December 17, 2025

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

RE: MPSC Case No. U-21571 – In the matter, on the Commission's own motion, to clarify Sections 101 and 103 of Public Act 235 of 2023 and to conduct a study of long-duration energy storage systems and multi-day energy storage systems.

Dear Ms. Felice:

Enclosed for electronic filing in the above-captioned proceeding, please find the **2025 Consumers Energy Company Electricity Storage Systems Report.**

This is a paperless filing and is therefore being filed only in PDF.

Sincerely,

Digitally signed by Anne M. Uitvlugt
Date: 2025.12.17 14:18:18 -05'00'

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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, to clarify Sections 101 and 103 of Public Act 235 of 2023 and to conduct a study of long-duration energy storage systems and multi-day energy storage systems.	)	Case No. U-21571

2025 CONSUMERS ENERGY COMPANY ELECTRICITY STORAGE SYSTEMS REPORT

I. BACKGROUND

Michigan's 2023 Public Act 235 ("Act 235") was signed into law on November 28, 2023. Act 235 establishes the new clean energy standard, updates the existing renewable energy standard, establishes statewide energy storage targets, and provides new guidance regarding requirements for integrated resource plans ("IRPs"). The Act also defines various categories of storage, including long-duration, and multi-day storage, and sets forth requirements for storage reporting and development. Additionally, Section 103 of Act 235 requires Consumers Energy Company ("Consumers Energy" or the "Company") to submit annual electric storage reports by stating:

> By December 31, 2024, and each year thereafter, an electric provider whose rates are regulated by the commission shall submit a report to the commission documenting the centralized and distributed electricity storage systems in its service territory.

Further guidance on Section 103 was provided by the Michigan Public Service Commission ("MPSC" or the "Commission") in Case No. U-21571 with an Order dated February 8, 2024. The MPSC specified that this report shall include the following:

1. Amount of storage by category (short-duration, long-duration, or multi-day) that was installed prior to the effective date of Act 235. The amount should be expressed in both installed capacity (MW) and energy (megawatt-hours);
2. Amount of storage by category (short-duration, long-duration, or multi-day) that has been installed since the effective date of Act 235;

3. Amount of storage by category (short-duration, long-duration, or multi-day) that is contracted for but not yet installed since the effective date of Act 235. Expected commercial operation dates shall be included;

4. Identification of the proportion of all storage amounts discussed above that are centralized as compared to distributed storage systems;

5. A map of the location of individual storage facilities including both centralized and distributed;

6. A schedule of current and expected future energy storage solicitations, by category;

7. Any challenges encountered in storage development and anticipated challenges in future developments;

8. Upon the Commission's adoption of a methodology to determine individual storage targets, an estimation of the utility's energy storage target at the time of the report; and

9. Any additional information that the utility would like to present to the Commission.

II. STORAGE INSTALLED PRIOR TO ACT 235

A. SHORT-DURATION STORAGE

Table 1 below shows Consumers Energy's installed short-duration storage units including any power purchase agreements ("PPAs") or special programs. These units have been categorized as *short-duration* based on the fact that they are not capable of continuously discharging electricity at their full rated capacity for at least 10 hours.

Many of these units were installed as part of the Company's Grid Storage Program. These small-scale projects have been used to build expertise on various aspects of grid storage and storage development. These small-scale projects are becoming increasingly relevant to assist in development of larger scale storage to combat market and regulatory conditions.

Table 1 also includes Ludington Pumped Storage, a facility constructed between 1969 and 1973. At the time of construction, Ludington was the largest pumped storage facility in the world. Consumers Energy owns 51% of the facility and Detroit Edison ("DTE") owns 49%.

Additionally, Table 1 provides storage systems installed under the Company's net metering program.

