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Filed For: SPPC

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by: /s Caitlin Katzenbach

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the filer attests to the authenticity of the electronic signature(s) contained therein.

This filing has been electronically filed and deemed to be signed by an authorized
agent or
representative of the signer(s) and
SPPC

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Sierra Pacific Power Company d/b/a NV Energy, filed under Advice Letter No. 562, to revise Generating Facility Interconnections Rule No. 15 tariff sheets.

Docket No. 25-12____

VOLUME 1 OF 2

SIERRA PACIFIC POWER COMPANY D/B/A NV ENERGY

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TRANSMITTAL LETTER



December 31, 2025

ADVICE LETTER NO. 689-E

Ms. Trisha Osborne, Assistant Commission Secretary
Public Utilities Commission of Nevada
Capitol Plaza
1150 East William Street
Carson City, Nevada 89701-3109

Dear Ms. Osborne:

In compliance with ordering paragraph 16 of the December 27, 2024, Order in Docket No. 24-05041, Sierra Pacific Power Company d/b/a NV Energy ("Sierra" or the "Company") hereby submits for filing with the Public Utilities Commission of Nevada (the "Commission") the following revised tariff sheets:

<u>PUCN SHEET NO.</u>	<u>TITLE OF SHEET</u>	<u>CANCELLING PUCN SHEET NO.</u>
35th Revised B	Table of Contents	34th Revised B
9th Revised 47	Rule No. 15 Generating Facility Interconnections	8th Revised 47
9th Revised 48	Rule No. 15 Generating Facility Interconnections	8th Revised 48
9th Revised 48A	Rule No. 15 Generating Facility Interconnections	8th Revised 48A
9th Revised 48B	Rule No. 15 Generating Facility Interconnections	8th Revised 48B
7th Revised 48C	Rule No. 15 Generating Facility Interconnections	6th Revised 48C
7th Revised 48D	Rule No. 15 Generating Facility Interconnections	6th Revised 48D
6th Revised 48E	Rule No. 15 Generating Facility Interconnections	5th Revised 48E
3rd Revised 48F	Rule No. 15 Generating Facility Interconnections	2nd Revised 48F
3rd Revised 48G	Rule No. 15 Generating Facility Interconnections	2nd Revised 48G
3rd Revised 48H	Rule No. 15 Generating Facility Interconnections	2nd Revised 48H

6th Revised 48I	Rule No. 15 Generating Facility Interconnections	5th Revised 48I
4th Revised 48J	Rule No. 15 Generating Facility Interconnections	3rd Revised 48J
2nd Revised 48K	Rule No. 15 Generating Facility Interconnections	1st Revised 48K
3rd Revised 48L	Rule No. 15 Generating Facility Interconnections	2nd Revised 48L
2nd Revised 48M	Rule No. 15 Generating Facility Interconnections	1st Revised 48M
2nd Revised 48N	Rule No. 15 Generating Facility Interconnections	1st Revised 48N
2nd Revised 48O	Rule No. 15 Generating Facility Interconnections	1st Revised 48O
2nd Revised 48P	Rule No. 15 Generating Facility Interconnections	1st Revised 48P
2nd Revised 48Q	Rule No. 15 Generating Facility Interconnections	1st Revised 48Q
2nd Revised 48R	Rule No. 15 Generating Facility Interconnections	1st Revised 48R
2nd Revised 48S	Rule No. 15 Generating Facility Interconnections	1st Revised 48S
3rd Revised 48T	Rule No. 15 Generating Facility Interconnections	2nd Revised 48T
2nd Revised 48U	Rule No. 15 Generating Facility Interconnections	1st Revised 48U
4th Revised 48V	Rule No. 15 Generating Facility Interconnections	3rd Revised 48V
4th Revised 48W	Rule No. 15 Generating Facility Interconnections	3rd Revised 48W
2nd Revised 48X	Rule No. 15 Generating Facility Interconnections	1st Revised 48X
2nd Revised 48Y	Rule No. 15 Generating Facility Interconnections	1st Revised 48Y
2nd Revised 48Z	Rule No. 15 Generating Facility Interconnections	1st Revised 48Z
2nd Revised 48AA	Rule No. 15 Generating Facility Interconnections	1st Revised 48AA
2nd Revised 48AB	Rule No. 15 Generating Facility Interconnections	1st Revised 48AB
2nd Revised 48AC	Rule No. 15 Generating Facility Interconnections	1st Revised 48AC
2nd Revised 48AD	Rule No. 15 Generating Facility Interconnections	1st Revised 48AD

2nd Revised 48AE	Rule No. 15 Generating Facility Interconnections	1st Revised 48AE
2nd Revised 48AF	Rule No. 15 Generating Facility Interconnections	1st Revised 48AF
2nd Revised 48AG	Rule No. 15 Generating Facility Interconnections	1st Revised 48AG
2nd Revised 48AH	Rule No. 15 Generating Facility Interconnections	1st Revised 48AH
2nd Revised 48AI	Rule No. 15 Generating Facility Interconnections	1st Revised 48AI
2nd Revised 48AJ	Rule No. 15 Generating Facility Interconnections	1st Revised 48AJ
2nd Revised 48AK	Rule No. 15 Generating Facility Interconnections	1st Revised 48AK
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2nd Revised 48AS	Rule No. 15 Generating Facility Interconnections	1st Revised 48AS
2nd Revised 48AT	Rule No. 15 Generating Facility Interconnections	1st Revised 48AT
2nd Revised 48AU	Rule No. 15 Generating Facility Interconnections	1st Revised 48AU
2nd Revised 48AV	Rule No. 15 Generating Facility Interconnections	1st Revised 48AV
1st Revised 48AW	Rule No. 15 Generating Facility Interconnections	Original 48AW
1st Revised 48AX	Rule No. 15 Generating Facility Interconnections	Original 48AX
1st Revised 48AY	Rule No. 15 Generating Facility Interconnections	Original 48AY
Original 48AZ	Rule No. 15 Generating Facility Interconnections	None

Original 48AZ(1)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(2)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(3)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(4)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(5)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(6)	Rule No. 15 Generating Facility Interconnections	None
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Original 48AZ(9)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(10)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(11)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(12)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(13)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(14)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(15)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(16)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(17)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(18)	Rule No. 15 Generating Facility Interconnections	None

Sierra submits these tariff sheets to comprehensively update its Electric Rule No. 15, Generating Facility Interconnections. Concurrently, Nevada Power Company d/b/a NV Energy ("Nevada Power", and together with Sierra, "NV Energy" or the "Companies") is filing a companion Advice Letter No. 562 to revise its Rule No. 15.

Rule No. 15 governs the interconnection, operating and metering requirements for generating facilities intended to be connected to the NV Energy's electric distribution system over which the

Commission has jurisdiction. Attachments to this Advice Letter summarize and highlight the most significant changes made to Rule No. 15, which are numerous, and provide both a clean revised version and the full redline changes to the Rule. The stylistic changes made to the Rule make it easier to read and understand, while the substantive changes to the Rule collectively maintain the existing balance of rights, risks and responsibilities between Rule No. 15 applicants, customers and Sierra.

This filing includes seven (7) attachments:

- Attachment 1 - Proposed Rule No. 15 Tariff, Table of Contents
- Attachment 2 - Redline Version of the Proposed Rule No. 15 Tariff
- Attachment 3 - Narrative Discussion of Rules No. 15 Tariff Revisions
- Attachment 4 - Table Summary of Rules No. 15 Tariff Revisions
- Attachment 5 - Stakeholder Session Presentations and Meeting Notes
- Attachment 6 - Stakeholder Feedback and Suggested Edits
- Attachment 7 - Interstate Renewable Energy Council (“IREC”) Decision Options Matrix

The entire filing is broken out in two volumes:

Volume 1 of 2

- Transmittal Letter
- Table of Contents
- Draft Notice
- Certification
- Certificate of Service
- Attachment 1 - Proposed Rule No. 15 Tariff, Table of Contents
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- Attachment 5 (Part 1) - Stakeholder Session Presentations and Meeting Notes

Volume 2 of 2

- Attachment 5 (Part 2) - Stakeholder Session Presentations and Meeting Notes
- Attachment 6 - Stakeholder Feedback and Suggested Edits
- Attachment 7 - Interstate Renewable Energy Council (“IREC”) Decision Options Matrix

Sierra proposes that its revised Rule No. 15, as adopted by the Commission, take effect no earlier than 180 calendar days after the Commission's Order in this filing. This will provide Sierra with the time needed to complete the necessary activities to implement the revised Rule, including, but not limited to, updating its interconnection intake, technical review, and commissioning processes,

updating all affected administrative and technical documentation including applications, handbooks, internal standards, and agreements, and conducting training and change management activities. This will also provide industry stakeholders with the opportunity to more fully understand the changes to Rule No. 15 and make any changes to their processes as they may deem necessary.

Consistent with the extensive stakeholder engagement process that Sierra conducted and the feedback it received and considered in developing its proposed Rule No. 15, the Company proposes a modified contested proceeding process that furthers such a collaborative process. Sierra proposes that, in lieu of relying on pre-filed testimony from the inception of this Docket, the Commission adopt the following process, that the Company believes will enable the Commission to develop a complete record for this filing while making the most efficient use of all parties' time and effort:

1. Following the Commission's granting interventions, Sierra would provide an MS Word version of the proposed Rule No. 15 to the Regulatory Operations Staff of the Commission ("Staff"), the Attorney General's Bureau of Consumer Protection ("BCP"), and all interveners.
2. All parties, at their discretion, would then file written comments on the proposed Rule No. 15, together with proposed alternative language shown as track changes to the proposed Rule, by a date and time discussed in the initial pre-hearing conference and established through a procedural order.
3. Sierra would then file reply comments indicating its position with respect to any proposed changes to the proposed Rule No. 15 from the parties, together with suggested alternative language shown as track changes to the proposed Rule, by a date and time discussed in the initial pre-hearing conference and established through a procedural order.
4. Following the filing of its reply comments, Sierra would then directly engage with Staff, BCP, and interveners in an informal workshop(s) with the goal of gaining further alignment and resolving any differences regarding the language of the proposed Rule No. 15.
5. Sierra would report the results of the informal workshop process to the Commission, and all parties present in a continued pre-hearing conference on a date and time discussed in the initial pre-hearing conference for this filing and established through a procedural order. At that time, the Commission and the parties may address the need to file testimony and adopt further procedural schedule, if necessary.

In contrast to the filing of testimony by the parties covering the entirety of the changes to the proposed Rule No. 15 right from the inception and inviting an adversarial process, the above proposed process would aid in facilitating expedited consensus amongst the parties and the potential achievement of a negotiated settlement or could also serve to focus formal hearings as deemed necessary by the Commission on any remaining areas of contention. The proposed process relies on the lessons learned from the Companies' previous Rules No. 15 updates in Docket Nos. 17-06014 and 17-06015 which resulted in five procedural orders that reflected evolving scheduling needs.

Additionally, in compliance with ordering paragraph 3 of the April 9, 2025, Order in Docket No. 24-03026 (Chris Banda v. Nevada Power Company d/b/a NV Energy), the proposed revisions to Rule No. 15 address the connection concerns discussed in that Docket.

Sierra respectfully requests that the Commission consolidate this Advice Letter with Advice Letter No. 562 being filed simultaneously by Nevada Power to revise its Rule No. 15, in accordance with Nevada Administrative Code ("NAC") NAC 703.740. Under NAC 703.740, the Commission may consolidate two or more dockets when it appears that the issues are substantially the same and that the rights of the parties will not be prejudiced by consolidation. These companion Advice Letters revise both Companies' Rules No. 15 and will make the respective Rules identical with the exception of application for interconnection processing fees. Sierra believes that consolidation will promote efficiency, ensure consistency and will not prejudice any party.

Sierra respectfully requests that the Commission approve the enclosed proposed Rule No. 15 Tariff sheets as provided in Attachment 1.

Should you have any questions concerning this filing, please contact me at (775) 834-3470 or roman.borisov@nvenergy.com.

Respectfully submitted,

/s/ Roman Borisov

Roman Borisov
Senior Attorney

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SIERRA PACIFIC POWER COMPANY D/B/A NV ENERGY

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DRAFT NOTICE

PUBLIC UTILITIES COMMISSION OF NEVADA
DRAFT NOTICE
(Applications, Tariff Filings, Complaints, and Petitions)

Page 1 of 2

Pursuant to Nevada Administrative Code (“NAC”) 703.162, the Commission requires that a draft notice be included with all applications, tariff filings, complaints and petitions. Please complete and include **ONE COPY** of this form with your filing. (Completion of this form may require the use of more than one page.)

