

**UNITED STATES OF AMERICA  
BEFORE  
THE FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C.

Docket No. ER21-278-001

**COMMENTS OF THE PJM POWER PROVIDERS GROUP**

In accordance with the March 2, 2021, notice by the Federal Energy Regulatory Commission (“FERC” or “Commission”) in this proceeding,<sup>1</sup> the PJM Power Providers Group (“P3”)<sup>2</sup> respectfully files these comments regarding the May 1, 2021, filing made by PJM Interconnection, L.L.C. (“PJM”), in response to the Commission’s December 22, 2020 Deficiency Letter requesting additional information in this proceeding (“December 22 Letter”).<sup>3</sup> PJM’s Deficiency Letter Response relates to PJM’s October 30, 2020 filing (“October 30 Filing”) of revisions pursuant to section 205 of the Federal Power Act (“FPA”),<sup>4</sup> to the Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region (“RAA”) and PJM’s Open Access Transmission Tariff (“Tariff”) in order to create and implement an Effective Load Carrying

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<sup>1</sup> On March 2, 2021, the Commission issued a Combined Notice of Filings #1, setting the date of March 22, 2021, at 5 p.m. ET as the date for interventions or protests.

<sup>2</sup> P3 is a non-profit organization that supports the development of properly designed and well-functioning markets in the PJM region. Combined, P3 members own approximately 67,000 megawatts of generation assets, produce enough power to supply over 50 million homes in the PJM region covering 13 states and the District of Columbia. For more information on P3, visit [www.p3powergroup.com](http://www.p3powergroup.com). The comments contained in this filing represent the position of P3 as an organization, but not necessarily the views of any particular member with respect to any issue.

<sup>3</sup> *PJM Interconnection, L.L.C., Response to Commission Deficiency Letter*, Docket No. ER21-278-001, dated May 1, 2021 (“PJM Deficiency Letter Response”).

<sup>4</sup> 16 U.S.C. § 824d.

Capability (“ELCC”) construct for determining the relative amount of capacity that variable, limited duration, and combination resources may offer in PJM’s capacity market (known as the “Reliability Pricing Model” or “RPM”) or provide in a Fixed Resource Requirement (“FRR”) capacity plan.<sup>5</sup> PJM requests that the Commission accept the proposed revisions to the RAA and Tariff effective as of July 1, 2021, and issue an order on its October 30 Filing by no later than May 1, 2021.

P3 respectfully submits these comments in response to PJM’s Deficiency Letter Response and for the reasons as further explained herein, urges the Commission to seek more information from PJM regarding its proposed ELCC construct before accepting its October 30 Filing.

## **I. COMMENTS**

### **A. Approval of PJM’s ELCC Construct Continues To Be Premature and Requires Further Information from PJM before Commission Approval.**

P3 continues to fully support the intent of ELCC - to appropriately recognize the capacity contributions of resources with limited availability. P3 agrees that in all of the potential methodologies to properly assess Variable Resources (e.g., Intermittent Resources, such as wind and solar power); Limited Duration Resources (e.g., battery storage resources); and Combination Resources (e.g., resources with a wind or solar component and a storage component), the ELCC construct is by far the best.<sup>6</sup>

However, as PJM acknowledged in its October 30 Filing, a properly constructed ELCC construct is “complex and detailed,” and as such, PJM and its independent consultant,

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<sup>5</sup> *PJM Interconnection L.L.C., Effective Load Carrying Capability Construct*, Docket No. ER21-278-000, dated October 30, 2020 (“October 30 Filing”).

<sup>6</sup> *Comments of the PJM Power Providers Group*, Docket No. ER21-278-000; EL19-100-000 (consolidated), dated November 20, 2020 (“P3 ELCC Comments”).

Energy+Environmental Economics, “are still in the process of reviewing, validating, and testing the ELCC model and inputs.”<sup>7</sup> Despite the fact that PJM has attempted to answer the various questions posed by the Commission in its Deficiency Letter, both PJM and its stakeholders are still in the process of evaluating the complicated and untested components of an ELCC construct. Therefore, very little has changed in the three months since the Commission’s Deficiency Letter. Given that PJM and its stakeholders are continuing to work out the necessary and important aspects of the ELCC implementation, P3 urges the Commission to require that PJM file updated information on the ELCC construct at the completion of its stakeholder process, as more fully described herein.