Table 1: Short-duration storage installed prior to Act 235

Name	Size (MW)	Energy (MWh)
Airpark	2	8
Cadillac Solar + BESS[1]	0.50	1
Circuit West	0.50	0.50
Parkview	1	1
Innovation Center	0.10	0.35
The 200 Building (solar + BESS[1])	0.25	0.50
Star of the West	0.25	0.50
Bissell	0.25	0.50
Ludington Pumped Storage	1,183.46[2]	8,000
Residential Net Metering	13.8	20.7
Commercial Net Metering	0.29	0.44
TOTAL	**1,202.4**	**8,033.49**

B. LONG-DURATION STORAGE

The Company categorized units as *long-duration* if they are capable of continuously discharging electricity at their full rated capacity for more than 10 hours. There were no long-duration energy storage systems installed prior to the effective date of Act 235.

C. MULTI-DAY STORAGE

The Company categorized units as *multi-day* if they are capable of continuously discharging electricity at their full rated capacity for more than 24 hours. There were no multi-day energy storage systems installed prior to the effective date of Act 235.

III. STORAGE INSTALLED SINCE ACT 235

One short-duration, centralized, front of the meter electricity storage system has been installed since the effective date of Act 235 (February 28, 2024). Tibbits, which is located in Branch County, Michigan, is a 4-hour, 100 MW (400 MWh) storage system. Additionally, there has been an aggregated 4.6 MW (1.02 MWh) installed over 313 residential locations since the effective date of Act 235 as part of net metering programs. These residential installations are categorized as distributed and short-duration. There has been an aggregated 0.11 MW installed at three commercial locations since the effective date of Act 235 as part of net metering programs. These commercial installations are categorized as distributed and short duration.

[1] BESS stands for Battery Energy Storage System.
[2] Represents 51% share of the capacity of Ludington.

IV. CONTRACTED STORAGE NOT YET INSTALLED

A. SHORT-DURATION STORAGE

As a result of the Company's 2021 IRP settlement agreement, the Company launched a one-time solicitation in September of 2022. The solicitation for battery storage projects resulted in the selection of projects noted in Table 2 below.[2]

Table 2: Contracted short-duration electricity storage projects not yet installed

Name	Size (MW)	Energy (MWh)	Expected COD
Century Oaks	200	800	6/1/2026
Grand Basin	100	400	6/1/2027
Hackett	100	400	6/1/2028
Iosco	30	120	1/1/2027
Lakeside	100	400	6/1/2028
Voyager	100	400	6/1/2028
Voyager II	150	600	6/1/2028
Weadock	45	180	1/1/2027
TOTAL	**825**	**3,100**	**NA**

B. LONG-DURATION STORAGE

There have been no long-duration electricity storage system projects contracted for or under development by Consumers Energy.

C. MULTI-DAY STORAGE

There have been no multi-day electricity storage system projects contracted for or under development by Consumers Energy.

V. PROPORTION OF CENTRALIZED VS. DISTRIBUTED STORAGE

Table 3 below shows the amount of centralized, distributed, and total capacity (MW) that are currently installed or contracted to be installed. The Company categorized units that have an interconnection agreement with Midcontinent Independent System Operator, Inc. ("MISO") or PJM Interconnection, LLC ("PJM") as *Centralized* and those that do not as *Distributed.* The proportion of centralized capacity is 96% (0.9600) and can be calculated as the amount of centralized capacity (2,033.46 MW) divided by the amount of total capacity (2,118.02 MW). The

[2] In the previous version of this report, filed in December 2024, it was noted that an additional 2.5 MW BESS project called Armstrong was expected to go online in June 2026. Since then, the project has been canceled due to increasing costs and limited costumer benefits.

proportion of distributed storage is 4% (.400) and can be calculated as 100% less the proportion of centralized storage (96%).