A title that generally describes the relief requested (see NAC 703.160(5)(a)):

Application of Sierra Pacific Power Company d/b/a NV Energy, filed under Advice Letter No. 689-E, to revise Electric Rule No. 15.

The name of the applicant, complainant, petitioner or the name of the agent for the applicant, complainant or petitioner (see NAC 703.160(5)(b)):

Sierra Pacific Power Company d/b/a NV Energy

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled **AND** the effect of the relief or proceeding upon consumers (see NAC 703.160(5)(c)):

This advice letter application filed by Sierra Pacific Power Company d/b/a NV Energy (“Sierra”) pursuant to ordering paragraph 16 of the December 27, 2024, Order in Docket No. 24-05041 revises Electric Rule No. 15. Sierra submits revised tariff sheets to comprehensively update Electric Rule No. 15, Generating Facility Interconnections. Rule No. 15 governs interconnection, operating, and metering requirements for generating facilities connected to Sierra’s electric distribution system. The revisions incorporate stakeholder feedback, improve clarity, and align interconnection processes with current industry standards while maintaining the existing balance of rights, risks, and responsibilities between applicants and customers. The requested relief includes approval of updated tariff language and associated implementation activities. The effect on consumers will be improved transparency and efficiency in interconnection procedures without changes to existing customer rates or service terms.

A statement indicating whether a consumer session is required to be held pursuant to Nevada Revised Statute (“NRS”) 704.069(1):¹

N/A

If the draft notice pertains to a tariff filing, please include the tariff number **AND** the section number(s) or schedule number(s) being revised.

<u>PUCN SHEET NO.</u>	<u>TITLE OF SHEET</u>	<u>CANCELLING PUCN SHEET NO.</u>
35th Revised B	Table of Contents	34th Revised B
9th Revised 47	Rule No. 15 Generating Facility Interconnections	8th Revised 47
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3rd Revised 48F	Rule No. 15 Generating Facility Interconnections	2nd Revised 48F
3rd Revised 48G	Rule No. 15 Generating Facility Interconnections	2nd Revised 48G
3rd Revised 48H	Rule No. 15 Generating Facility Interconnections	2nd Revised 48H
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4th Revised 48J	Rule No. 15 Generating Facility Interconnections	3rd Revised 48J
2nd Revised 48K	Rule No. 15 Generating Facility Interconnections	1st Revised 48K

¹ NRS 704.069 states in pertinent part:

1. The Commission shall conduct a consumer session to solicit comments from the public in any matter pending before the Commission pursuant to NRS 704.061 to 704.110 inclusive, in which:
 - (a) A public utility has filed a general rate application, an application to recover the increased cost of purchased fuel, purchased power, or natural gas purchased for resale or an application to clear its deferred accounts; and
 - (b) The changes proposed in the application will result in an increase in annual gross operating revenue, as certified by the applicant, in an amount that will exceed \$50,000 or 10 percent of the applicant’s annual gross operating revenue, whichever is less.

3rd Revised 48L	Rule No. 15 Generating Facility Interconnections	2nd Revised 48L
2nd Revised 48M	Rule No. 15 Generating Facility Interconnections	1st Revised 48M
2nd Revised 48N	Rule No. 15 Generating Facility Interconnections	1st Revised 48N
2nd Revised 48O	Rule No. 15 Generating Facility Interconnections	1st Revised 48O
2nd Revised 48P	Rule No. 15 Generating Facility Interconnections	1st Revised 48P
2nd Revised 48Q	Rule No. 15 Generating Facility Interconnections	1st Revised 48Q
2nd Revised 48R	Rule No. 15 Generating Facility Interconnections	1st Revised 48R
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Original 48AZ(4)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(5)	Rule No. 15 Generating Facility Interconnections	None

Original 48AZ(6)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(7)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(8)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(9)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(10)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(11)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(12)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(13)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(14)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(15)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(16)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(17)	Rule No. 15 Generating Facility Interconnections	None
Original 48AZ(18)	Rule No. 15 Generating Facility Interconnections	None

CERTIFICATION

CERTIFICATION

Application For Tariff Approval Filed Under An Advice Letter

Public Utilities Commission of Nevada

1150 E. William Street
Carson City, NV 89701-3109
Ph: (775) 684-6101 / Fax: (775) 684-6110



9075 W. Diablo Drive, Suite 250
Las Vegas, NV 89148-7674
Ph: (702) 486-7210 / Fax: (702) 486-7206

www.puc.nv.gov

Timothy Clausen, hereby certifies as follows:

1. I am an authorized representative of Sierra Pacific Power Company d/b/a NV Energy.
(utility name)
2. Pursuant to NRS 704.100(1)(f), I attest that to the best of my knowledge, information, and belief, formed after a reasonable inquiry, the proposed change in schedule does not change any rate or result in an increase in the annual gross operating revenue of Sierra Pacific Power Company in an amount that exceeds \$15,000.
(utility name)

I certify that the foregoing statements are true.

December 31, 2025

Date

A handwritten signature in dark ink, appearing to read "T. Clausen", is written over a horizontal line.

Signature

Timothy Clausen

Printed Name

CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing filing of **SIERRA PACIFIC POWER COMPANY D/B/A NV ENERGY** in Docket No. 25-12___ upon the persons listed below by electronic email:

Don Lomoljo
Public Utilities Comm. of Nevada
1150 East William Street
Carson City, NV 89701-3109
dlomoljo@puc.nv.gov

Staff Counsel Division
Public Utilities Comm. of Nevada
9075 West Diablo Drive, Suite 250
Las Vegas, NV 89148
pucn.sc@puc.nv.gov

Attorney General's Office
Bureau of Consumer Protection
100 North Carson Street
Carson City, NV 89701
bcpserv@ag.nv.gov

Bureau of Consumer Protection
8945 West Russell Road, Suite 204
Las Vegas, NV 89148
bcpserv@ag.nv.gov

DATED this 31st day of December, 2025.

/s/ Caitlin Katzenbach

Caitlin Katzenbach

Paralegal

Sierra Pacific Power Company d/b/a NV Energy

ATTACHMENT 1

SIERRA PACIFIC POWER COMPANY dba NV Energy

6100 Neil Road, Reno, Nevada

35th RevisedPUCN Sheet No. BTariff No. Electric No. 1Cancelling 34th RevisedPUCN Sheet No. BTABLE OF CONTENTSELECTRIC DEPARTMENTRULES AND REGULATIONS

<u>RULE NO</u>	<u>TITLE</u>	<u>PUCN SHEET NO.</u>
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(T)

Issued: **12-31-25**

Effective:

Advice No.: **689-E**

Issued By:
Timothy Clausen
Vice President, Regulatory

SIERRA PACIFIC POWER COMPANY dba NV Energy
6100 Neil Road, Reno, Nevada

Tariff No. Electric No. 1

9th Revised
Cancelling 8th Revised

PUCN Sheet No. 47
PUCN Sheet No. 47

(D,N)

RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

A. APPLICABILITY

1. This Rule describes the Interconnection, operating and Metering requirements for Generating Facilities intended to be connected to the Utility's electric Distribution System over which the Commission has jurisdiction. This Rule applies only to Generating Facilities with a Maximum Generating Capacity of 20 MW or less at the Point of Interconnection unless otherwise required in federal or state law. Subject to the provisions of this Rule, the Utility shall allow the Interconnection of Generating Facilities with its electric Distribution System.
2. The requirements of this Rule apply to any Generating Facility Interconnected to the Utility's Distribution System that will, or may, operate in parallel with the Distribution System such that a continuous electrical path will be established between the Generating Unit(s) and the Utility's Distribution System at any time for any length of time, regardless of Non-Export or Export designation, except as identified in Section A.3 and as determined in Attachment 1 including:
 - a. Retail Net Metering Systems (except for certain requirements as otherwise specified in this Rule);
 - b. Energy Storage Devices;
 - c. Vehicle-to-Grid Electric Vehicles and Electric Vehicle Supply Equipment;
 - d. Other retail behind-the-Meter Generating Facilities; and
 - e. Momentary Parallel backup Generators with Make-before-Break operation (such Generators shall only require notification to the Utility under this Rule).
3. The Generating Facilities described below are not subject to Rule 15:
 - a. Generating Facilities seeking to Interconnect to the Utility's Distribution System and sell a portion of or all their electrical output to the Utility or a third party (i.e., wholesale electrical sales) shall be addressed through the Utility's Small Generator Interconnection Agreement, Large Generator Interconnection Agreement, Qualified Facility, or other appropriate process, as applicable; and
 - b. Generating Facilities that are intended solely for electrically isolated operation and not in Parallel Operation with the Utility's Distribution System. The Interconnection of such Generating Facilities shall be subject to Rule 19.

(Continued)

(D,N)

Issued: 12-31-25 Effective: Advice No.: 689-E	Issued By: Timothy Clausen Vice President, Regulatory	
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SIERRA PACIFIC POWER COMPANY dba NV Energy
6100 Neil Road, Reno, Nevada

Tariff No. Electric No. 1

Cancelling 9th Revised
8th Revised

PUCN Sheet No. 48
PUCN Sheet No. 48

RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

A. APPLICABILITY, (Continued)

4. Any modification of the Utility's Distribution System that is required as a result of a Producer's Application for Interconnection under this Rule, including Interconnection Facilities and any Distribution System improvements necessitated by the Generating Facility's load (e.g., load to charge an Energy Storage Device), generation characteristics, or auxiliary load, shall be governed by Rule 9. In such cases, no separate application under Rule 3 shall be required.
5. Generating Facilities Interconnected prior to the effective date of this Rule shall be governed by the requirements of this Rule in effect at the time the Generating Facilities were installed and its existing IOA unless otherwise modified by mutual agreement of the Producer and Utility.
6. Capitalized terms used in this Rule, and not defined in the Utility's other tariffs, shall have the meaning ascribed to such terms in Section B of this Rule. The definitions set forth in this Rule shall apply only to this Rule and related tariff riders for Standby Service and may not apply to the Utility's other Rules.

B. DEFINITIONS AND ACRONYMS

The definitions set forth in this Section B are applicable only to this Rule, its corresponding agreements and rate schedules that apply to Standby Service.

AC: Alternating Current.

Active Anti-Islanding Scheme: A control scheme installed with the Generating Facility that senses and prevents the formation of an Unintentional Island.

Active Affordability Covenant: A covenant, condition, or restriction contained in a deed, contract, or other legal instrument which establishes a period of affordability and limits rent and Utility charges for low-income households.

Advanced Inverter (a.k.a., Smart Inverter): A Generating Facility's inverter capable of performing functions that when activated can autonomously contribute to grid support during excursions from normal operating voltage and frequency system conditions by providing dynamic reactive/real power support, voltage and frequency ride-through, ramp rate controls, and communication systems with ability to accept external commands and other functions. Such inverters can either be Grid Following or Grid Forming but must be grid interactive.

ANSI: American National Standards Institute.

Applicant: The entity applying for Interconnection under the provisions of this Rule. The Applicant may or may not be the Producer or Customer.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Application: Documentation submitted to the Utility by the Applicant that contains sufficient information necessary to begin the Interconnection process. This also includes instances where a modification(s) to an existing Interconnection's equipment or operation take place necessitating the Utility to examine the potential effect(s) of the modification(s).

AHJ: Authority Having Jurisdiction.

ATS: Automatic Transfer Switch

Break-before-Make: A type of electrical transfer method where the connection to one power source is completely disconnected before a new connection to another source is established.

Certification; Certified; Certificate: The documented results of a successful Certification Testing.

Certification Test(ing)(s): A test(ing) adopted by the Utility that verifies conformance of certain equipment with Commission-approved performance standards in order to be classified as Certified Equipment. Certification Tests are normally performed by a Nationally Recognized Testing Laboratory such as the Underwriter's Laboratory. Attachment 3 to this Rule outlines such Certification Testing.

Certified Equipment: Equipment used in a Generating Facility that has passed the Certification Test.

Commission: The Public Utilities Commission of Nevada.

Commissioning Test(ing)(s): A test performed during the commissioning of all or part of a Generating Facility system to achieve one or more of the following: verify specific aspects of its performance; calibrate its instrumentation; and establish instrument or Protective Function set-points.

Customer(s): is defined in Rule 1.

Customer Microgrid: A Microgrid that uses only non-Utility infrastructure on the customer side of the Point of Common Coupling, including distribution lines, Generating Facilities, and related equipment, to meet its interconnected loads.

DC: Direct Current.

