

Executive Summary & Introduction

FERC has approved [PJM's long-awaited Operating Reserve reform proposal](#) filed back in March 2019. The Commission approved PJM's proposed downward sloping Operating Reserve Demand Curve (ORDC) with a \$2,000/MWh penalty factor, the implementation of which was estimated by PJM to increase LMP by an average of \$2.27/MWh and increase annual operating reserve costs five-fold.

The [California PUC](#) is expected to approve the implementation of a [Central Procurement Entity for Resource Adequacy](#). Similarly in the East, [New Jersey](#) is considering implementing what is called an [FRR alternative to procure its own capacity](#), which the Independent Market Monitor says will actually cost the state more. [New York](#), too, is assessing its alternatives to its ISO's capacity construct and has hired The Brattle Group to quantify the impact.

In the meantime, [Indian Point Nuclear Plant shut down](#) Unit 2 for the last time, after 45 years in operation. And [Governor Cuomo](#) is calling for more in-state transmission investment to foster renewables development, including, surprisingly, a call to develop the [controversial \\$3 billion Champlain Hudson Power Express](#).

Suffice it to say that more than one state is considering alternatives to their respective ISOs' capacity constructs, that perhaps better aligns with the states' climate action goals. The biggest stumbling block, however, appears to be cost, particularly amidst the COVID-19 pandemic and the resultant economic strain. Can a state-controlled procurement of capacity, for which only a small cadre of incumbent utilities is able to provide, be more cost effective than a market-based, region-wide capacity market construct? Proponents of competitive markets, as well as independent market monitors, do not believe so. Rather, they believe a single-state procurement construct, more vulnerable to seller-side market power, would result in costing its consumers even more.

Lastly, [President Trump](#) issued an Executive Order banning any bulk power equipment that has been designed, developed, manufactured or supplied by any "foreign adversary," [in order to protect the U.S. bulk power system from foreign threats](#).

1.1 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 Customer(s):

Symbol	Description
\$+	Signifies potential increase in costs
\$-	Signifies potential decrease in costs

Magnitude of Risk to Customer(s):

Symbol	Description	Description
	Major Impact	Represents a regulatory or policy change that is in the <u>process of being enacted</u> 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 <u>proposal process</u> 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 a 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.

2.0 Overall Assessment

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 *No May-2020 update*
- [Section 2.6](#) – Industry Development *No May-2020 update*

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

2.1 Policy

Issue#	Rating	Issue	Impact	Action/Result
<p>2.1a CAISO</p>		<p>The California Public Utilities Commission (CPUC) is expected to approve the proposed decision regarding the implementation of a Central Procurement Entity (CPE) for Resource Adequacy (R.17-09-020).</p> <p>What is a CPE? <i>A CPE is an entity charged with the obligation to procure defined types and quantities of resource adequacy (RA).</i></p> <p>In this case, PG&E and SCE will be the CPE in their respective service territories only procuring Local RA. There will be no CPE for San Diego Gas & Electric's service territory at this time.</p> <p>CPE responsibilities start this year for RA compliance year 2023</p>	<p>Ever since the local RA obligation was created by the CPUC in 2005, Calpine Solutions has been responsible to procure local RA on behalf of our customers every year.</p> <p>However, with the proliferation of Community Choice Aggregation (CCA), and the subsequent migration of PG&E and SCE residential and small commercial customers to CCAs, the CPUC has been concerned that the main responsibility of procuring local RA had shifted away from the IOUs to the CCAs even though the IOUs control the vast majority of the local RA.</p>	<p>The cost of CPE procurement will be passed through to all customers, whether bundled service, CCA or direct access through a non-bypassable charge.</p> <p>Please contact your sales representative to obtain additional information.</p>

2.1 Policy

Issue#	Rating	Issue	Impact	Action/Result
<p>2.1b U.S.</p>		<p>On May 1 President Trump issued an Executive Order (EO) that bans foreign bulk power equipment, to protect the security of the U.S. bulk power system.</p> <p>The EO bans any bulk power equipment that has been designed, developed, manufactured or supplied by anyone or entity “subject to the jurisdiction of a foreign adversary.”</p> <p>Foreign adversary is yet to be defined, but presumably includes China and Russia.</p> <p>https://www.powermag.com/trump-ban-on-foreign-bulk-power-equipment-triggers-new-uncertainty/</p>	<p>The ban applies to generators and control systems that are interconnected to or needed to maintain the reliability of the transmission lines greater than 69 kV but excludes facilities used in the local distribution system.</p> <p>The EO is timely in this era of constant cyber attacks on the U.S. grid and related infrastructure by foreign entities and addresses two issues:</p> <ol style="list-style-type: none"> 1. Secure the U.S. grid, considered critical infrastructure, from foreign threats 2. Enhance the resiliency of the supply chain supporting the U.S. bulk power system 	<p>The EO has major implications for the power industry, as it depends on a vast global supply chain. It has also brought on a great degree of uncertainty over the industry, for instance the renewables sector, which greatly depends on equipment sourced globally.</p> <p>The EO also has a few notable shortcomings, such as:</p> <ol style="list-style-type: none"> 1. Lack of a national cybersecurity standard 2. Not immediately enforceable, there’s a lot of work to be accomplished first 3. Does not address the existing equipment sourced from foreign adversaries <p>The power industry will have to work through the details of the EO in order to begin implementation over the next several months.</p>