Table 3: Electricity storage systems by category

NAME	Location	Category	Size (MW)
Ludington Pumped Storage	Ludington, MI	Centralized	1183.46[2]
Voyager	Saline, MI	Centralized	100
Century Oaks	Huron County, MI	Centralized	200
Tibbits	Branch County, MI	Centralized	100
Grand Basin	Tompkins, MI	Centralized	100
Hackett	Tittabawassee, MI	Centralized	100
Lakeside	Victory Twp, MI	Centralized	100
Voyager II	Saline, MI	Centralized	150
Airpark	Standish, MI	Distributed	2
Parkview	Kalamazoo, MI	Distributed	1
Circuit West	Grand Rapids, MI	Distributed	0.50
Iosco	Iosco, MI	Distributed	30
Weadock	Bay City, MI	Distributed	45
Cadillac Solar + Storage	Cadillac, MI	Distributed	0.50
Innovation Center	Jackson, MI	Distributed	0.10
The 200 Building (solar + BESS)	Jackson, MI	Distributed	0.25
Star of the West	Quincy, MI	Distributed	0.25
Bissell	Grand Rapids, MI	Distributed	0.25
Net metering Residential (as of 11/13/2025)	-	Distributed	4.6
Net metering Commercial (as of 11/13/2025)	-	Distributed	0.11
TOTAL CENTRALIZED		**CENTRALIZED**	**2,033.46**
TOTAL DISTRIBUTED		**DISTRIBUTED**	**84.56**
TOTAL		**BOTH**	**2,118.02**

VI. LOCATION MAP OF STORAGE FACILITIES

The location map of installed and contracted storage facilities is provided in Attachment 1. Note the net metering storage facilities were not included on this map due to the high quantity of installations.

VII. SCHEDULE OF ENERGY STORAGE SOLICITATIONS

A. CURRENT SOLICITATIONS

On June 2, 2025, the Company's Independent Administrator, Enel X, issued the 2025 All Source solicitation. The 2025 All Source solicitation solicited for up to 1,500 MW of clean generation to serve the Company's IRP, Voluntary Green Pricing, and the Renewable Energy Plan and included tranches for energy storage resources. Additionally, the solicitation solicited for short-term traditional resources. Bids were due on August 28, 2025 and the Company is currently evaluating the results. The Company does not currently have any additional open solicitations for electricity storage systems, but does intend to release a 2026 All Source solicitation in Quarter 1.

B. FUTURE SOLICITATIONS

The Company's approved IRP does not include annual storage resource additions beyond the Iosco and Weadock projects. The Company's annual IRP solicitations currently are for solar resources. However, Act 235 requires electric providers to provide their share of the statewide storage target of 2,500 MW by December 31, 2029. Therefore, the Company has included storage resources in the All Source solicitation issued in 2025 and anticipates continuing to run All Source solicitations annually.

VIII. CHALLENGES IN STORAGE DEVELOPMENT

A. CURRENT CHALLENGES:

Developing energy storage systems in Michigan comes with significant challenges. Some of the current challenges the Company is facing include:

- **MISO Generator Interconnection** – The MISO interconnection process and timelines are lengthy and ever changing which is leading to delays and increased costs.

- **Tariffs** – Tariffs are expected to continue to impact energy storage development through the increase of costs and the uncertainty of equipment availability. China's recent restrictions on export of many materials used in renewable energy and BESS development along with anticipated tariffs on all goods imported into the United States impacts the economic feasibility of planned storage projects.

- **Domestic supply** – There is a lack of domestic supply for essential materials and components which can exacerbate supply chain challenges and produce even more uncertainty. The lack of domestic supply impacts the ability to obtain energy storage systems easily without a potential cost impact from tariffs.

- **Local opposition** – Local opposition remains an issue particularly due to concerns about fire risk. Although state siting has eased the permitting challenges from the local opposition on energy storage, it has not improved the local sentiment for these installations.

- **Long-duration/Multi-day storage** – Exposure to technology risk remains high for long-duration or multi-day storage options due to the lack of commercially viable options at this time. This leads to higher costs as compared to shorter duration storage technologies.

- **Land costs** – Land costs are increasing and availability is challenging due to competition from other development, other renewable energy projects, and economic development.