DCFC: Direct Current Fast Charger

Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides electric Service to a single Customer. The Customer may or may not have a Generating Facility.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Detailed Review: Part of the technical review process as determined by Section F.6 of this Rule. If required, Detailed Review includes the Utility's performance of an Interconnection Study that establishes the requirements for Interconnection of a Generator or Generating Facility and may be performed as a result of unremedied failure of any of the technical review Screens or by request of the Applicant.

Distributed Energy Resource(s)(DER)(s): Distributed generation systems, energy efficiency, energy storage (including Energy Storage Devices), Electric Vehicles (including Vehicle-to-Grid Electric Vehicles) and demand-response technologies, which may be located on the Utility side or the Customer side of the Meter of a Utility Customer. This definition conforms to the definition of distributed resources in Nevada Administrative Code 704.90583 and shall be interpreted as meant to conform to future versions of that regulation unless otherwise stated in this Rule.

Distribution System: The Utility's electrical system consisting of all electrical wires, equipment, and other facilities owned or provided by the Utility by which the Utility provides distribution Service, including High Voltage Distribution Service as defined in Rule 9, to its Customers.

Electric Vehicle Supply Equipment (EVSE): The physical and electrical equipment, components and software associated with an Electric Vehicle or Vehicle-to Grid Electric Vehicle charger or charging station that facilitates the charging or discharging of such vehicles.

Emergency: An actual or imminent condition or situation, which jeopardizes the Utility's Distribution System integrity.

Energy Storage Device (ESD): A device that captures energy produced at one time, stores that energy for a period of time, and delivers that energy as electricity for use at a future time. For purposes of this Rule only and only where applicable within this Rule, an ESD can be considered a Generator. While an ESD may be paired with a Net Metering System, it does not qualify to be considered as a Net Metering System, either as a stand-alone installation or when paired with a Net Metering System. For purposes of this Rule only and only where applicable within this Rule, a Vehicle-to-Grid Electric Vehicle, including its EVSE, can be considered an ESD.

Enter Service: The beginning of Parallel Operation of a Generator with the Utility's energized Distribution System.

EV: Electric Vehicle. For the purposes of this Rule, an EV is defined as solely being capable of being operated in a charging only (load-only) mode. EVs that are to be operated in a discharging (Vehicle-to-Grid) mode are defined below.

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PUCN Sheet No. 48C

RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Export; Exported; Exporting: The transfer of electricity from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling. This may include scenarios where Limited Export or Inadvertent Export could occur, or in association with Limited Generation Profile operation.

Fast Track Review: Part of the technical review process as determined by Section F.3 of this Rule. The Fast Track Review may result in approval of the Interconnection, the Utility performing Supplemental Review, or a meeting requested by the Applicant to discuss any failed Screens.

FERC: Federal Energy Regulatory Commission.

Field Testing: Testing performed in the field to determine whether equipment meets the Utility's requirements for safe and reliable Interconnection.

Generating Facility: All Generating Units that are included in a Generating Facility IOA.

Generator or Generating Unit: A device that converts mechanical, chemical or solar energy into electrical energy, including all of its protective and control functions and structural appurtenances. One or more Generators comprise a Generating Facility.

Grid Following Inverter: A type of Advanced Inverter that can synchronize its output voltage and frequency with the existing grid voltage and frequency.

Grid Forming Inverter: A type of Advanced Inverter that can create and regulate grid voltage and frequency and can operate independently or in coordination with other sources.

Gross Nameplate Rating: The gross generating AC capacity (kW) of a Generating Unit or the total of the gross generating capacities (kW) of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Facility(s). For an EV or Vehicle-to-Grid EV, the gross nameplate rating shall be determined by the gross nameplate discharge power of the inverter (kW), and not the battery energy capacity (kWh).

Host Load: Electrical power that is consumed by the Customer at the property on which the Generating Facility is located. This includes the consumption of electrical power of the Generating Unit(s) comprising the Generating Facility.

Hosting Capacity: The incremental amount of DER Maximum Generating Capacity or load that can be accommodated (i.e., is available) on a particular feeder section of the Utility's Distribution System at a given time under existing or forecasted grid conditions and operations without adversely impacting safety, power quality, reliability, or other operational criteria. Such capacity may be in terms of generation hosting capacity, photovoltaic hosting capacity, or load hosting capacity.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Hybrid Microgrid: A Microgrid that uses Utility and non-Utility infrastructure on the Microgrid's side of the Microgrid Interconnection Device, including distribution lines, Generating Facilities, and related equipment, to meet its interconnected loads.

IEEE: Institute of Electrical and Electronics Engineers.

Inadvertent Export: The unplanned, uncompensated transfer of active power from a Generator or Generating Facility to the Utility's Distribution System across the Point of Common Coupling, limited as established in this Rule.

In-rush Current: The current drawn by the Generating Facility during startup.

Intentional Island: The planned creation of an Island, usually following a loss of a portion of the Utility's Distribution System, with the knowledge and approval of the Utility.

Interconnection and Operating Agreement (IOA): An agreement between the Utility and the Producer that gives each certain rights and obligations to effect, operate, modify, or end interconnection.

Interconnection; (Interconnect(ed)): The physical connection of a Generating Facility whereby a continuous electrical path is established between the Generating Unit(s) and the Utility's Distribution System for more than fifteen (15) seconds at any time and during any planned operating mode of the Generating Unit(s), including an idle mode, in accordance with the requirements of this Rule so that Parallel Operation with the Utility's Distribution System can occur (or has occurred if Temporary Interconnection Authorization (if applicable) and/or Permission to Operate has been provided by the Utility).

Interconnection Facilities: The electrical wires, switches and related equipment that Interconnect a Generating Facility to the Utility's Distribution System.

Interconnection Study: A study to establish the requirements for Interconnection of a Generator or Generating Facility.

Interconnection Study Agreement: An agreement between the Utility and the Applicant that gives each certain rights and obligations regarding the Utility's performance of an Interconnection Study.

Interval Meter: is defined in Rule 1.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Island; Islanded; Islanding: A condition on the Utility's Distribution System in which one or more Generating Facilities deliver power to Customers using a portion of the Utility's Distribution System that is electrically isolated from the remainder of the Utility's Distribution System. A Hybrid Microgrid is a form of an Island.

kVA: Kilovolt-ampere.

kVAR: Kilovolt-ampere reactive.

kW: Kilowatt(s).

kWh: Kilowatt-hour(s).

Limited Export(ing): The limiting of the transfer of electrical energy from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling by the use of the appropriate methods or operating modes noted in Section G.2. A Limited Export value is fixed, does not vary with time, and is distinct from Limited Generation Profile. This may include scenarios where Inadvertent Export could occur, or in association with Limited Generation Profile operation.

Limited Generation Profile: An energy generation schedule or control profile implemented by a system or equipment configuration that specifies the maximum amount of electricity a Generator may produce, or an ESD or Vehicle-to-Grid EV may discharge, at specific times of the day and/or different times of the year. A Limited Generation Profile may be executed by a Certified Power Control System or energy management system with autonomous operational capabilities, or other control architectures (e.g., relay-based schemes) deemed acceptable and approved by the Utility at its discretion to reliably enforce specified energy generation or discharge limits. A Limited Generation Profile is distinct from Limited Export, which is a single fixed limit.

Line Section: That portion of the Utility's Distribution System connected to a Customer bounded by automatic sectionalizing devices or the end of the line.

Master Microgrid Controller: An intelligent Power Control System designed to manage and automate the operation of a Microgrid and has the capability to monitor, control, and obtain dynamic feedback from all the individual components that make up a Microgrid. When the Master Microgrid Controller is used to enforce Limited Export, Non-Exporting operation, or Limited Generation Profiles under this Rule, it shall meet the requirements applicable to a Certified Power Control System.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Material Modification(s): A change(s) or replacement of generating equipment, that is not a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original Application, IOA. Table 2 in Section E.3 of this Rule provides guidance regarding what changes to the existing circumstances of a Generating Unit's or Generating Facility's equipment or operation constitute a Material Modification.

Maximum Generating Capacity: The maximum electrical power output that a Generating Facility is capable of producing that is equal to the total Net Nameplate Rating of a Generating Facility when no limiting of its generating capacity is employed or is an amount less than the total Net Nameplate Rating when the generating capacity of a Generator or Generating Facility is limited (e.g., through the use of a Certified Power Control System, power relay(s), Protective Function(s), Limited Generation Profile operation, or as determined by other similar device settings or adjustments), as determined by the limiting method. This capacity may be specified by the Applicant in the Application but shall be specified in the IOA and may reflect the total amount of generation output including ESD or Vehicle-to-Grid EV discharge, if applicable. For Non-Exporting systems, Inadvertent Export is not included.

Meter: is defined in Rule 1.

Metering Equipment: All equipment, hardware, software including Meter cabinets, conduit, etc. that is necessary for Metering.

Metering (Metered): The measurement of electrical power flow in kW and/or kWh, and, if necessary, kVAR, at a point, and its display to the Utility, as required by this Rule.

Microgrid: A self-sufficient energy system that serves a discrete geographic footprint, is comprised of a group of Interconnected loads and DERs that acts as a single controllable entity with respect to the grid, can operate either in Parallel Operation or Islanded, and has the defining characteristics as noted in Section G.10 of this Rule.

Microgrid Interconnection Device: A device that facilitates electrical separation of a Microgrid from the Utility's Distribution System. This device may provide the function of a normal paralleling device to reconnect the Microgrid with the Utility's Distribution System.

Momentary Parallel Operation: The physical and electrical connection of a Generating Facility to the Utility's Distribution System that established a continuous electrical path between them for fifteen seconds (900 cycles) or less.

MW: Megawatt(s).

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RULE NO. 15

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GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

NAC: Nevada Administrative Code.

Nationally Recognized Testing Laboratory (NRTL): A laboratory accredited to perform the Certification Testing requirements under this Rule.

NEC: The National Electric Code.

Net Energy Metering: Metering for the receipt and delivery of electricity between the Producer and the Utility pursuant to Nevada Revised Statutes (NRS) 704.769 and the Utility's Net Energy Metering Tariff Schedules, as may be amended from time to time.

Net Generation Metering: The Metering of the net electrical energy output in kW and kWh from a given Generating Facility. This may also be the measurement of the difference between the total electrical energy produced by a Generating Unit and the electrical energy consumed by the auxiliary equipment necessary to operate the Generating Unit. For a Generating Unit with no Host Load, this is the Metering that is located at the Point of Common Coupling. For a Generating Unit with Host Load, this is the Metering that is located at the Generating Unit bus after the point of auxiliary load(s) and prior to serving Host Load.

Net Metering Systems: Those systems operating in Parallel Operation with the Utility's Distribution System as set forth in NRS 704.766 to 704.775 and the Utility's Net Energy Metering Tariff Schedules, as may be amended from time to time. A Net Metering System is defined in NRS 704.771. The addition of an ESD must not result in a violation of any limitations placed on Net Metering Systems in NRS 704.771.

Net Nameplate Rating: The gross AC generating capacity (kW) of a Generating Unit or the total of the gross AC generating capacity (kW) of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Unit(s) minus the consumption of electrical power of the Generating Unit(s). The Net Nameplate Rating shall be specified in the IOA.

Network Service: More than one electrical feeder providing distribution service at a Point of Common Coupling.

NFPA: National Fire Protection Association.

Non-Export(ing): Designed to prevent or limit the transfer of electrical energy from a Generating Unit or Generating Facility across the Point of Common Coupling to the Utility through use of any of the appropriate options in Section G.2. of this Rule. Non-Exporting includes scenarios where Inadvertent Export could occur.

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GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

Non-Islanding: Designed to detect and disconnect from a stable Unintentional Island with matched load and generation. Reliance solely on under/over voltage and frequency trip is not considered sufficient to qualify as Non-Islanding.

NRS: Nevada Revised Statutes.

Optional Pre-application Report: A Utility-provided report that potential Applicants have the option to request to acquire certain information about the Utility's Distribution System conditions at their proposed Point of Interconnection prior to submitting an Application for Interconnection.

Optional Pre-application Report Request Form: The form that must be completed by a potential Applicant to request that the Utility provide an Optional Pre-application Report containing information about the Utility's Distribution System conditions at their proposed Point of Interconnection.

Parallel Operation: The simultaneous operation of a Generating Unit or Generating Facility, including power delivered to or received by the Utility's Distribution System, power delivered from the Utility's Distribution System (e.g., in the case of the charging of an ESD or Vehicle-to-Grid EV from the Utility's Distribution System), or an idle state, while Interconnected.

Periodic Test(ing): A test performed on part or all of a Generating Facility at pre-determined time or operational intervals to achieve one or more of the following: 1) Verify specific aspects of its performance, or 2) Calibrate instrumentation, or 3) Verify and re-establish instrument or Protective Function set-points.

