

The U.S. Grid Reliability Crisis

SKYROCKING DEMAND IS COLLIDING WITH ERODING DISPATCHABLE GENERATION



“...we’ve got to not only grow new production, but we’ve got to stop digging the hole, which means stop shutting down existing, viable, economic plants.”

– U.S. Secretary of Energy Chris Wright, March 2025

Facing reality. The Biden administration was committed to accelerating coal plant retirements through a full-scale regulatory onslaught from the U.S. Environmental Protection Agency (EPA). Their plans were enacted despite rapid increases in electricity demand thanks to artificial intelligence, data centers and electrification, all colliding with the reality that new renewable generation and interstate transmission infrastructure aren’t materializing to reliably meet existing or expected power demand.

The Trump administration recognizes how problematic that approach was and has reversed course, working to reconsider the EPA’s punishing power plant rules.

Power demand is soaring. Power demand is surging due to the rapid growth of data centers, artificial intelligence, the reshoring of heavy industry and electrification. The nation’s grid operators are forecasting an 8.2 percent demand increase in the next five years, the equivalent of adding 80 million homes to the grid. The North American Electric Reliability Corporation (NERC), which oversees the reliability of the nation’s grid, has said that “key measures of future electricity demand and energy needs are rising faster than at any time in recent years, adding to future resource adequacy concerns at a time of unprecedented transformation in the industry.”

Power supply is under siege. NERC warned in its Long-Term Reliability Assessment that the planned retirement of 83 GW of fossil and nuclear generation over the next decade creates blackout risks for much of the country. The grid monitor also noted that another 30 GW of capacity is expected to close but the plans aren’t yet final.

New capacity and infrastructure are not materializing at scale. New additions of intermittent renewable energy and high-voltage, interstate transmission lines are not materializing at the speed and scale required to replace dispatchable baseload power plant losses, much less meet rapidly rising power demand. Nationwide, just 350 miles of high-voltage transmission lines were completed last year, compared with the early 2010s, when about 1,700 miles were added annually on average.

Natural gas is a reliability liability. While the flexibility of the natural gas fleet is critically important to balancing the variability of intermittent renewable generation, the gas system – from wellhead to power plant – has proven to be extraordinarily susceptible and unreliable during bitter cold. Natural gas pipeline capacity is also already oversubscribed, leaving the nation’s industrial energy users unable to expand operations in much of the country.

The answer lies in the plants we already have. Due to years of flat power demand and competition from heavily subsidized power sources, the coal fleet’s capacity factor – a measure of utilization – is just 42%, but it is capable of much more. Increased utilization for the fleet would mean far more efficient use of the plants and immediate, cost-effective solution to meeting soaring power demand.

The Trump administration can now address the prior administration’s regulatory assault, and address electricity market flaws that have weakened grid reliability and driven up costs for consumers. Leaning on the coal fleet to meet soaring power demand can help deliver energy abundance, shoring up eroding reliability and ensuring the nation’s electricity supply underpins – instead of undermines – the nation’s economic potential.

The National Mining Association | nma.org