



NJ Grid Modernization Rules Draft

February 10, 2023 1PM – 5PM

Public Review and Comment

The New Jersey Grid Modernization (“NJ GridMod”)

N.J.A.C. 14:8-5 Draft Revision – Public Review and Comment

Stakeholder Input

- Meetings
 - Meeting 1 – February 10, 2023 - will provide an overview of the Proposed Draft Rules released in January 27, 2023 Notice
- Written Comments due March 10, 2023 5PM EST filed under [Docket No. QO21010085](https://publicaccess.bpu.state.nj.us/CaseSummary.aspx?case_id=2109704)
https://publicaccess.bpu.state.nj.us/CaseSummary.aspx?case_id=2109704

Webinar Instruction Page

- All attendees will be automatically muted
- Questions? Please use the “Q &A” function in Zoom
- We will field **clarifying** questions and **topic-specific** comments at the end of each segment.
- Please note that the “Chat” function in Zoom is not available for this meeting, other than to broadcast the pre-registered speakers “on deck” for the final summary comment period.
- This meeting is being recorded. A copy of the recording and slides will be made available on the BPU website:
<https://www.nj.gov/bpu/newsroom/public/>

Disclaimer

This presentation is provided for informational purposes only and should not be taken to represent the views of the New Jersey Board of Public Utilities, its Commissioners, or the State of New Jersey. Please be aware that any information presented is subject to change if there are changes to New Jersey statutes, rules, or policies.

All viewers are responsible for ensuring that they rely only on current legal authority regarding the matters covered in the presentation.

Written Stakeholder Comment Guidelines

- The deadline for comments on the Grid Mod Rules is **5:00 p.m. ET on Friday, Mar 10, 2023**
- Please submit comments directly to [Docket No. QO21010085](#) using the “Post Comments” button on the Board’s Public Document Search tool.
- Comments are considered “public documents” for purposes of the State’s Open Public Records Act and any confidential information should be submitted in accordance with the procedures set forth in N.J.A.C. 14:1-12.3.
- Written comments may also be submitted to:

Acting Secretary of the Board
44 South Clinton Avenue, 1st Floor
Post Office Box 350
Trenton, NJ 08625-0350
Phone: 609-292-1599
Email: board.secretary@bpu.nj.gov

Live Stakeholder Comments

By Topic

- Speaking time per person is limited to be respectful of other speakers. Allocated time will be designated at the start based on the **number of hands raised** for that segment. Please stay on the previously discussed topic with your comments.
- Phone controls for participants
 - The following commands can be entered via DTMF tones using your phone's dial pad while in a Zoom meeting:
 - *6 - Toggle mute/unmute
 - *9 - [Raise hand](#)

General

- AFTER all topics are sequentially discussed, the **preregistered speakers** will be called on for their general comments. The next five speakers will be posted in the chat. We will call on speakers in order. If your name is not showing (only a phone number), please raise your hand when it is your turn to speak.
- At the conclusion of our pre-registered speakers list, we will invite additional speakers to **raise their hands** to speak.

NJ Grid Modernization Program - Website



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<https://www.njcleanenergy.com/gridmod>

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Grid Modernization

The New Jersey Board of Public Utilities ("NJBPU" or "Board") hereby gives notice of a series of public meetings to collect stakeholder input on the current distribution grid interconnection policies and process, and potential improvements that will enable faster grid modernization and higher levels of distributed energy resource (DER) absorption.

All meetings in the series start with a brief presentation by NJBPU Staff recapping the State of New Jersey Grid Modernization ("GridMod") initiative and activities to date, with an emphasis on their relation to strategies outlined in the 2019 NJ Energy Master Plan. The sessions then feature specific presentations and a facilitated comment collection that will be used in a formalized NJBPU Proceeding at the conclusion of the series. The aim is to facilitate a guided discussion on recognition of existing barriers, estimate economic impacts of alternative reform paths, and ultimately build the broadest consensus on aligned measures that can remove or reduce the biggest barriers to grid modernization.

The public meetings were held at the dates, times, and manner shown below. Meeting materials and video recordings are available on the links below. To receive information on this topic, please subscribe to the Renewable Energy listserv.

Meeting Date and Time	Agenda Focus
Oct 26, 2021 (9AM-12PM EDT)	Grid Modernization Context This meeting presented research findings and best practices on state rules, regulations, and processes which govern the grid interconnection application, review, and approval workflow. Meeting Materials: Presentation and Webinar Recording
Nov 16, 2021 (9AM-12PM EST)	Stakeholder Data/Comment Ingestion This meeting facilitated direct feedback from public stakeholders on their experiences with current processes, ideas for improvement and innovation, success stories, and other relevant input.

Program Updates

- Solar Scam Warning
- Successor Solar Incentive Program Order
- CEA Solar Transition Proceeding

Other updates posted.

NJ Solar Installations

Solar Installations
169,304

As of December 2022 over 169,304 New Jersey homes & businesses have installed a solar electric system.