Permission to Operate (PTO): The Utility's express written permission authorizing the Generating Unit or Generating Facility to commence Parallel Operation. This express written permission is separate from and shall occur following Temporary Interconnection Authorization if such authorization is first granted by the Utility.

Point of Common Coupling Metering: Metering located at the Point of Common Coupling. This is the same Metering as Net Generation Metering for Generating Facilities with no Host Load.

Point of Common Coupling (PCC): The transfer point for electricity between the electrical conductors of the Utility and the electrical conductors of the Producer.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

(D,N)

B. DEFINITIONS AND ACRONYMS, (Continued)

Point of Interconnection (POI): The electrical transfer point between a Generating Facility and the Utility's existing or planned Distribution System. This may or may not be coincident with the PCC.

Power Control System (PCS): A system that limits or controls the generation output of Generators or a Generating Facility, including ESDs or Vehicle-to-Grid EVs, or the load requirement of such technologies to enforce Limited Export amounts, Non-Exporting operation, Limited Generation Profiles, ESD or Vehicle-to-Grid EV charge/discharge limits, or other allowable operating characteristics. Such a system may be Advanced Inverter-based or based upon other Certified technologies as approved by the Utility on a case-by-case basis at its discretion and may establish or manage a Limited Generation Profile or Limited Export amount. A Certified PCS shall conform to Underwriters Laboratory (UL) 3141 only if and when such standard is fully approved, and then, only after its implementation date and acceptance by the Utility for use in this Rule.

Producer: The entity that executes an IOA with the Utility. The Producer may or may not own and operate the Generating Facility but is responsible for the rights and obligations related to the IOA.

Production Test(ing): A test performed on each device coming off the production line to verify certain aspects of its performance.

Protective Function(s): The equipment, hardware and/or software in a Generating Facility (whether discrete or integrated with other functions) or on the Utility's Distribution System the purpose of which is to protect against Unsafe Operating Conditions.

Prudent Electrical Practices: Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to design and operate electric equipment lawfully and safely, and with dependability, efficiency, and economy.

Qualified Low-Income Residential Building: As defined in Nevada Assembly Bill 458 (2025), referenced in this Rule only to establish eligibility for Interconnection.

Qualifying Facility: As defined in Rule 1.

Qualified Multifamily Affordable Housing Property (QMAHP): As defined in Nevada Assembly Bill 458 (2025), referenced in this Rule only to establish eligibility for Interconnection.

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GENERATING FACILITY INTERCONNECTIONS

Reference Point of Applicability (RPA): A location proximate to the Generating Facility where the Interconnection and interoperability performance requirements as specified in IEEE 1547-2018 apply. This location shall be specified by the Applicant in the Application and determined by mutual agreement between the Applicant and the Utility.

Relevant Minimum Load: The lowest Line Section or substation load either measured or reasonably estimated by the Utility coincident with the Generating Facility's production (i.e., when the Generating Facility is producing). For inverter-based solar photovoltaic Generators with no paired ESD, the daytime minimum load shall be used (i.e., 10 AM Pacific Time to 4 PM Pacific Time for fixed panel systems and 8 AM Pacific Time to 6 PM Pacific Time for systems utilizing tracking).

Rule: As defined in Rule 1.

Scheduled Operation Date: The date specified in the Generating Facility's IOA when the Generating Facility is, by the Producer's estimate, expected to begin initial operation.

Screen(s): The aspects of the technical review process that gauge a Generator's or Generating Facility's impact on the Utility's Distribution System, adherence to certain technical requirements, and determine if a Generator or Generating Facility Application passes or fails Simplified Review, Fast Track Review, Supplemental Review, or if Detailed Review is required.

Secondary Network: A network supplied by several primary feeders suitably interlaced through the area in order to achieve acceptable loading of the transformers under emergency conditions and to provide a system of extremely high service reliability. Secondary networks usually operate at 600 volts or lower.

Service(s): As defined in Rule 1.

Section: Refers to a particular part of this Rule.

Simplified Review: Part of the technical review process as determined by Section F.2 of this Rule. The Simplified Review may result in approval of the Interconnection or an Applicant's options meeting to discuss any failed Screens.

Single Line Diagram; Single Line Drawing: A schematic drawing, showing the major electric switchgear, Protective Function devices, wires, Generators, transformers and other devices, providing sufficient detail to communicate to a qualified engineer the essential design and safety of the system being considered.

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GENERATING FACILITY INTERCONNECTIONS

Short Circuit Contribution Ratio (SCCR): The ratio of the Generating Facility's short circuit contribution to the Utility's short circuit contribution for a three-phase fault at the high voltage side of the distribution transformer connecting the Generating Facility to the Utility's Distribution System.

Short Circuit Interrupting Capability: The maximum fault current that can be safely interrupted by a protective device.

Solar-Powered Affordable Housing System: As defined in Assembly Bill 458 (2025). For purposes of this Rule, such systems are treated as Net Metering Systems.

Special Facilities: Facilities that are: (a) requested by the Producer which are in addition to or in substitution for standard facilities which the Utility would normally provide for delivery of service at one point, through one Meter, at one voltage class under its Tariff Schedules, or (b) a pro rata portion of the facilities requested by an Applicant, allocated for the sole use of such Applicant, which would not normally be allocated for such sole use. Unless otherwise provided by the Utility's filed Tariff Schedules, Special Facilities will be installed, owned and maintained or allocated by the Utility as an accommodation to the Producer only if acceptable for operation by the Utility and the reliability of service to the Utility's other customers is not impaired.

Stability: The return to normalcy of the Utility's Distribution System following a disturbance. Stabilization is usually measured as a time period during which voltage and frequency are within acceptable ranges.

Standby Service: As defined in Rule 1.

Starting Voltage Drop: The percentage voltage drop at a specified point resulting from In-rush Current. It can also be expressed in volts on a particular base voltage (e.g., 6 volts on a 120-volt base, yielding a 5 percent drop).

Supplemental Review: Part of the technical review process as determined by Section F.4 of this Rule. The Supplemental Review may result in approval of the Interconnection or a meeting between the Utility and the Applicant to discuss the Applicant's options.

Synchronization (Synchronizing)(Synchronize): The requirement at the time of Interconnection of a Generator that it shall Synchronize with the Utility's Distribution System in accordance with the Synchronization performance requirements of IEEE 1547-2018, Clause 4.10.4 and Table 5.

System Integrity: The condition under which a Distribution System is deemed safe and can reliably perform its intended functions in accordance with the safety and reliability rules of the Utility.

Tariff Schedule(s): As defined in Rule 1.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

B. DEFINITIONS AND ACRONYMS, (Continued)

TCP/IP: Transmission Control Protocol/Internet Protocol, which is a suite of communication protocols used to interconnect network devices on the internet.

Telemetry, Telemtry: The electrical or electronic transmittal of Metering data on a real-time basis to the Utility.

Temporary Interconnection Authorization (TIA): If required by the Utility for certain Interconnections, the express written permission by the Utility authorizing the Interconnection of a Generating Facility for the limited purposes of inspection, testing, coordination, and commissioning. TIA shall specify any Non-Export limits, test windows, and witness requirements. TIA is not PTO, which authorizes Parallel Operation, and may be issued prior to the Utility's issuance of PTO.

Transfer Trip (Capability): A Protective Function that trips a Generating Facility remotely by means of an automated communications link controlled by Utility.

Type Test(ing): A test performed on a sample of a particular model of a device to verify specific aspects of its design, construction and performance.

UL: Underwriters Laboratory, Inc.

Unauthorized Interconnection: The physical Interconnection of a Generating Facility to the Utility's Distribution System, or the commencement of Parallel Operation, without first obtaining written TIA (if required) or PTO from the Utility in accordance with this Rule. An Unauthorized Interconnection also includes any circumstance in which a Generating Facility is energized and capable of Exporting power to the Utility's Distribution System prior to the Utility's express written authorization.

Unintentional Island: The unplanned creation of an Island, usually following a loss of a portion of the Utility's Distribution System, without the knowledge and approval of the Utility.

Unsafe Operating Conditions: Conditions that, if left uncorrected, could result in harm to personnel, damage to equipment, loss of System Integrity or operation outside pre-established parameters required by the IOA.

Visible-Break Isolation Device: An electrical switching device that can separate the Generating Facility from Utility's Distribution System and is designed to allow visible verification that separation has been accomplished. This requirement can be met by opening the enclosure to observe the contact separation.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

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B. DEFINITIONS AND ACRONYMS, (Continued)

Vehicle-to-Grid (V2G) EV: An EV that has the bidirectional transfer of electricity between it and the Utility's Distribution System enabled through Certified bidirectional EVSE for V2G-AC, or an onboard inverter for V2G-DC, and that operates in Parallel Operation with the Utility's Distribution System. V2G operation may include charging from the Utility's Distribution System, discharging to serve all or a portion of onsite Host Load, and/or Exporting to the Utility's Distribution System. For purposes of this Rule, a V2G EV (meaning that its V2G operational mode is enabled) is considered an ESD.

C. APPLICABLE CODES AND STANDARDS

As applicable, Interconnections shall conform to the most recent approved versions of the codes and standards listed below (which may be a more recent year than indicated below) on the date the Application is accepted as complete and correct by the Utility, or successor standards:

IEEE Std 1453™-2022: IEEE Standard for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems.

IEEE Std 1547™-2018: IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, as amended by IEEE 1547a™-2020, including use of IEEE 1547.1™-2020 testing protocols to establish conformity.

IEEE Std 1547.1™-2020: IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces.

IEEE Std 1547.3™-2023: IEEE Guide for Cybersecurity of Distributed Energy Resources Interconnected with Electric Power Systems.

IEEE Std 1815™-2012: IEEE Standard for Electric Power Systems Communications—Distributed Network Protocol (DNP3).

IEEE Std 2030.5™-2023: IEEE Standard for Smart Energy Profile 2.0 Application Protocol (SEP 2.0).

NFPA 70®: National Electric Code® 2017 Edition (as modified by any local code amendments).

SAE J3072: Interconnection Requirements for Onboard, Grid Support Inverter Systems.

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C. APPLICABLE CODES AND STANDARDS, (Continued)

UL 1741: STANDARD FOR SAFETY Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, including Supplements SA, SB, SC (when published and accepted by the Utility for use in this Rule), and applicable Certification Requirement Decisions (CRD)

UL 3141: Outline of Investigation for Power Control Systems (only following this standard's full approval, implementation date, and acceptance by the Utility for use in this Rule).

UL 9741: STANDARD FOR SAFETY Electric Vehicle Power Export Equipment (EVPE)

D. RIGHTS AND OBLIGATIONS

1. A Producer shall execute an IOA with the Utility governing the Interconnection and operation of Generating Facilities.
 - a. Pro forma agreements establishing the terms and conditions for Interconnections and operation with the Utility's Distribution System facilities for each applicable class shall be provided to the Producer by the Utility. Such agreements may be modified by mutual agreement as necessary to address specific Interconnection requirements that may exist at the time of the execution of the agreement.
 - b. Producers having agreements executed prior to the effective date of this Rule that govern Interconnection and Parallel Operation with the Utility's Distribution System facilities shall be governed by the provisions of those existing agreements.
 - c. The agreement shall include any necessary requirements for communications and communications facilities between the Utility and the Producer.
2. A Producer requiring other Services not addressed in this Rule may acquire such Services in accordance with the Utility's Tariff Schedules governing the provision of such Services. Specific examples of other such Services include but are not limited to: Supplemental Service for Customer load in excess of what is normally produced by the generating equipment, Backup Service for unscheduled outages of Generating Facilities, and Maintenance Backup Service for scheduled maintenance outages of Generating Facilities. Such Services are outside of the scope of this Rule.