2.2 Capacity / System Reliability

Issue#	Rating	Issue	Impact	Action/Result
<p>2.2a PJM</p>		<p>While debate continues at FERC on the application of the expanded MOPR (Minimum Offer Price Rule), the state of New Jersey—backed by Exelon and PSEG—is contemplating leaving the PJM capacity market via the Fixed Resource Requirement (FRR) alternative.</p> <p>FERC has mandated MOPR in order to prevent state-subsidized resources from unduly suppressing capacity prices, hurting existing capacity resources.</p> <p>The application of expanded MOPR would likely prevent New Jersey’s subsidized renewable resources from clearing the PJM capacity auction and receiving capacity revenue.</p> <p>https://www.utilitydive.com/news/exelon-pseg-urge-new-jersey-to-adopt-frr-alternative-to-pjm-as-retail-pro/578380/</p>	<p>According to the recently published report by PJM’s Independent Market Monitor (IMM), if NJ were to exit PJM’s wholesale capacity market via the FRR alternative the state would pay more for its resource adequacy needs, while the remaining RTO would pay less.</p> <ul style="list-style-type: none"> • NJ load would pay \$32 million to \$386 million more in capacity costs, or an increase of 2.4% to 30% from the current costs. • The rest of PJM (excluding New Jersey) would see a decline in net load costs of \$784 million or 9.7%, compared to the 2021/22 capacity auction charges. <p>According to the IMM, there is no FRR design that would provide capacity more efficiently than a well-designed competitive market that provides benefit to customers while shifting risk to sellers.</p>	<p>Exelon and PSEG may be pressing New Jersey to adopt the FRR in the hopes of collecting more revenue under that construct, as quantified by the IMM.</p> <p>Other competitive generators are promoting the CASPR model adopted by the New England ISO, which allows the entry of a subsidized resource, in exchange for the retirement of a similarly-sized existing one.</p> <p>One way or the other, New Jersey’s consumers will pay more for new renewable resources its state plans to develop. Accommodating the state’s climate action goals within the FERC-regulated RTO market construct is particularly challenging amidst the global pandemic and its resultant economic strain.</p> <p>We will keep you apprised of any developments related to PJM’s capacity reform efforts.</p>

2.2 Capacity / System Reliability

Issue#	Rating	Issue	Impact	Action/Result
<p>2.2b NYISO</p>		<p>New York state agencies NYSERDA and NYDPS have commissioned The Brattle Group to conduct an analysis of resource adequacy structures, published at the end of May.</p> <p>The analysis compares the costs of:</p> <ol style="list-style-type: none"> 1. The current NYISO capacity market structure with existing Buyer Side Mitigation (BSM) rules (this is the Status Quo); and 2. The current NYISO capacity market structure with expanded BSM rules, similar to the FERC-ordered PJM expanded MOPR; versus 3. A centralized market for Resource Adequacy credits 	<p>The Brattle Group analysis is part of the ongoing assessment of NYISO’s capacity construct, ordered by the NYPSC in August 2019. <i>(See our Regulatory Bulletins for August 2019, Sec. 2.1a and 2.2a; and November 2019, Sec. 2.2c.)</i></p> <p>According to The Brattle Group, a centralized market for resource adequacy (presumably run by a state agency) would cost \$0.6-0.8 billion less than the status quo and \$1.7-2.0 billion less than status quo with expanded BSM.</p> <p>https://brattlefiles.blob.core.windows.net/files/18985_quantitative_analysis_of_resource_adequacy_structures.pdf</p>	<p>The process of discovery and debate over various potential new resource adequacy constructs is still in the early stages.</p> <p>As a competitive LSE, Calpine Solutions supports market-based constructs, which we believe are far more efficient at delivering value—at least cost—to the customer over the long run.</p> <p>We will keep you apprised of any developments in the NYISO resource adequacy proceedings.</p>

2.2 Capacity / System Reliability

Issue#	Rating	Issue	Impact	Action/Result
<p>2.2c NYISO</p>		<p>On April 30, the 1,020-MW Indian Point Nuclear Unit 2 shut down permanently, after 45 years of operation. That leaves only 1,030-MW Nuclear Unit 3 still in operation, which is scheduled to shut down in April 2021.</p> <p>https://world-nuclear-news.org/Articles/Indian-Point-2-shuts-down</p>	<p>Multiple units at nuclear plants Nine Mile Point, RE Ginna, and James A. Fitzpatrick received Zero-carbon credits as part of New York state's Clean Energy Standard, but Indian Point Nuclear Plant was denied the same subsidy.</p> <p>The plan to close Indian Point was announced in 2017 by Entergy after a settlement agreement was negotiated with the state.</p>	<p>As a result, partly to offset the closure of Indian Point, several transmission projects have been approved and is being developed in New York to transfer power from the north and central parts of the state to the southeastern load centers.</p> <p>The NYISO has reported no reliability issues due to the closure of Indian Point.</p>

