

PJM Interconnection, L.L.C. (“PJM”)’s October 30, 2020 filing⁶ proposing to create and implement an Effective Load Carrying Capability (“ELCC”) construct for determining the relative amount of capacity that Variable, Limited Duration, and Combination Resources⁷ may offer in PJM’s capacity market or provide in a Fixed Resource Requirement (“FRR”) capacity plan (the “ELCC Proposal”).

I. COMMENTS

A. The Clean Energy Associations Support and Urge the Commission to Accept the ELCC Proposal.

The Clean Energy Associations support the ELCC Proposal and urge the Commission to accept the October 30 Filing. As detailed in the October 30 Filing,⁸ the ELCC Proposal arose out of PJM’s compliance with Order No. 841,⁹ and the Commission’s findings in its October 2019 Order¹⁰ that 1) PJM’s Open Access Transmission Tariff (“Tariff”) should include minimum run-time rules and procedures currently specified in its Manual for every resource type;¹¹ and 2) that PJM’s “application of its minimum run-time rules and procedures to Capacity Storage Resources [i.e. the ten-hour performance rule] may be unjust, unreasonable, unduly discriminatory or preferential.”¹² The October 30 Filing is in part a “response to the Commission’s April 2020 Order, which held in abeyance an ongoing Federal Power Act (“FPA”)

⁶ PJM Interconnection, L.L.C., *Effective Load Carrying Capability Construct*, Docket No. ER21-278-000 (Oct. 30, 2020) (“October 30 Filing”).

⁷ Unless otherwise noted, references herein to capitalized terms shall have the same meaning as such terms are defined in the October 30 Filing or PJM’s governing documents, as applicable.

⁸ See October 30 Filing at 5-7 (describing relevant procedural history).

⁹ *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127 (2018), *order on reh’g*, Order No. 841-A, 167 FERC ¶ 61,154 (2019) (“Order No. 841”).

¹⁰ *PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,049 (2019) (“October 2019 Order”).

¹¹ See, e.g., *id.* at P 140 (2019).

¹² See *id.* at P 141. The “ten-hour performance rule” or “ten-hour duration requirement” currently applied to Capacity Storage Resources determines such resources’ capacity value based on the stated level of output that such resources can sustain over a continuous ten-hour duration.

section 206¹³ paper hearing [initiated in Docket No. EL19-100-000] regarding the 10-hour performance rule for storage resources.”¹⁴ Importantly, by accepting the ELCC Proposal, the Commission will approve PJM’s use of the industry standard approach to capacity measurement, align PJM with other Regional Transmission Organizations and Independent System Operators (collectively, “RTOs/ISOs”) that already have Commission-approved ELCC constructs,¹⁵ and will alleviate the need for the Commission, PJM and stakeholders to engage in the paper hearing proceeding ordered by the Commission in Docket No. EL19-100-000, which will in turn conserve all parties’ resources and promote administrative efficiency.

The ELCC Proposal is the result of over six months of in-depth negotiations and discussions among PJM and its stakeholders aimed at revamping how PJM determines the capacity capability of multiple resource types in PJM—in particular, energy storage, wind, and solar resources. Notably, the ELCC Proposal received broad support from PJM’s stakeholders and represents a compromise of multiple and in some cases divergent interests.¹⁶ The Clean Energy Associations commend PJM and its stakeholders on their ability to reach compromise on the ELCC Proposal, and in accordance with past precedent, the Commission should afford appropriate deference to PJM and its stakeholders.¹⁷

¹³ 16 U.S.C. § 824e (2018).

¹⁴ See October 30 Filing at 2 (citations omitted).

¹⁵ ELCC-type constructs have already been accepted by the Commission to determine resource reliability values to varying degrees in the Midcontinent Independent System Operator, Inc., the New York Independent System Operator, Inc., and the California Independent System Operator Corporation. See, e.g., October 30 Filing at 3.

¹⁶ Specifically, on September 17, 2020, the PJM Markets and Reliability Committee endorsed the ELCC Proposal in a sector-weighted vote of 3.98/5.0, and on that same day, the PJM Members Committee endorsed the ELCC Proposal in a sector-weighted vote of 4.05/5.0. See October 30 Filing at 7-8.

¹⁷ See, e.g., *California Indep. Sys. Operator Corp.*, 109 FERC ¶ 61,301, at P 73 (2004) (giving “deference to . . . arrangements arrived at during the course of the stakeholder process.”); *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,063, at P 56 (2007) (“regional or stakeholder consensus is an important factor to consider in reviewing the justness and reasonableness of a rate design”).

