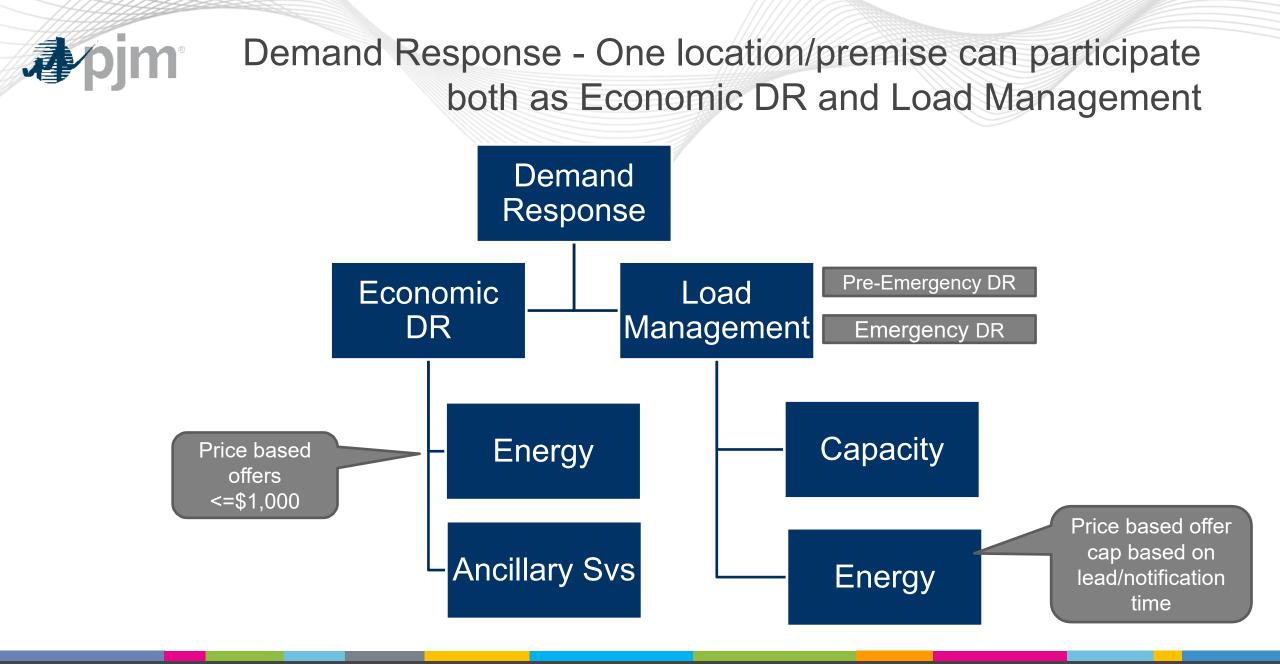


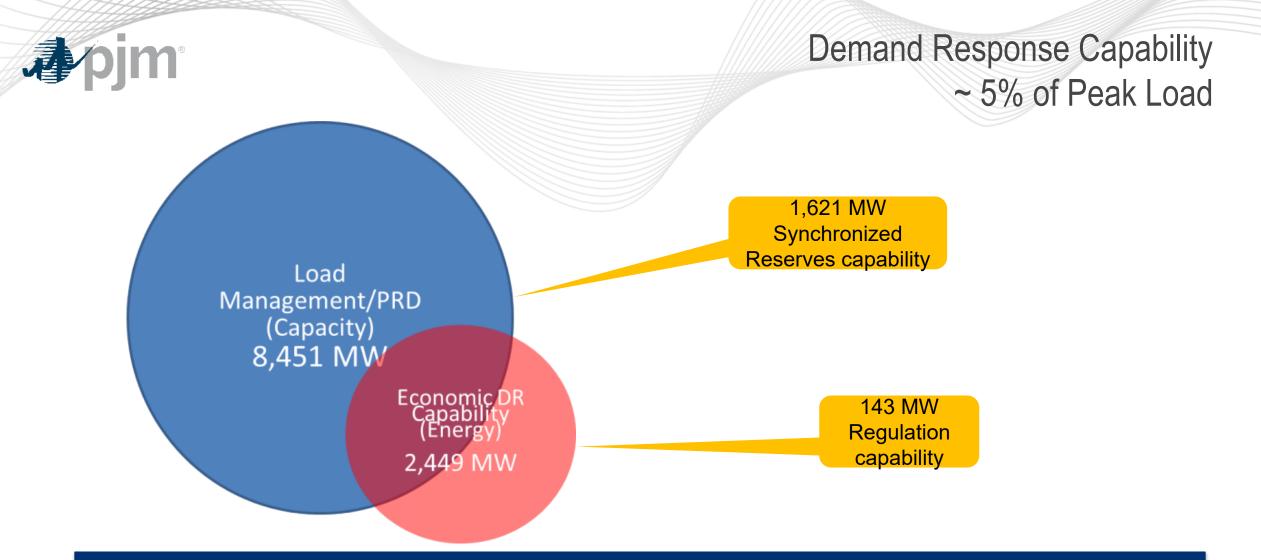
Demand Response Overview

MIC September 6, 2023

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Represents over 2 million end use customers (~19,000 Commercial & Industrial) across PJM

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Typical Dispatch Process

Economic DR Pre-Emergency DR

Emergency DR

Allows location to participate based on their availability and economics prior to emergency condition Load Management – firm capacity commitment to reduce/maintain load level when PJM expects to be short on reserves



Current Economic DR Offer Parameters

- Two timing related operating parameters are currently being used by market clearing engine (MCE) to clear/dispatch an Economic Demand Response (DR) resource in the Energy Market
 - Notification time : amount of time required prior to full implementation of load reduction
 - Minimum down time : amount of time required after DR is dispatched before it can be released
- Daily values can be specified for both parameters for use in the Day-ahead and Real-time Markets. Hourly differentiated values for both parameters can also be specified but are only for use during the Real-time commitment and dispatch.
- DR is dispatched when projected LMP > bid price, subject to parameter constraints and released otherwise:
 - DR resource can be dispatched multiple times per day (no minimum time between dispatches).
 - If DR resource has been curtailed and released during a market day, then "Notification Time" will be enforced for the next curtailment during the same market day.
- "Notification time" and "Minimum down time" from Demand Response are similar to Generator's "Cold/Warm/Hot Notification Time" and "Minimum Run Time" respectively

Economic DR offer parameters do not impact Load Management dispatch or associated obligations



- DA Hourly Availability for operating day may be updated prior to close of DA offer window
- RT During the operating day and 65 minutes in advance of each hour, the Curtailment Service Provider may update their availability status
- Availability status = unavailable. This indicates hour should not be cleared in DA market or dispatched in the RT market

Offers <=\$1,000 are "price based" energy offers. "Cost based" offers are only required for offers > \$1,000 (none have been submitted to date)



Contact

Chair: Foluso Afelumo <u>Foluso.Afelumo@pjm.com</u>

Secretary: Amanda Martin <u>Amanda.Martin@pjm.com</u>

Subject Matter Expert: Pete Langbein, <u>Peter.Langbein@pjm.com</u> Member Hotline (610) 666-8980 (866) 400-8980 custsvc@pjm.com

