# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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| In the Matter of the Establishment of a Working Case Regarding FERC Order 2222 Regarding Participation of Distributed Energy Resource Aggregators in Markets Operated by Regional Transmission Organizations and Independent Systems Operators | ) ) ) ) ) ) | **File No. EW-2021-0267** |

## NOTICE OF AWARD OF U.S. DEPARTMENT OF ENERGY GRANT

Issue Date: February 2, 2022

The Commission has been awarded a grant of technical assistance from the U.S. Department of Energy pursuant to the Grid Modernization Lab Consortium (GMLC). A copy of the award letter and the Commission's application for the grant is attached. The goal of the technical assistance is to help the Commission in its efforts to fairly integrate DER aggregation into the Commission's current regulatory framework while not compromising on safety, reliability and consumer protection. The Commission will inform stakeholders of additional details as they become available.

**BY THE COMMISSION**

Morris L. Woodruff
Secretary

Morris L. Woodruff, Chief Regulatory Law Judge, by delegation of authority pursuant to Section 386.240, RSMo 2016.

Dated at Jefferson City, Missouri, on this xx day of February, 2022.

# TECHNICAL ASSISTANCE TO STATE PUCS: Application Form

OVERVIEW

The State Technical Assistance to Public Utility Commissions (PUCs) program is part of the U.S. Department of Energy's (DOE) Grid Modernization Initiative funded by the Office of Energy Efficiency & Renewable Energy's Solar Energy Technologies Office as well as the Office of Electricity. The program is offered in conjunction with Lawrence Berkeley National Laboratory (LBNL), Pacific Northwest National Laboratory (PNNL), the National Renewable Energy Laboratory (NREL), Argonne National Laboratory (ANL) and Oak Ridge National Laboratory (ORNL). The goal of the program is to provide high-impact, in-depth technical assistance to help state regulators address a wide variety of challenges facing the electricity industry. Many of the challenges are associated with rapid technological advancements, the emerging roles of both customers and third-parties in the generation and management of electricity, the convergence of operations, markets, and planning across the bulk-power and distribution system domains, and considerations for addressing the climate crisis and enhancing the equity, affordability, security, and resilience of the electric grid. This program augments and complements current technical assistance activities undertaken by various DOE program offices.

This online application form must be completed and submitted by 5 PM EDT on September 28, 2021 for consideration. Your organization will be notified within 3 months whether or not it has been selected to participate in the program and receive technical assistance. DOE envisions, subject to appropriations, that there will be a second round where applications for technical assistance will be accepted from state PUCs, which will likely occur during the second half of 2022.

DOE intends to fund selected technical assistance project proposals received from state public utility commissions. The intent is to address a broad set of issues that state commissions are now facing. Examples of possible areas where state regulators may need technical assistance are provided below; however, there is no constraint on what the state commissions may wish to propose or what DOE will consider:

Regulation and Utility Business Models, for example:
o Analyzing regulatory incentives and disincentives for clean energy investments, grid modernization investments, and equitable investment in customer-scale technologies.
o Analyzing performance-based regulation options, including revenue adjustment mechanisms and financial and non-financial performance mechanisms.
o Examining the roles of utilities vs. third-parties in providing value-added services.

Rate Design and Ratemaking, for example:
o Analyzing advanced rate designs for customers.
o Assessing equity and affordability issues associated with various rate options, including impacts to customer subpopulations (e.g., low-to-moderate income) and voluntary vs. default enrollment approaches.

o Developing equitable and sustainable export compensation mechanisms for all forms of distributed energy resources.
o Assessing approaches to apply time-varying rates to affect the time-dependent and potentially location dependent usage of energy and DERs.

Integrated Planning, for example:
o Conducting scenario analysis to determine the viability of resource options based on policy and technology preferences (e.g., clean energy) that may impart incentives and constraints in a more equitable fashion.
o Assisting in coordinating planning processes across the bulk-power, transmission, and distribution systems to address system-wide issues, e.g., to meet resource adequacy, resilience, and system flexibility requirements.
o Assisting with integrated distribution system planning, including walk-jog-run strategies for implementing hosting capacity analysis, interconnection processes, and non-wires alternatives, to effectively utilize distributed energy resources (DERs) and novel grid configurations, e.g., microgrids.
o Guiding and assessing grid modernization strategies and technology implementation plans that account for the effective deployment of sensing, communication, control, data/information management, computing, cybersecurity, and coordination capabilities to enable the equitable utilization of DERs and improve grid operations.
o Applying cost-effectiveness assessment methods.
o Incorporating energy justice considerations into planning processes.

