implementation of a VPP program. The Company's Initial Brief (pp 453-454) states:

> "CEO witness Kenworthy and GLREA witness Boehnke offer various benefits that could be provided by VPPs. See, for example, 4 TR 3206-3207, 3279-3283. But without the full integration of VPPs into utility operational systems and a utility owned and operated DERMS, it has not been demonstrated that VPPs can deliver value outside of reducing system-level peak demand and could potentially put the grid at risk if the VPP does not respond to dispatch signals needed to meet grid needs. 3 TR 1749-1750. If VPPs are going to be used to, for example, defer distribution infrastructure upgrades, the Company must have the ability to monitor whether VPPs are responding to dispatch signals and take appropriate actions on the grid as needed. 3 TR 1750."

GLREA generally agrees with Witness Kenworthy that to unlock the full potential of all types of VPP aggregations, utilities are able to take a variety of roles when procuring resources from VPPs. Further, "reducing system-level peak demand" would provide an immense service to the grid and affordability to ratepayers as it has been shown that gigawatts of load growth could be unlocked through minimal flexibility. As discussed in Witness Boehke's Direct Testimony (4 TR 3287-3289) and shown in the figure below:



Demand reductions and flexible demand targeted to reduce system-level peaks enabled through VPP procurements can unlock system headroom and decrease requirements to build new capacity. Thus, even the most basic VPPs that could be procured through the evolution of the EWR programs could decrease new generation capacity required, improve utilization of existing generation assets, and decrease peak load on the distribution system. Not only would all of these

consequences save customers money and increase system reliability and resilience, they also have the potential to delay distribution system upgrades and significantly impact the infrastructure planning process for the distribution system, saving money for ratepayers now and in the future.

The result of procuring Virtual Power Plants is not only a short-term solution to enabling load growth and delivering prompt additional resources by increasing the utilization of our existing system. Demand-side aggregations fundamentally shift the definition of utility and grid infrastructure, to include homeowners, businesses, and the entirety of the built environment. As such, VPPs can deliver significant savings immediately. Beyond this initial step, GLREA recommends that the Commission continue exploring the value of distribution assets at or near the point of load, either in front-of- or behind-the-meter. This is due to the potential for substantial and persistent mid- and long-term savings that can be optimized with utility integration and procurement of distributed assets as opposed to large centralized generation, transmission, and distribution.

Since IRP studies use the real hourly usage and forecast usage, tariff-based valuation of services and the Benefits Cost Analysis tool will provide the first level of VPP implementation by valuing the peak demand decreases. Such analyses in the Integrated Resource Plan will provide insights into alternatives to large capacity procurements and investments into upgrading high-voltage systems.

H. Contrary to the Company's Assertions, it is Not Premature for the Commission to Facilitate the Implementation of Near-Term VPP Programs

Contrary to the Company's assertions, it is not premature for the Commission to facilitate the implementation of VPP programs. The Company's Initial Brief (p 454) states:

> It is premature for the Commission to require the Company to implement near-term VPP programs. And the Commission has no legal authority to do so. The Commission has

> already ordered the Company to analyze the use of VPPs as part of developing a business case for DERMS prior to the Company requesting recovery for a DERMS in a future electric rate case, and the Commission should not impose any additional requirements at this time. 3 TR 1752."

As stated earlier, the GLREA recommendations do not include the immediate procurement and implementation of VPPs. GLREA instead recommends that the Commission undertake credible prompt action to facilitate the full implementation of a VPP program within a reasonable time period. The Commission should now require specific, measurable, achievable, relevant, and time-bound actions to (1) rapidly assess the potential of VPPs to allow their modeling and procurement in the 2026 IRP process and (2) enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers. These actions would enable rapid load growth in Michigan through: (1) Increased utilization of existing capacity and grid assets (2) Limiting the risk to ratepayers of large stranded assets and (3) Providing downward pressure on energy bills while investing in local supply, distribution, and demand flexibility infrastructure.