PJM notes that the “ELCC methodology is a technology-neutral approach that is based on loss-of-load probability, and is designed to determine a resource’s effective contribution to resource adequacy,”¹⁸ and constitutes an “upgrade in PJM’s [current] approach to evaluating the capacity capability of its evolving resource mix. ELCC will replace the current 10-hour rule for storage resources as well as the class-average approach for wind and solar, and provide a means for evaluating hybrid resources (e.g., a resource composed of a solar component and a battery storage component).”¹⁹ PJM also states that its ELCC proposal will enable it to “be better positioned to ensure the PJM Region maintains reliability through a resource adequacy paradigm that recognizes the benefits and limitations of each resource.”²⁰

Importantly, the ELCC Proposal will contribute to establishing just and reasonable rates while removing barriers for storage, as required by Order No. 841. PJM notes that the ELCC proposal will create an accurate assessment of the capacity accreditations for storage resources in various duration classes, including those that can provide continuous energy for a period as short as four hours. Specifically, “the ELCC construct can measure and assign the reliability contribution that can be provided by storage resources with maximum durations of 4-hours, 6-hours, 8-hours, and 10-hours.”²¹ Indeed, PJM’s capacity market may only result in just and reasonable rates if it accurately assesses the reliability contributions of the resources participating in the market, including accurate treatment of a wide range of energy storage resource durations. The ELCC proposal would attain this goal while also avoiding undue discrimination against storage of a wide range of durations, thus addressing concerns at the heart of the Commission’s

¹⁸ See October 30 Filing at 3 (citation omitted).

¹⁹ See *id.* at 2.

²⁰ See *id.*

²¹ See *id.* at 14.

ruling on PJM's compliance plan with Order No. 841 and subsequent paper hearing in Docket No. EL19-100-000.²²

Additionally, PJM's ELCC proposal will greatly improve how PJM calculates the capacity capabilities of Combination Resources (i.e. resources with a wind or solar component and a storage component at a shared point of interconnection²³). This is especially important given that the amount of hybrid resources in PJM is expected to increase significantly in the coming years. As of April 2020, approximately 9 gigawatts, or 13 percent, of generation projects in PJM's interconnection queue were hybrid or co-located resources, with nearly all of those projects being Combination Resources.²⁴

Accordingly, the Clean Energy Associations support the ELCC Proposal, and believe that it represents an important step forward for the PJM market. Acceptance of the ELCC Proposal by the Commission will help to ensure that all resources are adequately, fairly and accurately compensated for the services that they are capable of providing in a technology-neutral manner, while enabling the overall reliability of the PJM system to be maintained.

B. The Commission Should Accept the Proposed Transition Mechanism as Just and Reasonable.

The Clean Energy Associations submit that PJM has met its burden under section 205 of the FPA to demonstrate that the ELCC Proposal will result in just and reasonable rates.²⁵ For the sake of efficiency, the Clean Energy Associations do not repeat all of PJM's arguments and explanations outlined in the October 30 Filing discussing why the ELCC Proposal is just and

²² See October 2019 Order at PP 141-142.

²³ See October 30 Filing at 8.

²⁴ See American Wind Energy Association, *Facilitating Hybrid and Co-located Resource Participation in Wholesale Electricity Markets*, Table 1 (issued Aug. 2020), available at https://www.awea.org/resources/publications-and-reports/white-papers/facilitating_hybrid_resources.

²⁵ See 16 U.S.C. § 824d (2018).

reasonable. However, the Clean Energy Associations offer additional support for PJM’s proposed transition mechanism, as this feature in particular helps to ensure that the ELCC Proposal is just, reasonable and not unduly discriminatory.

As explained by PJM, “[r]esource adequacy values for any given resource are inherently more variable under the ELCC method than they are under capability measurements that are solely focused on individual resource characteristics [such as EFORd].”²⁶ This is due to the fact that “ELCC looks as much at what the system needs, as at what the resource can provide (although that remains an important consideration),” and “ELCC determinations depend on projections of expected load, projections of resource portfolio mix, and projections of expected contributions from each of the numerous resource classes.”²⁷ As noted by PJM, these projections, as well as the assumptions that go into the projections, can vary over the course of any multi-year period for which such projections are made, and almost certainly will change each year as PJM updates its projections and takes new facts and anticipated policy changes into account.²⁸ Accordingly, while the ELCC methodology results in a more *accurate* method for measuring several resource types’ capacity capabilities compared to the current methods employed by PJM (notably, EFORd), the ELCC method is more volatile. As noted by PJM, “[w]ith no bounds on the future volatility in a given resource’s compensable capacity commitment value, financing entities may err on the side of over-pricing the volatility risk, and individual resources could be placed in financial distress if their Accredited UCAP is severely and unexpectedly reduced in a future year. From a system or policy level, over-priced volatility

²⁶ See October 30 Filing at 49.