Resilience Planning, for example:
o Applying threat-based risk assessment to inform regional- and state-level planning processes.
o Engaging stakeholders to coordinate approaches across federal, state, and community jurisdictions for addressing cyber and physical threats.
o Assessing policy and technology options for improving resilience.

Technology Application and Evaluation, for example:
o Examining methods for improved outage and voltage management, including analyzing approaches for deploying power electronics (e.g., smart inverters) to enable the equitable integration and utilization of DERs.
o Evaluating cybersecurity preparedness and appropriate investments to safeguard the operation of the grid.
o Analyzing policies, regulations, technology requirements, and tariffs concerning the equitable use of grid-interactive resources, e.g., energy storage, flexible loads, and microgrids.
o Evaluating proposed plans to deploy advanced metering functionality and customer-facing technologies that equitably distribute system and customer benefits.

Cross-Jurisdictional Coordination, for example:
o Assessing coordination frameworks for managing operations, including enabling the visibility and control of DERs, across the bulk-power, distribution, and customer/third-party domains.
o Evaluating market designs that utilize resources throughout the bulk-power and distribution systems.
o Assessing cross-jurisdictional resource adequacy considerations and risks and developing options for improving cross-jurisdictional visibility and coordination for improved reliability and resilience.

The types of technical assistance offered and activities supported include: technical analysis through the use of National Laboratory staff and their modeling capabilities; reports or white papers; stakeholder-convened discussions; education and training through workshops and webinars; and consultations with

topical experts. Technical assistance can be provided to state regulators and their staff for 12-24 months, depending on the request.

If state regulators are interested in applying for technical assistance in more than one area, a separate application should be submitted for each unrelated area of interest (e.g., cybersecurity investments and operational process improvements, alternative retail rate design options).

APPLICATION REVIEW AND SELECTION PROCESS

Each application will undergo a process by which it will be scored according to the merit review criteria provided below. The final ranking of the applications, however, will depend on their respective scores combined with a consideration of program policy factors provided below. The final selection will depend upon the availability of funds, including leveraged funds from other DOE program offices. The DOE program managers overseeing this program will undertake the merit review and selection process.

Merit Review Criteria:
1. Merit of the application (1=Poor; 2=Average; 3=Good; 4=Excellent)
   a. Issues needing to be addressed are important, focusing on a specific issue rather than requesting a broad
      range of support.
   b. Requestor is in a position to act on the TA being requested.
2. Significance of the issue with regard to state or national interests (1=Poor; 2=Average; 3=Good; 4=Excellent)
   a. The request for TA is to address an issue that is significant among states or across the nation.
3. Timeliness (1=Poor; 2=Average; 3=Good; 4=Excellent)
   a. Requestor has shown an immediate or near-term a need to act on the TA being requested (e.g. through dockets or special investigations).
   b. Proposed schedule allows for sufficient time to address the request.

Program Policy Factors:
1. Projects may be selected that best align with DOE program interests.
2. Projects may be selected that best align with National Lab capabilities.
3. Projects may be selected to best represent a range of issues.
4. Projects may be selected to support geographic diversity.
5. Projects may be selected that favor providing awards to PUCs with limited resources.

APPLICATION SUBMITTAL PROCESS & INSTRUCTIONS

More information about the technical assistance program and the application process can be found at TAtoStatePUCs.lbl.gov.

A public webinar, jointly hosted by DOE, the National Labs, and NARUC, will be held on Thursday August 26, 2021 from 1-2 PM EDT to provide details about the program and the application process as well as answer questions. Register for the webinar at TAtoStatePUCs.lbl.gov.

There will also be a series of virtual office hours where applicants can get answers to more specific questions concerning their unique proposals. Applicants will need to reserve a 30-minute time slot during

any of the five dates listed below. Details for reserving a time slot during the virtual office hours can be found at TAtoStatePUCs.lbl.gov. Please note that virtual office hours are reserved on a first-come-first-served basis.

