

FERC Warns about Tighter Supplies in New England and Texas for Meeting Summer Demand

Natural Gas Prices Expected to Increase this Summer as Supply Struggles to Keep up with Demand

June 20, 2017

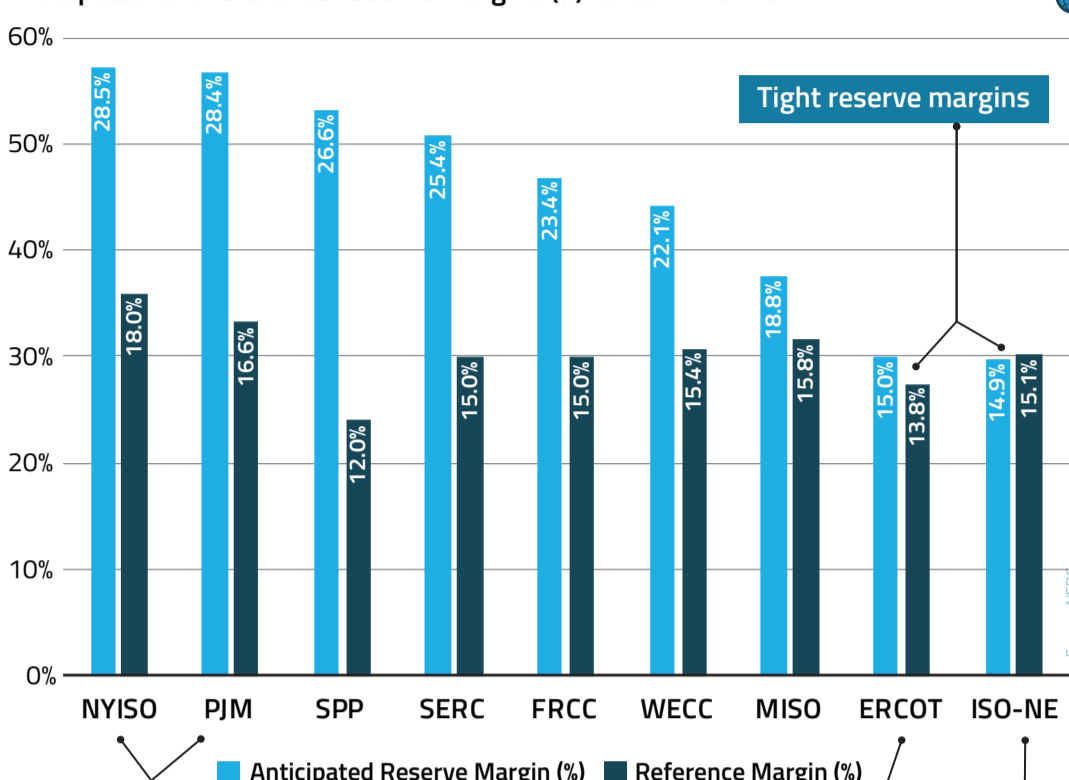
JUNE 15 FERC 2017 SUMMER ASSESSMENT

The Federal Energy Regulatory Commission's (FERC) 2017 summer assessment, released on June 15, 2017, forecasts tighter supplies in New England and Texas while anticipating adequate summer capacity in most regions. The **reserve margin in ISO-NE will likely fall under the reference level**. Similarly, a few areas in **ERCOT could come close to the reference** this summer due to demand growth, transmission limitations, and supply constraints.

1

Reliability margins

Anticipated and reference reserve margins (%) for summer 2017



Overall, FERC anticipates adequate reserve margins, with the highest levels in the NYISO and PJM areas, where reserve margins exceed 28%.

Issues in ERCOT:

- Strong load growth
- Transmission limitations
- Inadequate generation

Issues in ISO-NE:

- Delays in commissioning of about 700 MW of new resources



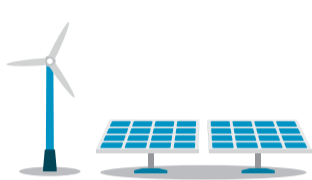
Connecting you to the comprehensive universe of regulatory and legislative information, in real time.