I. The Commission Should Require the Development and Implementation of a Measurement and Verification System for EWR, Demand Response, and DER Programs

Contrary to the Company's position, GLREA urges the Commission to require the development and implementation of a measurement and verification system for EWR, Demand Response, and DER programs. The Company's Initial Brief, p 454, states:

> UCC witness Boehnke recommended the development and implementation of a measurement and verification system for EWR, Demand Response, and DER programs. 4 TR 3327-3329. The Commission should reject this recommendation because EWR and DR results are already measured and addressed in separate proceeding – the Commission should not develop separate requirements in this case. See, for example, Case No. U-21671 and U-21647. Issues concerning measurement and verification of other VPP resources should be considered as part of any DERMS workgroup. Mr. Boehnke also recommended lifting the partial ban on aggregators of retail customers in Case No. U-21099. 4 TR 3329-3330. The Commission should reject this recommendation because

any such request should be considered by the Commission with industry wide participation, such as in Case No. U-21099.

As discussed in GLREA's Initial Brief (p 28), measurement and verification is critically important. Also, as discussed earlier, the Company has not studied and measured impacts of EWR programs on infrastructure planning. Only partial impacts are calculated. The Company does not use these calculated impacts to inform infrastructure planning as established by the Company's responses to GLREA discovery.

GLREA urges the implementation of a robust, transparent, and replicable system of measurement and verification to measure the impacts of all deployed distributed assets at the meter using existing Advanced Metering Infrastructure. This system will enable all distributed assets, including those deployed through the EWR programs, to be modeled as procurable infrastructure resources both in this rate case and for modelling requirements in the Integrated Resource Plan.

The GLREA agrees that Measurement and Verification should be considered as part of any DERMS working group and as part of the Demand Response Aggregation working group. However, the existing Demand Response Aggregation working group has not met since October 29th, 2024. So, GLREA advocates that the Commission require specific, measurable, achievable, relevant, and time-bound actions to rapidly assess the potential of VPPs and enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers. Since the company is not measuring the impacts of the EWR programs at the meter using AMI data, it would be appropriate for the Commission to require such measurement and verification in this case. These programs have the potential to be a part of the overall potential VPP infrastructure. Thus, it is critical to measure the impacts and value of these programs in this case in alignment with the Benefits Cost Analysis tool to understand what

value these programs are delivering and how that value could be maximized, including capacity and other grid services.

J. Progress Toward the Implementation of a VPP Program Should Not be Delayed Based Upon the Uncertain Outcomes of Existing or Planned Workgroups

GLREA asserts that meaningful progress toward the implementation of a VPP program should not be delayed based upon the uncertain outcome of existing or planned workgroups. The Company's Initial Brief (pp 454-456) state:

> For the first time in rebuttal, MEUI witness Albers recommended that the Company incorporate existing DR programs into any VPP program, develop a data sharing platform, and consider use of available resources such as the CHARGED Initiative. 6 TR 4242-4243. While these are items that could be considered as part of a DERMS workgroup, it would be premature to require any of them prior to completion of the workgroup, and any requirement must be consistent with the Commission's statutory authority. As to Mr. Albers' recommendations regarding details of the workgroup, requiring these additional details is unnecessary because the Commission already required that any DERMS workgroup include "robust feedback and input" from interested persons. See U-21585 Order, page 118."
>
> The Company has performed NWS pilots to study the potential of NWS to allow the Company to defer distribution capacity upgrades. 3 TR 1419-1420. The Company concluded that using NWS to deliver reliability benefits requires more certainty about deployment schedule and reliability parameters. 3 TR 1420. The Company is also working to develop a new NWS pilot and is planning to propose this pilot outside of the regular rate case process using the expedited pilots procedure. 3 TR 1420. Pursuant to that procedure, the Company is planning to meet with stakeholders to seek input on the pilot. Id.
>
> CEO witness Kenworthy argued that "the time for pilots is over" and that the Company should begin developing a formal program. 4 TR 3218. The Company is not able to develop a "formal program" because the Company's previous NWS pilots provided mixed results and the Company still needs a demonstration that NWS can operate reliably and deliver clear and consistent benefits to the Company's system. 3 TR 1610. It would be unreasonable and irresponsible for the Company to implement a program without being confident that the program will work. Id. In addition, the Company would like the new pilot to examine the potential for NWS to provide reliability and resiliency benefits, while previous pilots only looked at potential capacity deferral. Id."

