REWIRING AMERICA

Rewiring America Testimony
House Energy Finance and Policy Committee
April 1, 2025

Dear Chairs Acomb and Swedzinksi and Committee Members,

I am writing today on behalf of Rewiring America in support of the concepts within Revisor Code 25-0489 and to outline items for further consideration.

Rewiring America develops accessible data and tools and builds coalitions and partnerships to make going electric easier for households and communities. Rewiring America helps Americans save money, tackle nationwide emissions goals, improve health, and build the next generation of the clean energy workforce.

Minnesota must reinvest in and expand its grid capacity over the next decade to support economic development, electrification, and other growing demands. However, without adequately incentivizing lower-cost alternatives like virtual power plants (VPPs), customer rates may continue to rise unnecessarily.

VPPs can positively impact residential energy rates by lowering energy bills, providing demand response payments, and improving overall energy reliability. By aggregating distributed energy resources like rooftop solar panels, battery storage, and smart appliances, VPPs help balance supply and demand, reducing strain on the grid and minimizing costly peak-time energy usage. Households can also benefit from emerging business models—such as third-party aggregators—which give them greater control over energy consumption and the ability to sell excess power back to the grid. This increased participation in the energy market empowers consumers and fosters a more resilient and cost-effective electricity system.

Market drivers for VPPs include aging grid infrastructure and rising electricity demand, which necessitate smarter, decentralized energy solutions. As extreme weather events become more frequent, the risk of power outages increases, making grid flexibility more critical than ever. VPPs play a key role in enhancing resilience by balancing supply and demand in real-time, reducing dependence on costly peaker plants, and helping to create a more stable and efficient energy system.

REWIRING AMERICA

We offer the following adjustments to Revisor Code 25-0489 to create a robust, household-centric VPP program in Minnesota.

- By highlighting the potential of VPPs to reduce system costs, boost efficiency, and provide alternatives to costly new generation and infrastructure, we can unlock significant benefits for all households.
- Establishing a well-defined equity framework is essential to ensure that all households, especially those in low-income and disadvantaged communities, can fully engage with and reap the benefits of VPP programs.
- Leveraging existing utility rebates and incentives will speed up adoption and fortify the VPP ecosystem.
- Additionally, prioritizing third-party enablement will foster healthy competition, enhance consumer choice, and support innovation in the energy market.

We appreciate Representative Kraft's efforts to introduce a comprehensive and well researched bill. We look forward to further conversations and collaboration on Revisor Code 25-0489, the virtual power plants program.

Thank you for your time,

Jenna Warmuth
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CLEAR ENERGY COALITION

BLACK VISIONS • COOPERATIVE ENERGY FUTURES • COMMUNITY POWER • VOTE SOLAR
INSTITUTE FOR LOCAL SELF-RELIANCE • MINNESOTA ENVIRONMENTAL JUSTICE TABLE
SIERRA CLUB • SOLAR UNITED NEIGHBORS • MINNESOTA INTERFAITH POWER & LIGHT

CLEAR Coalition

Advancing a Clean, Local, Equitable, Affordable, and Reliable Energy Future for Minnesota

Contact: Katie Kienbaum
kkienbaum@ilsr.org

March 31, 2025

Testimony regarding Revisor Code 25-04891 (Kraft) - Virtual Power Plants

Co-Chair Acomb, Co-Chair Swedzinski, and Members of the House Energy Committee,

The CLEAR Energy Coalition and its member organizations appreciate your leadership in advancing innovative solutions to Minnesota's energy needs, such as virtual power plants (VPPs). The CLEAR Energy Coalition advocates for clean, affordable, and reliable energy for all Minnesotans, including local rooftop solar and energy storage. Our members and supporters across the state are excited about the opportunity VPPs bring to save utility customers money, create grid reliability benefits, and foster economic development in our communities. VPPs can benefit families, small businesses, and farm operations, and otherwise help keep energy affordable for Minnesotans.

According to analysis by the Brattle Group, VPPs are the only resource with the potential to meet crucial electric grid needs while also saving money and providing net economic and social benefits. However, in order to achieve the scale of positive benefits that VPPs can provide, enabling legislation is needed to place VPPs on a level playing field with other resources. The U.S. Department of Energy predicts that VPP capacity across the country could quickly triple to 160 GW in just six years with the right policy measures in place, expanding the availability of a reliable power source while holding down costs and minimizing pollution.