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GENERATING FACILITY INTERCONNECTIONS

D. RIGHTS AND OBLIGATIONS. (Continued)

3. Interconnection described hereunder does not provide a Producer with any rights to use the Utility's system for the transmission, distribution, or wheeling of electric power, nor does Interconnection described hereunder limit those rights. Such rights to the use of the Utility's system must be addressed in separate agreements.
4. Interconnection described hereunder does not require the Utility to purchase the output of a Generating Facility. Such purchase arrangements must be addressed in separate agreements.
5. A Producer shall ascertain and comply with all applicable Commission-approved tariffs of the Utility, applicable FERC-approved rules, tariffs, and regulations, and any local, state or federal law, statute or regulation that applies to the design, siting, construction, installation, operation, or any other aspect of the Generating Facilities and Interconnection Facilities.
6. The Utility shall have the right to review the design of a Producer's Generating Facility and Interconnection Facilities and to inspect a Producer's Generating and/or Interconnection Facilities prior to the provision of TIA (if applicable), PTO and the commencement of Parallel Operation with the Utility's Distribution System. The Utility may require a Producer to make modifications as necessary to comply with the requirements of this Rule. The Utility's review and provision of TIA (if applicable) and/or PTO authorizing Parallel Operation shall not be construed as confirming or endorsing the Producer's design or warranting the Generating and/or Interconnection Facilities' safety, durability or reliability. The Utility shall not, by reason of such review or lack of review, be responsible for the strength, adequacy, or capacity of such equipment.
7. Producers shall not begin Parallel Operation with the Utility's Distribution System, with the exception of the provisions allowable under Section E.2 and any operation solely required to facilitate proper testing and inspection of the Generating Facility in accordance with Section J, until their Interconnection Facilities have been inspected by the Utility and PTO is provided by the Utility to the Producer. Such approval may be withheld for noncompliance with the requirements of this Rule or any of the Utility's applicable tariffs.
8. A Producer's Generating Facility and Interconnection Facilities shall be reasonably accessible to Utility personnel as necessary for the Utility to perform its duties and exercise its rights under its tariffs filed with and approved by the Commission, and any agreement between the Utility and the Producer.

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GENERATING FACILITY INTERCONNECTIONS

D. RIGHTS AND OBLIGATIONS, (Continued)

9. Any information pertaining to Generating and/or Interconnection Facilities provided to the Utility by a Producer shall be treated by the Utility in a confidential manner.
10. A Producer shall operate and maintain its Generating Facility and Interconnection Facilities in accordance with Prudent Electrical Practices and shall maintain compliance with Commission adopted standards for the Producer's particular Generating Facility and Interconnection Facilities. Said standards shall be those in effect at the time a Producer executes the IOA with the Utility.
11. The Utility may limit the operation and/or disconnect or require the disconnection of a Producer's Generating Facility from Utility's Distribution System at any time, with or without notice, in the event of an Emergency, to correct Unsafe Operating Conditions, or in the event that the Utility determines that the Generating Facility is an Unauthorized Interconnection. The Utility may also limit the operation and/or disconnect or require the disconnection of a Producer's Generating Facility from the Utility's Distribution System upon the provision of reasonable notice:
 - a. to allow for routine maintenance, repairs or modifications to the Utility's Distribution System;
 - b. for cybersecurity-related concerns;
 - c. upon the Utility's determination that a Producer's Generating Facility is not in compliance with this Rule; or
 - d. upon termination of the IOA.

The Producer and the Utility shall make good faith efforts to restore the Interconnection of the Generating Facility in a timely manner following a temporary limiting of operation or disconnection. The Producer may also be subject to additional charges, corrective requirements, or other remedies as may be contained in the IOA or as authorized by the Commission.

12. During Parallel Operation, the Producer shall comply with all operational direction of the Utility at the time given with such direction subject to any conditions that the Producer and the Utility may mutually agree to incorporate in the IOA. Any dispute regarding such direction shall be handled after the fact in accordance with the dispute resolution procedures in Section K.

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GENERATING FACILITY INTERCONNECTIONS

D. RIGHTS AND OBLIGATIONS, (Continued)

13. The operation of the Generating Facility shall not reduce the quality of service described in Rule 2 to other Customers and shall conform with the Utility's applicable design standards. If the Generating Facility causes service interference, the Utility shall give notice and provide reasonable time for the Producer to take corrective action.
14. When an Interconnection Study is required pursuant to Section F.6, the Producer shall be responsible for paying to the Utility all reasonable costs incurred by the Utility in performing such a study unless such Parallel Operation has been requested by the Utility.

E. APPLICATION FOR INTERCONNECTION

1. Optional Pre-application Report

- a. A potential Applicant may request an Optional Pre-application Report for a specific site to obtain information about the Utility's Distribution System conditions at the proposed POI prior to submitting an Application for Interconnection by completing and submitting to the Utility an Optional Pre-application Report Request Form and a non-refundable fee of \$300.
- b. The Utility shall make the Optional Pre-application Report Request Form publicly accessible either as an online form, electronic document transferable through e-mail, or other format convenient to potential Applicants.
- c. Upon receipt of a completed Optional Pre-application Report Request Form and the non-refundable fee of \$300, the Utility shall provide the requested data to the potential Applicant within ten (10) business days, making reasonable and good faith efforts to provide all available data requested. However, the Utility shall only be obligated to provide existing data relevant to the request and shall not be obligated to provide data it does not possess at the time of the request nor to conduct a study or other analysis to generate such data. The Utility shall indicate on the form which data it cannot provide at the time of the request.
- d. None of the data provided by the Utility in an Optional Pre-application Report shall in any way imply or guarantee that a potential Applicant's Interconnection can be completed without impact(s) to the Distribution System or the need for Distribution System improvements.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

E. APPLICATION FOR INTERCONNECTION, (Continued)

2. Application Process

- a. Prior to receiving an Application, if requested by a potential Applicant and upon such request, the Utility shall provide information and documents (e.g., the pro forma IOA and the Application, technical requirements, specifications, listing of Certified Equipment, application fee information, applicable rate schedules and Metering requirements). Unless otherwise agreed upon, the Utility shall normally send all such information to an Applicant within five (5) business days following the initial request from the potential Applicant.
 - (1) For Net Metering Systems, the Utility shall send a description of the procedures by which a Customer may Interconnect to the Utility's Distribution System under its Net Energy Metering Tariff Schedules and a copy of the standard IOA and Application form.
- b. All Applicants shall be required to complete and submit an Application for Interconnection to the Utility. The submission must include the completed Application and any applicable fee for processing the Application and performing any applicable technical review to be completed by the Utility pursuant to Section F.
 - (1) An Application for Interconnection of a Solar-Powered Affordable Housing System must include supporting documentation demonstrating that the system is located on a QMAHP, including a declaration of Active Affordability Covenants or a verification letter from a funding authority.
- c. The Application processing fee shall vary based on the proposed Generating Facility that will be Interconnected as indicated in Table 1 below:

TABLE 1

Type of Interconnection	Technical Processing Fee	Interconnection Study Fee
Net Metering Systems	\$184*	None
QMAHP	\$184*	Actual Costs Incurred
All Others	Actual Costs Incurred	Actual Costs Incurred

* One fee for Simplified, Fast Track, and Supplemental Reviews.

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E. APPLICATION FOR INTERCONNECTION, (Continued)

- d. The Applicant may propose, and the Utility may negotiate specific costs for processing non-standard installations such as multi-units, multi-sites, or otherwise as conditions warrant. The costs in Table 1 may not apply under such circumstances.
- e. An Application for Interconnection of a Solar-Powered Affordable Housing System may include:
 - (5) A one-time allocation initiation fee, chargeable to the Applicant once, capped at the lesser of 25 dollars per user or 500 dollars per system.
 - (6) An occupancy change fee may be charged to the Producer for the second and subsequent occupancy change of the same unit within twelve (12) months. There is no fee for the first occupancy change in that period.
- f. The Utility shall establish an individual representative as the single point of contact for the Applicant but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility.
- g. The Utility shall record the date and time it first receives an Application.
- h. Within ten (10) business days of first receiving an Application, the Utility shall acknowledge its receipt, complete its first review of the Application, and inform the Applicant if the Application has been completed adequately and has been accepted by the Utility. If the Application has been completed adequately, the Utility shall also determine the appropriate technical review level, pursuant to Section F.1.b, and inform the Applicant of its determination.
 - (1) For Net Metering Systems, the Utility shall send a standard IOA to the Applicant for signature (if the Applicant has not already been sent such agreement) if the data provided in the Application is complete and complies with the technical requirements of NRS 704.774.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

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E. APPLICATION FOR INTERCONNECTION, (Continued)

i. Applications Containing Defects

- (1) If the Utility identifies that the initial Application is not complete and contains deficiencies, errors, or omissions (collectively, "defects"), the Utility shall identify all such defects and shall return the Application to the Applicant within the ten (10) business days as indicated in Section E.2.h, specifying all such defects in sufficient detail to enable the Applicant to correct the Application for resubmission.
 - (a) For Net Metering Systems, such Utility identification of defects shall additionally include adherence to the technical requirements of NRS 704.774.
- (2) Any Application containing defects that are not fully corrected by the Applicant after two subsequent Utility reviews of the Application in addition to the Utility's first review may be rejected at the Utility's discretion, provided the Utility and the Applicant have worked in good faith, and in a timely manner, to assist the Applicant in submitting a correct and complete Application.
- (3) An Application that, in the Utility's reasonable judgment and discretion, is materially incomplete, lacks substantial required information, or was submitted solely to obtain queue position without a good-faith effort to provide a correct and complete submission, shall be rejected. In such cases, the Applicant shall submit a new Application with all applicable fees. The new Application will be treated as an initial submission for purposes of queue position and Utility review.
- (4) Any defect(s) present in an Application that is(are) identified by the Utility in one of its subsequent reviews of the Application following its initial review that the Utility failed to identify in any of its previous reviews of the Application shall reset the iterative review process begun in Section E.2.i.(1).

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GENERATING FACILITY INTERCONNECTIONS

E. APPLICATION FOR INTERCONNECTION, (Continued)

- (5) Any additional defect(s) in a subsequent submission of an Application identified by the Utility that was(were) not present in the initial submitted Application and which occurred in one of the subsequent submissions of the Application shall not reset the iterative review process begun in Section E.2.i.(1).
- (6) If the Utility rejects an Application in accordance with and following completion of the iterative review process described in this Section, the Applicant shall submit a new Application and remit a new Application fee if the Applicant wishes to continue the application process. The Utility shall review the new Application for completeness and correctness as if it is an initial submission of the Application in accordance with Section E.2.h.
- (7) An Applicant may dispute the Utility's adherence to the iterative review process described in this Section and correctness in identifying defects in its initial or subsequently submitted Applications in accordance with Section K.
- j. The Utility shall record the date and time it accepts the Application as complete and correct and inform the Applicant of such date in a timely manner.
- 3. Modifications to Applications or Existing Generating Facility Installations
 - a. The Applicant or the Producer shall notify the Utility of a modification to an Application or the equipment or operation of an existing Generating Facility in a timely manner or as required by the IOA.
 - b. When notifying the Utility of a modification to an Application or the equipment or operation of an existing Generating Facility, the Applicant or the Producer shall include the relevant Generating Facility information (e.g., system rating, Advanced Inverter/PCS specifications, POI, as applicable) either originally approved or within the Application, together with the proposed changes and the elements to be modified clearly identified.
 - c. A modification to an accepted Application before execution of the IOA, or issuance of PTO, and modifications to the equipment or operation of an existing Generating Facility, shall be reviewed by the Utility in accordance with Table 2 to determine whether such modification constitutes a Material Modification and the corresponding actions required of the Applicant or Producer.

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GENERATING FACILITY INTERCONNECTIONS

E. APPLICATION FOR INTERCONNECTION, (Continued)

- d. Any modification that does not reasonably fall within the descriptions in Table 2 shall be addressed by the Utility on a case-by-case basis. The Applicant or the Producer and the Utility shall make good faith efforts to determine if a modification constitutes a Material Modification and agree upon the resulting course of action in a timely manner, at the Utility's discretion.
- e. If it is determined by the Utility, either at its discretion or through the application of Table 2, that a new Application is required as a result of a Material Modification, the applicable provisions of Section E.2 and the technical review process in Section F shall apply.

TABLE 2

ID	Modification to Applications or Existing Generating Facilities	Notification Required?	New Application required?	Proceed without Utility approval?	Updated agreement required?
1.	Like-for-like replacement of existing equipment that does not constitute Material Modification, with no increase in system output (vs. original agreement) and no change to generator operating modes.	No	No	Yes	No
2.	Addition of a ≤ 50 kW Net Nameplate Rating, Non-Exporting resource (such as an ESD or V2G EV Charger configured for Non-Export) that does not increase Export capability at the PCC.	Yes	Yes	No	Yes

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GENERATING FACILITY INTERCONNECTIONS

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3.	Modifications where system capacity or output increases at the PCC and no inverter power or PCS controls are used to limit the active power as stated in the original agreement size, including:	Yes	Yes	No	Yes
a)	Replacement of existing equipment	Yes	Yes	No	Yes
b)	Inverter firmware upgrade materially affecting grid interaction	Yes	Yes	No	Yes
c)	Change(s) to inverter characteristics that affect grid interaction	Yes	Yes	No	Yes
d)	Modifications to the operating mode of the Generator(s) (Export or Non-Exporting),	Yes	Yes	No	Yes
4.	Change to a different POI or PCC than stated in the current agreement	Yes	Yes	No	Yes
5.	Sole change in ownership or Producer	Yes	No	No	Yes
6.	Permanent removal, retirement, or decommissioning of the Generating Facility	Yes	No	No	No

- ## F. TECHNICAL REVIEW PROCESS

a. Upon the Utility's acceptance of a satisfactorily-completed Application including proposed Net Metering Systems, and receipt by the Utility of any applicable processing fee, the Utility shall determine the appropriate level of technical review required, inform the Applicant of such, and begin performing technical review in accordance with the flowchart in Attachment 2. The business day response times for the Utility's completion of Simplified Review, Fast Track Review, Supplemental Review, and review of the proposed RPA begin only after the Utility has confirmed with the Applicant that all the applicable information and fees in this Section have been submitted.

