



Phase 1: Manual Updates for ER24-99

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Changes associated with PJM's CIFP Filing

- Following slides summarize the phase 1 changes approved in PJM's CIFP Filing (ER-24-99) - most changes are to become effective with the 25/26 DY, while the DR testing changes will become effective with the 24/25 DY
- There are 8 different categories that summarize the relevant tariff and M18 sections are identified for each:
 1. Capacity Accreditation
 2. Reliability Risk Modeling & Procurement Targets
 3. Participation Requirements for Planned Generation Capacity Resources
 4. Update the inputs Used in Determining the VRR Curve
 5. Conforming Revisions to Testing and Failure Charge Requirements for Demand Resources (Effective 24/25 DY)
 6. PAI Reform
 7. Changes related to FRR Alternative including Transition Period
 8. Additional conforming changes

New	Phasing Out	Clean-up
Manual 20A Manual 21B	Manual 20 Manual 21 Manual 21A	Manual 18 Manual 14B

Manuals 20, 21, 21A are effective through the 24/25 DY after which they will expire.

Manual 20A and 21B will be effective starting with the 25/26 DY.

- Planning Manuals were endorsed at the June 4 Planning Committee, with one friendly amendment mentioned and adopted in Manual 21B.

Section	Name	Change
3	ELCC Results Posting Schedule	Added clarification around the timing of when data will be made available

Monthly Timeline for Manual Updates for Conducting the 2025/2026 BRA

Apr. – May 2024

May. – Jun. 2024

Jul. 2024

Jul. – Dec. 2024

First read at:

- MIC – M18
- PC – M20, M21, M21A, M21B, M14B
- MRC – All

Endorsement Vote at:

- MIC – M18
- PC – M20, M21, M21A, M21B, M14B
- MRC – All

2025/2026 Base
Residual Auction

Update PJM Manual
changes for the
remainder of ER24-99
changes

- Proposed timeline is for the PJM Manual updates applicable to the conduct of the 2025/2026 BRA. (e.g. changes associated with planning parameters and resource accreditation, etc.)
- Additional PJM Manual changes will be presented in the second half of 2024.

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Phase 1: Manual Updates for ER24-99



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Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com**

Appendix

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>ELCC approach used for all Generation Capacity Resources and DR in accordance with RAA, Schedule 9.2</p> <p>UCAP Value of Generation Capacity Resource = ICAP * Accredited UCAP Factor</p> <p>New Defined Term Added: "Accredited UCAP Factor"</p> <p>UCAP Value of DR = nominated value times applicable ELCC Class Rating</p> <p>All Sell Offers of Generation Capacity Resources to specify Accredited UCAP Factor. The Accredited UCAP Factor to be established by PJM prior to the applicable RPM Auction, and is multiplied by the ICAP offered to determine the UCAP offered.</p> <p>The Nominated DR Value of a Demand Resource's Sell Offer is multiplied by the applicable ELCC Class Rating to determine the UCAP offered.</p>	<p>RAA Definitions ELCC Resource, various ELCC class definitions, Accredited UCAP Factor, etc.</p> <p>RAA Schedules 9 / 9.2: ELCC Analysis / Accreditation (new section) Overview of the ELCC analysis and the determination of Accredited UCAP for all generation resource types and DR</p> <p>RAA Schedule 5: Forced Outage Rate Calculation Application of EFORD / Pool-wide Average EFORD updates (discontinue)</p> <p>RAA Schedule 6: Procedures for Demand Resources Update to determination of UCAP value for DR</p> <p>Tariff, Att. DD, Section 5.6: Sell Offers, Section 5.11: Posting of Information, Sections 5.14 New Entry Price Adjustment, New Entry MOPR Floor Offer Prices, Cleared MOPR Default Offer Prices Section 6.6/6.6A: Offer Requirement, etc. Updates to offer requirements and use of Accredited UCAP Factor for ELCC Resources, information required to be posted for RPM Auctions</p> <p>Tariff, Att. DD-1, Procedures for Demand Resources and Energy Efficiency</p>	<p>2.1.5 Effective Load Carrying Capability and ELCC Resources in Capacity Exchange</p> <p>2.4 Reliability Requirements</p> <p>4.2.2 Existing Generation Capacity Resources – External</p> <p>4.2.5 Equivalent Demand Forced Outage Rate</p> <p>4.2.7 Accredited UCAP for ELCC Resources</p> <p>4.3.8 Determination of the UCAP Value of Load Management</p> <p>4.6.2 Entering Unit-Specific Bilateral Transactions</p> <p>4.6.3 Exporting a Generation Resource</p> <p>4.6.5 Treatment of Unit-Specific Capacity Transactions that Start/End Mid-Delivery Year</p> <p>4.6.8 Locational Unforced Capacity (UCAP) Transactions</p> <p>4.7.1 Resource Position for Generation Capacity Resources</p> <p>4.7.2 Resource Position for Demand Resources</p> <p>5.4.1 Resource-Specific Sell Offer Requirements</p> <p>5.4.8.4 Default MOPR Floor Offer Prices</p> <p>5.8.1 Participation in the Incremental Auctions</p> <p>8.2.1 Generation (RPM Commitment Compliance)</p> <p>8.2.2 Demand Resources (RPM Commitment Compliance)</p> <p>8.8 Replacement Resources</p>

