

October 2026 Markets Design Committee Meeting Summary

FERC/NERC Reliability Technical Conference -- October 21

- Connor Nelson and Juliana Ward (new NHA regulatory team member) will represent NHA at the conference
- NHA secured a PacifiCorp representative to speak on the drought/western resource adequacy panel
- Conference opens at 10:30 AM with a state of reliability report from NERC CEO Jim Robb; the event will be live streamed and open to the public
- A 30-day public comment period is expected to follow the conference, as has been the case for the past two years; NHA intends to file comments
- The conference and comment period are viewed as a strategic hook to request follow-up meetings with FERC technical staff to advance the case for a market product for hydropower inertia services

Panel 1: Large Loads and Declining Inertia

- Panel focuses on reliably interconnecting large loads and managing declining system inertia and oscillations caused by large load growth
- A central question for the panel: should ERCOT's fast frequency response/synthetic inertia model for batteries be applied nationally, particularly across the West?
- NHA does not have a speaking slot on this panel but will comment on its discussions and draw parallels to points raised on the drought panel
- The committee views this as an early opportunity to put the case for inertia compensation on paper and in front of FERC technical staff -- though compensation mechanisms are not yet formally on the conference agenda

Key observations from committee:

- Data centers are introducing intra-minute grid volatility at levels never previously observed, per TVA and Duke operations staff -- this will continue to grow regardless of new supply additions
- Whether new oil, gas, and nuclear development reduces the long-term inertia challenge depends on timing -- large load buildout is currently outpacing new supply

- NERC's continued drumbeat on grid resiliency, without a corresponding market construct, risks the window closing for existing hydro asset owners to secure compensation for a service they already provide
- Google's investment in Constellation's nuclear repowering was raised as a signal that the market may begin to value existing low-carbon dispatchable infrastructure -
- potentially opening new opportunities for hydro assets rather than closing them

Panel 2: Drought and Western Resource Adequacy

- 65% of the West is currently affected by drought; approximately 4,500 MW of Colorado River hydropower is at stake, including Lake Powell
- Panel topics include snowpack, precipitation trends, reservoir levels, resource adequacy planning, accreditation frameworks, hydrological forecasting, and water/power coordination
- Reservoirs may need 8-10 years of good precipitation to recover -- raising questions about how near- and long-term planning should account for this

Important distinction raised by Rick Miller:

- The energy/drought challenge and the grid resiliency/inertia challenge should not be conflated
- Hydro units can provide inertia via synchronous condensing (motoring) without moving water -- a capability independent of water availability and available to nearly all hydro units
- Whether this capability is enabled depends on owner preference and market rules; some markets (e.g., Alberta) require minimum water flow to participate in frequency regulation markets, while vertically integrated utilities in the Southeast allow units to spin without moving water
- ERCOT invested in dedicated synchronous condensers in addition to its fast frequency response program for batteries

Compensation Mechanisms for Inertia -- Key Discussion

- Without a market compensation mechanism, there is no financial incentive for asset owners to invest tens of millions of dollars in synchronous condensing capability

- Utilities including SRP, Duke, and TVA are currently evaluating batteries versus pumped storage using least-cost accounting models that do not capture the physics-based value of inertia
- CAISO's inertia market was noted as valuable but shallow -- roughly 400-500 MW of demand in a 30,000 MW grid approximately five to six years ago

Brazil case study (raised by Leonardo):

- Approximately 10-15 years ago, Brazil faced a similar inertia challenge following major investment in wind, solar, and long-distance UHVDC transmission
- The Brazilian grid regulator designed an auction-based compensation system paying a rate per MVAR, subsidized through a federal tax on electricity -- effectively making the government the buyer of reactive power and inertia services
- The program resulted in installation of large synchronous condensers (300 MVAR and 150 MVAR units) and was considered a successful model for stimulating private investment
- The committee noted this model worked in part because Brazil's grid is fully federally operated, enabling cost socialization across all participants -- a mechanism unavailable in the fragmented U.S. market structure
- A direct federal subsidy approach was acknowledged as likely unpalatable in the U.S.; existing mechanisms (80/20 tax credit, DOE grants) do not specifically incentivize inertia provision
- An opportunity-cost or cost-causation approach -- potentially supported by SCADA data demonstrating wear and tear from inertia provision -- was identified as a more viable pathway toward a U.S. market product