

Aggregations in Opt-Out States

Sydney P. Forrester*

Additional Co-Authors: Cole Triedman[†], Sam Kozel[†], Cameron Brooks[†], Peter Cappers*

* Lawrence Berkeley National Laboratory

† E9 Insights

NREL DER Interconnection Workshop 1

December 15th, 2022





Disclaimer

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof, or The Regents of the University of California.

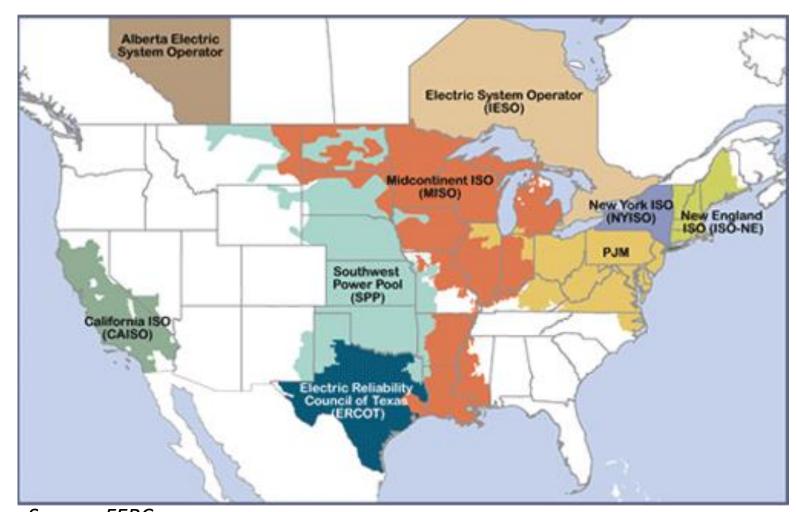
Ernest Orlando Lawrence Berkeley National Laboratory is an equal opportunity employer.

Copyright Notice

This manuscript has been authored by an author at Lawrence Berkeley National Laboratory under Contract No. DE-AC02-05CH11231 with the U.S. Department of Energy. The U.S. Government retains, and the publisher, by accepting the article for publication, acknowledges, that the U.S. Government retains a non-exclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this manuscript, or allow others to do so, for U.S. Government purposes



Order 719 Opt Out



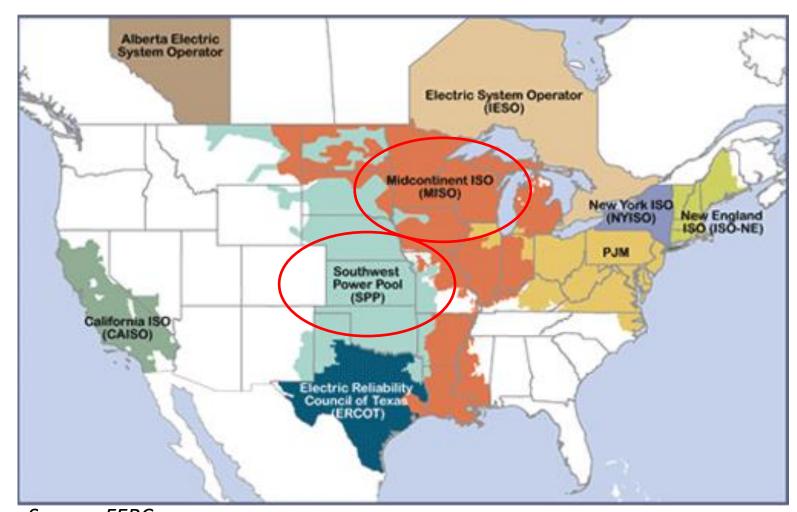
Source: FERC

- □ FERC Order 719 was issued in 2008
 - Reduced barriers of participation for DR in wholesale markets
 - Allowed states to opt out

- Many states in the MISO and SPP region opted out
 - States are primarily vertically integrated
 - Of 19 total states, 16 opted out



Order 719 Opt Out



Source: FERC

- □ FERC Order 719 was issued in 2008
 - Reduced barriers of participation for DR in wholesale markets
 - Allowed states to opt out

- Many states in the MISO and SPP region opted out
 - States are primarily vertically integrated
 - Of 19 total states, 16 opted out



Order 2222 impact on the opt out

- □ Order 2222 (generally) does *not* offer an opt out
 - One exception: Opt in mechanism for small utilities with less than 4M MWh of retail sales in the previous fiscal year
 - A DR resource in a heterogeneous aggregation is not subject to the opt out/opt in, however, a homogeneous DR aggregation is considered DR, so subject to Order 719 (incl. opt out/opt in)

Implications

- States will no longer be able to opt out to comply with Order 2222
- Moreover, FERC is considering whether to reverse the DR opt out as well



MISO and SPP states: Where are we at?