Find a Trade Ally

Find a Trade Ally

Select a contractor for an energy efficient upgrade



NJ GridMod Program – Public Document Server

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Docket # : QO21010085-

Open Date : 01/29/2021

Divisions : CLEAN ENERGY DIVISION / PRIMARY

Case Status : UNDER REVIEW

Last Update :

Case Caption : IN THE MATTER OF MODERNIZING NEW JERSEY'S INTERCONNECTION RULES, PROCESSES, AND METRICS

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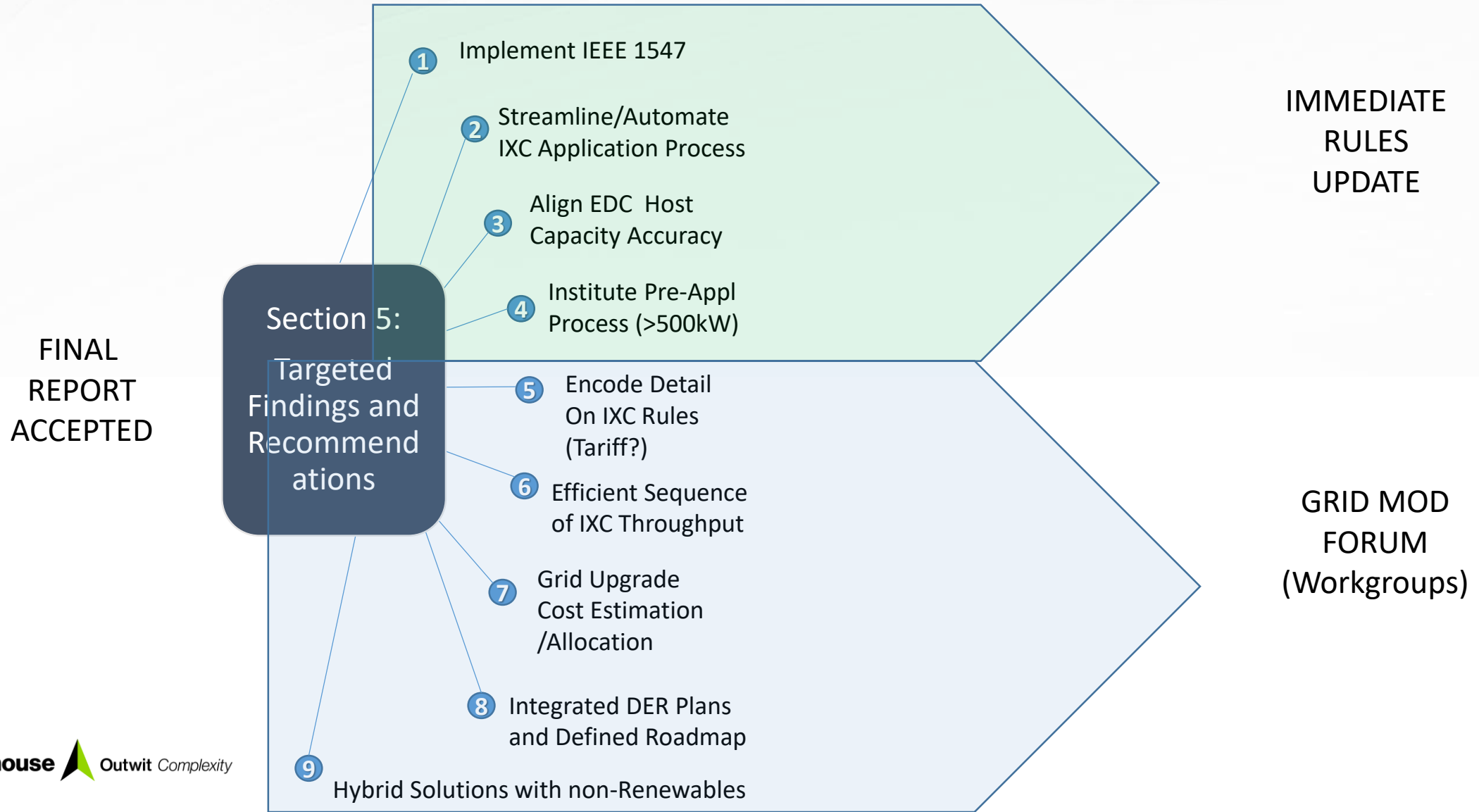
Showing result(s) 1 - 43 of 43

(1) Order
(5) Notices
(2) Correspondence
(35) Comments

Recommendations >> Rules

(advancing the 11/9 Board Order)

- Improve **Access** to Relevant Information for Applicants
- Manage Queue and Reduce Application Processing **Intervals**
- Reduce Barriers to DER **Adoption**





