



Order 841 Proposal Questionnaire June 6, 2018

Submit complete surveys by June 22 to:

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Do you authorize the public posting of your response? Yes No

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On behalf of: OMS Working Groups (Resources and Markets & Tariffs)
Sector: State Regulatory
Date Submitted: 06/22/2018

General Feedback

Provide any feedback on specific aspects of MISO's proposal for FERC Order 841 Compliance.

The OMS Work Groups urge MISO to take pumped storage's unique operating characteristics into consideration when developing the Electric Storage Resource (ESR) participation model as part of FERC Order 841 Compliance. Storage operators should be able to freely alternate between ESR and their current SER participation models as they see fit, as well as being able to optimize their bids and offers within and across the range of available configurations as an ESR. MISO's ESR participation model should allow similar offer optimization capabilities as current energy-limited resources within a given configuration, while avoiding creating barriers to optimization across various configurations.

Technology Type

What type of electric storage technology do your answers cover? (Please complete additional questionnaires for additional types of electric storage.)

[Click here to enter text.](#)

Any other general comments regarding this type of electric storage?

[Click here to enter text.](#)

Physical and Operational Characteristics of Electric Storage Resources

For this type of Electric Storage Resource, which of the physical and operating characteristics listed below do you plan to use as a MISO Market Participant?

Physical or Operational Characteristic	Plan to Use
State of Charge	Choose an item.
Maximum State of Charge	Choose an item.
Minimum State of Charge	Choose an item.
Maximum Charge Limit	Choose an item.
Maximum Discharge Limit	Choose an item.
Minimum Charge Time	Choose an item.
Maximum Charge Time	Choose an item.



Minimum Run Time	Choose an item.
Maximum Run Time	Choose an item.
Minimum Discharge Limit	Choose an item.
Minimum Charge Limit	Choose an item.
Discharge Ramp Rate	Choose an item.
Charge Ramp Rate	Choose an item.

Do you have additional information about these selections?

[Click here to enter text.](#)

MISO is considering providing Electric Storage Resources (ESRs) emergency and regulation bid parameters and modes. For this type of ESR, which emergency and/or regulation bid parameters listed below would you plan to use as a MISO Market Participant?

Option/Limit	Plan to Use
Emergency Charge Mode	Choose an item.
Emergency Discharge Mode	Choose an item.
Emergency Maximum State of Charge (MWh)	Choose an item.
Emergency Minimum State of Charge (MWh)	Choose an item.
Emergency Maximum Discharge Limit (MW – Emergency Max Limit) (Discharge and Continuous Mode only)	Choose an item.
Emergency Minimum Discharge Limit (MW - Emergency min Limit) (Discharge Mode Only)	Choose an item.
Emergency Maximum Charge Limit (MW - Emergency Min Limit) (Charge and Continuous Mode Only)	Choose an item.
Emergency Minimum Charge Limit (MW - Emergency Max Limit) (Charge Mode Only)	Choose an item.
Regulation Maximum Charge Limit (Charge and Continuous Mode Only)	Choose an item.
Regulation Maximum Discharge Limit (Discharge and Continuous Mode Only)	Choose an item.
Regulation Minimum Charge Limit (Charge Mode Only)	Choose an item.
Regulation Minimum Discharge Limit (Discharge Mode Only)	Choose an item.

Do you have additional information about emergency bid parameters?

[Click here to enter text.](#)

Are there other additional Physical or Operational Characteristics of your resource that should be covered by bid parameters not listed in Order 841? Please list and describe.

[Click here to enter text.](#)

MISO is proposing to provide ESRs with the option to operate in different modes or



configurations. For this type of ESR, which of the following configurations below would you use as a Market Participant?

ESR Operating Mode	Plan to Use
Charging	Choose an item.
Discharging	Choose an item.
Continuous	Choose an item.
Offline	Choose an item.

Do you have additional information about these selections?

[Click here to enter text.](#)

Resource Adequacy

In the case of a Use-Limited ESR, should MISO require that a GVTC test is a minimum of 4 consecutive hours (rather than current requirement of 2 hours) to determine the total quantity of energy the ESR can discharge?

MISO should require a GVTC test for a minimum of two hours, which is the current requirement for a Use-Limited ESR or justify their reasoning for some other hourly minimum requirement.

If MISO allows a GVTC test less than four consecutive hours to determine the Use-Limited ESR's total energy, then should the total energy demonstrated in the GVTC test be equally divided by four hours to determine the hourly Must Offer amount?

Yes, MISO could require the GVTC test to be less than four consecutive hours, such as the current IPL battery storage facility of 20 MW is equally divided by four hours to determine the hourly Must Offer amount of 5 MW.

What supporting documentation should be required when an ESR elects to limit the total discharge amount to less than the total energy the ESR can continuously discharge over the 4 hour period?

MISO should require the same reporting documentation as it would for any generator who does not meet the must-off requirement.

What type of supporting documentation should be required when an ESR has less than 12 months of operational data and/or less than 10MW?

MISO should require the same reporting documentation as it would for any other generator with less than twelve hours of supporting data.