1. Thursday, September 2, 2021 from 9-11 AM EDT
2. Tuesday, September 7, 2021 from 2-4 PM EDT
3. Tuesday, September 14, 2021 from 1-3 PM EDT
4. Wednesday, September 15, 2021 from 2-4 PM EDT
5. Wednesday, September 22, 2021 from 4-6 PM EDT

Any inquiries about the technical assistance program and the application process can also be directed to the program's dedicated email account TAtoStatePUCS@lbl.gov or to any of the National Laboratory contacts listed below:

Peter Cappers PACappers@lbl.gov (315) 637-0513
Juliet Homer Juliet.homer@pnnl.gov (509) 375-2698
Michael Ingram Michael.Ingram@nrel.gov (303) 275-3231
Todd Levin TLevin@anl.gov (847) 644-2052
Thomas Harrison HarrisonTJ1@ornl.gov (865) 241-2991

Email *

alexander.antal@psc.mo.gov

## Organization Requesting Technical Assistance

Please provide the name and address of your organization that is requesting technical assistance

Name *

Missouri Public Service Commission

Address *

200 Madison Street, PO Box 360, Jefferson City, MO 65102-0360

## Primary Senior Official

Please provide the name, title, and contact information for the primary senior official at your organization who is sponsoring this application (e.g., Lead Commissioner or Staff Director).

Name *

Ryan A. Silvey / Scott T. Rupp (scott.rupp@psc.mo.gov)

Title *

Chair / Commissioner

Phone Number *

(XXX) YYY-ZZZZ

573-751-3687 / 573-751-0582

Email Address *

ryan.silvey@psc.mo.gov

## Primary Point of Contact

Please provide the name, title, and contact information for the primary point of contact who will engage with the Lab team for the delivery of technical assistance.

Name *

Alex Antal

Title *

Policy Advisor

Phone Number *

(XXX) YYY-ZZZZ

573-751-8705

Email Address *

alexander.antal@psc.mo.gov

## Justification of Request for Technical Assistance

Provide 2-3 paragraphs that discuss and respond to each of the following questions

What is the issue/question/task you are working on? *

On February 24, 2021, the Missouri Public Service Commission ("MoPSC") issued an Order Opening a Working Case to consider the Commission's response to Federal Energy Regulatory Commission (FERC) Order 2222. The Commission ordered its regulated investor owned utilities (IOUs) to provide suggestions on "how the Commission may best respond to the changes that will result from implementation of FERC Order No. 2222, and to review its current practices in these areas," and invited interested stakeholders to provide suggestions. The initial comments, report from MoPSC Staff ("Staff"), as well as subsequent comments have highlighted that there are several challenges facing the MoPSC, its regulated utilities and stakeholders as we face FERC Order 2222 compliance.

While adapting to Order 2222 is something all state commissions must address, MoPSC's situation is complicated by the fact that Missouri's IOUs participate in both the Southwest Power Pool and Midcontinent Independent System Operator (jointly, "RTOs"). While evaluating what regulations will be needed, MoPSC must ensure its rules and process complies with the yet-to-be finalized Order 2222 compliance tariffs for both RTOs. Furthermore, with MoPSC's longstanding prohibition on demand response aggregators participating in the wholesale market, the lack of MoPSC's experience with aggregation and large scale distributed energy resources presents the MoPSC with the daunting challenge of getting from where we are to where we want to be; a leader in policies and regulations that welcomes distributed energy resources while also ensuring protections are in place for customers and the distribution system.

What is your organization's role in addressing that issue/question/task? *

The MoPSC is a relevant electric retail regulatory authority (RERRA), which FERC has recognized as having a role in coordinating the participation of distributed energy resource aggregations in RTO/ISO markets. FERC has acknowledged RERRAs role include, but are not limited to:

*developing interconnection agreements and rules;

*developing local rules to ensure distribution system safety and reliability,

*data sharing, and/or metering and telemetry requirements;

*overseeing distribution utility review of distributed energy resource participation in aggregations;

*establishing rules for multi-use applications; and

*resolving disputes between distributed energy resource aggregators and distribution utilities over issues such as access to individual distributed energy resource data.

Furthermore, FERC has stated to the extent that metering and telemetry data comes from or flows through distribution utilities, FERC requires that RTOs/ISOs coordinate with distribution utilities and the RERRAs to establish protocols for sharing metering and telemetry data that minimize costs and other burdens and address concerns raised with respect to customer privacy and cybersecurity.