THANK YOU – Now let's dive into the initial *proposed* 14:8-5 Rules Update

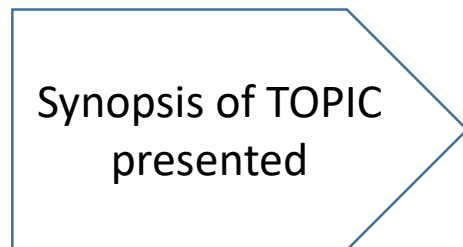
paul.heitmann@bpu.nj.gov



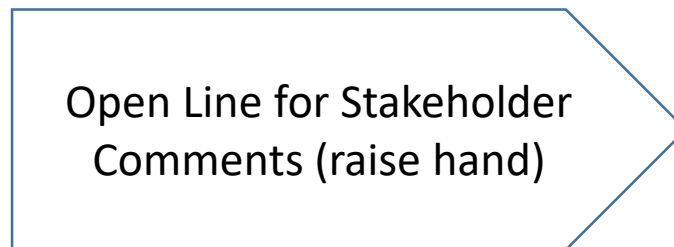
N.J.A.C 14:8-5 Proposed Initial Rules Update Review (Topics)

1. New Definitions Introduced
2. Application Process Improvements
3. Revised Thresholds and Classifications
4. Improving DER Hosting Capacity
5. Proactive System Upgrade Planning
6. Level 3 Applications

Each of these topics will next be covered individually as follows:
(target timing is approximate)



10 min



30 min**

N.J.A.C 14:8-5.xxx

THIS GRAPHIC
CONVENTION USED TO
HIGHLIGHT SPECIFIC
RULES LANGUAGE

** there is also time reserved at the
end of the meeting for additional
general stakeholder comment

Topic 1: New Definitions Introduced

Overview

Several **new or revised definitions** have been introduced related to the accelerating *decentralization* of the electric distribution system driven by the larger role of Distributed Energy Resources (DER) in achieving our EMP goals.

Additionally, the existing **Net Energy Metering** definitions have been referenced to ensure that these relevant “adjacent” rules are more tightly connected to the interconnection process.

N.J.A.C 14:8-5 : New Definitions Introduced

This Rules Revision introduces several new defined terms:

1. Clarification of Net Metering Definitions (N.J.A.C. 14:8-4.2) ;
2. **AGIR** – Authority Governing Interconnect Requirements;
3. **CIAP** – Common Interconnection Agreement Process;
4. **DERA** – Distributed Energy Resource Aggregation;
5. **EDC Grid Flexibility Services**;
6. **EIS** – Expedited Impact Study;
7. **Facilities Study; System Impact Study**;
8. **Hosting Capacity (/Analysis)**;
9. **Interconnection Ombudsman**;
10. **Non-Exporting** Customer Generator (/Technology);
11. **Order No. 2222**;
12. **PAVE** – Pre-Application Verification/Evaluation;
13. **PSUP** – Proactive System Upgrade Planning;
14. **SPAS** – Solar Permitting Application Software;

Topic 2: Application Process Improvements

Overview

The process improvements represent the higher priority recommendations in the adopted Final Report and have been incorporated as both **updates** to existing rules as well as entirely new **amended sections**.

These process improvements were made primarily to Improve **Access** to Relevant Information for Applicants and to better manage queue and reduce Application processing **Intervals**, and to generally improve transparency and accountability throughout the process.

N.J.A.C 14:8-5 : Application Process Improvements

- All EDCs must develop a consistent, secure, and auditable electronic application platform which enables a Common Interconnection Agreement Process (**CIAP**).
- Each EDC must **designate a cognizant point of contact** who is available to guide Applicant through the interconnection application process, and can respond to requests including invocation of the PAVE process.
- Each EDC shall develop a formal **Dispute Resolution** process, with a designated and appointed Ombudsman from the EDC.
- Applicant may request EDC consideration of (and response to) any identified **increase in load planned** for the facility, including building electrification and EV charging.
- **DER Aggregation** requires no additional study for prior approved interconnections, although certain larger resources will require a 10 day notice to EDC for approval to aggregate. If rejected, the Dispute Resolution process shall be used.
- EDC must adopt and publish formal Level 3 screens and timelines for application processing.

N.J.A.C 14:8-5 : Application Process Improvements

- Applicant allowed to limit or prevent **export** and/or enroll in an EDC **grid flexibility** service program to improve likelihood of interconnection.
- **Rejected Applications** can proceed to a higher Level (as currently allowed) or may be resubmitted with modifications including:
 - Addition of energy storage or proposed load increase
 - Reduction in generation (or export)
 - Prevention of all export
 - Participation in grid flexibility services.
- Qualified Level 2 or 3 Applicant may request that **EDC provide a PAVE report** any time prior to or during the application process, and make consequential design changes without additional expense.
- EDC rejection notice for Level 2 and 3 **must include specific screening criteria** identification, and any minor modifications that could remove the individual criteria violation(s). Good faith estimate for any additional review cost must be provided.