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2.3 Transmission

Issue#	Rating	Issue	Impact	Action/Result
<p>2.3a NYISO</p>		<p>New York Gov. Cuomo called for more in-state transmission lines to reinvigorate the renewable market and plans to meet with President Trump at the end of month, hoping to secure some federal financing for infrastructure projects.</p> <p>As part of his comments, Cuomo also appeared to promote the cross-state, \$3 billion Champlain Hudson Power Express (CHPE) line, recently promoted by NYC Mayor de Blasio.</p> <p>https://www.timesunion.com/news/article/Cuomo-calls-for-new-power-lines-both-in-state-15295811.php</p>	<p>Transmission Developers Inc. (TDI), the sponsor of CHPE eagerly commended Cuomo, calling for expediting its development.</p> <p><i>However, talk on the street is that Cuomo's apparent endorsement of CHPE may have been inspired by the \$10 million donation to the state COVID-19 relief fund made by Blackstone, the owner of TDI.</i></p>	<p>The IPPNY supports Cuomo's call for in-state transmission investment to enable renewable resource development. However, IPPNY continues to oppose the expensive CHPE line which, if built, would bring in Canadian power that would compete with in-state producers.</p> <p><i>(See our November 2019 Regulatory Bulletin, Sec. 2.1c discussing the "greenwashing" of Canadian hydro.)</i></p> <p>The debate surrounding CHPE is expected to continue despite Cuomo's comments, since no requirement or mandate regarding CHPE was made by the governor.</p>

2.4 Ancillary Services

Issue#	Rating	Issue	Impact	Action/Result
<p>2.4a PJM</p>	 <p>\$+</p>	<p>On May 20 the FERC approved PJM’s operating reserve rule changes— Enhanced Price Formation in Reserve Markets, filed on March 29, 2019 (EL19-58-000).</p> <p>After failing to achieve stakeholder consensus, the PJM Board had instructed its staff to file the proposal under Section 206 of the Federal Power Act (FPA). (See our February 2019 Regulatory Bulletin, Sec 2.4a.)</p> <p>FERC Order approving PJM’s proposed operating reserve rules changes</p> <p>The main components of the PJM proposal are as follows:</p> <ol style="list-style-type: none"> 1. Consolidation of Tier 1 and Tier 2 Synchronized Reserve products 2. Improved utilization of locational reserve needs 3. Alignment of market-based reserve products in Day-Ahead and Real-Time markets 4. Downward-sloping Operating Reserve Demand Curve (ORDC) for all reserve products 5. Increased penalty factors from \$850/MWh to \$2,000/MWh, to ensure utilization of all supply prior to a reserve shortage 	<p>PJM published an impact analysis that shows that LMP will rise by an average of \$2.27/MWh and operating reserve costs increase by as much as 5-6 times, when the new rules are implemented.</p> <p><i>Offsetting such cost increases would be decreases in Balancing Operating Reserve (BOR) and other Uplift costs. This is because with a properly functioning operating reserve market, the ISO can reduce manual operator interference.</i></p> <ul style="list-style-type: none"> • LMP will increase on average by around \$2.27/MWh • Total annual reserve cost estimated to increase from \$40 M to \$230 M, or \$0.10/MWh to \$0.52/MWh. • Balancing Operating Reserve cost would decrease slightly, from about \$0.20/MWh today to \$0.15/MWh • Uplift charges will decrease from \$160 M today to \$90 M <p>https://www.utilitydive.com/news/ferc-approves-pjm-reserve-overhaul-with-2b-pricetag-critics-say-move-igno/578469/</p>	<p><i>The \$2,000/MWh penalty factor applies to each of the reserve product types. If all reserve products were short at one time, the total penalty factor can reach \$10,000/MWh, which added to a maximum energy price of \$2,000/MWh, would result in LMP of \$12,000/MWh.</i></p> <p>Detractors of PJM’s operating reserve reform point to this possibility. However, such instances should be infrequent and if it occurs, should last several intervals and not hours.</p> <p>PJM firmly believes that reform in its operating reserves is necessary and prudent to maintain reliability of its grid. The ISO has 45 days (early July) to make a compliance filing at the FERC. PJM is expected to announce the targeted implementation date, as part of that compliance filing.</p> <p><u>We expect the new operating reserve rules to be implemented by 12/1/2020, at the earliest but possibly pushed into 1Q2021.</u></p> <p>Please contact your Calpine sales representative if you have any questions or concerns.</p>

3.0 Contact Information

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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/>

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