**B. The Commission Should Direct PJM To Finalize Its Stakeholder Process Regarding CIRs And File Additional Information Before Accepting PJM’s October 30 Filing.**

P3 is one of the many interested parties to this proceeding that believe that additional important information and analysis is needed in order for the Commission to sufficiently analyze PJM’s ELCC proposal. Despite its answers to the Commission Deficiency Letter, this continues to be the case. One of the numerous issues raised by P3 and others, including the Commission, involved Capacity Interconnection Rights (“CIRs”).<sup>8</sup> As PJM states in its October 30 Filing, the Accredited unforced capacity (“UCAP”) of a resource will be subject to the resource’s CIRs.<sup>9</sup> More specifically, in its Deficiency Letter response, PJM explains that offers into the capacity market both cannot exceed a resource’s UCAP level, and cannot exceed the resource’s CIRs.

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<sup>7</sup> *Id.* p. 62.

<sup>8</sup> P3 ELCC Comments, p. 7; Limited Protest of LS Power Associates, L.P., Docket No. ER21-278-000, dated November 20, 2020 (“LS ELCC Comments”), p.11.

<sup>9</sup> October 30 Filing, at 39.

PJM’s ELCC model will produce an accredited UCAP level, which is one key determinant of the maximum amount that intermittent and limited-duration resources can offer as capacity. However, CIRs are not an output of the ELCC model, but rather are determined separately. CIRs are defined in PJM’s Tariff as “the rights to input generation as a Generation Capacity Resource into the Transmission System at the Point of Interconnection where the generating facilities connect to the Transmission System.”<sup>10</sup> The Commission’s Deficiency Letter raised many of the questions surrounding CIRs that the interested parties have raised.<sup>11</sup>

In one particular question, the Commission asked PJM to explain whether the October 30 Filing will affect the quantity of CIRs that ELCC Resources secure upon interconnection. PJM answered, in part, that given the interplay between ELCC and CIRs, more study and analysis is needed through the stakeholder process that may lead to an additional FPA section 205 filing. Specifically, PJM stated that:

Answer: As explained in the response to subpart (a), the October 30 Filing indirectly affects the quantity of CIRs that Limited Duration Resources and Combination Resources secure upon interconnection by redefining the ICAP for such resources. Beyond this, the instant filing would not impact the quantity of CIRs that ELCC Resources secure upon interconnection. However, given the potential for interplay between ELCC and CIRs, PJM has initiated a stakeholder process to consider changes to the rules for CIRs, and address any potential discrepancies with the ELCC rules. Depending on the outcome of this stakeholder process, PJM may make subsequent Federal Power Act section 205 filings with the Commission, as appropriate.<sup>12</sup>

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<sup>10</sup> PJM Open Access Transmission Tariff, 1, Common Service Provisions, 1, Definitions, Definitions C-D (effective date Oct. 15, 2020).

<sup>11</sup> Deficiency Letter, Questions 4 (a)-(e).

<sup>12</sup> *Capacity Interconnection Rights for ELCC Resources*, presentation by PJM, Jonathan Kern, Planning Committee, dated February 9, 2021, <https://www.pjm.com/-/media/committees-groups/committees/pc/2021/20210209/20210209-item-06a-capacity-interconnection-rights-for-elcc-resources.ashx> (“PJM PC Presentation”) (emphasis added).

The referenced stakeholder process has recently just been initiated and will be conducted in PJM's Planning Committee in order to explore the interconnection between CIRs and the ELCC.

The fact that PJM needs more information regarding CIRs in relation to the ELCC is of significant importance given that PJM readily admits that resource adequacy performance and accredited UCAP may be overstated unless CIRs are considered.<sup>13</sup> Specifically, in its Deficiency Letter Response, PJM concedes,

If a Variable Resource or Combination Resource has CIRs equal to its Accredited UCAP, it is possible that this level of CIRs would not demonstrate sufficient deliverability to meet the Loss of Load Expectation standard on which the ELCC analysis and resource's Accredited UCAP are determined. This is because the resource only has firm deliverability rights (i.e., CIRs) up to the UCAP level in this scenario and PJM does not consider a resource's UCAP or CIR level as parameters in the ELCC analysis.

The ELCC analysis evaluates the contribution to reliability of the output of the Variable Resource or Combination Resource without regard to a resource's (expected) UCAP or CIR levels. As a result, the reliability value of output above a resource's CIR level is included in the ELCC evaluation.<sup>14</sup>

That is to say, CIRs play a critical role in determining whether resources can deliver their output, and because the proposed ELCC model does not take CIRs into account, the model likely considers instances where resources produce at high levels of outputs that may not be supported by their CIRs and thus may not be deliverable to the system. Those instances, however, contribute to the end result of the ELCC accredited UCAP capacity contribution, and that ELCC accredited UCAP would be less if it did not include those instances of high output. Thus, the proposed ELCC model, which does not yet take into account CIRs, is insufficient to ensure reliable outcomes because it does not recognize when certain resource output levels may not be deliverable to the system, yet

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<sup>13</sup> *Id.*, p. 4.