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F. TECHNICAL REVIEW PROCESS, (Continued)

- b. The Utility shall determine which level of technical review is required as follows:
- (1) If the proposed Generating Facility is a Certified inverter-based resource, has a Net Nameplate Rating of 50 kW or less, and has a Maximum Generating Capacity of 30 kW or less, then the Application qualifies to begin the technical review process with Simplified Review. Otherwise, the technical review process for the Application shall begin with either Fast Track Review or Supplemental Review.
 - (2) If the Application does not qualify for Simplified Review, based upon the proposed POI for the Generating Facility and its Maximum Generating Capacity, the Utility shall apply Table 3 to determine whether the Application may begin the technical review process with Fast Track Review or Supplemental Review.

TABLE 3

LINE VOLTAGE	FAST TRACK ELIGIBILITY	
	Regardless of location	On $\geq$ 600-amp line and $\leq$ 2.5 miles from substation
$\leq$ 5 kV	$\leq$ 1 MW	$\leq$ 2 MW
5 kV – $\leq$ 15 kV	$\leq$ 2 MW	$\leq$ 3 MW
15 kV – $\leq$ 30 kV	$\leq$ 3 MW	$\leq$ 4 MW
30 kV – 69 kV	$\leq$ 4 MW	$\leq$ 5 MW

- (3) If the Maximum Generating Capacity of the proposed Generating Facility meets the criteria in Table 3 based upon the line voltage at the proposed POI, then the Application qualifies to begin the technical review process with Fast Track Review. Otherwise, the technical review process for the Application shall begin with Supplemental Review.
- c. At any time during the Application or technical review process, an Applicant may request the Utility to proceed to Detailed Review in lieu of performing Simplified Review, Fast Track Review, or Supplemental Review.
- d. Concurrently with the Utility's application of the appropriate technical review level, the following shall occur to review and confirm the RPA:

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, (Continued)

- (1) The Applicant shall provide a proposed RPA on the Application. Unless otherwise approved, the default RPA shall be the PCC.
 - (2) The Utility shall complete its review of the proposed RPA within five (5) business days, shall determine if the proposed RPA is appropriate, and shall inform the Applicant of such determination in a timely manner.
 - (3) If the Utility determines the proposed RPA to be inappropriate, the Utility shall notify the Applicant with an explanation as to why it requires correction. The Utility and the Applicant shall make good faith efforts to expeditiously meet and agree upon the RPA so as to not materially delay the technical review process.
- e. The Utility shall perform its technical review and determine the Interconnection requirements for each phase of a multi-phased Generator or Generating Facility Application at a single PCC (or RPA, if not the PCC) with consideration of previous phases but not future planned phases. Based on the requirements of future phases, (i) amendments to existing agreements may be required, including IOA, or (ii) existing agreements may be terminated by the Utility or the Producer, and new agreements may be required.
2. Simplified Review
- a. The Utility shall complete its Simplified Review, within ten (10) business days if the Application qualifies for Simplified Review and shall notify the Applicant if the Generating Facility meets all the applicable Simplified Review screens.
 - b. The Utility's Simplified Review and shall consist of the following Screens:
 - (1) Screen A: Networked Secondary System
 - (a) The Utility shall determine whether the proposed Generating Facility would Interconnect to a networked secondary system.
 - (b) If the proposed Generating Facility would not Interconnect to a networked secondary system, then the Application passes this Screen. If it does interconnect to a networked secondary system, the Application fails this Screen.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, (Continued)

(2) Screen B: Certified Equipment

- (a) On the basis of the information provided in the Application or any additional information provided to the Utility by the Applicant or the Producer either at the Utility's request or subsequent to the original Application, the Utility shall determine to the best of its ability if all of the equipment proposed for the Generating Facility is Certified Equipment per the requirements set forth in this Rule or if it will temporarily approve certain equipment that is not Certified.
- (b) If all the equipment proposed for the Generating Facility is Certified Equipment or if the Utility has granted, at its discretion on a case-by-case basis, interim approval of certain equipment that is not Certified, then the Application passes this Screen. Otherwise, if all the equipment is not Certified Equipment and does not have interim approval by the Utility, then the Application fails this Screen.

(3) Screen C: Transformer and Conductor Rating

- (a) This Screen is not applicable to Interconnections on the primary side of a service transformer or Non-Export Generators that do not impose additional load on the Distribution System. Such Interconnections automatically pass this Screen.
- (b) If the proposed Generating Facility is to Interconnect on the secondary side of a service transformer, the Utility shall determine if the addition of the Generating Facility would cause the normal continuous rating of either the service transformer or secondary conductor to which the Generating Facility would be Interconnected to be exceeded.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, (Continued)

(c) For a Generating Facility proposed to Interconnect to a service transformer, if the addition of the proposed Generating Facility, when considering the total aggregate Maximum Generating Capacity of all existing Generating Facilities Interconnected to the service transformer or secondary conductor and that of the proposed Generating Facility, would not exceed the normal continuous ratings of both the service transformer and secondary conductor, then the Application passes this Screen. Otherwise, if it would exceed either the normal continuous ratings of the service transformer or secondary conductor, or both, then the Application fails this Screen.

(4) Screen D: Service Imbalance

(a) If the proposed Generating Facility is single-phase and is to Interconnect on a center tap neutral of a 240 volt service, the Utility shall determine whether the addition of the Generating Facility would cause excessive imbalance between the two sides of the 240 volt service.

(b) If the addition of the proposed Generating Facility would create an imbalance of twenty (20) percent or less of the normal continuous nameplate rating of the service transformer, then the Application passes this Screen. Otherwise, if it would create an imbalance of more than twenty (20) percent of the normal continuous nameplate rating of the service transformer, then the Application fails this Screen.

(5) Screen E: Hosting Capacity or Line Section Load

(a) If Hosting Capacity values are available at the Generating Facility's POI, the Utility shall compare those values to the Generating Facility's Maximum Generating Capacity.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

(D,N)

F. TECHNICAL REVIEW PROCESS, (Continued)

- i. If the Maximum Generating Capacity of the Generating Facility imposed on the Utility's Distribution System by the Generating Facility is less than or equal to ninety (90) percent of the appropriate Hosting Capacity value, then the Application passes this Screen. Otherwise, if it is greater than ninety (90) percent of the appropriate Hosting Capacity value, then the Application fails this part of this Screen. In the case of the Generating Facility imposing load on the Utility's Distribution System, the Utility shall also ensure that no planning or operational criteria are exceeded, which may not be adequately reflected in the Hosting Capacity value.
 - ii. If the Application fails this part of this Screen, then the Utility shall apply the next part of this Screen. If the Application passes the Screen in Section F.2.B.(5)(b), then the Application passes this Screen despite failing the Hosting Capacity part of this Screen.
- (b) If Hosting Capacity values are not available and cannot be reasonably estimated or calculated at the Generating Facility's POI or if Section F.2.b.(5)(a)(i) has been failed, and where twelve (12) months of Line Section minimum load data (including onsite load but not station service load served by the proposed Generating Facility) are available or can be estimated or calculated from existing data or from a power flow model, the Utility shall determine the Relevant Minimum Load and compare that value to the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility) that the Generating Facility will Interconnect to and to all Line Sections bounded by automatic sectionalizing devices upstream of the proposed Generating Facility. If adequate load data is not available and the Utility is unable to reasonably estimate or calculate the Line Section Relevant Minimum load, the Utility shall include the reason(s) that it is unable to do so in its technical review results.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

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F. TECHNICAL REVIEW PROCESS, (Continued)

- i. If the Utility's comparison yields a one hundred (100) percent or less result(s), then the Application passes this Screen. Otherwise, if it yields a greater than a one hundred (100) percent result(s), then the Application fails this Screen. However, for this part of this Screen, if the Generating Facility has been designated as Non-Exporting, then it automatically passes this part of this Screen.
- (c) If both Hosting Capacity and Relevant Minimum Load values are not available and cannot be reasonably estimated or calculated at the Generating Facility's POI, the Utility shall compare the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility) to fifteen (15) percent of the peak (maximum) load of the Line Section to which the Generating Facility will Interconnect. If adequate load data is not available and the Utility is unable to reasonably estimate or calculate the Line Section peak load, the Utility shall include the reason(s) that it is unable to do so in its technical review results.
 - i. If the Utility's comparison yields a fifteen (15) percent or less result, then the Application passes this Screen. Otherwise, if it yields a greater than fifteen (15) percent result, then the Application fails this Screen. However, for this part of this Screen, if the Generating Facility has been designated as Non-Exporting, then it automatically passes this part of this Screen.
- c. If any of the Simplified Review Screens are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, if the Utility does not approve the Interconnection, the Application shall proceed to the Applicant's options process pursuant to Section F.5.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, (Continued)

- d. If all Simplified Review Screens are passed, then the proposed Generating Facility may be Interconnected without further technical review. The Utility shall provide the Applicant with a written description of the requirements for Interconnection and the IOA pursuant to Section E.2. in a timely manner if it has not already provided such agreement to the Applicant.

3. Fast Track Review

- a. The Utility shall begin Fast Track Review upon its determination that this review level is required to determine the Interconnection requirements for the Application based upon its technical review level determination, unless the Applicant requests that the Utility perform either Supplemental or Detailed Review in lieu of performing Fast Track Review. If the Utility determines that additional information is required to perform Fast Track Review, the Applicant and the Utility shall make good faith efforts to request and provide such information in a timely manner.
- b. The Utility shall complete its Fast Track Review within fifteen (15) business days if the Application qualifies for Fast Track Review and shall notify the Applicant in a timely manner if the Generating Facility meets all the applicable Fast Track Review Screens.
- c. The Utility's Fast Track Review shall include the Simplified Review Screens A through E in addition to the following Screens F through J below:

(1) Screen F: Short Circuit Current Contribution

- (a) Inverter-based Generating Facilities with a Net Nameplate Rating of less than 50 kW automatically pass this Screen.
- (b) The Utility shall determine if the addition of the Generating Facility would cause allowable Short Circuit Contribution Ratio limits to be exceeded by ensuring that both of the following criteria are met (when applicable):

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS. (Continued)

- i. When measured at primary side (high side) of a Dedicated Distribution Transformer serving a Generating Facility, the sum of the Short Circuit Contribution Ratios of all Generating Facilities connected to the particular Distribution System feeder that serves the Generating Facility must be less than or equal to 0.1; and
- ii. When measured at the secondary side (low side) of a shared distribution service transformer, the short circuit contribution of the proposed Generating Facility must be less than or equal to 2.5 percent of the interrupting rating of the Producer's service equipment.
- (c) If the addition of the proposed Generating Facility, when considering the total aggregate Net Nameplate Ratings of all existing Generating Facilities Interconnected to the particular Distribution System feeder and the proposed Generating Facility meets both of the above criteria, then the Application passes this Screen. Otherwise, if it does not meet one or both of the above criteria, then the Application fails this Screen.
- (2) Screen G: Short Circuit Interrupting Capability
 - (a) The Utility shall determine if the addition of the Generating Facility would cause the allowable Short Circuit Interrupting Capability of the Utility's protective devices or equipment on the Distribution System feeder or the Producer's protective devices or equipment to be exceeded.
 - (b) If the addition of the proposed Generating Facility, when considered in aggregate with the Net Nameplate Ratings of all existing Generating Facilities on the Distribution System feeder, would not cause the Utility's protective devices or equipment on the Distribution System feeder or the Producer's protective devices or equipment to exceed 87.5 percent of their Short

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS. (Continued)