B. FUTURE CHALLENGES:

The Company expects many of the current challenges in electricity storage system development to persist into the future. In addition to the challenges listed above, the Company is likely to experience the following additional challenges:

- **Materials** – Material sourcing and quality control are likely to become increasingly problematic. Inconsistent supply chains may make it difficult or prohibitively expensive to secure a reliable supply of high-quality materials. As discussed above, expected tariffs and international trade policies are likely to increase material costs and increase project development timelines in the near term. The purity and consistency of materials like lithium and cobalt are critical for long-term performance and safety.

- **Degradation** – Degradation management will likely be a key issue as well. Maintaining the efficiency and lifespan of the storage systems over time is essential for the economic viability of the projects.

- **Technology changes** – Rapidly evolving technology will require continuous adaptation and investment to stay competitive.

- **Regulatory compliance** – Regulatory compliance may become more complex with the need to navigate local, national, and international regulations. Obtaining necessary certifications for safety, performance, and environmental impacts could require more rigorous testing and documentation.

- **Tax Credits** – with the rollbacks on tax credits for renewable energy, there is the possibility that may affect storage tax credits in the future.

Many of the challenges listed above impact project economics and timelines. Increases to project costs can impact project viability and complicate the regulatory approval process. Increases to project timelines can also complicate the regulatory approval process and has the potential to impact the Company's capacity position. The challenges presented could have meaningful impacts on the Company's plans for providing safe, reliable, affordable, and clean energy. Overcoming these challenges will require a strategic and collaborative approach between developers, utilities, and regulators.

IX. ADDITIONAL INFORMATION

The Company continues to explore opportunities to add storage when it benefits customers. One type of opportunity that is being analyzed is BESS near existing renewable energy generation facilities which can provide the following benefits:

- **Grid stabilization** – BESS projects which are physically close to renewable energy resources may better react to the variability & intermittency of nearby renewable energy resources.

- **Reduced renewable energy curtailment** – BESS projects which are physically close to renewable energy resources may directly store nearby excess renewable energy resulting from grid constraints.

- **Lower infrastructure & operational costs –** BESS projects which are physically close to renewable energy resources may potentially benefit from existing or shared equipment, land, personnel, connections, etc.

- **Larger amounts of renewable energy credits ("RECs") and incentive RECs for renewable portfolio standard ("RPS") compliance** – BESS, which are physically close to renewable energy resources, may lower curtailment of those resources. Lower curtailment of renewable energy resources equates to more RECs from existing renewable resources. Additionally, storing renewable energy during off peak periods, then putting that stored renewable energy back on the grid during on-peak periods can generate additional incentive RECs which can aid the Company in meeting its RPS.

X. SUMMARY

Michigan's Act 235 sets a clean energy standard and outlines a 2,500 MW target for statewide energy storage, providing a roadmap for the development and reporting of these systems. Before Act 235, Consumers Energy had already installed several short-duration storage systems, contributing to the state's energy storage capacity. Although few new storage systems have been installed since the Act's implementation, there are significant projects on the horizon. These include the Century Oaks, Grand Basin, Hackett, Iosco, Lakeside, Voyager, Voyager II, and Weadock projects, which are poised to boost the state's storage capabilities by 825 MW by 2028. In addition to the Company's share of the statewide energy storage target, any further expansion of energy storage resources may be proposed in the Company's next IRP.

Developing these storage systems is not without its challenges including issues such as interconnection costs and timelines, tariffs, regulatory compliance, and local opposition. These challenges need to be addressed to ensure successful deployment and operation of all planned storage assets.

The Company is continuing to explore innovative ways to integrate storage with its existing grid such as pairing BESS with existing renewable energy facilities. Consumers Energy's continued storage development efforts will continue to help improve grid stability and resiliency offering customer benefits into the future.

Date: December 17, 2025

Respectfully submitted,

CONSUMERS ENERGY COMPANY

ATTACHMENT 1