	2020	
RTO/ISO	Demand Resources (MW)	Percent of Peak Demand ⁸
CAISO 1	3,290	7.0%
ERCOT 2	3,939.0	5.1%
ISO-NE 3	476.2	1.9%
MISO ⁴	13,024.0	11.1%
NYISO 5	1,274.1	4.2%
PJM ⁶	8,915.0	6.0%
SPP 7	34.2	0.1%
Total	30,787.5	6.6%

Source: FERC, 2021*

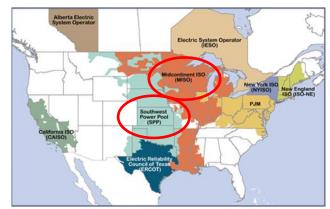
- Demand response exists in each wholesale market (at varying levels)
- Aggregations do exist in small numbers in the MISO/SPP markets and have provided value to the system
 - MISO June 10, 2021 Maximum Generation Event saw 400+ MW of aggregated DER participation over a three-hour Load Modifying Resource dispatch*
- Existing, untapped DERs could provide additional value
 - Organization of MISO States expressed concern over reserve margins "trending towards their minimum requirements" and the ability for quick deployment of DERs over slower incumbent generation that could be more expensive to ratepayers[†]

^{*2021} Assessment of DR and AMI (FERC, 2021)

State Response to 2022-2023 PRA Results (Org. of MISO States, 2022)

MISO and SPP states: Where are we at?

- Sixteen of Nineteen states in MISO and SPP opted out under Order 719
 - IL is the only fully competitive state in MISO and has active aggregations at the retail and wholesale market levels
 - KS and OK did not opt out, however, their markets were functionally closed until recent commercial and industrial customer aggregation activity
- Has any state reversed the opt out?
 - AR* investigated this issue but chose not to reverse the opt out despite recommendations from its DER investigation
 - MI[†] partially reversed its opt-out for the 10% of retail customers that have retail choice



RTO/ISO	2020		
	Demand Resources (MW)	Percent of Peak Demand ⁸	
CAISO 1	3,290	7.0%	
ERCOT 2	3,939.0	5.1%	
ISO-NE 3	476.2	1.9%	
MISO 4	13,024.0	11.1%	
NYISO 5	1,274.1	4.2%	
PJM ⁶	8,915.0	6.0%	
SPP 7	34.2	0.1%	
Total	30,787.5	6.6%	

[†] Case No. U-20348 (MI PSC, 2019)



^{*}Docket No. 16-028-U, Order 10 (AR PSC, 2018)

Logistics of reversing the opt out: Jurisdiction

- States in MISO/SPP may have concern over maintaining jurisdiction
 - Where aggregations do exist, state regulators have generally taken one of two approaches:
 - Assume implicit jurisdiction due to jurisdiction over regulated utilities and DERs interconnected in their territory (option used by majority of states)
 - Declare explicit jurisdiction over aggregators (in MISO/SPP, this is solely AR* despite having no aggregations participating in the wholesale market level)

- FERC and ISO/RTOs recognize this "implicit" jurisdiction via Order 2222 text
 - Supported by Order 2222 text along with (preliminary) MISO and SPP Order 2222 compliance filings

PSC, 2018)

Order 2222 Compliance Filing (MISO, 2022)

*In the matter of an investigation of policies related to DERs (AR

"DER interconnections to the distribution system are based on [regulator] rules, and as mentioned previously, [the regulator] may choose to develop and oversee Technical Review processes, including any [regulator]-defined DER interconnection rules. Under the proposal, [regulators] may also put rules in place governing operational overrides of [aggregated DER]." †

Logistics of reversing the opt out: Role of state regulator

- States in MISO/SPP may have concern over developing rules to govern aggregators and their role
- States in MISO/SPP with active aggregations have ad hoc rules that borrow heavily from existing processes
 - Rely on more general DER registration processes from the retail utility and/or resource registration processes from the ISO/RTO
 - Rely on existing data governance practices and rules from the retail utility and/or ISO/RTO
- Dual participation between retail and wholesale markets necessitates coordination
 - Order 2222 language puts the burden on aggregators to collect and report required data to all parties
 - Role of regulator applies to each DER because DERs in aggregations must comply with local regulation

Possible roles and responsibilities of state regulators with respect to coordination may include but would not be 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 DER participation in aggregations;
- establishing rules for multi-use applications; and
- resolving disputes between DER aggregators and distribution utilities over issues such as access to individual DER data. – FERC Order 2222



What is next?

- Michigan opened a proceeding considering a full reversal of the opt out*
 - Note that they partially reversed the opt out previously
- Minnesota is expected to initiate a docketed proceeding*
- Indiana just began a stakeholder process on Order 2222 implementation †
- States may be interested in beginning this process ahead of ISO/RTO Order 2222 for a variety of reasons
 - Possible FERC reversal of Order 719 opt out; Order 2222 compliance
 - Improve resource adequacy, capture value from existing and future resources
 - Take advantage of aggregation-specific benefits such as quick and accurate response, distributed locations, etc.
 - Support other state policy priorities
 - Learn via a slower onramp



† https://www.in.gov/iurc/home/implementation-re-ferc-order-2222/



Contacts

Sydney Forrester: spforrester@lbl.gov, (510) 486-4123

For more information

Download publications from the Electricity Markets & Policy Group: https://emp.lbl.gov/publications

Sign up for our email list: https://emp.lbl.gov/mailing-list

Follow the Electricity Markets & Policy Group on Twitter: @BerkeleyLabEMP

Acknowledgements

This material is based upon work supported by the U.S. Department of Energy's Grid Modernization Laboratory Consortium state technical assistance effort under Contract No. DE-AC02-05CH11231.