ACCESS NOW

2

Key summer trends and issues



20 GW of new generation to be installed in the summer, most of it renewables



Natural gas retirements (60% of planned closures) will exceed those of coal



Rapid ramping will be needed during the solar eclipse on 8/21 in CA and NC

3

State legislation on electric grid reliability

Underscoring the ongoing challenges associated with integrating new grid technologies, FERC draws attention to the August 16, 2016, failure of inverters that led to a major loss of utility-scale solar power in California. FERC has committed to monitoring how renewables impact the grid and how to address any issues their rising share of generation might create. The expansion of renewables has also prompted several states to take legislative actions to address electric reliability in 2017.

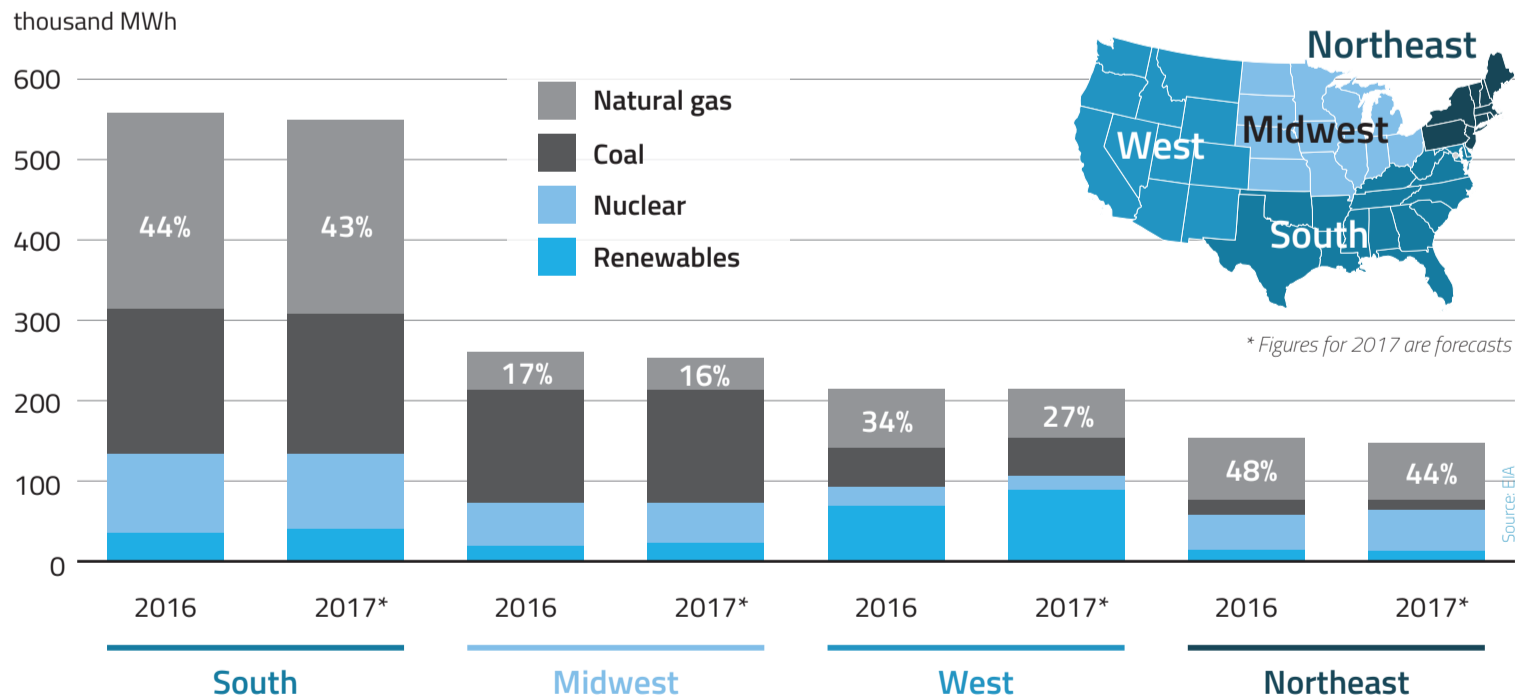
- CA SB 338** (Passed one chamber 5/31/2017): Would require the commission and the governing boards of local publicly owned electric utilities to consider, as a part of the integrated resource plan process, establishing policies and procedures to ensure that each load-serving entity or local publicly owned electric utility, as applicable, meets net-load peak energy needs and reliability needs while reducing the need for new electricity generation and new transmission in achieving the state's energy goals at the least cost to ratepayers.
- CA SB 801** (Passed one chamber 6/1/2017): Would require an electrical corporation or local publicly owned electric utility that provides electric service to 30,000 or more customers within the Los Angeles Basin to make publicly available, upon request of any person, electrical grid data necessary or useful to enable distributed energy resource providers to target solutions that support reliability in the area where electrical reliability has been impacted as a result of reductions in gas storage capacity and gas deliverability resulting from the well failure at the Aliso Canyon natural gas storage facility.
- HI HB 1248** (Passed one chamber 3/21/2017): Would authorize the establishment of microgrid demonstration projects for the generation, storage, and distribution of renewable energy, finding that microgrid demonstration projects help learn how to reduce costs, increase grid reliability and resiliency, among others.
- HI SB 660** (Introduced 2/15/2017): Establishes programs to advance energy storage recognizing that it will be a crucial next step toward the development of a smart, updated electrical grid which can accommodate more renewable energy resources, help customers take charge of their bills, and contribute to overall grid resiliency and reliability in advancing the state's 100 percent Renewable Portfolio Standard goal.
- ME LD 1513** (Introduced 5/23/2017): Would provide for affordable long-term energy prices; prohibit the Public Utilities Commission from directing an investor-owned transmission and distribution utility to enter into a long-term contract for capacity resources or energy or renewable energy credits associated with capacity resources unless the commission determines that the in-state economic benefits substantially outweigh the expected costs of the contract.
- ME LD 255** (Introduced 3/16/2017): Would implement electric grid reliability recommendations; propose to direct the Public Utilities Commission to pursue the 4 recommendations filed under Docket Number 2013-00145, regarding the effect of geomagnetic disturbances and electromagnetic pulses on the State's electric grid.
- NY A 8212** (Introduced 6/2/2017): Would enact the NY Microgrids Act to promote long term reduction of energy costs; reduce the capacity demand for the market by drawing less energy from the grid; enhance the reliability of energy sources; increase energy independence; promote reliance on renewable energy sources, among others.
- TX HB 407** (Introduced 2/23/2017): Would create the electrical power grid reliability task force to study the likely effectiveness and costs of various measures to protect and strengthen the electric power transmission and distribution system against hazards; require design standards limit electromagnetic field levels and protect the transmission and distribution system.

