

131 FERC 61,128
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Marc Spitzer, Philip D. Moeller,
and John R. Norris.

Midwest Independent Transmission
System Operator, Inc.

Docket No. ER09-1126-001

Midwest Independent Transmission
System Operator, Inc.

Docket No. ER07-1372-017

ORDER CONDITIONALLY ACCEPTING STORED RESOURCES COMPLIANCE
FILING

(Issued May 10, 2010)

1. On February 1, 2010, the Midwest Independent Transmission System Operator, Inc. (Midwest ISO) submitted in Docket Nos. ER07-1372-017 and ER09-1126-001 proposed revisions to its Open Access Transmission, Energy and Operating Reserve Markets Tariff (Tariff)¹ concerning Stored Resources (February 1 Filing). This was done to comply with a Commission order that conditionally accepted a Midwest ISO compliance filing dealing with Stored Resources.² In this order, we conditionally accept the Midwest ISO's February 1, 2010 compliance filing to be effective January 1, 2010, as requested, subject to further compliance.

¹ FERC Electric Tariff, Fourth Revised Volume 1.

² *Midwest Indep. Trans. Sys. Operator, Inc.*, 129 FERC ¶ 61,303 (2009) (December 31 Order). Stored Resources are Resources that are capable of supplying Regulating Reserves, but not Energy or Contingency Reserves, through the short-term storage and discharge of electrical Energy in response to Setpoint Instructions. Midwest ISO FERC Electric Tariff, Fourth Revised Volume No. 1, Section 1.628, Second Revised Sheet No. 282.

I. Background and Description of Filings

2. On December 18, 2008, the Commission issued an order in which it generally found the Midwest ISO's proposal to use Stored Resources for Regulating Reserves,³ as well as Contingency Reserves,⁴ to be consistent with the requirements of the Ancillary Services Market Order.⁵ However, the Commission directed certain additional 30-day compliance measures and an informational report related to the Stored Resources proposal.⁶

3. On January 22, 2009, the Midwest ISO filed in Docket No. ER07-1372-014 proposed revisions to the Tariff (January 22 Filing) to comply with the compliance filing directives set forth in the Commission's December 18 Compliance Order (January 22 Filing). In this filing, the Independent Market Monitor (Market Monitor) developed a method for calculating economic withholding reference levels for reserves that Stored Resources offer. This method calculates Stored Resource reference levels based on the marginal costs of the energy that Stored Resources consume to maintain stored energy. It measures those levels through the Hourly Energy Storage Loss Rate⁷ multiplied by the

³ Regulating Reserves are frequency responsive Generation Resource, External Asynchronous Resource, Stored Resource or Demand Response Resource – Type II capacity held in reserve for the purpose of providing Regulating Reserve Deployment in both the up and down direction. Midwest ISO Tariff, Section 1.549, Second Revised Sheet No. 258.

⁴ Contingency Reserves are Spinning Reserves and Supplemental Reserves provided by Resources available to the Transmission Provider to use in the event of a system contingency as specified in Schedule 5 – Spinning Reserve and Schedule 6 – Supplemental Reserve of the Tariff. Midwest ISO Tariff, Section 1.86, Original Sheet No. 102.

⁵ *Midwest Indep. Trans. Sys. Operator, Inc.*, 122 FERC ¶ 61,172 (2008) (Ancillary Services Market Order), *order on reh'g*, 123 FERC ¶ 61,297 (2008).

⁶ *Midwest Indep. Trans. Sys. Operator, Inc.*, 125 FERC ¶ 61,319 at P 27, 31, 34, 45 (2008) (December 18 Compliance Order) (requiring: (1) a compliance filing within 30 days of the order to make certain Tariff revisions; and (2) an informational report on any Stored Resource-related reliability issues within 180 days from the Stored Resources implementation date).

⁷ The Hourly Energy Storage Loss Rate is defined as the amount of energy consumed in MWh over a five minute time period to maintain a Stored Resource at its maximum energy storage level assuming no operating reserve deployment.

locational marginal price (LMP) that the owner must pay to consume the energy.⁸ The proposed method then divides this cost for providing the ancillary service by the amount of the service offered to calculate the marginal cost per unit. Finally, the Market Monitor proposed to multiply the marginal cost by two to reflect the expectation that Stored Resources may not clear in all intervals during the hour because not all offers may be economic in the jointly optimized Energy and Ancillary Services Markets in every five-minute interval. Some of those changes on compliance were overtaken by the Midwest ISO's proposal to revise the Tariff in Docket No. ER09-1126-000, as discussed below.