²⁷ See *id.*

²⁸ See *id.*

risk for ELCC resources could lead to higher resource adequacy costs for PJM Region consumers.”²⁹

In order to mitigate the risk of extreme downside volatility (particularly during PJM’s initial years implementing the ELCC construct), PJM proposes a transition mechanism that would establish minimum capacity values (“capacity floor values”) for ELCC Resources for each of the first 13 Delivery Years.³⁰ This transition mechanism is crucial to PJM’s ELCC proposal, and is especially appropriate because, unlike other RTOs/ISOs’ ELCC constructs, PJM’s ELCC construct would adjust ELCC values on an annual basis to provide more up-to-date, and therefore more accurate, market price signals. The transition mechanism protects against the risk of extreme downside volatility during the transition to the ELCC construct by allowing for “some limited protection to individual resources against major downward variations in Accredited UCAP, while still assuring that, on an ELCC Portfolio basis (if not, in most cases, on an ELCC Class basis) the ELCC resource adequacy calculated as appropriate for the year is preserved on at least a portfolio (if not also on a class) basis.”³¹

Importantly, the transition mechanism will ensure that ELCC Resources are not artificially and unjustly disadvantaged in the medium-term relative to resources that will continue to have their capacity capability measured under the EFORD methodology. Non-ELCC Resources do not face the same “accreditation risk” as ELCC Resources because the EFORD method is not as volatile as the ELCC method. Failure to adopt the transition mechanism would unjustly disadvantage ELCC Resources relative to resources subject to EFORD because ELCC Resources’ capacity capabilities would be more volatile, particularly during the initial years

²⁹ See *id.* at 50.

³⁰ See *id.* at 10.

³¹ See *id.* at 49.

following the ELCC Proposal’s implementation as the market adjusts to the new accreditation method. The transition mechanism greatly mitigates the risk associated with the relative volatility of the ELCC methodology and ensures that ELCC Resources do not face inordinate and substantial risk associated with their capacity capability accreditation merely as a result of differential treatment provided under PJM’s rules and transition. The transition mechanism further ensures that the ELCC Resources and non-ELCC Resources are treated comparably to one another, and the proposed resource-specific performance adjustment provides parity with a similar adjustment in the EFORd method that is present today.³² This parity between the respective capacity accreditation methods will ensure that all Capacity Resources in PJM are properly compensated for services and capabilities that they can provide.

Moreover, the minimum values set “a conservative lower limit on the class rating used to calculate the Accredited UCAP of subject resources”³³ and are based on scenarios that are highly unlikely to occur and protect “individual ELCC Resources from relatively low likelihood, seriously adverse, unexpected changes in the conditions and assumptions that govern the ELCC calculations.”³⁴ Because the assumptions used to underpin the floor values are so conservative,³⁵ individual ELCC Resources will almost certainly have actual capacity capabilities that are higher than the floor values, and that will be used to determine these resources’ actual capacity capabilities for operational and reliability purposes. As a result, it is extremely unlikely that the capacity floor values will credit any individual ELCC Resource with more capacity capability than the resource is actually capable of providing.

³² See, e.g., *id.* at 33-34 (describing the performance adjustment).

³³ See *id.* at 10.

³⁴ See *id.* at 54.

³⁵ See *id.* at 51-54 (describing how floor values are calculated).

Nonetheless, the capacity floor values are crucial because they will provide certainty that project developers, financiers, and asset managers will be able to rely upon when projecting the minimum amount of capacity capability that a given ELCC Resource will be credited for in PJM’s capacity market. This is especially important for owners of energy storage and renewable energy resources, whose costs are incurred almost entirely upfront while revenues are forecast over many years, as opposed to conventional generation resources whose fuel costs are spread over the asset’s life. The transition mechanism thus greatly mitigates financing risk that would otherwise occur at the outset of ELCC Proposal’s implementation and will help to ensure that consumers in the PJM Region do not face “higher resource adequacy costs”³⁶ to which they would otherwise be subjected absent the transition mechanism.

