



Order No. 841

Compliance Update

*Binary Storage Facility (BSF) Dispatchable Asset
Related Demand (DARD) Regulation Offering
Revised Effective Date*

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Proposed Effective Date: Currently January 1, 2024; Revising to Contingent Upon Request

- As part of the ISO's initial Order No. 841 compliance, the ISO proposed (and FERC accepted) BSF DARD Regulation offering with a January 1, 2024 effective date
- The ISO will be filing a revision to the BSF DARD Regulation offering effective date due to lack of interest from Market Participants and need to prioritize competing software and market enhancements
 - No BSF new entry and low likelihood that existing BSFs will upgrade their DARD equipment to provide regulation leads to a de-prioritization of this offering
- A BSF DARD Regulation offering effective date contingent upon participant request will allow ISO-NE and stakeholders to focus on other competing priorities until demonstrated market interest/need
- This presentation provides background, the rationale for delaying these Tariff provisions, and a summary of the delayed Tariff provisions

Background

- Energy Storage Facilities seeking to participate in New England Markets may do so using one of two primary models: the Binary Storage Facility Model and the Continuous Storage Facility (CSF) model
 - BSF is a type of Electric Storage Facility that cannot operate continuously across their charge/discharge range, and are typically comprised of both a generator asset and a DARD (*e.g.*, a pumped storage hydroelectric facility's turbine and pump)
 - CSF is a type of Electric Storage Facility capable of charging or discharging at any MW level within its specified range and operating continuously across that range (*e.g.*, lithium ion battery storage), and would be unaffected by the proposed tariff revision
 - CSF and BSF Generator assets already offer Regulation in New England Markets, but BSF DARDs do not
- Order No. 841 Compliance filing proposed software enhancements that would enable a BSF DARD to offer Regulation, effective January 1, 2024
 - FERC accepted this proposal and effective date
- Since then, no party has expressed an interest in BSF DARD Regulation
 - Of the 31 new entrants choosing to actively participate in New England Markets as Energy Storage Facilities since May 2019, all 31 have chosen to participate as CSFs
 - Existing BSF Market Participants do not intend to upgrade equipment to offer BSF DARD Regulation



Rationale for Revised Effective Date

- Interconnected nature of software enhancement projects and project scoping efforts in advance of BSF DARD Regulation offering indicates the need to delay the January 1, 2024 effective date
 - Allocation of internal resources toward software revisions for January 1, 2024, or soon thereafter, would prevent ISO from allocating those resources toward other necessary projects
- Breadth and depth of ongoing software projects at the ISO is extensive and includes several major near-term deliverables, including:
 - nGEM Market Clearing Engine Replacements
 - Order No. 2222 Compliance
 - Day-Ahead Ancillary Services Initiative
 - Order No. 881 Compliance
 - Support of Capacity Market Reforms Initiative
 - Order No. 841 Compliance (state of charge parameters, Jan. 1, 2026)
- The ISO remains committed to a BSF DARD Regulation offering, should such a market need materialize, but in light of competing priorities proposes to defer effective date until that occurs

Summary of Delayed Tariff Provision

- To address, we'll be filing to delay changes to Tariff Sections I.2.2 and III.14 that would have otherwise taken effect on January 1, 2024, and instead make those changes contingent upon a subsequent filing with the Commission
 - Effective date for Tariff changes previously scheduled for January 1, 2024 will be 12/31/9998, pursuant to Commission rules: “If the effective date is not known at the time of the filing, such as the effective date is contingent on FERC approval . . . the date of 12/31/9998 must be used.”
(See, e.g., FERC Electronic Filing Implementation Guide)
- If the ISO is notified by a Market Participant that it intends to offer regulation as a BSF DARD, the ISO will prioritize its efforts to accommodate that participant and file a new rates effective date with the Commission for the Tariff provisions at issue



Summary of Delayed Tariff Provisions Effective December 31, 9998

Tariff Section	Tariff Change	Reason for Change
I.2.2	Regulation Resources are those Alternative Technology Regulation Resources, and Generator Assets, <u>and Dispatchable Asset Related Demands</u> that satisfy the requirements of Section III.14.2. Regulation Resources are eligible to participate in the Regulation Market.	Revises the definition of Regulation Resource to include Dispatchable Asset Related Demand
III.14.2(a)(ii)	The minimum Regulation Capacity of a Continuous Storage ATRR, <u>a Binary Storage DARD</u> , and a Generator Asset associated with a Binary Storage Facility is 0.1 MW.	Revises minimum Regulation Capacity Requirement to include Binary Storage DARD

Note: Two sets of tariff redlines would accompany the filing, one that represents the existing Tariff as it will *remain* effective on January 1, 2024, and a second that would include the redline provisions previously approved for January 1, 2024, which would become effective only upon submittal of an informational filing

Summary of Delayed Tariff Provisions Effective December 31, 9998

Tariff Section	Tariff Change	Reason for Change
III.14.3(a)(ii)	<p>For a Generator Asset, the Regulation High Limit must be less than or equal to the Generator Asset's Economic Maximum Limit. <u>For Dispatchable Asset Related Demand, the Regulation High Limit must be greater than or equal to a Dispatchable Asset Related Demand's Minimum Consumption Limit.</u> For a Continuous Storage ATRR, the Regulation High Limit must be positive and equal to the Regulation Low Limit multiplied by negative one, with an allowance for round-trip efficiency loss.</p>	<p>Regulation market offer parameters revised to describe DARD regulation high limit</p>
III.14.3(a)(iii)	<p>For a Generator Asset, the Regulation Low Limit must be greater than or equal to the Generator Asset's Economic Minimum Limit. <u>For Dispatchable Asset Related Demand, the Regulation Low Limit must be less than or equal to a Dispatchable Asset Related Demand's Maximum Consumption Limit.</u> For a Continuous Storage ATRR, the Regulation Low Limit must be negative and equal to the Regulation High Limit multiplied by negative one, with an allowance for round-trip efficiency loss.</p>	<p>Regulation market offer parameters revised to describe DARD regulation low limit</p>

Summary of Delayed Tariff Provisions

Effective December 31, 9998

Tariff Section	Tariff Change	Reason for Change
III.14.6(b)(i)	Generator Assets <u>and DARDs</u> may be dispatched to provide Regulation using the AGC SetPoint described in (a)(ii)	Description of Regulation market dispatch model revised to accommodate DARD Regulation
III.14.8(d)	Each Market Participant shall have a Regulation charge equal to its pro rata share of the Regulation Capacity Requirement and Regulation Service Requirement for the hour based on the Market Participant's total Real-Time Load Obligation. For the purposes of allocating Regulation charges, <u>the Real-Time Load Obligation of a Dispatchable Asset Related Demand providing Regulation shall be limited to the Minimum Consumption Limit of the Resource, and</u> the Real Time Load Obligation of a DARD associated with an ATRR that has provided Regulation during the hour shall be limited to the quantity of energy consumed by the DARD during the hour not associated with Regulation.	Description of regulation charges revised to accommodate DARD Regulation



Conclusion

- A revised BSF DARD Regulation offering effective date will allow ISO and stakeholders to prioritize more impactful software and market enhancements, particularly in light of the lack of interest from Market Participants in such an offering
- The proposed effective date for the BSF DARD Regulation Tariff provisions otherwise taking place on January 1, 2024 will instead be contingent upon a future informational filing
- ISO remains committed to BSF DARD Regulation offering, should such a market need materialize, but in the near-term, sees a need to prioritize resources toward other projects

Questions

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