Executive Summary & Introduction

1. At the FERC technical conference on grid reliability, NERC CEO Robb warned of a “five-alarm fire,” saying that they’re seeing “an increasing number of small-scale events and near misses” on the grid.
2. The U.S. Department of Energy (DOE) has terminated $7.56 billion in financial awards to 223 clean energy projects and more than $700 million in grants for battery and manufacturing projects, stating that these projects “did not adequately advance the nation’s energy needs,” while announcing $625 million in funding for retrofitting and recommissioning coal plants.
3. The PJM market monitor stated in a report that data center load growth is the primary reason for tight supply and demand balances resulting in high capacity prices.
4. According to NYISO’s 3rd quarter 2025 Short-Term Assessment of Reliability (STAR) report, New York’s electric grid faces increased risk of power shortages over the next five years.
5. The Union of Concerned Scientists published a finding that utility customers in seven PJM states are being charged $4.4 billion for transmission upgrades approved last year to bring data centers online.
6. The Lawrence Berkeley National Laboratory found that residential retail rates rose faster than commercial and industrial prices from 2019 to 2024.
7. The U.S. Senate confirmed Laura Swett and David LaCerte to fill vacant seats at the FERC, giving the agency a 3-2 Republican majority.
8. Energy Northwest, with funding from Amazon, will deploy 12 small modular reactors (SMRs) at the Cascade Advanced Energy Facility in Richmond, Washington.

1.1 Risk Assessment Approach

Our analysis of the regulatory risk(s) to our customers is summarized in the rating(s) categories defined below:

Potential Financial Impact to Customers:

$+ Signifies potential increase in costs

$– Signifies potential decrease in costs

Magnitude of Risk to Customer(s):

Symbol	Impact	Description
	Major Impact	Represents a regulatory or policy change that is in the process of being enacted by Regulators (i.e., PUC, ISO, FERC, EDC) and is expected to result in a meaningful increase in cost(s) to load; likely require immediate action.
	Medium Impact	Represents a regulatory or policy change that is in the proposal process and being sponsored by one or more ISO stakeholders. Most of these Risk's will likely be elevated to RED. Medium Impact issues will require involvement but we expect to have time to coordinate load on these type(s) of issues.
	Actively Monitor	Represents regulatory or policy discussions or trends that may evolve to either RED or ORANGE categories. No immediate action item for load.
	For Your Information	Industry developments or information, while not directly impacting the customer, may be of interest or import to the customer.

We have identified various issues that coalesce with the ratings categories described above. Notwithstanding, these are the Regulatory or Policy issues we consider extremely relevant to our retail customers*. With respect to this Bulletin, the six categories which appear to represent the most significant impacts to retail customers are identified below and categorized according to ISO:

Section 2.1 – Policy
Section 2.2 – Capacity / System Reliability
Section 2.3 – Transmission
Section 2.4 – Ancillary Services
Section 2.5 – Energy
Section 2.6 – Industry Development

*Where appropriate, we have provided links to articles and other relevant information for reference purposes.

2.1 Policy

Issue #	Rating	Issue	Impact	Action/Result
2.1a FERC/ NERC	 **$+**	**One of the central issues at the FERC technical conference held this month on grid reliability was how data centers can be safely added to the grid. NERC CEO Robb said, *"we're seeing… an increasing number of small-scale events and near misses"* and warned of a *"five-alarm fire"* for grid reliability.** FERC Commissioner Chang said the U.S. faces potential imbalances between electricity supply and demand amid uncertainty about how much load may be coming online and how much generation and transmission must be built to handle it, while FERC Chairman Rosner said the U.S. needs to build energy infrastructure more quickly. This means we must do interconnection studies faster, conduct permitting faster to unlock "all different types of energy infrastructure that's needed". UD: NERC president warns of 'five-alarm fire' for grid reliability	According to Robb, reliability challenges include: • Dwindling resource adequacy with weakening reliability services; • Extreme weather; • Interdependency with natural gas and other sectors, especially telecommunications; • Policies affecting resource and fuel development; • Load development, particularly data centers related to AI; • Ability to site and permit needed infrastructure; and • Physical and cybersecurity risks. **The U.S. Department of Energy (DOE) said U.S. data centers could use 6.7% to 12% of all U.S. electricity by 2028, up from 4.4% in 2023.**	FERC Commissioner See said that solving the grid reliability issue will be costly but that "we are reaching a point where bills are becoming incredibly difficult for people across the country."