<sup>14</sup> PJM Deficiency Letter Response at 24.

it assesses capacity contribution based on those times of high output and times of lower output. Because the ELCC model does not consider CIRs in determining the capacity contribution of resources, it likely overstates the reliability contribution of ELCC resources.<sup>15</sup> Due to this and other issues with integrating CIRs with the ELCC, PJM is proposing further stakeholder discussions and educational sessions that will ultimately lead to an updated proposal to the PJM Market and Reliability Committee in November 2021.<sup>16</sup>

The issues surrounding CIRs point to a fatal flaw in PJM’s current ELCC proposal that should be a clear indication that PJM’s October 30 Filing continues to be premature and should not be implemented at this time. PJM’s admission that it cannot currently determine the appropriate interplay of CIRs with the ELCC construct substantiate the Independent Market Monitor’s (“IMM”) concerns that PJM’s proposed ELCC construct “will not provide a just and reasonable measure of the reliability contributions of different capacity resource types.”<sup>17</sup> PJM’s untested and unverified ELCC values, and the lack of incorporation of deliverability implications that CIRs are meant to address, are even more concerning given that PJM is seeking to lock in these unsupported values for over ten years. The potentially incorrect value of these resources has

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<sup>15</sup> See e.g., *Midcontinent Independent System Operator, Inc.* 173 FERC ¶ 61,139 (2020) (“MISO and the Market Monitor both identify a problem with MISO’s existing deliverability requirements – that Intermittent Capacity Resources are only required to demonstrate deliverability up to their Unforced Capacity and therefore their energy production on peak days may not be fully deliverable. The Market Monitor further explains that these existing deliverability requirements are inconsistent with the LOLE studies MISO uses to establish its Reserve Margin and Reserve Requirements for its LSEs.”)

<sup>16</sup> *Id.* p. 5.

<sup>17</sup> Comments and Motions of the Independent Market Monitor for PJM, Docket No. ER21-278-000, dated November 20, 2020 (“IMM Comments”).

led the IMM to caution that PJM’s ELCC proposal will end up “distorting incentives and markets.”<sup>18</sup>

Premature implementation of the ELCC before the full CIR aspects are clearly defined and understood could also have a negative impact on current market participants’ CIRs. As American Electric Power Service Corporation (“AEP”) noted in its previous comments, “[I]t is not expected that application of the ELCC construct would *directly* impact a market participant’s CIRs, but rather may impact whether a market participant can take full advantage of the CIRs it has acquired. This would be particularly concerning in a situation in which a resource owner has invested in transmission system upgrades to secure an amount of CIRs reflective of its resource’s capability, only to have its UCAP later reduced due to the influx of other, similar resources. PJM should promptly consider this related issue and propose tariff revisions, as may be necessary, to protect the value of a market participant’s CIRs.”<sup>19</sup> While we agree with AEP that the issue of CIRs warrants careful consideration alongside ELCC, PJM’s example of a conventional resource’s CIRs demonstrates that it is wrong to assume that CIRs in excess of a resource’s UCAP are “unused,” or indeed, that a resource owner should want to “shed or transfer” those.<sup>20</sup>

Consider a gas plant with a 100 MW nameplate capacity and a 15% forced outage rate. Such a resource could request CIRs up to its potential ICAP level, for example 100 MW. If such resource indeed secured 100 MW of CIRs and tested at 100 MW, it would have an ICAP of 100 MW. Such a resource would have a UCAP of 85 MW [100\*(100%-15%)]. ***If such resource had a lower quantity of CIRs, its ICAP would accordingly be lower, and its UCAP would be lower in turn.***<sup>21</sup>

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<sup>18</sup> Answer, Motion for Leave to Answer and Alternative Motion for Consolidation, of the Independent Market Monitor for PJM, Docket No. ER21-278-000

<sup>19</sup> American Electric Power Service Corporation’s Comments on PJM’s Effective Load Carrying Capability Construct, Docket No. ER21-278-000, dated November 20, 2020, p. 2 (emphasis in original).

<sup>20</sup> See Deficiency Letter question 4(d).

<sup>21</sup> PJM Deficiency Letter Response at 14-15.