- Monthly tracking and EDC **updates to public website** on key performance indicators (**KPIs**) including; application lifecycle throughput, application quality (completeness), attachment success rates, queue size, PAVE utilization, and customer satisfaction feedback.
- EDC must proactively identify its current interconnection **application processing** and electrical distribution **system hosting** “capacity” and what planned improvements will be targeted for future improvement. A detailed performance report must be compiled and formally submitted to BPU annually. This may be combined with a newly required PSUP filing for the alternating years that is required.
- The Hosting Capacity Analysis process becomes more rigorous and frequent, with uniform visual presentation of circuit capacities through maps accessible within the CIAP. The information presented in these maps will include upgrade cost estimators, nearby available circuits with capacity, key load parameters and limits, and other useful information for the applicant to better understand the feasibility of the application.
- Each EDC shall design and offer a PAVE process for qualified Level 2 and 3 projects and shall deliver relevant pre-existing system and circuit capacity information to applicant upon receipt of a fee.

Topic 2 Process

N.J.A.C 14:8-5.1

Subsection 1 CIAP Definition

“Common Interconnection Agreement Process” or “CIAP” means a common EDC application that allows Customer-generators to apply for and manage the interconnection process electronically through a portal-based software application platform capable of tracking key information throughout the subsequent interconnection application process, documenting generation type and capacity, timelines, and incorporating schedule and budget for upgrade commitments and construction timelines.

N.J.A.C 14:8-5.2

Subsection 2 CIAP Execution

(e) By June 1, 2023, each EDC shall establish a consistent, secure and auditable electronic interconnection application processing software platform that will provide a structured approach for data intake and notifications for all interconnection Levels, to be known as the Common Interconnection Agreement Process or CIAP.

[LINK](#)

Topic 2 Process (cont)

N.J.A.C 14:8-5.2

Subsection 2 Load Anticipation

(n) Any Applicant may request that the EDC take into account any significant anticipated changes in load associated with contemporaneous installation of the Customer-generator facility and any of the following: (i) electric vehicle charging infrastructure, including any vehicle-to-grid bidirectional capabilities; (ii) building electrification upgrades; (iii) deployment of energy efficiency upgrades; or (iv) verifiable increases in load; which the EDC shall not unreasonably refuse to consider.

N.J.A.C 14:8-5.2

Subsection 2 Dispute Resolution

(k) Each EDC shall develop an interconnection dispute resolution process as set forth in N.J.A.C 14:5.13, to be included on the EDC FAQ webpages. As part of a dispute resolution process the EDCs should identify an ombudsman to handle customer interconnection complaints.

[LINK](#)

Topic 2 Process (cont)

N.J.A.C 14:8-5.2

Subsection 2 Export Limiting

- (b)** In determining the appropriate interconnection level and performing the related studies, the EDC shall allow a prospective generator to limit its ability to export power to the grid to less than its nameplate rating,

N.J.A.C 14:8-5.10

Subsection 10 PAVE Process

- (a)** A Pre-Application Verification/Evaluation (PAVE) process shall be offered by each EDC for any qualified Level 2 or Level 3 projects
- (b)** Within 10 business days of the interconnection customer providing a complete PAVE request, the EDC shall provide the following information about relevant parts of its distribution system through the CIAP portal...

[LINK](#)

Topic 3: Changed Thresholds and Classifications

Overview

The update includes several quantitative adjustments to current **Thresholds** that were deemed appropriate to relax specific screening criteria that are currently preventing higher DER attachment rates.

Additionally there were some recommended changes to **Classifications** to reduce confusion over methods and help enable fast tracking of applications through full lifecycle wherever possible.

N.J.A.C 14:8-5 : Changed Thresholds and Classifications

- Level 1 qualification threshold raised to **25 kW** and all Level capacities are now measured in **direct current**.
- **Non-Export generation** is explicitly permitted as a responsive mitigation to (or proactive prevention of) grid parameter violation.
- EDCs shall allow existing installations to upgrade to a **UL-1741 compliant smart inverter** with no additional study.
- A Level 2 or Level 3 application for nameplate capacity **greater than 500kW** shall be permitted to request the **PAVE process** from the EDC prior to applying.
- Certification is extended to UL 1741 smart inverters and for compliant non-exporting technologies to interim alternative testing protocols under California Rule 21.
- Level 1 criteria has been modified to **ONLY** allow smart inverter that is certified for Net Energy Metering (NEM)

N.J.A.C 14:8-5 : Changed Thresholds and Classifications

TOPIC #3

TECHNICAL THRESHOLDS

- Level 1 and 2 aggregate generation capacity limit raised to **15%** (25% for solar) of a **radial circuit peak load capacity**
- Level 1 and 2 individual generation capacity limit raised to **30 kVA for single phase shared secondary**.
- Distribution protection equipment trip limit raised to **95% of short circuit interrupt capacity** for hosted Level 2 and 3 DER.
- Allowable Level 2 Customer Generator on the **load side of protective devices** raised to **50%** of the minimum annual load (or 500kW limit). Only **daytime** min load used for Solar

Topic 4: Hosting Capacity Improvements

Overview

Several changes were explicitly aimed at making the **calculation and expression** of distribution circuit hosting capacity more uniform and accessible, as this is important information that can help shape applicant siting and design decisions. This is largely a FORMAT preparation change.