2.1 Policy

Issue #	Rating	Issue	Impact	Action/Result
2.1b DOE	$ –	**The U.S. Department of Energy (DOE) announced it has terminated $7.56 billion in financial awards to 223 clean energy projects stating, *"Following a thorough, individualized financial review, DOE determined that these projects did not adequately advance the nation's energy needs, were not economically viable, and would not provide a positive return on investment of taxpayer dollars."*** Energy Department announces termination of 223 projects, saving over $7.5 billion	DOE terminated 321 financial awards issued by its offices of: • Clean Energy Demonstrations (OCED) • Energy Efficiency and Renewable Energy (EERE) • Grid Deployment (GDO) • Manufacturing and Energy Supply Chains (MESC) • Advanced Research Projects Agency-Energy (ARPA-E) • Fossil Energy (FE)	Energy Secretary Wright said that many awards were rushed through in the final months of the Biden Administration with inadequate documentation by any reasonable business standard. **DOE said that of the terminated awards, 26% of awards, valued at over $3.1 billion or 41% of the total terminated, *were awarded between Election Day and Inauguration Day*.** Democratic lawmakers and consumer advocates said DOE's funding cancellation is illegal. Impacted award recipients have 30 days to appeal a termination decision.
2.1c DOE	$ –	**The U.S. Department of Energy (DOE) canceled more than $700 million in grants targeted at battery and manufacturing projects in development by Ascend Elements, American Battery Technology, Anovion, ICL Specialty Products and LuxWall, stating that these projects *"missed milestones and did not adequately advance the nation's energy needs, were not economically viable, and would not provide a positive return on investment of taxpayer dollars."*** AB: Department of Energy to cancel $700 million in manufacturing grant	ICL Specialty Products had received a $197 million grant to build a new battery plant but now the $500 million project is "in doubt." American Battery Technology will forge ahead with its $2 billion lithium mine and refinery project, even without the $58 million grant from DOE.	**These grant cancellations are the first of a broader list of planned funding cuts for 600 clean energy projects totaling $23 billion, including full termination of funding of the Regional Clean Hydrogen Hubs program.**

2.1 Policy

Issue #	Rating	Issue	Impact	Action/Result
2.1d DOE	$–	**The U.S. Department of Energy (DOE) announced $625 million in funding for retrofitting and recommissioning coal plants. Energy Secretary Wright stated that *"clean coal will be essential to powering America's reindustrialization and winning the AI race."*** Energy department announces $625 million investment to reinvigorate and expand America's coal industry	The funding or "investments" will likely be in either loans or grants and include: • $350 million for recommissioning or modernizing coal power units; • $175 million for coal power projects that provide direct benefits of energy affordability, reliability and resiliency in rural communities; • $50 million for wastewater management systems that extend coal plant service life, reduce operational costs and enhance commercial byproduct recovery; • $25 million for dual-fuel firing retrofits; and • $25 million for development and testing of natural gas cofiring systems.	America's Power, a trade group representing coal interests, applauded the DOE action, stating that premature coal retirements had put the reliability of the U.S. electricity grid at risk.

2.2 Capacity / System Reliability

Issue #	Rating	Issue	Impact	Action/Result
2.2a PJM	 **$+**	**According to a report published by PJM's market monitor (IMM), data center load growth is the primary reason for recent capacity market conditions, i.e., total forecast load growth driving tight supply and demand balances and high prices.** In his report, the IMM highlighted the unprecedented, "extreme uncertainty" in data center load forecasts as a major issue and stated that, *"Current conditions are not the result of organic load growth. Rather they are almost entirely the result of large load additions from data centers."* **The IMM recommends requiring new data centers to supply their own generation.** Monitoring Analytics: Analysis of the 2026/2027 RPM Base Residual Auction	The 2024 auction results for DY 2025/26 led to double-digit electric bill increases for some utility customers in the PJM footprint. Data center load drove up capacity cost by $7.3 billion or 82% to $16.1 billion in the auction held in July for DY 2026/27. That auction would have cost $3.2 billion or 20% more were it not for the price collar negotiated by Pennsylvania Governor Shapiro, which will also be in effect for the December auction for DY 2027/28. *(See our January and July Regulatory Bulletins, Secs 2.2a for more on the Shapiro Collar and the results of the 2026/27 capacity auction, respectively.)* For the last two auctions (for DYs 2025/26 and 2026/27), capacity cost attributable to data center load amounted to $16.6 billion or over half of the combined $30.8 billion cost, according to the IMM.	Data center development is expected to increase prices sharply for PJM's capacity auction for DY 2028/29, scheduled for June 2026. PJM and its stakeholders are working on proposals to more efficiently interconnect large loads, including data centers, under its CIFP[1] Large Load process. PJM is proposing to bolster its load forecasting for data centers and other large loads and allow state utility commissions to review and provide feedback on large load adjustments before they are included in PJM's load forecast. PJM further proposes that utilities would also have to ask if any data center proposals in their service territory are duplicative proposals, and that large load customers must post financial security for the capacity they plan to buy in an auction. Several stakeholders have also made proposals. PJM is targeting filing a completed proposal at FERC in December. [1]Critical Issue Fast Path

