

To: Designated Entity Operations Management and Training Contacts of Intermittent Hydro Do-Not-Exceed Dispatchable Generators

From: ISO-New England System Operations

Date: June 21, 2019

Subject: Implementation of Economic Maximum Automatic Redeclaration Process for Intermittent Hydro Do-Not-Exceed Dispatchable Generators

As communicated to the NEPOOL Markets Committee via memo¹ on March 29, 2019, and as [presented](#) by ISO-New England (ISO) staff to the Variable Resource Working Group on June 17, 2019, ISO will implement a new automatic redeclaration² process for the Economic Maximum Limit³ (EcoMax) of intermittent hydro Do-Not-Exceed (DNE) dispatchable generators, effective July 1, 2019.

Background

The EcoMax limit for a DNE Dispatchable Generator (DDG) is an important input to ISO's real-time dispatch as it provides a forecast of the DDG's uncurtailed megawatt (MW) output. EcoMax limit accuracy helps ensure a reliable and economic dispatch of the system's resources. The intermittent nature of DDGs results in significant potential for frequent EcoMax limit redeclarations. Experience gained since the implementation of DNE dispatch in May 2016 has led to the identification of potential enhancements to the existing processes utilized for EcoMax redeclarations for intermittent hydro DDGs.

Existing Redeclaration Protocol

The existing protocol for the performing EcoMax redeclarations for intermittent hydro DDGs relies on frequent verbal communication from the Designated Entity (DE) operator to the ISO System Operator. Upon receiving a redeclaration, the ISO System Operator must manually enter the new EcoMax limit into the ISO Energy Management System. This manual redeclaration process is limited to entering whole number MW values.

In contrast, EcoMax redeclarations for wind DDGs are automated, based on wind power forecasts and telemetered values, and typically involve no interaction between DE operators and ISO System Operators.

¹ Memo available upon request.

² Per ISO New England Manual for Definitions and Abbreviations, Manual M-35, a redeclaration is a "restatement of a resource's availability, limits, or other Offer Data or, Supply Offer or, Demand Reduction Offer or Demand Bid parameter, except price, submitted by a Market Participant to the ISO to reflect a change in the status or capability of the resource or changed by the ISO based upon the resource's actual performance."

³ Per ISO New England Tariff, Section I – General Terms and Conditions, the Economic Maximum Limit "is the maximum available output, in MW, of a Generator Asset that a Market Participant offers to supply in the Day-Ahead Energy Market or Real-Time Energy Market, as reflected in the Generator Asset's Offer Data. This represents the highest MW output a Market Participant has offered for a Generator Asset for economic dispatch. A Market Participant must maintain an up-to-date Economic Maximum Limit (and where applicable, must provide the ISO with any telemetry required by ISO New England Operating Procedure No. 18 to allow the ISO to maintain an updated Economic Maximum Limit) for all hours in which a Generator Asset has been offered into the Day-Ahead Energy Market or Real-Time Energy Market."

This automated process for wind DDGs can take place more frequently and is more precise (granularity of 0.1MW) than is possible relying on verbal communication.

Redeclaration Methodology Modification

ISO has developed a new process for intermittent hydro DDG EcoMax limit redeclarations that is similar to the automated process used by wind DDGs (which has been in place since the initial implementation of the DNE project). This new process, which will be utilized only in the real-time dispatch, is designed to redeclare the EcoMax limit primarily based on recent MW output levels, which have been shown to accurately predict MW output levels when the DDG's DNE is not being reduced due to a transmission constraint. In the event that the DNE limit is being reduced due to a transmission constraint, the EcoMax will be restored to the offered EcoMax value in order to avoid negative impacts and inadvertent curtailments of the DDG's output. Note that intermittent hydro DDGs are still expected to offer an hourly EcoMax value consistent with their forecasted level of generation.

Impacted resources

- This new redeclaration process impacts **ONLY** intermittent hydro resources subject to DNE dispatch.
- There is **NO** impact on processes currently utilized by wind DDGs.

ISO Expectations for DDG DE Operators

- DE operators responsible for the real-time operation of intermittent hydro DDGs will no longer be expected to contact ISO System Operators with redeclarations of EcoMax, except as noted below.
- DE operators should continue to monitor EcoMax values, communicated to the DE on their RTU, and should contact ISO System Operators if the EcoMax value appears inappropriate based on actual or anticipated capabilities of the resource.
- DE operators are still responsible for contacting ISO System Operators with redeclarations of other operational parameters (e.g. Economic Minimum Limit, Manual Response Rate, etc.) as these will not be automatically redeclared by this new process.

Benefits

This new automatic EcoMax redeclaration process for intermittent hydro DDGs is anticipated to result in the following benefits:

- Decreased reliance on manual redeclaration phone calls between DE operators and ISO System Operators.
- Increased timeliness and accuracy of intermittent hydro DDG EcoMax limit redeclarations.
- Improved energy accounting of intermittent hydro DDG units in the real-time dispatch, which will allow for a more reliable and economic real-time dispatch of all resources system-wide.

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