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M20A and M21B Sections
<p>ELCC approach used for all Generation Capacity Resources and DR in accordance with RAA, Schedule 9.2</p> <p>UCAP Value of Generation Capacity Resource = ICAP * Accredited UCAP Factor</p> <p>Calculation and application of the resource performance adjustment</p> <p>New Defined Term Added: "Accredited UCAP Factor"</p> <p>UCAP Value of DR = nominated value times applicable ELCC Class Rating</p> <p>Winter Verification test is required</p>	<p>RAA Definitions ELCC Resource, various ELCC class definitions, Accredited UCAP Factor, etc.</p> <p>RAA Schedules 9 / 9.2: ELCC Analysis / Accreditation (new section) Overview of the ELCC analysis and the determination of Accredited UCAP for all generation resource types and DR</p> <p>RAA Schedule 5: Forced Outage Rate Calculation Application of EFORD / Pool-wide Average EFORD updates (discontinue)</p> <p>RAA Schedule 6: Procedures for Demand Resources Update to determination of UCAP value for DR</p> <p>OATT Attachment DD § 7: Generation Resource Rating Test Failure Charge</p>	<p>Manual 20A Section 2 –Reserve Requirement Study (RRS) and Effective Load Carrying Capability (ELCC) Study</p> <p>Manual 21B Section 2 – ELCC Classes Section 3 – ELCC Results Posting Schedule Section 4 - Calculation of ELCC Class Rating, ELCC Resource Performance Adjustment, Accredited UCAP, and Accredited UCAP Factor Section 7 – Determination of Effective Nameplate Section 8 – Data Submission Requirements Section 10 – Testing Requirements</p>



Reliability Risk Modeling & Procurement Targets

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Pool-wide average Accredited UCAP Factor replaces Pool-wide average EFORd in FPR determination</p> <p>Change to CETO Definition</p> <p>Posting deadline of Installed Reserve Margin</p>	<p>RAA Definitions CETO, Reliability Principles and Standards, Portfolio Expected Unserved Energy</p> <p>RAA Schedules 4 and 4.1: Development of the Forecast Pool Requirement (FPR) Guidelines and data considered in the reliability risk analysis and development of the FPR; conversion between the Installed Reserve Margin (IRM) and FPR</p> <p>RAA Schedule 4.B Forecast Pool Requirement and PJM Region Installed Reserve Margin To Be Determined Annually</p> <p>RAA Schedule 9.2: ELCC Analysis / Accreditation (new section) Data and methodologies describing the risk modeling used in the ELCC analysis</p>	<p>2.1.1 Installed Reserve Margin</p> <p>2.1.3.1 Pool-wide Average EFORd (Through 2024/2025 Delivery Year)</p> <p>2.1.3.2 Pool-wide average Accredited UCAP Factor (Starting with 2025/2026 Delivery Year)</p> <p>2.1.4 Forecast Pool Requirement</p> <p>2.2 Role of Load Deliverability in the Reliability Pricing Model</p> <p>5.3. RPM Auction Parameters</p> <p>5.4.3 New Entry Pricing Adjustment</p>