The actual EXPANSION of circuit hosting capacity is **left to the GridMod Forum**, as this involves complex tradeoffs and industry/ratepayer collaboration before major policy changes and expenditure authorizations are made.

N.J.A.C 14:8-5 : Hosting Capacity Improvements

- Annual filing starting Jan 1, 2024 for each EDC on their Hosting Capacity Analysis (HCA):
 - Identifying locations with spare capacity,
 - Data to be provided at both Circuit and Substation level,
 - Documented process for **validating** all HCA models.
- Hosting Capacity shall be calculated using **common EDC methodology**.
 - Static grid parameters (thermal, voltage, fluctuation, protection),
 - Operational flexibility (circuit reconfiguration).
- Hosting Capacity Maps shall be **integrated with GIS** platforms and accessed through entered street address for proposed projects. Maps shall be presented using **shared EDC lexicon** with information on current system state and adjacent project interconnection capacity demand.
- Hosting Capacity Maps shall be **updated** at intervals no longer than 3 months

Topic 4 Hosting Capacity

TOPIC #4

N.J.A.C 14:8-5.1

Subsection 1 HC/A Definitions

“Hosting capacity” means the available power flow capacity on distribution system circuits that is used to determine incremental allowable interconnection of generator facilities. Hosting capacity may be a positive number, indicating that there is surplus power flow capability or zero, indicating that the circuit is closed to incremental generation or facilities.

“Hosting capacity analysis” means the methodology used to calculate, publish and evaluate the ability to increase the available Hosting capacity of a given circuit.

N.J.A.C 14:8-5.11

Subsection 11 HC/A Filing

- (a) By January 1, 2024, each EDC shall make a tariff filing to include a common Hosting capacity mapping process to aid Customer-generators.
- (b) Distribution system Hosting capacity maps shall be updated on no less than a quarterly basis and shall include data at both the circuit and substation level.

[LINK](#)

Topic 5: Proactive System Upgrade Planning

Overview

One of the longer term recommendations made in the GridMod Final Report was to formally pursue an **Integrated Distribution System planning cycle** with the EDCs. This plan will eventually help drive a more nimble, flexible and responsive grid that accurately telegraphs intended capacity improvements and produces the highest societal benefit levels for DER integration. The requirement for this planning is *explicitly* cited in the NJ EMP.

The full development of this plan will reside with a **GridMod Forum** working group tasked with its initial creation and process integration with the Grid Modernization proceeding. As a running start to that, the concept of **Proactive System Upgrade Planning (PSUP)** is introduced in this Rules revision.

N.J.A.C 14:8-5 : Proactive System Upgrade Planning (PSUP)

TOPIC #5

- Bi-annual filing for each EDC on their Proactive System Upgrade Plan (PSUP):
 - Targeted circuit and system upgrades with specific purpose (congestion, DER clusters, etc)
 - Detailed cost and benefit expectations
- Each EDC shall conduct required studies that include an option for implementing reverse power flow technologies, and shall prioritize PSUP upgrades where cost effective.

Topic 5 Proactive System Update Plan

N.J.A.C 14:8-5.2

Subsection 2 PSUP

(o) Each EDC, on an annual basis, shall make a **Proactive System Upgrade Planning** filing in which the EDC identifies targeted proactive circuit and system upgrades aimed at expanding opportunities for Customer-generator facilities and detail the costs and benefits of the proposed upgrades, as set forth at N.J.A.C. 14:8-5.12

N.J.A.C 14:8-5.12

Subsection 12 PSUP

(a) Each EDC shall make a Proactive System Upgrade Planning (PSUP) filing on January 1 of each even numbered year, starting on January 1, 2024. The PSUP shall identify congested areas on each EDC system that are significantly limiting the ability to interconnect new resources to the EDC's distribution system and identify proposed upgrades that would proactively alleviate those constraints.

[LINK](#)

Topic 6: Level 3 Application Workflow

Overview

This Rules revision attempts to more **clearly define the expected intervals and actions** needed by all Parties to move a Level 3 application through in a predictable and timely manner.