In its Order 719, dated October 17, 2008, FERC stated that demand response aggregators may participate in wholesale energy markets, subject to an “opt out” provision that states could chose to implement. On December 21, 2009, in response to FERC Orders 719, the Commission opened a docket, EW-2010-0187, to investigate the implementation of various demand side programs. The Commission in its Order establishing that docket references the FERC policies and states, “The Commission will explore the best model or models to achieve the requirements of [the Missouri Energy Efficiency Investment Act], through state demand-side programs, wholesale market opportunities available in MISO or SPP, or possible hybrid approaches and the implications for resource planning under various approaches.” The Commission issued another Order on March 31, 2010, temporarily prohibiting the operation of aggregators of retail customers (ARC) specifically by third-parties customers.

On September 17, 2020, FERC issued Order 2222, which requires (RTOs) and Independent System Operators (ISOs) to revise their tariffs to allow distributed energy resource (DER) aggregators to participate in wholesale energy markets. The deadline for compliance filings was set as July 19, 2021. As a result of these federal regulatory changes, the MoPSC is considering whether to modify its current rules and regulatory framework to accommodate the requirements of FERC Order 2222 and specifically, whether to repeal its temporarily prohibiting the operation of third-party ARCs in Missouri while ensuring safety, reliability, and consumer protection is not compromised.

Who else are you working with and what is/are their role(s)? *

The MoPSC has opened a working docket, Commission file EW-2021-0267, to study and gain input from Missouri's investor owned utilities (IOUs) and other interested stakeholders on the impact of FERC Order 2222. Missouri's IOUs have historically been the sole providers of demand response (DR) programs to retail electric customers in Missouri and administrative gate keepers to the interconnection of DERs in the state. Other stakeholders who have participated in the Commission's working docket are Midwest Energy Consumers Group, an organization that represents members of the electrical commercial customer classes; Renew Missouri, an organization that advocates for the expanded use of renewable energy and energy efficiency in Missouri, and Voltus, a demand response (ARC) in the commercial and industrial sectors.

The Commission held a workshop on where representatives of the following organizations presented: NRRI, MISO, SPP, Advanced Energy Management Alliance, CPower Energy Management, Voltus Inc., Baltimore Gas & Electric, Ameren Illinois, Exelon Utilities, Con Edison, Regulatory Assistance Project, and Plugged in Strategies. The Organization of MISO states has also offered to provide assistance to MoPSC with its Order 2222 compliance and training on DER .

These stakeholders have provided valuable insight into their individual perspectives on the role DER aggregation should have in Missouri. However at the end of the day the Commission must determine how to best implement these policy changes and would benefit from an neutral third party to assist it in determining what policies have worked best to integrate aggregators into it vertically integrated electricity market.

What challenges have you identified in your efforts that you think DOE's technical assistance can help address? *

While not an exhaustive list the Commission's Staff has initially identified the following list of challenges that the MoPSC needs to address in response to FERC Order 2222:

*Interconnection standards for DER, study processes for DER aggregation, and the need for a hosting capacity database;

*Protecting against unintended consequences such as double counting/compensation of resources;

*Consumer protection & education; and

*Whether the Commission has authority over requiring a registry system for participant DER.

During the MoPSC's initial workshop and in comments filed afterwards stakeholders have also identified potential challenges including:…

*Metering and telemetry requirements;

*Data privacy, data management and cybersecurity; and

*Timing of implementing State Commission rules and utility tariff changes.

How will the technical assistance provided inform your issue/question/task? *

The technical assistance will provide a neutral third-party perspective on how to fairly integrate DER aggregation into the MoPSC's current regulatory framework while not compromising on safety, reliability, and consumer protection.

The MoPSC is one of over a dozen state public utility commissions who have prohibited third party demand response aggregation by utilizing the "opt-out" provision of FERC Order 719. Several of these states are also vertically integrated states, like Missouri. With FERC mandating RTO's give DER aggregators access to whole sale energy markets and seriously considering the repeal of its demand response "opt-out" provisions, Missouri and other similarly situated states have to determine how to integrate third-party aggregators into their regulatory frame works that have historically only allowed vertically integrated investor-owned utilities to offer demand response and provide value for other customer owned DER (net-metering, co-generation, and battery storage.)

The MoPSC is aware of at least nine other MISO states that are both vertically integrated and have exercised the FERC Order 719 "opt-out" provision that might find value in the results if not actively participating in this technical assistance project: Arkansas, Indiana, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, South Dakota, and Wisconsin.