Reliability Risk Modeling & Procurement Targets

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M20A and 14B Sections
<p>Hourly resource adequacy model and the associated inputs</p> <p>Simulated output of resources and the considerations for binning</p> <p>Calculation of Loss of Load Expectation (LOLE) and Expected Unserved Energy (EUE)</p> <p>Calculation of the Installed Reserve Margin, Accredited UCAP Factor, and Forecast Pool Requirement</p> <p>Pool-wide average Accredited UCAP Factor replaces Pool-wide average EFORd in FPR determination</p> <p>Change to CETO Definition</p>	<p>RAA Definitions CETO, Reliability Principles and Standards, Portfolio Expected Unserved Energy</p> <p>RAA Schedules 4 and 4.1: Development of the Forecast Pool Requirement (FPR) Guidelines and data considered in the reliability risk analysis and development of the FPR; conversion between the Installed Reserve Margin (IRM) and FPR</p> <p>RAA Schedule 4.B Forecast Pool Requirement and PJM Region Installed Reserve Margin To Be Determined Annually</p> <p>RAA Schedule 9.2: ELCC Analysis / Accreditation (new section) Data and methodologies describing the risk modeling used in the ELCC analysis</p>	<p>Manual 14B 2.3.9 Load Deliverability Analysis C.2.1.4 General Procedures C.2.4 Capacity Emergency Transfer Objective (CETO) Procedure C.2.5 Capacity Emergency Transfer Limit (CETL) Procedure</p> <p>Manual 20A All sections IRM/FPR – Section 2 CETO – Section 3</p>



Participation Requirements for Planned Generation Capacity Resources

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Require all Capacity Market Sellers of any Planned Generation Capacity Resource to provide a binding notice of intent if such resource will be offered into in the relevant RPM Auction</p> <p>Such binding notice is required no later than the December 1 prior to a BRA and no later than 90 days prior to the conduct of an IA</p> <p>Planned Generation Capacity Resources that are the subject of such binding notice of intent would then be required to be offered into the applicable RPM Auction. Conversely, Planned Generation Capacity Resources that are not the subject of a binding notice of intent would not be allowed to be offered as capacity into the relevant RPM Auction.</p> <p>Any Planned Generation Capacity Resource associated with a notice of intent to offer, but is not offered into the auction, will not be allowed to be offered in any of the subsequent IAs associated with that Delivery Year</p>	<p>Tariff, Attachment DD, Sections 5.5 and 6.6 / 6.6A; RAA Schedule 8.1.D</p>	<p>1.2.2 Participation of Resource Providers</p> <p>4.2.1 Existing Generation Capacity Resource – Internal</p> <p>4.2.3 Planned Generation Capacity Resources – Internal</p> <p>4.2.3.1 Binding Notice of Intent to Offer (Effective with the 2025/2026 Delivery Year)</p> <p>4.2.4 Planned Generation Capacity Resources – External</p> <p>5.7.1 Participation in the Base Residual Auction</p> <p>5.8.1 Participation in the Incremental Auctions</p>



Update the Inputs Used in Determining the VRR Curve

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>X-axis of Points (1), (2) and (3); in UCAP MW determined by use of set percentages applied directly against the Reliability Requirement rather than against the IRM</p> <p>Y-axis of Points (1) and (2); Net CONE of Reference Resource converted to \$/MW-day UCAP based on Reference Resource's ELCC Class Rating rather than based on (1 - pool-wide EFORd)</p>	<p>Tariff, Attachment DD, Sections 5.10</p>	<p>3.4 Plotting the Variable Resource Requirement Curve</p>



Conforming Revisions to Testing and Failure Charge Requirements for Demand Resources (Effective 24/25 DY)