(3) Screen H: Line Configuration

- (a) Single-phase inverter-based Generating Facilities automatically pass this Screen when Interconnecting to a single-phase lateral or single-phase service transformer, or when Interconnecting line-to-neutral on a three-phase, four-wire primary Distribution System Line.
- (b) The Utility shall determine if the Interconnection of the proposed Generating Facility passes this Screen in accordance with the following:
 - i. If the primary Distribution System line configuration is three-phase, three-wire, then this Screen is passed for any single-phase Generating Facility Interconnecting to a single-phase lateral or single-phase service transformer, and any three-phase Generating Facility that is effectively grounded at the RPA; or
 - ii. If the primary Distribution System line configuration is three-phase, four wire, then this Screen is passed if the Interconnection to the primary Distribution System line is single-phase, line-to-neutral; or three-phase, four wire and effectively grounded at the RPA.
 - iii. Otherwise, the Application fails this Screen.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS. (Continued)

(4) Screen I: Inadvertent Export

- (a) This Screen only applies when the Net Nameplate Capacity of the Generating Facility minus its Maximum Generating Capacity is greater than 250 kW for a Generating Facility that can introduce Inadvertent Export. Otherwise, if that difference is 250 kW or less, then this Screen is automatically passed.
- (b) The Utility shall determine if the change in voltage at the point on the Utility's primary Distribution System nearest the POI due to Inadvertent Export of the Generating Facility does not exceed three (3) percent. The voltage change shall be estimated by applying the formula:

$$\frac{(R_{\text{source}} \times \Delta P) - (X_{\text{source}} \times \Delta Q)}{V^2}, \text{ where:}$$

- i. R_{source} equals the grid resistance;
- ii. ΔP equals (Net Nameplate Rating - the Maximum Generating Capacity) x power factor;
- iii. X_{source} equals the grid reactance;
- iv. ΔQ equals (Net Nameplate Rating - the Maximum Generating Capacity) x $\sqrt{(1 - \text{power factor}^2)}$; and
- v. V equals the primary Distribution System voltage.
- (c) If the result of the above formula is three (3) percent or less, then the Application passes this Screen. Otherwise, if it is greater than three (3) percent, then the Application fails this Screen.

(5) Screen J: Starting Voltage Dip

- (a) This Screen only applies to Generating Facilities that start by motoring the Generator(s). Inverter-based Generators automatically pass this Screen.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

- (b) The Utility shall determine if the starting of the Generator(s) associated with a proposed Generating Facility would exceed the maximum allowable voltage dip on its Distribution System by using either of the following two options at its discretion:
 - i. Determining that the Generating Facility's starting In-rush Current is equal to or less than the continuous ampere rating of the Producer's service equipment; or
 - ii. Determining the impedances of the distribution service transformer (if present) and the secondary conductors to the Producer's service equipment and performing a voltage dip calculation. Alternatively, the Utility may use tables or nomographs to determine the voltage dip. Voltage dips caused by starting a Generator as a motor must be less than two and one-half (2.5) percent for primary Distribution System Interconnections and five (5) percent for secondary Distribution System Interconnections.
- (c) If, by employing either of the above two options, the Utility determines that the starting voltage dip of the Generator(s) associated with a proposed Generating Facility would not exceed the maximum allowable voltage dip on its Distribution System, then the Application passes this Screen. Otherwise, if it would exceed the maximum allowable voltage dip on its Distribution System, then the Application fails this Screen.
- (d) Passing this Screen still requires the Producer to ensure that its Generating Facility complies with the flicker requirements of Section G.3.f.
- d. If any of the Fast Track Review Screens are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, the Utility shall begin Supplemental Review unless the Applicant requests an Applicant's options meeting pursuant to Section F.5 in lieu of the Utility performing Supplemental Review.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

- e. If all Screens A through J are passed, the proposed Generating Facility may be Interconnected without further technical review. The Utility shall provide the Applicant with a written description of the requirements for Interconnection and the IOA pursuant to Section E.2 in a timely manner if it has not already provided such agreement to the Applicant.
- 4. Supplemental Review
 - a. The Utility shall begin Supplemental Review upon its determination, based upon its review of the Application, that this review level is required to determine the Interconnection requirements, or if the Application has failed Fast Track review, unless the Applicant requests that the Utility perform Detailed Review in lieu of performing Supplemental Review. If the Utility determines that additional information is required to perform Supplemental Review, the Applicant and the Utility shall make good faith efforts to request and provide such information in a timely manner.
 - b. The Utility shall complete its Supplemental Review within twenty (20) business days after the Applicant provides all the required information and if the Application qualifies for Supplemental Review. The Utility shall notify the Applicant if the Generating Facility meets all the applicable Supplemental Review Screens in a timely manner after the Supplemental Review has been completed.
 - c. The Utility's Supplemental Review shall consist of Screens A through J (if not already performed as part of Fast Track Review) in addition to the following Screens K through M below:
 - (1) Screen K: Supplemental Grounding
 - (a) If Screen H was failed, then the Utility shall apply this Screen. If Screen H was passed, then this Screen is automatically passed.
 - (b) If the Generator is rotating machine-based, then effective grounding must be maintained for this Screen to be passed. Otherwise, this Screen is failed.
 - (c) If the Generator is inverter-based, then the Utility shall apply one of the following to evaluate if it is effectively grounded:

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

- i. If the line-to-neutral connected load on the Distribution System feeder or Line Section is greater than thirty-three (33) percent of the peak load on the Distribution System feeder or Line Section, then this Screen is passed; or
- ii. If a supplemental grounding software tool is used and it determines that supplemental grounding is not required to maintain effective grounding, then this Screen is passed; or
- iii. If a supplemental grounding software tool is used and it determines that supplemental grounding is required, and the Applicant agrees to modify its system to include supplemental grounding, then this Screen is passed; or
- iv. If a detailed Hosting Capacity analysis is used that incorporates evaluation of temporary overvoltage risk for inverters and if the Maximum Generating Capacity of the Generator is below the available Hosting Capacity at the POI, then this Screen is passed.
- v. Otherwise, if none of the above four criteria are met, then the Application fails this Screen.

(2) Screen L: Voltage and Power Quality

- (a) The Utility shall determine if the addition of the Generating Facility would cause voltage fluctuation or harmonic levels on the Line Section to be exceeded.
- (b) The Utility shall consider the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility):
 - i. The voltage fluctuation shall be within acceptable limits as defined by IEEE 1547-2018; and
 - ii. The harmonic levels shall meet IEEE 1547-2018 limits at the RPA.
- (c) If both of the above two criteria are met, then the Application passes this Screen. Otherwise, if either or both of the above two criteria are not met, then the Application fails this Screen.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

(3) Screen M: Safety and Reliability

(a) The Utility shall consider the following factors to determine if the Generating Facility may potentially impact safety and reliability on its Distribution System:

- i. If the Line Section has significant minimum loading levels dominated by a small number of customers (i.e., several large commercial customers);
- ii. If the loading along the Line Section is uniform or evenly distributed;
- iii. If the proposed Generating Facility is located in close proximity to the substation (i.e., less than two and one-half (2.5) electrical circuit miles), and if the Line Section from the substation to the PCC is a main backbone section of the Distribution System feeder rated for normal and emergency ampacity;
- iv. If the proposed Generating Facility incorporates a time delay function to prevent reconnection of the Generator(s) to the electrical Distribution System until system voltage and frequency are within normal limits for a prescribed time;
- v. If operational flexibility is reduced by the proposed Generating Facility, such that transfer of the Line Section(s) to which the Generating Facility is Interconnected to a neighboring distribution feeder/substation may trigger overloads or voltage issues; and
- vi. If the proposed Generating Facility employs equipment or systems Certified by a recognized standards organization or NRTL to address technical issues such as, but not limited to, Islanding, reverse power flow, or voltage quality.

(b) If all of the above six conditions are met, then the Application passes this Screen. Otherwise, if any of the above six conditions are not met, then the Application fails this Screen.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

- d. If any of Screens A through M are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, the Application shall proceed to the Applicant's options process pursuant to Section F.5.
 - e. If all Screens A through M are passed, the proposed Generating Facility may be Interconnected without further technical review. The Utility shall provide the Applicant with a written description of the requirements for Interconnection and the IOA pursuant to Section E.2. in a timely manner if it has not already provided such agreement to the Applicant.
5. Applicant's Options Meeting
- a. When the Utility determines that the Application does not pass Simplified Review, Fast Track Review, or Supplemental Review, it shall notify the Applicant of such determination and inform the Applicant of the basis of failure of each Screen(s) . In this instance, upon Applicant's notice to the Utility to participate in a meeting to discuss Applicant's options, the Utility and the Applicant shall make good faith efforts to expeditiously schedule and hold a meeting to discuss the Applicant's options. Additionally, the Applicant may request that the Utility schedule an Applicant options meeting at any time during the technical review process and the Utility shall be required to respond within twenty (20) business days of such request.
 - b. In addition to any other option mutually agreed upon between the Utility and the Applicant, the Applicant shall have the following options:
 - (1) Withdraw the Application;
 - (2) Amend the Application and request the Utility to re-perform the specific failed technical review Screen(s); or
 - (3) Request the Utility to begin the Detailed Review process.
 - c. If the Applicant chooses to amend the Application to address the specific failed technical review Screen(s):
 - (1) the Applicant shall submit to the Utility an amended Application demonstrating the redesign within ten (10) business days after the Applicant options meeting. If the amended Application is not received by the Utility within ten (10) business days, the Utility shall consider the Application withdrawn;

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, (Continued)

- (2) an amended Application shall only include changes to address the specific failed technical review Screen(s) and only those other changes agreed to by the Utility at its discretion. Any other modifications to the Application shall be addressed in accordance with Section E.3; and
 - (3) the Utility shall review the amended Application, apply the failed technical review Screen(s), determine if the amended Application addresses the technical review Screen(s) failure(s), and shall notify the Applicant of the results of this review within ten (10) business days of receiving the amended Application.
 - d. The Applicant's option to mitigate the failure of a technical review Screen(s) and submit an amended Application shall only be available once during the technical review process. Subsequent amending of the Application shall result in the Utility considering it as a new Application and reinitiating the technical review process from its beginning in accordance with Section E.2.
 - e. If the Applicant chooses to request the Utility begin Detailed Review, the Applicant shall submit to the Utility such request within ten (10) business days after it is notified by the Utility that the Application has been determined to not pass Simplified Review, Fast Track Review, or Supplemental Review, or after the Applicant's options meeting if one was conducted. If such notification is not received by the Utility within ten (10) business days, the Utility shall consider the Application withdrawn.
6. Detailed Review
- a. If the Utility's technical review process determines that the proposed Generating Facility Application does not pass all applicable technical review Screens and the Applicant is unable to amend the Application adequately, or if the Applicant requests the Utility to begin Detailed Review at any time during the technical review process, the Utility shall conduct an Interconnection Study. An Interconnection Study determines if any significant Utility Interconnection Facilities or Distribution System improvements must be installed or be made to the Utility's Distribution System to accommodate the Interconnection of an Applicant's Generating Facility.
 - b. The Utility and the Applicant shall enter into an Interconnection Study Agreement which allows the Utility to perform an Interconnection Study, facility design and engineering, and to provide detailed cost estimates for actual cost billing to the Applicant at the Applicant's expense. The Interconnection Study Agreement shall set forth the Utility's schedule for completing such work and the estimated or fixed price costs of such studies and engineering.

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GENERATING FACILITY INTERCONNECTIONS

F. TECHNICAL REVIEW PROCESS, Continued)

- c. Upon completion of an Interconnection Study conducted pursuant to the Interconnection Study Agreement, the Utility shall provide, in a timely manner, the Applicant with the specific Interconnection requirements and study results in a timely manner, including:
- (1) details of any identified violations of applicable design, planning, or operating criteria or standards including the estimated magnitude, duration, and/or frequency;
 - (2) estimated costs of any required Interconnection Facilities and/or Distribution System improvements; and
 - (3) the estimated schedule for Interconnecting the Generating Facility to accommodate execution of the agreements pursuant to Section E.2.

Within the Interconnection Study, the Utility may also identify potential modifications to the Applicant's proposed Generating Facility or operating characteristics that could avoid or reduce required Interconnection Facilities and/or Distribution System improvements and/or costs.

- d. Following receipt of the Interconnection Study results, the Applicant may consider any potential modifications to the Generating Facility that may have been identified by the Utility. If the Applicant elects to proceed with modifications to the proposed Generating Facility design, planning and/or operating characteristics (e.g., through the use of a PCS or Limited Generation Profile operation), the Applicant may submit such modifications to the Utility in an updated Application and request an updated Interconnection study within ten (10) business days, otherwise, the Interconnection Study results shall be considered final.
- e. Upon receipt of the Applicant's modifications, the Utility shall, within ten (10) business days, either (1) provide the Applicant with updated Interconnection Study results based on the revised Generating Facility design, planning, and/or operating characteristics, or (2) inform the Applicant of the time frame require to provide such updated Interconnection Study results. Submission of an updated Application under this Section shall not require submission of a new Application and shall not incur an additional study fee.