As discussed earlier, if a resource is not modeled, the Company cannot procure it.

GLREA urges the simultaneous effort of piloting new approaches and the studying of the breadth

of distributed resources available to be procured including in-front- and behind-the meter deployments, energy efficiency, demand response, distributed energy production, energy storage, managed EV charging, etc…. To understand if the Company's investments are prudent, the Commission and Staff must assess alternatives to those investments that have not yet been studied by the company.

Further, the Company states in their initial brief, "it has not been demonstrated that VPPs can deliver value outside of reducing system-level peak demand." The Company's myopic perspective ignores the vast potential savings that can be generated by limiting investments and increasing the use of existing infrastructure through reducing system-level peak demand. This was demonstrated by the Brooklyn Queens Demand Management Program, which began in 2014 and was later expanded, that deployed $200M in Distributed Energy Resources to defer a $1.2B distribution system upgrade. While additional studies and pilots may be required to assess the potential of VPPs to deliver additional grid services beyond capacity, reductions of system-level peak demand can deliver immense savings that must not be trivialized. And, this can be implemented without requiring direct system integration to the Company's systems.

Simultaneously, the Company can continue to pilot different means of aggregation including both Company and third-party owned and operated aggregations, by shifting to an open measurement and value framework based on the Benefits Cost Analysis tool; such pilot aggregations could include NWA, EWR, DR, Storage, renewables, etc…. This published value will make the economic analysis possible for all parties, ensuring transparency and optimizing planning and development.

K. Contrary to the Company's Position, the Commission Should Require the Inclusion of VPPs in the Company's IRP Process

Contrary to the Company's position, the Company should require the inclusion of VPPs in the company's IRP process. The Company's Initial Brief, p 456, states:

> "Mr. Kenworthy and Mr. Boehnke both recommended including VPPs in the Company's IRP process. See 4 TR 3212-3213, 3329. The Commission should reject these recommendations. The Commission has approved IRP Filing Requirements in Case No. U-18461 and has established Case No. U-21570 to consider updates to the Michigan Integrated Resource Planning Parameters and IRP Filing Requirements. 6 TR 3623-3624. The Commission should not adopt separate filing requirements in this case that only apply to Consumers Energy but should address IRP modeling requirements in the separate proceedings that the Commission opened for that purpose. Id.

If VPP resources are not a selectable resource in the IRP model, it is likely they will not be procured until the next cycle. Given the scale of projected load growth, the low cost, and high reliability and resilience delivered by VPPs, this would not meet the Commission's mandate.

As stated in GLREA's Initial Brief and this Reply Brief, GLREA is advocating that the Commission require specific, measurable, achievable, relevant, and time-bound actions to rapidly assess the potential of VPPs and enable regulation that would allow demand-side aggregations to swiftly deliver affordable, reliable, and resilient services to customers to enable rapid load growth in Michigan through: (1) Increased utilization of existing capacity and grid assets (2) Limiting the risk to ratepayers of large stranded assets and (3) Providing downward pressure on energy bills while investing in local supply, distribution, and demand flexibility infrastructure.