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Tariff, Attachment DD, section 11A, revised to conform the testing requirements for DR and to clarify how failure charges apply to DR that fails to perform.</p> <p>Beginning with the 2024/2025 Delivery Year, Demand Resource test would not be required if there is a Load Management event and such Demand Resource is assessed for performance during a Performance Assessment Interval in a Delivery Year.</p> <p>The net capability testing shortfall in a Zone will be a MW quantity, converted to an UCAP basis using the applicable Forecast Pool Requirement prior to 2025/2026 Delivery Year, and the applicable ELCC Class Rating beginning with the 2025/2026 Delivery Year.</p>	<p>Tariff, Attachment DD, Section 11A: Demand Resource Test DR testing requirements</p>	<p>8.7 Load Management Test Compliance</p>

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Revise the index price of the stop-loss limit to the BRA clearing price rather than to the net CONE.</p> <p>Revise stop-loss from $1.5 \times \text{net CONE} \times 365$ to $1.5 \times [\text{Base Residual Auction}] \text{ Clearing Price} \times 365$</p>	<p>Tariff, Att. DD, Section 10A(f-1): Charges for Non-Performance & Credits for Performance</p>	<p>8.4A Non-Performance Assessment</p> <p>9.1.9 Non-Performance Charge/Bonus Performance Credit</p>



Changes related to FRR Alternative including Transition Period

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Set the deficiency and insufficiency charge rates for FRR Entities at the price-level corresponding to Point 1 on the LDA VRR curve where the FRR obligation exists.</p> <p>Apply new rate to Deficiency Charge starting with the 2025/2026 Delivery Year. Apply new rate to Insufficiency Charge for FRR Plans beginning with the 2029/2030 Delivery Year.</p> <p>Allow FRR Entities that have not yet satisfied the minimum five-year commitment of the FRR election the opportunity to re-join RPM beginning with the 2025/2026 Delivery Year. FRR Entities electing this option must commit to a five year minimum commitment period to stay in RPM. FRR Entities electing this option must provide written notice of the termination of its election of the FRR Alternative at least two months prior to the Base Residual Auction through the 2028/2029 Delivery Year.</p> <p>For FRR Entities that elect to remain in FRR, potential insufficiency charges are suspended through the end of the 2028/2029 Delivery Year.</p>	<p>RAA Schedules 8.1: FRR Alternative</p>	<p>11.1.3 Participation in the FRR Alternative 11.2.1 Preliminary Unforced Capacity Obligation 11.3 Capacity Plan 11.4.1 Resource Portfolio 11.4.7 Load Management Products 11.8.1 FRR Capacity Resource Deficiency Charges</p>



Additional Conforming Changes

Summary of Changes	Relevant Tariff/RAA Sections	Relevant PJM M18 Sections
<p>Update Manual references to include the new planning Manuals</p> <p>Revise posting deadline for BRA Planning parameters to in accordance with the posting deadline provided on the RPM Auction Schedule on the PJM website</p> <p>Create new CONE Area 5 for ComEd with relevant asset life factors (ER24-462-000 & 186 FERC ¶ 61,053)</p> <p>Updated timeline to reflect changes</p> <p>Clean up for how MSOC is calculated and used</p> <p>General editing</p>	<p>Tariff, Att. DD, Section 5.10: Auction Clearing Requirements</p> <p>Tariff, Att. DD, Section 6.4: Market Seller Offer Caps</p>	<p>Introduction</p> <p>2.1.2 Peak Load Forecasts</p> <p>2.3 Locational Constraints in the Reliability Pricing Model</p> <p>2.3.1 Locational Constraints in the Reliability Pricing Model</p> <p>3.3 Parameters of the Variable Resource Requirement</p> <p>3.3.1 Cost of New Entry</p> <p>4.3.1 Requirements of Load Management Products in RPM</p> <p>4.4 Energy Efficiency Resources</p> <p>5.2 RPM Auction Timeline</p> <p>5.4.4 Sell Offer Caps</p>