Longer term recommendations pursued (WG#6) will focus on more efficient and automated execution of this process

- Each EDC shall by January 1, 2024, adopt a **common** set of level 3 interconnection review screens which provide uniform response times and customer messaging protocols.
- Proportional Application Fee prescribed (with cap of \$2000) and must be received to form a **complete** application.
- Specific timelines added for Level 3 processing intervals
 - EDC Positive receipt acknowledged (within 15 days) after completed application received
 - Optional: PAVE Report request satisfied (within 10 day) turnaround
 - EDC conducts Initial Scoping Review (within 30 days) of later of either above
 - EDC provides Draft System Impact Study agreement (within 5 days) of Scoping Review
 - Applicant shall execute Impact Study agreement (within 10 days) – with 60 day hold request option
 - EDC shall complete System Impact Study (within 30 days) and provide initial scope of Facilities Study
 - Full Facility Study will be detailed if needed and must be executed by Applicant (within 60 days)
 - After Facilities Study contract executed, EDC shall complete study (within 45 days)
 - EDC shall provide detailed results and executable Part 1 Interconnection Agreement (within 5 days)
 - Applicant shall execute and return Interconnection Agreement to EDC (within 40 days)

- All payments for administration fees or impact studies must be made in a timely manner or the Applicant may forfeit their reserved hosting capacity. A 60 day hold may be requested for proceeding with advanced Level 3 EDC studies at applicants request.
- **Facilities Studies** which are accepted and contracted by Applicant must not exceed 125% of cost estimates made by EDCs.
- The **PAVE** Process can be accessed by qualified applicants for a \$300 fee payment. This should significantly improve the quality and viability of larger proposed projects.

Topic 6 Level 3 Applications

N.J.A.C 14:8-5.6

Subsection 6 Scoping Meeting

(e) Within 30 days of a completed application and the PAVE report being provided to the Customer generator, the EDC shall conduct an initial review that includes a scoping meeting with the Applicant. **The scoping meeting** shall take place in person, by telephone, or electronically by a means mutually agreeable to the parties. At the scoping meeting, the EDC shall provide and additional pertinent information to the Applicant that was not already provided as part of the PAVE report,

N.J.A.C 14:8-5.6

Subsection 6 Study Agreement

(f) ...The Applicant shall **execute the impact study agreement** within 10 business days, along with any deposit required by the EDC; provided that the Applicant may request that the EDC hold the draft agreement in abeyance for up to 60 calendar days to allow for negotiation of the scope of the System impact study or to engage in dispute resolution procedures as specified in N.J.A.C. 14:8-5.15.

Topic 6 Level 3 Applications

N.J.A.C 14:8-5.6

Subsection 6 System Impact

(h) By January 1, 2024, each EDC shall in a compliance tariff provide standardized protocols governing the conduct of System impact study, facility study, related agreements, and a pro forma Interconnection agreement, as well a detailed description of the various elements of a System impact study it would typically undertake pursuant to this Section, along with, including: (see document)

[LINK](#)

N.J.A.C 14:8-5.6

Subsection 6 Facilities Study

(k) If the EDC determines that necessary modifications to the electrical power system are substantial, the results of the System impact study will include an estimate of the cost of a **Facilities study** and an estimate of the modification costs and timeline. The detailed costs of any electrical power system modifications necessary to interconnect the Applicant's proposed Customer-generator facility will be identified in a Facilities study to be completed by the EDC

[LINK](#)

Open Discussion for Stakeholder Comments

- Speaking time per person is limited based on remaining scheduled meeting time and number of hands raised —please be respectful of other speakers. In any case a 5 minute maximum will be enforced.
- Please raise you hand if you would like to provide any last thoughts or comments. You will be recognized by our meeting facilitator and offered your speaking opportunity.
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 - *6 - Toggle mute/unmute
 - *9 - [Raise hand](#)
- As a reminder: The deadline for comments on this matter is **5:00 p.m. ET on Friday, Mar 10, 2023**
- Please submit comments directly to [Docket No. QO21010085](#) using the “Post Comments” button on the Board’s Public Document Search tool.



THANK YOU – This concludes our NJ GridMod Rules Draft Review

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Backup Detail for Rules Content

CIAP Elements

1. Include a portal-based application form that requires the following types of information: (see document)
2. Include standardized online forms for required Applicant information, ability to save all work in progress for application completion at a later time, a visual “thermometer bar” indicator of progress through the full process, and option for email and phone/text status change notifications, and other such administrative requirements as the EDCs may jointly propose or the Board shall establish via Order;
3. Integrate with a Solar Permitting Application Software platform, such as SolarAPP+ or other similar solar permitting tool selected and implemented jointly by the EDCs, and approved by the Board;
4. Document generation type and capacity, timelines, schedule and budget for upgrade commitments, when upgrade payments or deposits are due or have been paid, and construction timelines, and other comparable requirements that the EDCs may jointly propose or the Board shall establish via order;
5. Provide automatic email and online notifications to the Applicant with the goal of enforcing clearly defined tariff timelines, and reducing the turnaround time for missing data. The software should be designed to improve the accuracy and consistency of data entry and facilitate cross department intake of application information and to identify missing data upon submission or as soon as practicable after submission to minimize the number of incomplete applications;
6. Enable each EDC to customize the forms while maintaining common data architecture and protocol structure across all EDCs;
7. Enable each EDC to provide key performance indicators regarding interconnection processing, including the number of applications with missing data, applications with complete information, and achieved timelines for all interconnection applications at all interconnection Levels.
8. Allow for a fully virtual interconnection process, including allowing for the upload of files and documents;
9. Include an Frequently Asked Questions (FAQ) webpage to provide guidance useful to interconnection customers engaging in the interconnection process that clearly presents context and instructions for interacting with the electronic application tracking system; and
10. Provide automated data feeds for all required reporting that is accessible by Board Staff, including capability of establishing dashboards or other data analysis tools, as may be established by Board order.



