



# PJM Solution Example: Natural Gas Generator Reserve and Scheduling Changes

EGCSTF

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**Operating Reserve\*:** All generation available within 30 minutes

**Primary Reserve\*:** (SR + NSR available in 10 min.)

**Synchronized Reserve\* (SR):**  
Online generation available in 10 min.

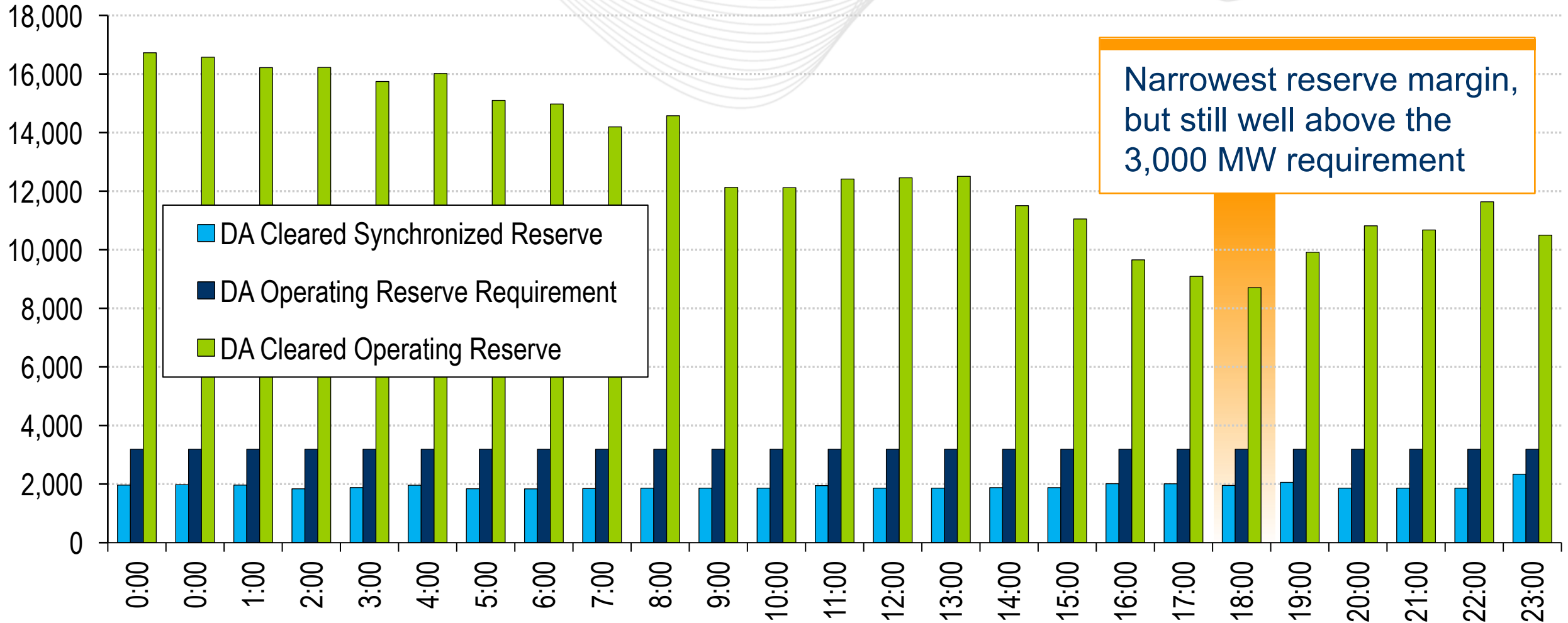
**Non-Synchronized Reserve (NSR):**  
Offline generation available in 10 min.

**Secondary Reserve:**  
Online and offline generation available between 10-30 minutes

\*OR Requirement = 3,000MW;