For these reasons, we are very supportive of enabling legislation for VPPs in Minnesota. However, we have some concerns and ask you to consider amendments to improve the opportunity for VPPs in Minnesota.

Specifically, we are concerned that by allowing a utility to operate as an aggregator of distributed energy resources (Subd. 4(b)) without sufficient guardrails in place, the bill will hinder the creation of an open market for private companies that serve in the aggregator role in VPP programs.

VPPs work by bundling together, or aggregating, distributed energy resources such as solar-charged battery storage, smart thermostats, electric vehicles, and appliances. Third-party companies, called aggregators, help manage these customer-owned resources effectively and cost-efficiently, providing a large number of batteries and other resources to power the grid when called upon by a utility when it needs the resources the most. These third-parties effectively act as a middleman between customers and the

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utility, managing communication, dispatch, and control to enable a large number of resources to be deployed to the utility easily.

VPPs work best, and are most cost effective for all ratepayers, when they maximize the market opportunity for these third-party companies and their staff, resources, and technology, allowing utilities to keep their own overhead and administrative costs lower, helping to save customers money. Third-party aggregators also assist with customer enrollment and marketing and overall help scale VPP programs. Additionally, third-party aggregators can help distributed energy resources, like battery storage, become more affordable and available through offering financing arrangements for customers.

We remain optimistic that a legislative solution is within reach to best leverage the investment and innovation of customers and the private sector companies that serve them to create a more affordable and reliable electric grid.

We understand time is tight this legislative session, but our organizations stand committed to helping you work the bill to find solutions for the concerns raised above. We appreciate your time and consideration of these issues, and look forward to further discussion to enable VPPs for Minnesota.

Sincerely,

The CLEAR Energy Coalition

Black Visions
Cooperative Energy Futures
Minnesota Environmental Justice Table
Sierra Club North Star Chapter
Vote Solar
Community Power
Institute for Local Self-Reliance
Minnesota Interfaith Power & Light
Solar United Neighbors

March 31, 2025

To: Mike.Molzahn@house.mn.gov
Cc: Rep.Larry.Kraft@house.mn.gov

GoodLeap written testimony
Energy Finance and Policy Committee
Meeting: Tuesday, April 1, 2025 at 1:00 PM

RE: Revisor Code 25-04891 (Kraft) - Virtual power plants *pending introduction

GoodLeap, LLC. (GoodLeap) is a customer-centric technology company and aggregator of residential dispatchable assets delivering best-in-class financing and deploying sustainable solutions to the grid, from solar panels and batteries to energy-efficient HVAC, heat pumps, roofing, windows, and more with over $27 billion in financing since 2018 and over 1 million and growing households across all 50 states. Our ecosystem represents those businesses and individuals that manufacture, distribute, install, and support the development and adoption of residential solar energy and battery storage. GoodLeap is committed to building a strong residential multi-DER market across the country and in every state we operate in, focused on maximizing the benefits to homeowners and supplementing the needs of local utilities and electric service providers with our aggregate capacity and networking capabilities. An integral part of our suite of technological offerings and residential solutions is our Virtual Power Plant (VPP) business enabled by our DERMS multi-DER proprietary software. We have been engaged in DER programs, pilots, policy, and regulation across the country and have a dedicated workstream specific to VPPs. GoodLeap is at the forefront of developing and in VPP programs in 12 states and growing.

We believe Representative Kraft's "Revisor Code 25-04891 - Virtual power plants" will establish principles for the Commission to approve viable VPP programs for the public utilities within Minnesota. A thriving and competitive VPP market is possible and achievable in Minnesota if industry and utilities work together in an encouraging legislative and regulatory environment to enable deployment of VPPs. For a customer-centric company like GoodLeap this means being able to aggregate residential resources behind-the-meter (BTM) in a manner that benefits customers, bolsters the local electric grid and furthers the operational capabilities of the local utilities and coops. GoodLeap's solutions are founded in transforming the way we deliver power and furthering the economic value of such investments in the most competitive way, while avoiding expensive upgrades to the distribution system. Our experience and investment in residential solutions and software capabilities to network and dispatch residential renewable resources has resulted in two key outcomes: we excel at our ability to engage and retain our residential customer base and continue to offer most competitive cost products while also helping elevate the demand on the local grid at times of peak demand through technological advancements we are uniquely positioned to deliver in the most cost-effective and expedient timelines.