4. On February 25, 2009, the Midwest ISO submitted a section 205 filing in Docket No. ER09-769-000 to defer the effective date of the Stored Resource Tariff provisions to January 1, 2010 in order to provide sufficient time to develop the systems needed to accommodate Stored Resources, as well as to facilitate additional stakeholder consultations regarding Tariff revisions. The Commission issued an order accepting this proposed change on May 26, 2009.⁹

5. On May 12, 2009, the Midwest ISO filed in Docket No. ER09-1126-000 proposed modifications to its currently effective Tariff. The changes define Stored Resources as short-term storage devices that supply Regulating Reserves in the Midwest ISO's markets and not Energy or Contingency Reserves. This filing also described the method for dispatching a Stored Resource. Under this method, the energy dispatch from a Stored Resource is not included in the co-optimization algorithm, unlike other resource types, but instead is determined in a way that maximizes the Resource's capability to provide Regulating Reserves.

6. On December 31, 2009, the Commission issued an order which accepted the Midwest ISO's compliance filing in Docket No. ER07-1372-014 and conditionally accepted the Midwest ISO's proposed Tariff revisions in Docket No. ER09-1126-000. The Commission required the Midwest ISO to make a compliance filing that provided clarifications requested by Ameren Services Company (Ameren) with respect to how the Hourly Regulation Limits, Hourly Maximum Energy Storage Level, Hourly Maximum Energy Charge Rate and Hourly Minimum Energy Discharge Rate are included in Stored Resource Regulating Reserve Offers.¹⁰ The Commission also required the Midwest ISO on compliance to revise the formula used to calculate the Reference Level for a Stored

⁸ The proposal uses the highest day-ahead LMP for the operating day to reflect the fact the supplier does not know the real-time LMP at the time it formulates its offer.

⁹ *Midwest Indep. Trans. Sys. Operator, Inc.*, Docket Nos. ER09-769-000, ER09-769-001 (May 26, 2009) (unpublished letter order).

¹⁰ December 31 Order, 129 FERC ¶ 61,303 at P 43.

Resource so that it divides the Reference Level Storage Loss Rate and Expected Storage Loss Price product by the amount of reserves offered, and then multiplies this amount by two, as proposed by the Market Monitor.¹¹

7. In the February 1 Filing, the Midwest ISO filed in Docket Nos. ER07-1372-017 and ER09-1126-001 proposed revisions to its Tariff to comply with the compliance filing directives set forth in the Commission's December 31 Order. The Midwest ISO provides clarification regarding Stored Resource Regulating Reserve offers and determining the amount that Stored Resources will be paid. The Midwest ISO also submits a revised Tariff sheet¹² that incorporates a corrected formula for calculating the Reference Level for a Stored Resource that properly reflects the methodology explained by the Market Monitor in the January 22 Filing.

II. Notice of Filing and Responsive Pleadings

8. Notice of the February 1 Filing in Docket Nos. ER07-1372-017 and ER09-1126-001 was published in the *Federal Register*, 75 Fed. Reg. 6652 (2010), with interventions and protests due on or before February 22, 2010. Beacon Power Corporation (Beacon Power) submitted a protest. The Midwest ISO filed an answer.

III. Discussion

A. Procedural Matters

9. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2009), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We will accept the Midwest ISO's answer because it provides information that assisted us in our decision-making process.

B. Substantive Matters

10. We conditionally accept the Midwest ISO's compliance filing with the proposed Tariff revisions, to be effective January 1, 2010, subject to a further compliance filing.

¹¹ *Id.* P 52.

¹² Midwest ISO FERC Electric Tariff, Substitute Second Revised Sheet No. 1409.