2.2 Capacity / System Reliability

Issue #	Rating	Issue	Impact	Action/Result
2.2b NYISO	 $+	**According to NYISO's 3rd quarter 2025 Short-Term Assessment of Reliability (STAR) report, New York's electric grid faces increased risk of power shortages over the next five years unless planned projects, including new transmission and offshore wind resources are brought online.** Starting summer 2026, the ISO anticipates its reliability margins in New York City will be deficient, driven by the increase in peak demand and the retirement of the Gowanus and Narrows Generators (672 MW combined) due to the Department of Environmental Conservation's (DEC's) Peaker Rule limiting NOx emissions. STAR identified reliability deficiencies beginning in Long Island in 2027 and in the Lower Hudson Valley in 2030. NYISO Short-Term Assessment of Reliability: 2025 Quarter 3 (full report)	The New York City area will be deficient throughout the entire five-year horizon without the completion and energization of the following planned projects: 1. Gowanus-Greenwood 345/138 kV feeder, Phase Angle Regulator (PAR); 2. 1,250-MW, HVDC, Champlain Hudson Power Express (CHPE) scheduled online in May 2026; 3. 816-MW Empire Wind offshore project currently scheduled online in July 2027 but has been plagued by delays; and 4. Propel NY Public Policy Transmission Project scheduled online in May 2030 Once the Propel NY Public Policy Transmission Project goes online, margins improve substantially. STAR is based on a deficiency in transmission security.	According to NYISO, the grid is at an "inflection point" and may need several thousand megawatts of new dispatchable generation within the next ten years. The ISO's 2025-2034 Comprehensive Reliability Plan found the state faces "an era of profound reliability challenges" driven by the state's aging generation fleet, rapid growth of large loads, including data centers and manufacturing, and increasing difficulty of developing new supply resources due to public policies, supply chain constraints and rising costs for equipment.

2.3 Transmission

Issue #	Rating	Issue	Impact	Action/Result
2.3a PJM	 $+	**According to a report published by the Union of Concerned Scientists (UCS), utility customers in seven PJM states are being charged $4.4 billion for transmission upgrades approved last year needed to bring data centers online, with similar results expected this year.** The costs for local transmission needed for data centers falls into a "regulatory gap" with the expenses for the upgrades typically being shared by all customers within a utility's footprint. The report calls for heightened oversight of data center-related transmission costs. *"State and federal regulators must require that costs be assigned to the specific customer—or an appropriate rate class that is causing the costs—to avoid subsidization by all other customers."* UD: Customers in 7 PJM states paid $4.4B for data center transmission in 2024	The report comes as state and federal regulators and policymakers grapple with how to protect ratepayers from the costs of power plants and transmission lines amidst a surge in data center development. Utilities initiated more than 150 local transmission projects to serve data centers from 2022 to 2024 in IL, MD, NJ, OH, PA, VA and WV, for which about $4.4 billion in projects were approved last year, with nearly half the costs in VA, the largest data center hub in the world. Currently, the costs caused by a single utility customer are not differentiated or separated when annual local transmission plans are processed and electric rates are calculated. Utility plans for building data center-related transmission are disclosed during "informational" briefings in PJM's transmission planning process, but the information isn't used during state reviews of utility retail rate proposals.	The UCS report makes four recommendations: 1. FERC should require transmission built for single customers to be paid for by those customers, as is the requirement for new generators. 2. FERC and state PUCs should require utilities to track transmission costs caused by specific customers through the rate-setting process. 3. FERC should require utilities to create a customer class in FERC formula rates for customers with direct transmission connection costs. 4. State PUCs should require utilities to recognize the transmission costs created by direct connection customers in retail rate cost-of-service studies.