GoodLeap supports this legislation and appreciates Representative Kraft's openness to feedback from key stakeholders. One of our primary concerns with the legislation as written is that it allows public

utilities to serve as an aggregator *and also* remain eligible for cost recovery, rate of return, and financial performance incentive for achieving peak reduction targets. This would result in overcompensation provided to the utility for both administering the program and participating in the program. To that end, we have a few important recommendations for improving the VPP principles within the bill:

- **Subdivision 1. Definitions, (b) "Aggregator"**
  As mentioned above, our primary concern is that the legislation as currently written allows public utilities to serve as an aggregator *and* recover costs, capture a rate of return, and receive performance incentives for achieving reduction targets. We recommend adopting the following definition of "Aggregator:"

  > *"Aggregator" means a party or entity, other than the electric utility or its affiliate, that enrolls customers in the pilot program and coordinates the operation of enrolled energy resources. An aggregator shall not be considered an electric utility by virtue of participating in the pilot program but must be given non-discriminatory access to necessary customer and grid data from utilities in order to participate in the pilot program.*

- **Subd. 4. Other operational requirements**
  Subdivision 4 (b) would allow a public utility to serve as an aggregator. We recommend striking this language and adopting the definition of "aggregator" provided above. This would allow public utilities to serve as the program administrator, eligible for cost recovery and a rate of return as well as a financial performance incentive approved by the Commission without a conflict of interest or double-counting the value or role provided by the utility in a VPP.
- **Subd. 5. Commission duties**
  Commission duties outlined in the bill (subdivision 5 (d)) allow for the Commission to establish financial performance incentives for public utilities that achieve system peak reduction targets under subdivision 6. If public utilities are allowed to participate as an aggregator, they should not be provided with a financial performance incentive for achieving peak reduction targets based in-part upon their own program participation. We recommend keeping this section, so long as Subd. 4 (b) is removed and the recommended definition of "aggregator" above is adopted.
- **Subd. 8. Cost recovery**
  As stated above, if a public utility is allowed to serve as an aggregator, then it shouldn't also be eligible for a rate of return on the resources it has enrolled in the program. We recommend striking Subdivision 4 (b) language and adopting the definition of "aggregator" provided above. If those changes are not viable, we recommend modifying "Subd. 8. Cost recovery" to read as follows:

  > *Utilities may seek to recover prudently incurred costs to facilitate the virtual power plant pilot program, including but not limited to: DERMS provider and other service contract costs, operations and maintenance expenses, information technology costs, and such other costs, expenses and investments the Commission finds necessary and prudent for the development and implementation of the program. If the utility participates as an aggregator, the utility will not be eligible for a rate of return.*

Thank you for allowing us the opportunity to provide written testimony. We are glad to serve as a resource to you and Representative Kraft to ensure Minnesota public utilities roll out successful VPP programs.

Sincerely,

Ani Backa
VP of VPP
GoodLeap

Courtney Welch
Director of Policy
GoodLeap

Testimony of Sunrun Inc. to the Committee on Energy Finance and Policy

March 31, 2025

In Opposition as Drafted of Revisor Code 25-04891

Sunrun respectfully opposes Revisor Code 25-0489 as drafted and recommends amending the bill to ensure private market participants can participate in any virtual power plant programs. Sunrun is the nation's leading provider of clean energy as a subscription service, offering residential solar and energy storage with no upfront costs. Our innovative products and solutions can connect homes to the cleanest energy on earth, providing them with energy security, predictability, and peace of mind. Today, Sunrun serves over a million customers across the United States and has deployed more than 156,000 residential battery systems across the country.

Sunrun broadly supports the intent of the bill and commends the sponsors for working on an innovative solution to current and future grid needs. In 2024, Sunrun customers participated in 16 virtual power plant (VPP) programs, offering up to 80 MW of capacity when the grid needed it the most. Given Sunrun's experience operating in multiple states and jurisdictions, we have recommendations on changes to the proposed bill that will maintain effectiveness and ensure a thriving competitive market for customer-sited energy solutions.

Specifically, Sunrun recommends updating the current definition of aggregator, so that the program design is not limited to only allowing a power purchase agreement-style payment. Across the country, the most common design in VPP uses a capacity payment and not a power purchase agreement payment. The Commission should have options to provide the most efficient, effective, and customer-friendly design.