(emphasis added)

That is to say, under the existing rules, conventional resources have CIRs in excess of the amount of capacity such a resource can offer (UCAP), and those “excess” CIRs are necessary to support delivery at times up to a resource’s full output (100 MW in the example), which is an input to arrive at the capability used for capacity sales (the 85 MW UCAP). We do not necessarily assume that PJM and its stakeholders will arrive at the conclusion that the relationship between ICAP, UCAP, and CIRs for ELCC resources must function in exactly the same way as for conventional resources, but PJM and its stakeholders should have that conversation before finalizing the ELCC model. CIRs represent physical limitations of the transmission system that we should not ignore, and that we certainly should not be overlooking while locking in rights for years into the future. However, the currently proposed ELCC model does just that.

**C. PJM’s Proposed Transition Mechanism undermines the ELCC Methodology and should be rejected.**

Several parties, including P3, raised significant concerns with PJM’s proposed “transition mechanism” that provides accredited capacity value “floors” to ELCC resources. In part, P3 questioned whether a 10-year (really a 13-year) guarantee is necessary to address the risk intermittent and energy storage resources face from the ELCC proposal.<sup>22</sup> Dominion Energy Services, Inc. (“Dominion”) raised additional concerns in this regard, including: 1) unlike traditional “transition” mechanisms, PJM’s proposal includes no sunset to the transition period; 2) its inclusion “significantly undermines” the ELCC methodology’s primary objective to “ensure that non-traditional resources, as a group, cannot offer to provide more capacity than their

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<sup>22</sup> P3 ELCC Comments, p. 7.



aggregate reliability value”; and 3) PJM’s argument that the floor values are unlikely to bind is suspect.<sup>23</sup>

PJM’s attempted answers to the Commission’s Deficiency Letter regarding the implementation of the transition mechanism, and the locking in of the floors are unavailing. In part, PJM admits that it is “theoretically possible” for ELCC Class Rating floors to bind to such an extent that PJM would be unable to identify sufficient offsetting reductions in ELCC Class Ratings across the ELCC portfolio to preserve the ELCC Portfolio UCAP, although PJM attempts to posit that this is allegedly “very unlikely.”<sup>24</sup>

PJM’s answers to the Commission’s questions regarding the transition mechanism fail to alleviate any of the real concerns that PJM’s proposal in this regard is not just and reasonable. Each resource class receives a floor specified for essentially 13 years. This floor is guaranteed, regardless of whether its class value changes over the years. To compensate for this guarantee, new resources will absorb necessary derations to meet the class value under the ELCC.

Fundamentally, the floors will create an equity and reliability issue wherein capacity sold through RPM auctions can no longer be reliably delivered to the system. This occurs when ELCC floors bind for a given group of resources (ELCC Deficient Resources), and ELCC attributed capacity value from another set of resources is transferred to the ELCC Deficient Resources to uplift their capacity value to the floor level. Once this transfer has taken place, transferred capacity is being sold in the RPM auction by the ELCC Deficient Resources, but is, in fact, delivered by the resources to whom the capacity value was originally attributed. To be clear – nothing about

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<sup>23</sup> Protest of Dominion Energy Services, Inc., Docket No. ER21-278-000, Dated November 20, 2020 (“Dominion ELCC Comments”), pp. 4-6.

<sup>24</sup> PJM Response to Deficiency Letter, p. 12.

the capacity deliverability characteristics of either group of resources, as determined by ELCC, has changed. The ELCC floors have simply taken the capacity being delivered by one set of resources and attributed it to another set of resources. This is, of course, inequitable, but more critically creates a mismatch of cleared capacity commitments and delivery capability. The mismatch occurs because any cleared capacity commitment associated with the transferred capacity will now reside with the ELCC Deficient Resources that, per the ELCC calculation, cannot deliver that capacity. The resources from which the transferred capacity was taken, while still technically capable of delivering the transferred capacity value, do not receive the associated capacity commitment and payment, and, most critically, are not obligated to deliver that capacity.

P3 also submits that the floors are arbitrary and result in inequitable treatment among resources based on their vintage. Every other resource accepts the risk that more efficient resources – whether operationally or financially so – can displace their ability to continue to be economically viable. That is indeed the heart of a competitive market. Instead, the floors proposed in PJM’s proposal as further articulated in its Deficiency Letter will only serve to penalize second movers, such as states, that adopt new policies that encourage lower emissions resources or more economically efficient comparable facilities. The irony is that in states where new resources might choose to enter the system replacing older, more legacy units, such resources could be derated to guarantee existing resources capacity rights fixed (with a floor) for 13 years. This deration could impact the financial viability of such a new unit. Such locking in of the resource’s alleged value has not been done for any other resource type and it is inequitable and without justification other than as a carrot to get support from existing intermittent and duration limited resource owners for the overall ELCC design.

