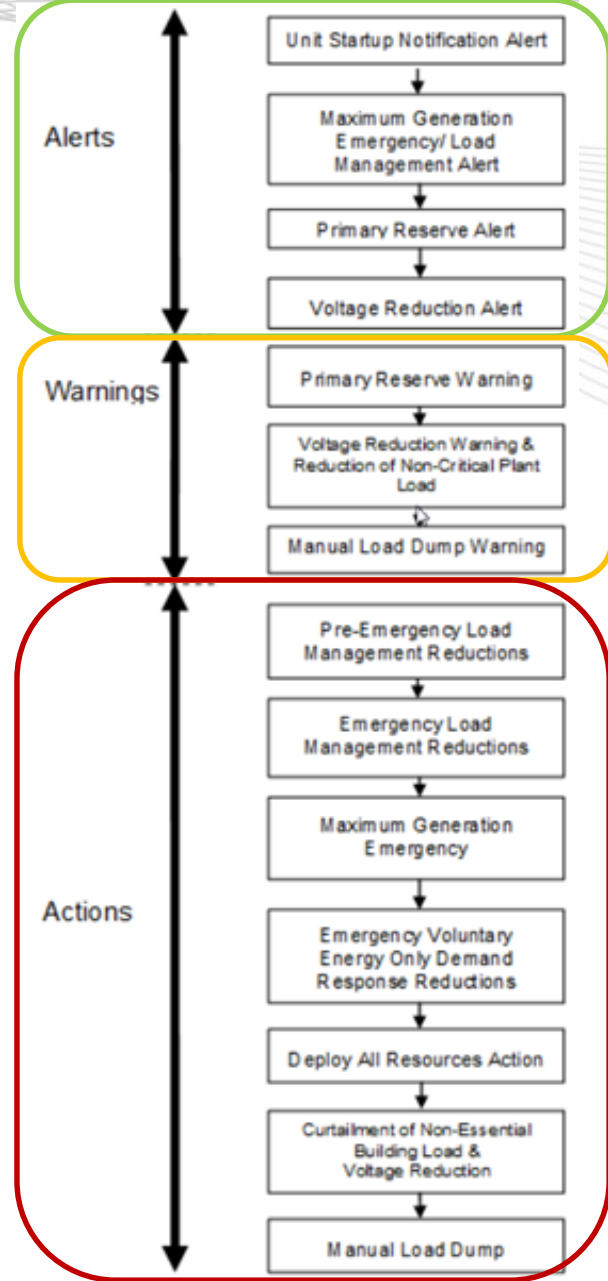




# Emergency Procedures and Shortage Pricing

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EPFSTF  
December 10, 2021

# PJM Capacity Emergency Levels

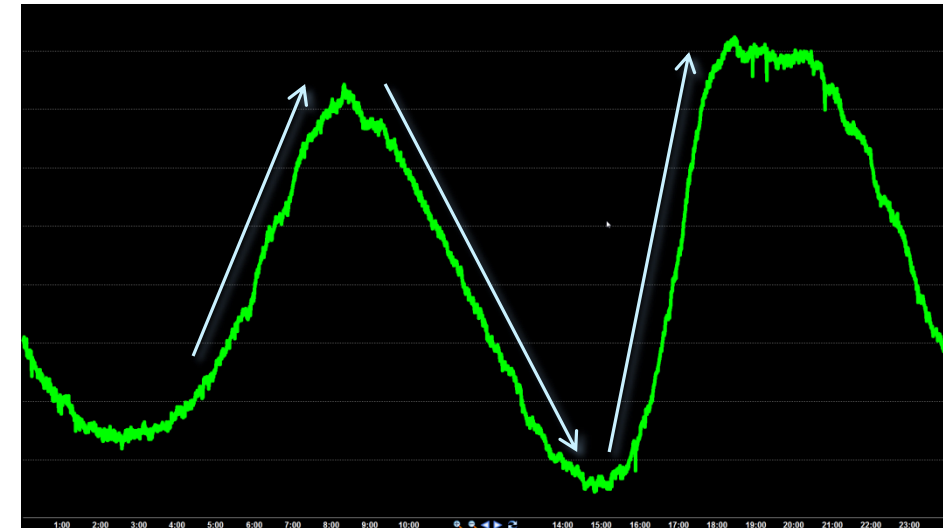
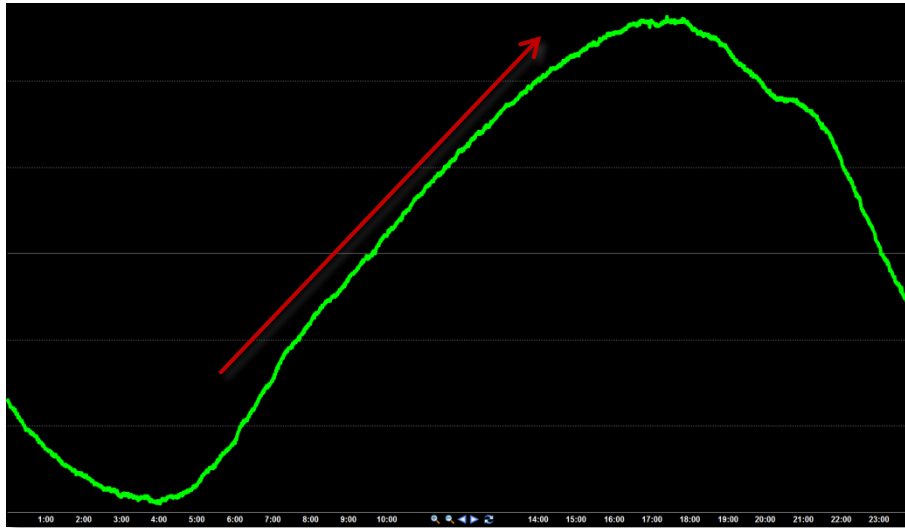


**Alerts** – issued **one or more days in advance** of the operating day