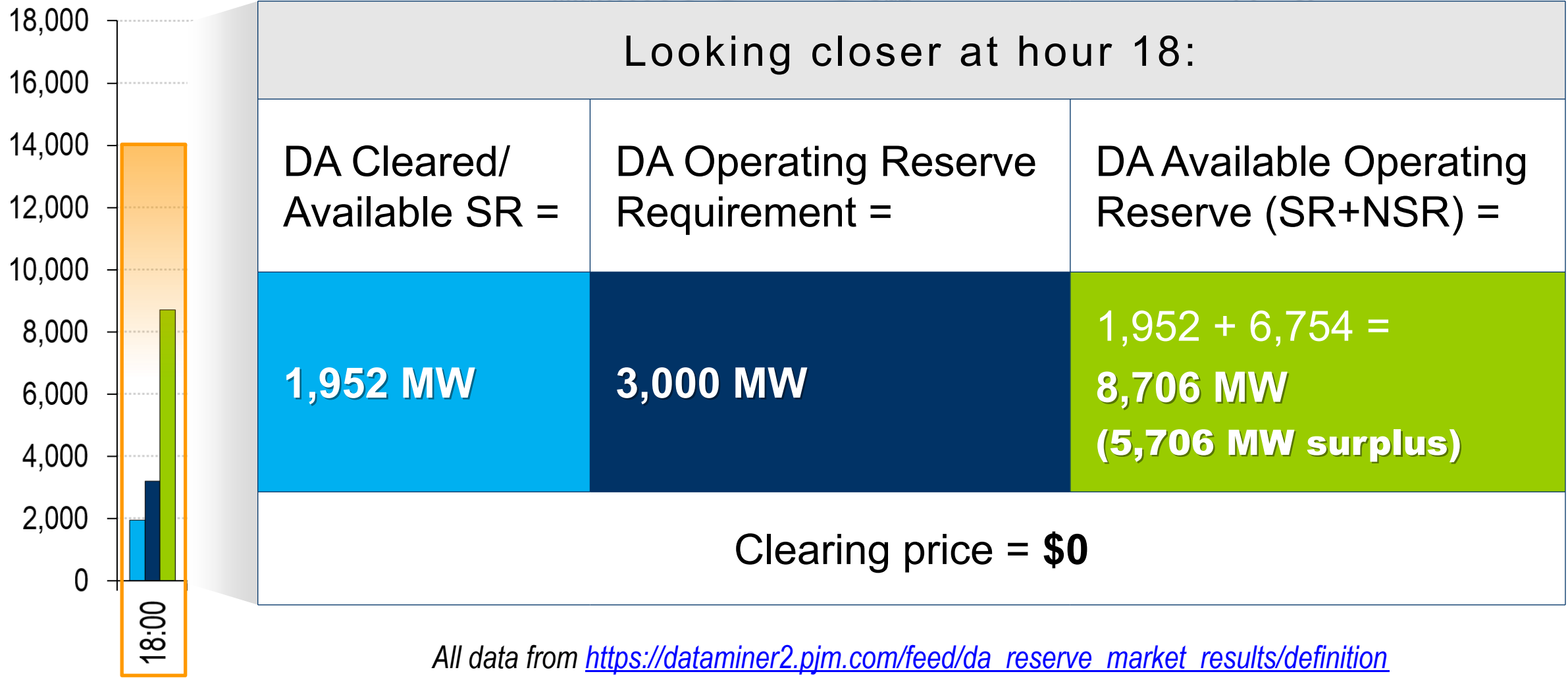
PR Requirement = 150% x largest unit (~2,400 MW);

SR Requirement = 100% x largest unit (~1,600MW)



Narrowest reserve margin, but still well above the 3,000 MW requirement

# Clearing for 12/23 at the peak hour under current rules



All data from [https://dataminer2.pjm.com/feed/da\\_reserve\\_market\\_results/definition](https://dataminer2.pjm.com/feed/da_reserve_market_results/definition)

## Component #1:

Generation owners required to confirm “time to start” (and other parameters) prior to and after the DA Market, with supporting documentation.

Confirm if an off-line resource can truly start in < 30 mins and can contribute to NSR

## Component #2:

PJM to remove gas-only units from NSR eligibility to meet reserves.

- Triggered based upon combination of
  - PJM Cold Weather Alerts
  - Gas Pipeline restrictions (OFO, Critical Day, Force Majeure, etc..)
  - PJM Gas Electric risk assessments based upon gas system conditions
- Has similar impacts to component #1

**Looking again at Hour 18:**  
If we assume the 6,754 MW of NSR was all from off-line gas units that are no longer able to meet the 30-minute requirement to be on-line:

- **DA Cleared/Available SR = 1,952 MW**
- **DA Operating Reserve Requirement = 3,000 MW**
- **DA Available Operating Reserve (SR+NSR) = 1,952 + 0 MW = 1,952 MW**  
**(1,048 MW shortfall from the Requirement\*)**

To resolve this shortfall, PJM would schedule an additional 1,048 MW of **energy** in the DA Market, which would allow on-line units to back down and satisfy the 3,000MW requirement with additional SR

*Note:* As follow up from WSE, PJM will be evaluating the triggers to implement the language in M-11 Section 4.3 for increasing the 3,000 MW OR requirement when Cold Weather Alerts are issued.

\*This is a hypothetical example. Actual clearing will vary base on the composition of units providing NSR