Given the billions of dollars that will be needed to transition the grid to clean resources, PJM's market designs should incent innovative technology and new entry. The proposed floors undermine any such incentives by creating a mechanism under which newer resources could get lower capacity credits than existing resources simply to reduce the risk for existing resources. This is clearly not a good outcome for consumers.

For all of these reasons, P3 submits that PJM's transition mechanism undermines the ELCC methodology and should be rejected.

**D. PJM Should Be Required To Provide The Commission With Periodic Reviews Of The ELCC Methodologies And Modeling.**

Despite P3's concerns with the timing of the Commission's acceptance of PJM's proposed ELCC construct with respect to the outstanding issues of the CIRs, and P3's objection to the transition mechanism, P3 continues to support the concept of PJM's proposed ELCC and believes it to be a significant improvement to PJM's existing minimum run-time rules and procedures. However, given that the ELCC construct is both new and yet untested, P3 respectfully recommends that the Commission require PJM to provide a compliance filing within one year after the ELCC's implementation in order to more fully assess the sufficiency of the ELCC construct. Thereafter, PJM should continue to provide periodic reviews of the methodologies and modeling for the ELCC construct.

As Calpine Corporation ("Calpine") pointed out, periodic review of the ELCC methodologies and modeling will facilitate the development of needed improvements to this new, fundamental PJM construct.<sup>25</sup> Periodic review will not only help ensure that the ELCC construct

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<sup>25</sup> Supporting Comments of Calpine Corporation, Docket No. ER21-278-000, Dated November 20, 2020 ("Calpine ELCC Comments"), p. 5.

is just and reasonable moving forward, it will be able to timely capture any fundamental changes from PJM's current ELCC proposal. By way of example, while PJM clearly intends to utilize the "Delta Method" to allocate the ELCC Portfolio UCAP among the ELCC Classes to establish the ELCC Class Values and ELCC Class Ratings, PJM has not ruled out a change to this methodology in the future. Rather, PJM states, in part, that if it were to "revise the method," it would not apply retroactively.<sup>26</sup>

Given the crucial importance of the ELCC's methodology, at a minimum, PJM should be required to periodically review its ELCC Class UCAP allocations to ensure that such allocations are equitable and do not create artificial barriers to entry. PJM should also be required to review its methodology for calculating and allocating ELCC values to ensure its methodology remains fair and nondiscriminatory. These are just two of several topic areas for which Calpine has recommended a periodic review,<sup>27</sup> and for which P3 strongly supports.

## **II. CONCLUSION**

P3 respectfully submits that PJM should not rush through a new, significant, long-term ELCC construct at a time when major features of the proposed construct are still undergoing testing and verification. P3 fully supports an ELCC methodology for Energy Storage Resources ("ESR") as the preferred alternative to PJM's proposed 10-hour minimum run-time rule. But the details of the ELCC methodology, and the resource values it seeks to create, have to be correct. If not, PJM's ELCC construct will have all of the market distorting ramifications cautioned by the IMM.

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<sup>26</sup> PJM Deficiency Letter Response, pp. 1; 5.

<sup>27</sup> *Id.*, pp. 6-8.

PJM has time to get the ELCC construct right. P3 believes that the stakeholder meetings exploring the CIRs should be completed before PJM seeks to implement the ELCC. At a minimum, FERC should not approve a proposal to begin locking in ELCC floor values for ten or more years into the future when those ELCC floor values, unlike UCAP values for conventional resources, do not consider the real-world deliverability constraints of CIRs. For all of these reasons, P3 respectfully requests that the Commission not implement the proposed ELCC at this time, and require PJM to supplement its October 30 Filing at the conclusion of the stakeholder meetings regarding the CIRs.

Wherefore, for the foregoing reasons, P3 urges the Commission to consider these comments and direct PJM to complete its stakeholder meetings pertaining to the ELCC in order to provide further information to support their ELCC proposal.

Respectfully submitted,

On behalf of the PJM Power Providers Group

March 22, 2021

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**CERTIFICATE OF SERVICE**

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

Dated at Washington, D.C. this 22<sup>nd</sup> day of March, 2021.

On behalf of the PJM Power Providers Group

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