PAVE Report Elements

- 1.** Total capacity (MW) of substation/area bus or bank and circuit;
- 2.** Aggregate queued Generating Capacity (MW) proposing to interconnect to the substation/area bus or bank and circuit;
- 3.** Available capacity (MW) of the substation/area bus or bank and circuit, which is the total capacity less the sum of existing and queued Generating Capacity, accounting for all load served by existing and queued generators. Note: Generators may remove available capacity in excess of their Generating Capacity if they serve on-site load and utilize export controls which limit their Generating Capacity to less than their nameplate rating.
- 4.** Whether the proposed Generating Facility is located on an Area, Spot or radial network.
- 5.** Substation nominal distribution voltage or transmission nominal voltage if applicable.
- 6.** Nominal distribution circuit voltage at the proposed site.
- 7.** Approximate circuit distance between the proposed site and the substation.
- 8.** Relevant Line section(s) and substation actual or estimated peak load and minimum load data, when available.
- 9.** Number and rating of protective devices and number and type of voltage regulating devices between the proposed site and the substation/area.
- 10.** Whether or not three-phase power is available at the site and/or distance from three-phase service.
- 11.** Limiting conductor rating from proposed Point of Interconnection to distribution substation.
- 12.** Based on proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.
- 13.** Any other information that the EDC deems relevant to the Applicant.



PSUP Elements

(a) Each EDC shall make a Proactive System Upgrade Planning (PSUP) filing on January 1 of each even numbered year, starting on January 1, 2024. The PSUP shall identify congested areas on each EDC system that are significantly limiting the ability to interconnect new resources to the EDC's distribution system and identify proposed upgrades that would proactively alleviate those constraints.

(b) In preparing a list of PSUP upgrades, each EDC shall focus on proposed upgrades to facilities that would:

- i. Affect multiple interconnection Applicants or open areas where the EDC reasonably anticipates significant growth in interconnection applications;
- ii. Identify upgrades that would result in a 20 percent or more cost savings over the expected costs of addressing multiple interconnections serially;
- iii. Significantly reduce the expected interconnection timeline;
- iv. Upgrade facilities costing over \$2 million that are unlikely to be funded on a participant-funded basis; or
- v. Where a comprehensive series of proactive upgrades would create economies of scale or that would create additional headroom that may not be immediately subscribed by Applicants currently in the EDC's interconnection queue.

(c) For each identified PSUP upgrade, the EDC shall identify:

- i. The circuits that would be affected by the proposed upgrade;
- ii. The cost of the proposed upgrade;
- iii. The additional Hosting capacity that the proposed upgrade would create;
- iv. Whether additional grid flexibility services would provide a cost-effective means of increasing Hosting capacity; and
- v. The cost per kW of additional Hosting capacity under both a wires and non-wires alternative.

(d) Each EDC will divide the cost of each PSUP upgrade by the amount of additional Hosting capacity created by the upgrade, and produce a \$/kW value. Any Applicant applying to interconnect to a circuit with a proposed PSUP upgrade may request that the EDC accelerate construction of the approved PSUP upgrade, and fund the \$/kW value multiplied by the size of the proposed project, in kW.



Hosting Capacity Detail

(a) By January 1, 2024, each EDC shall make a tariff filing to include a common Hosting capacity mapping process to aid Customer-generators. Hosting capacity maps shall indicate locations on the distribution with spare capacity and which locations are likely to require additional upgrades.

(b) Distribution system Hosting capacity maps shall be updated on no less than a quarterly basis and shall include data at both the circuit and substation level. The Hosting capacity values for each circuit shall be calculated using common methodology and presented in a consistent manner across all EDCs. All significant changes shall be summarized and communicated coincidentally to update via posting to the EDC's website and subscriber email list serv. Each EDC shall clearly label their maps with detailed legends explaining what the data means, and adopt a shared lexicon to label their maps.

(c) All Hosting capacity maps shall be integrated with GIS systems, visually present all system data for substations, feeders, and related distribution assets, and allow prospective Applicants to easily determine, based on entered street address, the following information: (see document for detail)

(d) Each EDC shall ensure that the Hosting capacity process includes a documented process for validating models, publishing the Hosting capacity, and allow for customer feedback collection and compilation

(e) Each Hosting capacity map shall include data on both a static grid (the amount of generation that can be integrated without violating one of the four criteria in thermal, steady-state voltage, voltage fluctuation, and protection) and operational flexibility (for evaluating whether the construction of a DER project would limit the EDC's ability to reconfigure circuits in the case of an emergency fault or other event.)