1. Beacon Power Concerns

a. Comments

11. Beacon Power requests that we direct the Midwest ISO to correct what it claims is an error in the Tariff's formula for calculating the reference level for Stored Resources. Beacon Power maintains that the Midwest ISO's proposed formula erroneously includes in the denominator the amount of Regulating Reserves that are bid. It states that the reference levels are intended to reflect a Stored Resource's marginal costs, including legitimate risk and opportunity costs or justifiable technical characteristics for physical offer parameters. Beacon Power states that in the case of Stored Resources, marginal costs are derived from a combination of two factors: (1) the energy losses associated with maintaining a Stored Resource's maximum energy storage level while idling in advance of deployment, which is termed the Hourly Energy Storage Loss Rate; and (2) the energy losses incurred once a Stored Resource is deployed to provide operating reserves, which consists of the energy consumed to convert electricity from the grid into stored energy and vice versa. Beacon Power states that the reference levels should be calculated based on the true marginal cost to Stored Resources of providing Regulating Reserves.

12. Beacon Power maintains that as conditionally approved in the December 31 Order, the formula for calculating reference levels recognized that the law of thermodynamics makes it physically impossible for a Stored Resource to store or release energy without incurring conversion losses. According to Beacon Power, this is important because a Stored Resource's marginal cost to provide Regulating Reserves must be calculated accurately in order not to subject the Stored Resource to unwarranted mitigation of its bid to enter the Regulating Reserves market. Beacon Power points out that the Midwest ISO noted in its February 1 Filing that to establish the marginal cost of providing regulating reserves, it must determine the Reference Energy Storage Loss Rate (i.e., the amount of energy that the Stored Resource would use to provide Regulation) and the Expected Storage Loss Price (i.e., the Day Ahead LMP (\$/MWh). However, the formula that the Midwest ISO proposes to use results in a reference level that is too low because while the Reference Energy Storage Loss Rate is a per-MW number, the Midwest ISO then divides the number again by the MWs offered. Beacon Power argues that dividing the number twice results in a Reference Level that is drastically too low.

b. Answer

13. The Midwest ISO states that it agrees with Beacon. It states that the term Quantity of Regulation Reserves Offered exists explicitly in the denominator of the formula, but it inexplicably appears again in the definition of Reference Energy Storage Loss Rate. The Midwest ISO states that to prevent a Reference Level that is too low, it is prepared to modify the calculation on compliance. It proposes to maintain the formula as it currently exists in Module D of the Tariff, but it would delete the phrase "*per MW of Regulating*

Reserves” from the definition of Reference Energy Storage Loss Rate in section 64.1.4.d of the Tariff. It also would modify the term “*Reference Energy Storage Loss Rate*” to “*Reference Energy Storage Loss Quantity*” in order to confirm that the term no longer represents a rate. The Midwest ISO contends that these changes would address the issue that Beacon raises, and the resulting reference levels would be calculated appropriately.

c. Commission Determination

14. As an initial matter, we consider the Midwest ISO submittal of its reference level calculation and its explanations pertaining to Ameren’s questions to be in compliance with the December 31 Order.¹³ However, we agree with Beacon Power and the Midwest ISO that the reference level calculation yields a rate that is too low, and it therefore needs to be revised. As proposed by the Midwest ISO and accepted by the Commission in the December 31 Order,¹⁴ the Stored Resource reference level is intended to reflect the marginal cost of energy consumed to maintain stored energy. This marginal cost is calculated as the product of the quantity of energy consumed multiplied by the LMP that the owner must pay to consume the energy. This product is then divided by the amount of regulation service offered to derive a per unit rate. As Beacon correctly points out, to define the quantity of energy consumed, or Energy Storage Loss Rate, as the quotient of the cost of energy consumed divided by Regulating Reserves results in a calculation that divides the quantity of energy consumed by Regulating Reserves twice. Such a calculation does not yield the per-unit marginal cost of providing Stored Resources but instead calculates the cost of energy consumed divided by twice the Regulating Reserves. This latter calculation is not in compliance with the description of the marginal cost of energy in the December 31 Order and, since it does not reflect the marginal cost of energy, is not a reasonable reference level. For these reasons, we direct the Midwest ISO to provide revisions to its Tariff to conform the calculation to the description accepted by the Commission in the December 31 Order. We require the Midwest ISO to file these tariff revisions in a compliance filing to be submitted within 30 days of the date of this order.

The Commission orders:

(A) The Midwest ISO’s proposed tariff revisions in Docket Nos. ER07-1372-017 and ER09-1126-001 are hereby conditionally accepted, subject to further compliance, as discussed in the body of this order.

¹³ See P 7 *supra*.

¹⁴ December 31 Order, 129 FERC ¶ 61,303 at P 49.

(B) The Midwest ISO is hereby directed to submit a compliance filing within 30 days of the date of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.