

Energy storage in the Midwest and beyond: A timely analysis

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As the Federal Energy Regulatory Commission (FERC) released an update to last year's order on energy storage, *MRS Energy & Sustainability* today publishes a timely collection of papers that unpack the issue of energy storage in the Midwest and beyond.

Last February, FERC unanimously approved a landmark order in the fast-developing field of [energy](#) storage. FERC Order 841 directed grid operators across the US to develop market rules for energy storage to participate in the wholesale energy, capacity and ancillary services markets by treating storage as a generation resource.

The order was designed to enhance competition and to promote greater efficiency in the national electric wholesale market—and it effectively opened the floodgates for energy storage in wholesale markets. However, the FERC proposals have also stored up some problems for the future, which are examined in more detail in these three articles by leading experts from industry and academia in the Midwest.

[A review](#) by Ellen Anderson from the Energy Transition Lab at the University of Minnesota focuses on a story that no one else is telling: the conspicuous transformation of energy storage in the Midwest. Her article delves into the far-reaching implications of two energy storage summits recently convened in Minnesota.

She describes the role of energy storage in the Midwest as a case study, offering a detailed analysis of selected energy storage use cases.

Anderson said: "Although the Midwest storage market is relatively young, the MISO² region is one of the world's largest organized electric grids and will play a critical role for bringing energy storage to scale."

As the FERC-regulated grid operator in the Midwest, MISO filed a plan for compliance with the Order 841 in December 2018, alongside other operators. This includes implementation details for integrating ESRs in the MISO market starting in 2020. This intervention makes this new collection of articles focusing on the Midwest particularly pertinent.

[In his commentary](#), Rao Konidena from Rakon Energy LLC in Minnesota writes that "energy storage is finally getting its due at the wholesale level, thanks to FERC Order 841." He explains that storage increases the capacity value of renewables and decreases variability as the grid makes way for more renewables such as wind and solar.

He writes that grid-scale energy storage is in the news for several other reasons too, including California Energy Storage mandate Assembly Bill 2514; Tesla's Elon Musk backing stationary storage in Australia; the falling cost of leveled storage; and the ability of energy storage to address capacity needs of systems such as California's Aliso Canyon gas plant, which was impacted by methane leaks.

Konidena explains that FERC Order 841 focuses on standardizing electric storage resource (ESR) participation in wholesale energy and ancillary services and capacity market ruleset across the various Independent System Operators (ISO) and Regional Transmission Organizations (RTOs) within FERC jurisdiction. Without this, each ISO is reacting in an ad hoc way to demands on its individual system needs.

[A joint perspective](#) by Ted Thomas, Chair of the Arkansas Public Service Commission and Nancy Lange—former Chair of the Minnesota Public Utilities Commission and current board member of MISO—calls

on state policy makers and regulators to consider how to respond to the emergence of new storage technologies while at the same time observing the regulatory and legal proceedings that will draw the line between state and federal jurisdiction over storage-related matters.

Although the industry regards FERC Order 841 as a long-overdue overhaul of the wholesale markets, according to Konidena, there are several challenges still to overcome, including treatment of energy storage as a transmission asset (as well as a storage asset).

In December 2018, the nation's regional transmission organizations and ISOs filed their responses to Order 841, detailing a wide range of tariff changes for storage participation. On April 1 2019, FERC wrote to each operator asking for more details and issuing deficiency letters to all six RTOs and ISOs under its jurisdiction. MISO submitted a response letter to FERC on May 1 and FERC issued Order 841-A at their May 16 public meeting. Immediately, the National Association of Regulatory Utility Commissioners (NARUC) issued a statement saying they were disappointed with FERC's decision because Order 841-A did "not recognize the jurisdictional divisions outlined in the Federal Power Act".¹

Konidena said: "FERC Order 841-A and the immediate NARUC press release that NARUC is disappointed is one of the reasons why energy and electricity markets are so exciting these days. Don't expect FERC or NARUC to back down. The utility industry is changing and [storage](#) can do what Netflix did to our entertainment industry. Storage As A Service is coming, the fun is just starting!!"

More information: Rao Konidena, FERC Order 841 levels the playing field for energy storage, *MRS Energy & Sustainability* (2019). [DOI: 10.1557/mre.2019.5](https://doi.org/10.1557/mre.2019.5)

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