



# Fast Start Generators

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*Changes to Reserve Designations and  
Commitment during Minimum Down Time*

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# TIMELINE OF CHANGES



# Timeline of changes

- Changes to be discussed in this presentation are scheduled to go into Production coincident with the Generation Control Application (GCA) project
- GCA project is currently scheduled for implementation on November 10, 2015



# CURRENT PRACTICES



# Current Practices

- **Fast Start Unit Reserve Designation**
  - Currently, the ISO does not count any type of reserves on an offline FS generator if it has not yet satisfied its Minimum Down Time (MDT)
- **Fast Start Unit Commitment**
  - Currently, the ISO does not commit (issue startup instructions) an offline FS generator if it has not yet satisfied its MDT



# OVERVIEW OF CHANGES TO FS UNIT COMMITMENT



# Fast Start Generator Definition

- **Fast Start Generator** means a generating unit that the ISO may dispatch within the hour through electronic dispatch and that meets the following criteria:
  - (i) Minimum Run Time does not exceed one hour;
  - (ii) Minimum Down Time does not exceed one hour;
  - (iii) cold Notification Time plus cold Start-Up Time does not exceed 30 minutes;
  - (iv) available for dispatch and manned or has automatic remote dispatch capability; and
  - (v) capable of receiving and acknowledging a start-up or shut-down dispatch instruction electronically.

*\*Note that this definition reflects revisions approved by the Markets Committee at its June 2015 meeting*



# Minimum Down Time Definition

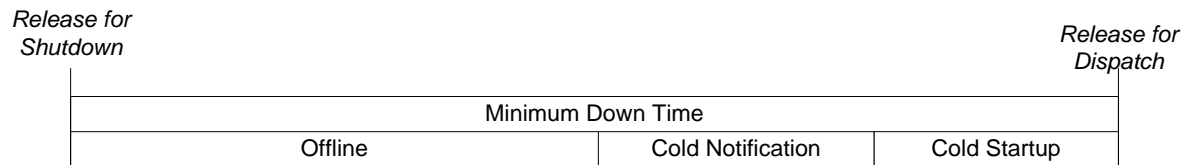
- **MDT** is the number of hours that must elapse after a Generator Asset has been released for shutdown at or below its Economic Minimum Limit before the Generator Asset can be brought online and be **released for dispatch at its Economic Minimum Limit**.





# Changes to FS Unit Commitment

- Key point is that, by definition, **MDT includes a generator's Startup and Notification Time**



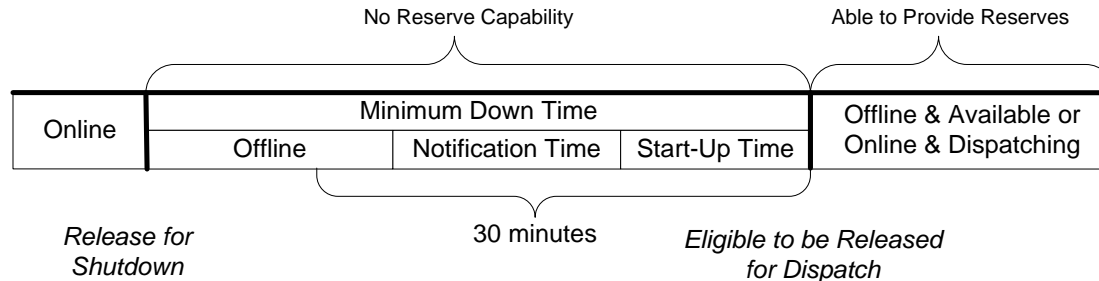
- It will be possible for a FS generator to receive a SU instruction prior to expiration of MDT
- SU instructions will not be issued until the following is true:
  - $MDT \text{ remaining} - (\text{Cold Notification Time} + \text{Cold Startup Time}) \leq 0$
- Expectation is that a FS generator can be online @ EcoMin upon expiration of MDT

# OVERVIEW OF RESERVE DESIGNATION CHANGES

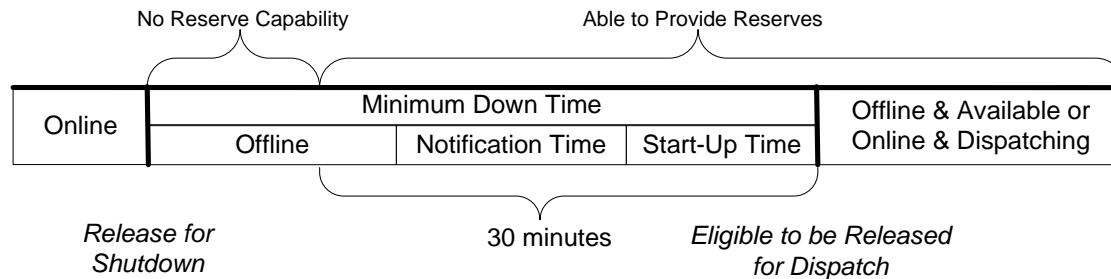


# Overview of Reserve Changes

- Current Treatment:



- Planned Treatment:



- Note: graphs above depict changes for 30 Min reserves only, however the same concept will apply to 10 Min reserves

# Overview of Reserve Changes

- The ISO will begin to count 30 Min Reserves once the FS unit is within 30 minutes of MDT expiration and 10 Min Reserves once within 10 minutes of MDT expiration
- By definition, a generator can be online @ EcoMin upon expiration of MDT, therefore:
  - Once FS generator is within 30 minutes of MDT expiration, 30 Min Reserve equal to EcoMin will be counted
  - Once FS generator is within 10 minutes of MDT expiration, 10 Min reserve equal to EcoMin will be counted
- Reserve designations during time period between when 30 Min Reserves are designated and time when MDT expires are estimated by interpolating between EcoMin and Claim30.



# Summary of Changes

- **Fast Start Unit Reserve Designation**
  - The ISO will count reserves on an offline FS generator even if it has not yet satisfied its Minimum Down Time (MDT), subject to remaining MDT
- **Fast Start Unit Commitment**
  - The ISO will be able to commit (issue startup instruction) to an offline FS generator that has not yet satisfied its MDT, as long as it is within its Startup + Notification times of MDT expiration.
- **GCA project is currently scheduled for implementation on November 10, 2015**
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# Questions



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