Dispute Resolution

- (a)** By January 1, 2024, each EDC shall make tariff filing to include a standardized dispute resolution process to govern disputes between the EDC and a Customer-generator. Disputes may involve, but are not limited to, issues with interconnection studies, cost estimates for necessary upgrades, queue priority, the development of the interconnection agreement, billing or fees, or related matters.
- (b)** An Applicant for interconnection may initiate the informal dispute resolution process by making a request through the CIAP portal or to the EDC's interconnection ombudsman. The parties shall make a good faith efforts to resolve any dispute within 10 business days of the initiation of a dispute, including making subject matter experts available, or such longer time as the parties shall agree to in writing.
- (c)** If the informal dispute process is unsuccessful, the disputing Party shall provide the other Party a written notice of dispute containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought. The notice shall be submitted through the CIAP portal and sent to the non-disputing Party's email address, with a copy to the Board's interconnection ombudsman.
- (d)** The Parties may request that the Board's interconnection ombudsperson help track and facilitate the efficient and fair resolution of any dispute.

- (e)** The non-disputing Party shall acknowledge the notice within 3 business days of its receipt and identify a representative with the authority to make decisions for the non-disputing Party with respect to the dispute.
- (f)** The non-disputing Party shall provide the disputing Party with all relevant regulatory and/or technical details and analysis regarding any EDC interconnection requirements under dispute within 10 business days of the date of the notice of dispute. Within 20 business days of the date of the notice of dispute, the Parties' authorized representatives shall meet and confer to try to resolve the dispute. The Parties shall operate in good faith and use best efforts to resolve the dispute
- (g)** If a resolution is not reached in 30 business days from the date of the notice of dispute (1) either Party may request to continue negotiations for an additional 20 business days, or (2) the dispute will be shared with the Board's interconnection ombudsperson; or (3) both Parties may by mutual agreement request mediation from an outside third-party mediator with costs to be shared equally between the Parties.
- (h)** If no agreement is reached, the dispute shall proceed to the Board's formal complaint resolution process.
- (i)** At any time, either Party may file a complaint before the Board pursuant to its rules or exercise whatever rights and remedies it may have at equity or law.



System Impact Study Elements

1. Load-Flow Study;
2. Short-Circuit Study;
3. Circuit Protection and Coordination Study;
4. Impact on system operation of the electric distribution system;
5. Stability Study (and the conditions that would justify including this element in the System impact study);
6. Voltage-Collapse Study (and the conditions that would justify including this element in the System impact study); and
7. Additional elements, if approved in writing by Board staff prior to the System impact study.



Facility Study Elements EDC

(k) If the determines that necessary modifications to the electrical power system are substantial, the results of the System impact study will include an estimate of the cost of a Facilities study and an estimate of the modification costs and timeline. The detailed costs of any electrical power system modifications necessary to interconnect the Applicant's proposed Customer-generator facility will be identified in a Facilities study to be completed by the EDC.

(l) If the Parties do not waive the Facilities study, within 5 business days of the completion of the System impact study, the EDC shall provide a Facilities study Agreement, which shall include a good faith estimate of the cost and time to undertake the Facilities study.

(m) Once the Applicant executes the Facilities study Agreement and pays the EDC pursuant to the terms of that agreement, the EDC shall conduct the Facilities study. The Facilities study shall include a detailed list of necessary electrical power system upgrades and an itemized cost estimate, breaking out equipment, labor, operation and maintenance and other costs, including overheads, for completing such upgrades, which may not be exceeded by 125 percent if actual upgrades are completed. The Facilities study shall also indicate the milestones for completion of the Applicant's installation of its Customer-generator facility and the EDC's completion of any electrical power system modifications, and the milestones from the Facilities study (if any) shall be incorporated into the Interconnection agreement. The Facilities study shall be completed within 45 business days of the Applicant's delivery of the executed Facilities study agreement and receipt of any necessary deposits. If the Applicant fails to execute the Facilities study agreement or make the required deposits within 60 business days after receipt of the Facilities study agreement from the EDC, the EDC may make the interconnection capacity available to other potential Customer-generators and may require the Applicant to re-start the interconnection process.

(n) If the proposed interconnection may affect electric transmission or delivery systems, other than that controlled by the EDC, operators of these other systems may require additional studies to determine the potential impact of the interconnection on these systems. If such additional studies are required, the EDC shall coordinate the studies and shall use best efforts to complete those studies within 60 business days of being notified of the need of an affected system study. The Applicant shall be responsible for the costs of any such additional studies required by another affected system. Such studies shall be conducted only after the Applicant has provided written authorization to the EDC.

RETURN