4

Hydro reduces dependence on natural gas in California

Due to the leak in 2015, for the second year in a row, the Aliso Canyon natural gas storage facility in Southern California will operate at a limited capacity, posing reliability risks if weather conditions are hotter than normal or unplanned pipeline outages occur. However, according to the EIA, record precipitation and snowpack levels in California this winter are expected to increase the share of hydroelectricity West from 20% last summer to 27% this summer, helping mitigate the risks.

Regional electricity generation by source, summer 2016 and summer 2017



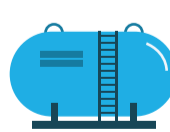
5

Natural gas prices to go up

FERC anticipates gas future prices in absolute terms this summer due to:



Warmer than average forecasted summer



Lower storage inventories



Decrease in natural gas production rates

BOTTOM LINE

Generation Gap
Generation capacity must be increased in ERCOT and ISO-NE to bring the anticipated reliability margin above the reference level in these areas. Transmission investments remain crucial for grid reliability in the constrained regions.

Hydro vs Gas
The Aliso Canyon leak has exposed the risks of infrastructure failure in the case of relying on natural gas. Increased hydro capacity this summer will mitigate the problem this summer but infrastructure planning and investment will be necessary to avoid similar issues in the future.

Feedback Loop
Higher summer temperatures lead to higher demand for electricity as people have to cool their homes and offices. Unless the electricity generation becomes less carbon intensive and thus minimizes its impact on the climate, this self-sustaining feedback loop will persist.

EnerKnol connects you with comprehensive, real-time energy policy data from federal, regional, and state sources.

Visit enerknol.com to learn more!