Explain what you hope to learn/accomplish through the requested technical assistance (e.g., a short list of desired outcomes) *

The MoPSC hopes to learn what best practices exist regarding DER aggregation from states that have been first adopters through the requested technical assistance. These best practices may include but are not limited to recommended rule revisions regarding:

*Commission rules on interconnection standards for DER and related tariffs, in particular, issues such as consumer protection, metering, monitoring, and distribution system infrastructure issues and operational bounds.

*Commission rules or tariff changes related to protecting against unintended consequences such as double counting/compensation of resources and inappropriate arbitrage of standard offer tariffs, and to address customer privacy issues: data privacy, data management, and cybersecurity.

*Commission rules regarding disputes between aggregators and the utility. - Commission rules to require a registry system for participant DER.

*Commission rules on integrated resource planning including customer sited renewables, battery storage and other distributed energy resources.

In addition to any rule revisions, the MoPSC would also hope to learn what no-regrets preparation it could take while its regulated utilities' respective RTOs develop DER aggregation tariffs.

Describe how the requested technical assistance will affect your organization's ability to achieve its desired outcomes *

While many if not all the requirements of FERC Order 2222 and may ultimately be mandatory upon the MoPSC, the requested technical assistance could expedite the MoPSC's repeal of the FERC Orders 719s DR opt-out provisions and save Missouri electric customers, utilities, would be aggregators and other stakeholders from costly and unnecessary missteps in the implementation of FERC Order 2222.

The technical assistance could additionally assist other vertically integrated energy market states that have also adopted the FECR Order 719 "opt-out", like Missouri, from making similar missteps along there way to FERC Order 2222 compliance.

What type(s) of technical assistance is your organization requesting? *

- [x] Technical analysis
- [x] Consultation
- [x] Presentation(s)
- [x] Support for workshops and/or collaboratives (e.g., stakeholder convened, technical expert participation)
- [x] Technical review of proposed commission policies, guidelines, or legislation
- [x] General information/education to inform the development of rules, regulation, or guidelines
- [ ] Uncertain what type(s) of assistance is required
- [ ] Other: .....

GRID MODERNIZATION LABORATORY CONSORTIUM
U.S. Department of Energy

12/21/2021

Dear Alex Antal,

Thank you for submitting your application to the U.S. Department of Energy (DOE) for technical assistance to state public utility commissions. We are pleased to inform you that your application has been accepted to move forward to the scoping phase.

The applications were reviewed by DOE under the Grid Modernization Lab Consortium (GMLC). GMLC is a strategic partnership between the US Department of Energy and the national laboratories to collaborate on the goal of modernizing the nation's grid.

The person listed below will contact you about whether you continue to be interested in receiving technical assistance as described in your application and to set up a scoping call.

*Sydney Forrester, Lawrence Berkeley National Laboratory; SPForrester@lbl.gov*

The final scope of work will be a 2-page document with milestones to ensure timeliness and usefulness to you. Once a final scope is agreed to between the Laboratory technical assistance team and your organization, and reviewed by DOE, work will begin. The goal is for work to begin in February 2021.

Sincerely,

Peter Cappers
Research Scientist,
Lawrence Berkeley National Laboratory

Juliet Homer, PE
Energy Research Engineer
Pacific Northwest National Laboratory

Cc: Michele Boyd, DOE
Joseph Paladino, DOE

**STATE OF MISSOURI**

**OFFICE OF THE PUBLIC SERVICE COMMISSION**

**I have compared the preceding copy with the original on file in this office and I do hereby certify the same to be a true copy therefrom and the whole thereof.**

**WITNESS my hand and seal of the Public Service Commission, at Jefferson City, Missouri, this 2nd day of February, 2022.**

**Morris L. Woodruff**
**Secretary**

Digitally signed by MOPSC
DN: CN=MOPSC, O=MOPSC, OU="", E=kim.happy@psc.mo.gov, C=US
Reason: I attest to the accuracy and integrity of this document
Location: Cole County, Missouri
Date: 2022.02.02 13:04:10-06'00'
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***MISSOURI PUBLIC SERVICE COMMISSION***

***February 2, 2022***

**File/Case No. EW-2021-0267**

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***Enclosed find a certified copy of an Order or Notice issued in the above-referenced matter(s).***

***Sincerely,***

***Morris L. Woodruff***
***Secretary***

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Recipients listed above with a valid e-mail address will receive electronic service. Recipients without a valid e-mail address will receive paper service.