VII. GLREA RECOMMENDATIONS

As discussed in Witness Boehnke's direct testimony, there are several actions the Commission could take to begin enabling VPPs in Michigan. The Clean Energy Group provided policy recommendations in 2021 to enable the procurement of grid services through distributed battery aggregations (Witness Boehnke's Direct Testimony (4 TR 3319-3330). That report and

recommendations were compiled in February of 2021, and the program continues to deliver significant resources to the grid, directly contrasting the perspective of the Company that EE, DR, DERs, and VPPs are either too nascent an idea or insufficient to reliably deliver grid services for customers.[12]

As discussed in Witness Boehnke's direct testimony, there are several actions the Commission could take to begin enabling VPPs in Michigan. Listed below are Witness Boehnke's expert recommendations. These offer a roadmap for the Commission to begin working towards broad VPP deployment.

1. Establish a transparent, replicable system of Measurement & Verification (M&V) based on measured impacts at the meter for the Company's EWR, DR, and DER programs using the state's ratebased Advanced Metering Infrastructure (AMI) data. The Commission staff could adopt OpenDSM, or another similar robust system, and should enlist an expert to assist the MPSC in launching the system within the next 12 months.
2. Complete a meter-based assessment, or Backcast, of the Company's EWR programs (Energy Efficiency, Demand Response, and Distributed Energy Resource programs) for the past 3 years using the established meter-based, transparent, replicable system of M&V cited in Recommendation 1 within the next 12 months.
    a. The assessment should be completed by a 3rd party in a transparent, replicable manner to facilitate consistent data and impact reporting.
    b. The transparent, replicable system of Measurement and Verification could then be used to measure the impacts of future EWR programs and future VPPs to ensure consistency of data and impact reporting.
    c. The study should include an assessment of all customer sites served, the retrofits implemented, the hourly savings load shape delivered, and the energy savings both peak capacity and cumulative energy savings.
    d. The study should include an analysis of participating customers' electricity-usage profiles as recorded at their AMI meter prior to the intervention to understand which prospective customer load shapes would likely deliver outsized impacts for future program implementations.
    e. The assessment should include a valuation of delivered resources, or value potential as identified in the Targeting Exercise, using the Benefits Cost Analysis tool.

[12] Clean Energy Group, February 2021, "Connected Solutions, A New State Funding Mechanism to Make Battery Storage Accessible to All", Accessed at https://www.cesa.org/wp-content/uploads/connected-solutions-policy.pdf, on 9/23/2025

f. This assessment and any tools built should be made available to all stakeholders.

3. Complete a potential study and analysis of every meter in the Company's portfolio, or Targeting exercise, within the next 12 months to assess the following:

   a. Assess all ratepayers' load shape characteristics at the meter, including peak load and seasonal variations.

   b. Proactively identify the high-potential customers, including time of use and location-specific variations, linked to each large grid asset (feeder, transformer, substation) that could deliver outsized impacts when served with EWR program offerings.

   c. Identify which customers may benefit from specific retrofits. An example of this analysis is that completed by Recurve for Ameren Illinois.[13]

   d. Analyze which ratepayer meters are linked specific to feeders and substations, incorporate load growth projections and required infrastructure investments, and identify where distributed assets could defer or eliminate the requirement for upgrades in a relational database.

   e. Quantify the potential resources behind each meter and a valuation of those resources using the Benefits Cost Analysis tool.

   f. This assessment and any tools built should be made available to all stakeholders.

4. The Commission can require that VPPs be included in the Company's Integrated Resource Planning (IRP) process, not only to support the fulfillment of the Company's past commitment that 20% of energy demand be met by EWR programs by 2030 but to expand upon it to deliver affordable services to ratepayers.

5. Require the assessment of the EWR programs cited in Recommendations 2 & 3 as a foundation for assessing the cost of delivery for a VPP and supplementing with results from currently delivering VPPs that are aggregating batteries, thermostats, heat pumps, and a variety of other technologies.