for elevated awareness and to give time for advanced preparations.

**Warnings** – issued **real-time**, typically preceding, and with an estimated time/window for a potential future Action

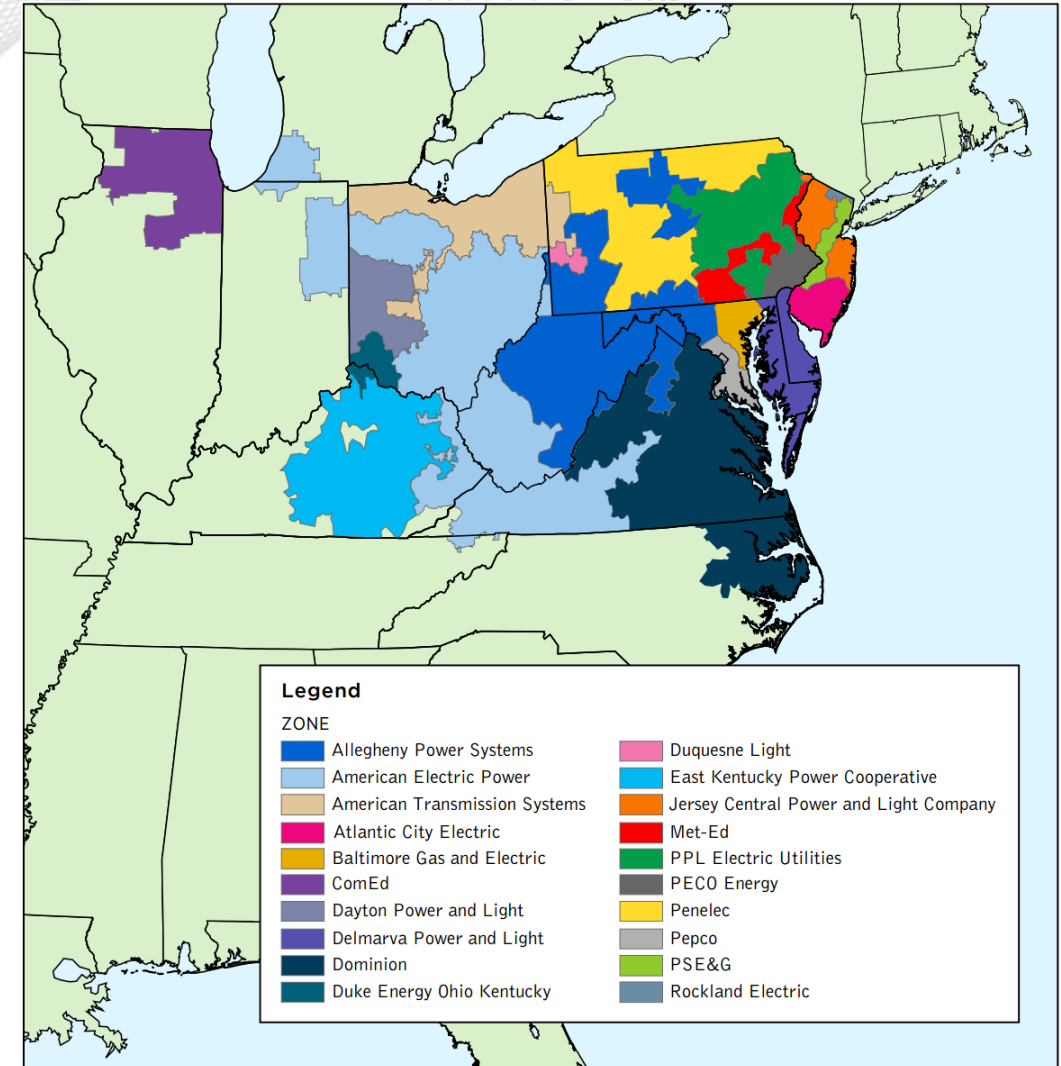
**Actions** – issued **real-time** and requires PJM and/or Member response (PJM actions are consistent with NERC EOP standards.)