2.6 Industry Development

Issue #	Rating	Issue	Impact	Action/Result
2.6a U.S.	$+	**According to a presentation published by the Lawrence Berkeley National Laboratory, residential electricity retail rates rose faster than commercial and industrial rates from 2019 to 2024.** Nationwide, average residential prices jumped 27% to 16.5 cents/kWh in the five years since 2019, while average commercial prices increased 19% to 12.8 cents/kWh and industrial prices climbed 19% to 8.1 cents/kWh. Overall retail electricity prices fell in 37 states from 2019 to 2024, when adjusted for inflation. Real prices increased in the Northeast in the five-year period. EJ: Factors influencing recent trends in retail electricity prices in the United States	**Key Findings** • Residential customers and investor-owned utilities experienced greater price increases. • Behind-the-meter solar was associated with higher prices. "States with the largest price increases in recent years typically featured shrinking customer loads—partially linked to growth in net metered behind-the-meter solar—and had RPS programs in concert with relatively costly incremental renewable energy supplies." Due to the financial cost of policy support, these load reductions are associated with increased retail prices for the broader customer base.	• Utility-scale wind and solar are not broadly related to recent price increases. • State renewable portfolio standards are associated with recent price increases. States with RPS programs that called for new supplies in the last five years increased retail electricity prices by about 0.4 cents/kWh. However, electricity prices appear unaffected by "market-based" utility-scale renewable energy projects built outside of RPS mandates. • Hurricanes, storms, and wildfires have increased retail prices.

2.6 Industry Development

Issue #	Rating	Issue	Impact	Action/Result
2.6b FERC/ DOE		**The U.S. Senate confirmed Laura Swett and David LaCerte to fill vacant seats at the FERC, giving the agency a 3-2 Republican majority.** LaCerte's term expires June 30, 2026, while Swett's term ends June 30, 2030. President Trump has named Swett the new Chairman of FERC. Swett was an energy attorney at Vinson & Elkins and former FERC staffer, having worked in FERC's enforcement office and as an advisor to former Commissioner Bernard McNamee and former Chairman Kevin McIntyre.	LaCerte was an official in the U.S. Office of Personnel Management. FERC now has three Republican commissioners, Swett, LaCerte and Lindsay See, and two Democratic commissioners, David Rosner and Judy Chang. Senate confirm Swett, LaCerte to FERC President Trump names Laura Swett Chairman of FERC	One of the top issues facing FERC is ensuring the U.S. has enough power supplies to meet growing demand for electricity mainly driven by data center development. **Separately, the Department of Energy ordered FERC to initiate a new rulemaking proceeding in order to "rapidly accelerate the interconnection of large loads." According to DOE, the proposed rule would enable customers to file joint, co-located load and generation interconnection requests to FERC directly.** DOE letter ordering FERC to initiate rulemaking procedures and proposal regarding the interconnection of large loads
2.6c Nuclear		**Energy Northwest, with funding from Amazon, will deploy 12 small modular reactors (SMRs) at the Cascade Advanced Energy Facility in Richland, Washington.** Energy Northwest will develop four SMRs in the first phase of Cascade with total capacity of 320 MW, with the option to expand to 12 units with a total capacity of 960 MW. UD: Washington nuclear facility will deploy 12 Amazon-funded SMRs	In subsequent phases, three 320-MW sections will together comprise a 960-MW plant within the space of a few city blocks. The SMRs will be supplied by X-energy, which received $500 million in Series C funding from Amazon last year. X-energy's reactor design, the Xe-100, has an 80-MW capacity. Construction is expected to start at the end of the decade with operations targeted to start in the 2030s.	Energy Northwest is a consortium of 29 public utility districts and municipalities across Washington state. Amazon said the Cascade facility will power AI and other digital tools. X-energy, Amazon, Korea Hydro & Nuclear Power and Doosan Enerbility, signed a strategic collaboration agreement in August to accelerate the deployment of new Xe-100 advanced nuclear reactors in the U.S. to meet increasing power demands by data centers, advanced manufacturing and electrification.

3.0 Contact Information

Calpine Energy Solutions Regulatory Contacts:

· Clint Sandidge, Regulatory Policy, ERCOT, Midwest, 713-361-7717 (office)

· Greg Bass, Regulatory Policy, West, 619-684-8199 (office)

· Wyatt Elbin, Regulatory Strategy & Analysis, 419-348-4057 (mobile)

· Jung Suh, ISO & RPS Analytics, 610-717-6472 (mobile)

Public/ISO Regulatory Contacts:

· PJM - http://pjm.com/about-pjm/who-we-are/contact-us.aspx

· MISO - https://www.misoenergy.org/AboutUs/ContactUs/Pages/ContactUs.aspx

· NEISO - http://iso-ne.com/contact/contact_us.jsp

· NYISO - http://www.nyiso.com/public/markets_operations/services/customer_support/index.jsp

· ERCOT - http://ercot.com/about/contact/

· CAISO - http://www.caiso.com/Pages/ContactUs.aspx

· Public Utilities Commission - http://www.naruc.org/commissions/