Additionally, this legislation should ensure monopoly utility providers of electricity service are not unfairly advantaged. The bill permits regulated monopoly utility providers to serve as aggregators in a market not regulated by the Minnesota Public Utilities Commission, but it doesn't provide any guardrails for how they can operate. While utilities can serve as aggregators in other VPP programs (like

ConnectedSolutions in Massachusetts), their participation is limited, and third-party aggregators still thrive in installing energy solutions on customer premises. If Minnesota utility providers want to be aggregators in a VPP program, they should do so through an unregulated subsidiary that cannot access utility information for marketing or exploit their monopoly status, increasing costs for ratepayers.

We support the creation of a Virtual Power Plant program pathway through legislation, but in doing so, the legislation should also clarify that customer-sited, third-party-owned systems to be installed in Minnesota are expressly allowed and do not require registration as a public utility. While the cost of installing solar has dramatically fallen over the past two decades, solar systems and batteries often cost between $20,000 and $50,000 or more. Clarifying that third-party-owned (TPO) financed solar and battery systems are expressly allowed in Minnesota would increase the deployment of customer-sited solar and storage in the state, enhance consumer protection, and expand economic development. ***TPO expressly exists in 35 other states across the United States, with no states other than Minnesota limit this customer financing option based on an arbitrary number of systems.*** Amending the bill to clarify that leases and power purchase agreements are allowed under Minnesota law would provide solar and storage installers and developers all the financing tools to provide affordable solutions, ensure consumer protections and performance guarantees, and expand the viability of solutions for the grid - like virtual power plants.

Sunrun strongly supports the intent behind Revisor Code 25-0489 as a way to address future grid needs. However, we urge the Committee on Energy Finance and Policy to amend Revisor Code 25-04891 to address the issues listed above.

Regards,

Christopher Worley
Senior Director of Policy
Sunrun

April 1, 2025

Minnesota House of Representatives Committee on Energy Finance and Policy
Capitol 123
Saint Paul, MN 55155

RE: Revisor Code 25-04891 (Kraft) - Virtual power plants

Dear Co-Chairs Acomb and Swedzinski, Representative Kraft and Committee Members,

I'm Mike Overend, testifying from Two Harbors where my wife and I invested in achieving a 40% energy-efficiency gain for our 1965 home, combined with a home solar array, to help create a better clean-energy future for our community and our children. However, the total revenue, including net-metering, from our solar generation creates a discouraging 18-year payback period, even after the 30% Federal tax credit, a long period worsened by our cooperative's new grid-access fee. An additional revenue stream from participating in Virtual Power Plants would encourage these important distributed energy resource investments.

Beneficial Electrification is rapidly increasing peak energy demands, interfering with Minnesota's important goal for 100% clean electricity by 2040. The largest costs to utilities and electric consumers to meet this goal come from providing reliable generation during the short periods of peak energy demands, primarily with fossil fuels. Minnesota's economy lost $22.7 billion in imported fossil fuel costs used to power 73% of our economy in 2024; equivalent to 1.5 times the funding for our K-12 education system. Instead of supporting fossil fuel industries in other states and countries we should invest this money in Minnesota's clean energy resources, including support for distributed energy resources with appropriate net metering rates and important additional revenue from Virtual Power Plants.

The US DOE Virtual Power Plant Liftoff Report projects these immediately dispatchable power resources can be rapidly scaled by 2030 and meet up to 20% of our peak energy demand needs while saving US electricity consumers up to $10 billion annually with increased grid reliability, resilience and security. California's proven experience shows that pairing solar with battery storage to create **Virtual Power Plants** increased grid reliability, reduced costs, and decreased greenhouse gas emissions

I support Representative Kraft's Virtual Power Plant bill (Revisor Code 25-04891) which encourages homeowners to cost-effectively invest in clean energy resources. Virtual Power Plants will encourage the important homeowner investment in solar and storage Minnesota needs. They offer a new revenue source for homeowners and support Minnesota's solar, battery and "smart" appliance businesses. They benefit utilities and their customers with major savings for reliable, clean energy while decreasing peak energy costs and the need for new Peaker plants and transformers.

Finally, **Combining Virtual Power Plants with a Minnesota state tax credit on new home solar and storage, net metering and virtual power plant revenues** also supports critical homeowner investment in distributed energy resources.

Respectfully,

Michael Overend, DVM
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