6. Complete an assessment similar to the headroom assessment conducted in Rethinking Load Growth from the Nicholas Institute for Energy, Environment & Sustainability for the MISO Zone 7, aggregating also to Consumers and DTEs territories. This assessment would show the currently available headroom on the Company's grid and identify critical geographic areas for deployment of VPPs.

7. Deploy the Benefits Cost Analysis tool in Quarter 1 of 2026, focusing the development to support business planning for VPP and consistent valuation of grid services across resources (e.g. VPPs and traditional generation).

8. The Commission should reactivate the Demand Response Aggregation working group, and include in its mandate to investigate distribution-level markets or the

[13] Recurve, 2024, "Recurve Supports Ameren Illinois' Commuinity Small Business Energy Efficiency Program During COVID", Accessed at hload sincludinghapettps://www.ratepayers'youtube.com/watch?v=CIDGP1d0Q2Y on 9/29/2025

concept of a Distribution System Operator[14] as opposed to only Transmission markets as VPPs aggregate distribution-level assets.

9. Allow the aggregation of residential and small commercial retail customers participating in wholesale markets and unbundle existing retail tariff mechanisms. This would build on the progress from Case U-21099 and fully lift the Commission's prohibition of aggregators of retail customers, allowing the aggregation of residential and smaller C&I customers with appropriate customer protections.[15]
10. Enable battery storage to participate in grid-forming and arbitrage support by eliminating the interconnection requirement imposed in the November 2025 interconnection U-21482 settlement dictating "Battery Energy Storage System Modes. The allowable battery energy storage system modes are the following: (1) Import-only (2) Export-only (3) No-exchange."
11. Create a working group to investigate and facilitate the use of AMI data by stakeholders. Without broad use of Advanced Metering Infrastructure data to analyze and identify customers with the greatest need, potential resource, and located in a high-value area due to infrastructure investment requirements, aggregators do not have the telemetry capabilities to identify hosts for critical grid infrastructure that will be aggregated into a VPP.

To ensure these recommendations are enacted, GLREA strongly suggests the Commission adopt the SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) framework in their order regarding VPPs. Using this framework, the Commission could re-engage the Demand Response Aggregation working group to specifically address the requirements for VPPs in Michigan in time for these aggregations to be included in the Integrated Resource Planning processes occurring in 2026.

While the Company has stated its resistance to procuring VPPs, GLREA clarifies that not all of its recommendations require immediate implementation. These recommendations would initiate the required assessments, to establish a standard of weights and measures, transparent valuation, and locational analysis to evaluate the potential of procuring VPPs in Michigan.

[14] https://www.maine.gov/energy/sites/maine.gov.energy/files/2025-01/DSO%20Study%20Final.pdf

[15]Rocky Mountain Institute, VP3, March 2025, "Supporting a Reliable Grid: The Opportunity for VPPs in Michigan", Accessed at https://rmi.org/wp-content/uploads/dlm_uploads/2025/03/Supporting_A_Reliable_Grid_The_Opportunity_For_Virtual_Power_Plants_In_Michigan.pdf, on 9/23/202;5

GLREA also strongly recommends that the Commission move swiftly to ensure these resources will be evaluated in the 2026 IRP modeling process. Should such aggregations not be included in 2026, it is likely that VPP aggregations will not be included in the Company's procurement until 2031, placing undue burdens on ratepayers in violation of the Commission's mandate to ensure "the provision of reliable service at just and reasonable rates."

In summary, GLREA requests the Commission to adopt all possible actions at this time that can lead to the establishment of a credible and robust VPP program applicable to Consumers Energy Company.

Respectfully submitted,

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Dated: December 23, 2025

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of
CONSUMERS ENERGY COMPANY for
authority to increase its rates for the generation and distribution of electricity and for other relief
_____/

Case No. **U-21870**

PROOF OF SERVICE

Carol Dane says that on **December 23, 2025**, she served a copy of the **Reply Brief of the Great Lakes Renewable Energy Association** upon the following parties via email:

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