Lastly, PJM has committed to review the transition mechanism for continued retention, possible elimination, or revisions no later than the 2026 quadrennial review.³⁷ PJM and its stakeholders will also evaluate the efficacy of the transition mechanism on an ongoing basis and can make adjustments as necessary. In the meantime, PJM’s proposed transition mechanism will work to contain extreme downward market volatility, thereby protecting market participants and consumers alike. Accordingly, the Commission should accept PJM’s proposed transition mechanism as it has in the past with similar transition mechanisms aimed at mitigating volatility stemming from changes to RTO/ISO capacity market rules.³⁸

³⁶ See *id.* at 50.

³⁷ See *id.* at 58-59.

³⁸ See, e.g., *ISO New England Inc.*, 147 FERC ¶ 61,173, at P 56 (2014) (extending mechanism to allow new resources clearing ISO New England’s Forward Capacity Auction to “lock-in” capacity clearing price from five years to seven years because doing so would avoid “a steeper demand curve, and thus, greater price volatility” during transition to sloped demand curve); *N.Y. Indep. Sys. Operator, Inc.*, 156 FERC ¶ 61,039, at P 28 (2016) (approving transition mechanism requiring annual informational updates for NYISO Installed Capacity demand curves while NYISO transitioned to longer period between demand curve resets because “transitional mechanism provide[d] acceptable mitigation to stakeholder concerns regarding the potential for price volatility” during transitional period.)

C. *The Commission Should Approve the October 30 Filing Expeditiously in Order to Implement the ELCC Proposal in Time for the 2023/2024 Base Residual Auction.*

As explained by PJM, implementing the ELCC Proposal will require significant time for PJM to collect and validate the necessary data from providers of ELCC Resources and to ultimately complete its review and validation of the ELCC model.³⁹ PJM's proposed timeline, which requests Commission action by January 1, 2021 and an effective date of June 1, 2021 for the associated revisions to PJM's Tariff and Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region,⁴⁰ is reasonable given the complexity of implementing the ELCC Proposal, and also the practical necessity of ensuring that PJM can restart running Base Residual Auctions as soon as possible, beginning with the 2022/2023 Delivery Year. Accordingly, the Commission should approve PJM's filing expeditiously, as any significant delays in approving PJM's ELCC Proposal increase the risk that the ELCC Proposal may not be applied until after the 2023/2024 Delivery Year.

³⁹ See October 30 Filing at 61.

⁴⁰ See *id.*

II. CONCLUSION

For the foregoing reasons, the Clean Energy Associations respectfully request that the Commission consider these comments in the captioned proceeding.

Respectfully submitted,



/s/

Steven Shparber

Gene Grace
General Counsel
Gabe Tabak
Counsel
American Wind Energy Association
1501 M Street, NW, Suite 900
Washington, DC 20005
(202) 383-2500
ggrace@awea.org
gtabak@awea.org

Jason Burwen
Vice President of Policy
Energy Storage Association
901 New York Ave NW #510
Washington, DC 20010
(202) 318-5325
j.burwen@energystorage.org

Andrew O. Kaplan
Pierce Atwood LLP
100 Summer Street
Boston, MA 02110
(617) 488-8104
akaplan@pierceatwood.com

Counsel to ESA

Sean Gallagher
Vice President, State Affairs
Solar Energy Industries Association
1425 K Street NW, Suite 1000
Washington, DC 20005
(202) 682-0556
sgallagher@seia.org

Jeffery S. Dennis
General Counsel/Managing Director
Advanced Energy Economy
1010 Vermont Ave., NW
Washington, D.C., 20005
(202) 380-1950
jdennis@ace.net

Steven Shparber
Omar Bustami
Clark Hill PLC
1001 Pennsylvania Avenue, NW
Suite 1300 South
Washington, DC 20004
(202) 772-0915
sshparber@clarkhill.com
obustami@clarkhill.com

Counsel to AWEA and SEIA

Filed: November 20, 2020

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing to be served upon each person designated on the official service list compiled by the Secretary in the captioned proceeding.

Dated at Washington, D.C. this 20th day of November, 2020.

Respectfully submitted,



/s/

Steven Shparber
Clark Hill PLC
1001 Pennsylvania Avenue, NW
Suite 1300 South
Washington, DC 20004
(202) 772-0915