**PJM Manual 13:** “PJM dispatchers have the flexibility of implementing the emergency procedures in whatever order is required to ensure overall system reliability.”



Procedures such as *Load Management Reduction Actions* require advance notice and will normally be issued prior to Warnings in order to ensure sufficient reserves are maintained.

Warnings and Actions can be issued for the entire PJM RTO, specific Control Zone(s) or a subset of a Control Zone if transmission limitations exist.



# Emergency Procedures Pricing

**Reserve Price Max: \$850/\$1700 (PR/SR)**

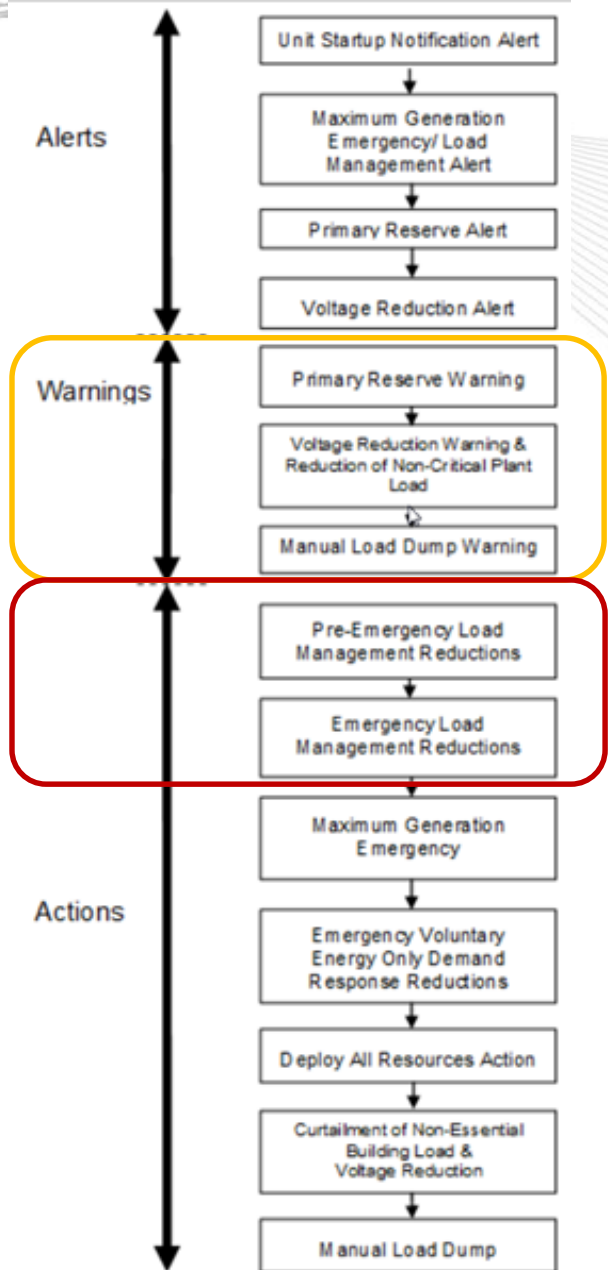
**Load Management Reduction Actions:** Dispatch Demand Response resources; Max **Energy** Offers of:

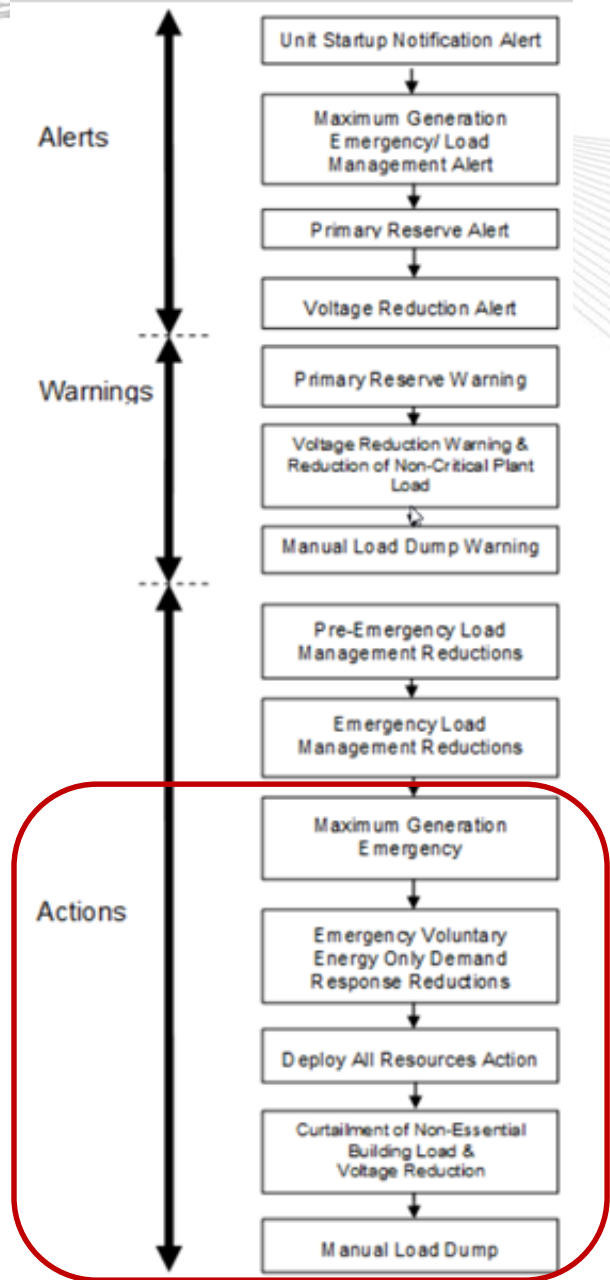
- 2 hours: \$1,100/MWh
- 1 hour: \$1,425/MWh
- 30 minutes: \$1,849/MWh

**Primary Reserve Warning:** Primary Reserve capacity is less than the Primary Reserve requirement.

**Voltage Reduction Warning:** Synchronized Reserve capacity is less than the Synchronized Reserve requirement

**Manual Load Dump Warning:** Primary Reserve capacity is less than the largest operating generator (or a transmission tripping jeopardizes reliable operations).





## Maximum Generation Emergency Action:

Generation is needed beyond the Economic Max MW energy level of all resources.

- Units may be dispatched to Emergency Max MW limits.
- Emergency Energy bids are requested.
- Energy Offers can be \$2000+/MWh.

## Voltage Reduction and Manual Load Dump Actions:

Initiation of these procedures causes automatic pricing of:

- Reserves at the maximum level of the demand curve (\$850/\$1700).

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## Emergency Procedures and Shortage Pricing



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