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GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS

1. General Interconnection Requirements

- a. Where there is a conflict between the technical requirements of IEEE 1547-2018 and this Rule, the technical requirements of IEEE 1547-2018 shall apply.
- b. Enter Service requirements shall conform to IEEE 1547-2018 Table 4 with the intentional adjustable minimum delay, the Enter Service period (ramp duration), and the randomized time delay maximum interval each set to 300 seconds as a default. For Generators with a Net Nameplate Rating of less than 500 kVA, individual Generators may use the randomized time delay as an alternative to the Enter Service period (ramp duration).
- c. The protective functions and requirements of this Rule are designed to protect the Utility's electrical Distribution System and not the Generating Facility. A Producer shall be solely responsible for providing adequate protection for its Generating Facility and Interconnection Facilities. The Producer's protective devices shall not impact the operation of other protective devices used on the Utility's Distribution System in a manner that would affect the Utility's capability to provide reliable service to its Customers.
- d. Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, the Utility shall approve the Producer's Protective Function and control diagrams. Generating Facilities equipped with a Protective Function and control scheme previously approved by the Utility for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.
- e. In the event that this Section of the Rule does not address the Interconnection requirements for a particular Generating Facility, the Utility shall specify the technical requirements to Interconnect the Generating Facility.

2. Non-Exporting and Limited Export Generating Facilities

- a. Inadvertent Export from a Generating Facility shall comply with the limits identified in this Section for a Generating Facility to be designated as Non-Exporting or Limited Export.
- b. If a Generating Facility uses any configuration or operating mode to limit the Export of power across the PCC, then the Maximum Generating Capacity shall be only the amount capable of being Exported (not including any Inadvertent Export).

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RULE NO. 15

(D,N)

GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- c. A Generating Facility shall incorporate one of the following options to be designated as Non-Exporting and shall inform the Utility of which option it will employ to be designated as Non-Exporting:
- (1) Option 1 ("Reverse Power Protection"): To ensure power is never Exported, a reverse power Protective Function shall be implemented at the PCC. The default setting for this Protective Function, when used, shall be 0.1 percent (Export) of the service transformer's rating, with a maximum two (2.0) second time delay.
 - (2) Option 2 ("Minimum Power Protection"): To ensure at least a minimum amount of power is imported at all times (and, therefore, that power is not Exported), an under-power Protective Function shall be implemented at the PCC. The default setting for this Protective Function, when used, shall be five (5) percent (import) of the Generating Facility's total Gross Nameplate Rating, with a maximum two (2.0) second time delay.
 - (3) Option 3 ("Certified Non-Islanding Protection"): To ensure that Inadvertent Export is limited to acceptable levels, this option, when used, requires that all the following conditions be met:
 - (a) The total Gross Nameplate Rating of the Generating Facility shall be no more than twenty-five (25) percent of the nominal ampere rating of the Producer's service equipment;
 - (b) The total Gross Nameplate Rating of the Generating Facility shall be no more than fifty (50) percent of the Producer's service transformer capacity rating (this capacity requirement does not apply to Customers taking primary service without an intervening transformer); and
 - (c) The Generating Facility shall be Certified as Non-Islanding.
 - (4) Option 4 ("Relative Unit Size"): This option, when used, requires the Net Nameplate Rating of the Generating Facility to be so small in comparison to its host facility's minimum Host Load, that the use of additional Protective Functions is not required to ensure that power will not be Exported to the Utility's Distribution System. The Generating Facility's Net Nameplate Rating shall be no greater than fifty (50) percent of the Producer's verifiable minimum Host Load over the past twelve (12) months.
- d. A Generating Facility shall incorporate one of the following options to be designated as Limited Export and shall inform the Utility of which option it will employ to be designated as Limited Export:

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RULE NO. 15

(D,N)

GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- (1) Option 1 ("Directional Power Protection"): This option, when used, requires the use of a power Protective Function at the PCC. The default setting for this Protective Function shall be the Maximum Generating Capacity value with a maximum two (2.0) second time delay.
 - (2) Option 2 ("Configured Power Rating"): A reduced output rating utilizing the power rating configuration setting of a Generator (if available) may be used to ensure that the Generator or Generating Facility does not generate electric power beyond a certain value that may be lower than the Gross Nameplate Rating or Net Nameplate Rating. The configuration setting corresponds to the active or apparent power ratings in Table 28 of IEEE Std 1547-2018, as described in Clause 10.4. A local DER communication interface is not required to utilize the configuration setting if it can be set by other Certified means. The reduced power rating may be indicated by means of a Gross Nameplate Rating or Net Nameplate Rating replacement, or a supplemental adhesive de-rating tag to indicate the reduced power rating. This option, when used, shall be Certified to IEEE 1547.1-2020. Use of a configured power rating not applied to individual Generator(s) shall require evaluation by mutual agreement between the Utility and the Producer.
- e. A Generating Facility may incorporate one of the following options to be designated as either Non-Exporting or Limited Export:
- (1) Option 1 (Certified PCS): This option requires a Generating Facility to be designed with a Certified PCS, and the Generating Facility shall use the Certified PCS and Certified Advanced Inverter(s) to ensure either Non-Exporting designation or agreed-upon levels of Limited Export. This option, when used, shall have a maximum open loop response time of no more than thirty (30) seconds to ensure that Inadvertent Export is limited to acceptable levels.
 - (2) Option 2 (Agreed-upon Means): This option requires a Generating Facility to be designed with other control systems and/or Protective Functions mutually agreed upon between the Utility and the Producer to ensure either Non-Exporting designation or agreed-upon levels of Limited Export. The limits may be based on technical limitations of the Interconnection Customer's equipment or the Utility's Distribution System equipment. To ensure that Limited Export and Inadvertent Export levels remain within mutually agreed-upon limits, the Interconnection Customer may use an uncertified PCS, an internal transfer relay, energy management system, or other Customer facility hardware or software if approved by the Utility on a case-by-case basis at its discretion.

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GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

3. Protective Functions and Safety Equipment Requirements

- a. The Protective Functions for Generating Facilities operating in Parallel Operation with the Utility's Distribution System shall consist of an effective means of quickly detecting and protecting against the formation of an Unintentional Island on the Utility's Distribution System. Such Protective Functions shall trip and disconnect the Generating Facilities from the Utility's Distribution System and shall be able to sense and prevent reconnection when the Utility's Distribution System is de-energized. Protective Functions shall be subject to Utility approval and may include, but are not limited to:
 - (1) Definite-time and/or inverse-time under-/over-voltage element(s);
 - (2) Definite-time under-/over-frequency element(s);
 - (3) Rate-of-change of frequency element(s);
 - (4) Directional power and/or over-/under-power element(s);
 - (5) Transfer Trip Capability (meaning to receive a direct transfer trip from the Utility's electrical system protective devices); and
 - (6) Disconnecting Means Status (meaning to communicate the Generating Facility's Disconnecting Means status to the Utility's electrical system protective devices using "b-form" contacts).
- b. Circuit breakers or other interrupting devices located at the PCC must be Certified or "Listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for their intended application. This includes being capable of interrupting the maximum available fault current expected at their location. The Producer's Generating Facility and Interconnection Facilities shall be designed so that the failure of any one device shall not potentially compromise the safety and reliability of Utility's Distribution System.
- c. The Producer shall furnish and install a manual Visible-Break Isolation Device that has a visible disconnect to isolate the Generating Facility from the Utility's Distribution System. The device shall be accessible to Utility personnel at all times and be capable of being locked in the open position. Generating Facilities with Non-Islanding inverters totaling one (1) kVA or less are exempt from this requirement.

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GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

4. Additional Requirements to Preclude Interference with Utility Operations

- a. The Producer shall not operate Generating or Interconnection Facilities that superimpose a voltage or current upon the Utility's Distribution System that interferes with Utility operations, service to Utility Customers, or communication facilities. If such interference occurs, the Producer must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by the Utility. If the Producer does not take corrective action in a timely manner or continues to operate the facilities causing interference without restriction or limit, the Utility may, without liability, disconnect the Producer's facilities from the Utility's Distribution System, in accordance with Section D.11 of this Rule. All operation shall conform to the power-quality performance requirements of IEEE 1547-2018 Clause 7, the Utility's adopted default Advanced Inverter settings, and any specific Advanced Inverter settings required by the Utility on a case-by-case basis.
- b. Voltage interference causing a modulation of the light level of lamps sufficient to be irritating to humans, or which causes equipment mis-operation to occur shall be corrected by the Producer. Unacceptable interference shall be as defined in accordance with IEEE 1453-2022, as referenced by IEEE 1547-2018 Clause 7.2.3 and Annex B. Inverters Certified to IEEE 1547-2018 and operated using the Utility's default Advanced Inverter settings shall be deemed compliant unless demonstrated otherwise.
- c. When the Producer is serving balanced linear loads, harmonic distortion shall be within the maximum harmonic current distortion percentages given in IEEE 1547-2018 Clause 7.3 and Table 26 and 27, evaluated at the RPA. Exception: The harmonic distortion of a Generating Facility located at a Customer's site shall be evaluated using the same criteria as the loads at that site.
- d. Generating Facilities should not inject DC current greater than 0.5 percent of rated output current into the Utility's Distribution System, consistent with IEEE 1547-2018 Clause 7.1.
- e. Generating Facilities shall not contribute to an Unintentional Island. This can be accomplished by one of the following options:
 - (1) Incorporating Certified Non-Islanding control functions into the Protective Functions;
 - or

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GENERATING FACILITY INTERCONNECTIONS

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G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- (2) Verifying that local loads sufficiently exceed the load carrying capability, including that the reactive power requirements of the local loads sufficiently exceed the reactive power capability of the Generating Facility; or
- (3) Incorporating Transfer Trip or an equivalent function in the Protective Functions.
- 5. Certain Technology Specific Requirements
 - a. For three-phase Generators, the Generating Facility circuit breakers shall be three-phase devices with electronic or electromechanical control. The Producer shall be responsible for properly Synchronizing its Generating Facility with the Utility's Distribution System by means of either a manual or automatic Synchronizing device. Automatic Synchronizing is required for all synchronous Generators that have a SCCR exceeding 0.05. A Generator whose SCCR exceeds 0.05 shall be equipped with Protective Functions suitable for detecting loss of Synchronization and rapidly disconnecting the Generator from the Utility's Distribution System. As agreed upon by the Producer and the Utility, synchronous Generators may automatically regulate power factor or voltage while in Parallel Operation with the Utility's Distribution System. Power system stabilization is specifically not required for Generating Facilities under 10 MW Net Nameplate Rating.
 - b. A Generating Facility with an SCCR exceeding 0.1 or that does not meet any one of the options for detecting Unintentional Islands in Section G.4.e. shall be equipped with Protective Functions designed to detect Distribution System faults, both line- to-line and line-to-ground, and promptly remove the Generating Facility from the Utility's Distribution System in the event of a fault. For a Generating Facility that cannot detect these faults within 0.5 seconds, Transfer Trip or an equivalent function may be required. Reclose-blocking of the Utility's affected recloser(s) may also be required by the Utility where engineering review indicates a risk of reclosing onto an energized island or where protective coordination cannot otherwise be assured.
 - c. Induction Generators do not require a Synchronizing function. Starting or rapid load fluctuations on induction generators can adversely impact the Utility's Distribution System's voltage. Corrective step-switched capacitors or other techniques may be necessary and may cause undesirable ferro-resonance. When these counter measures (e.g., additional capacitors) are installed on the Producer's side of the PCC, the Utility shall review these measures. Additional equipment may be required as determined as a result of Supplemental Review or an Interconnection Study.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- d. For inverter-based Generators, only Advanced Inverters shall be used for Parallel Operation with the Utility's Distribution System. Non-utility-interactive or "stand-alone" inverters shall not be used for Parallel Operation with the Utility's Distribution System.
- e. Generating Facilities with Advanced Inverters do not require separate Synchronizing equipment.
- 6. Rotating Machine Generator Capabilities and Default Settings
 - a. Rotating machine-based Generators shall meet IEEE 1547-2018 Category A for normal operating performance and Category I for abnormal operating performance. Rotating machine-based Generators that cannot meet these requirements shall be reviewed on a case-by-case basis by the Utility and authorized for Interconnection or not at its discretion.
 - b. The default settings identified within this Section shall be used by all rotating machine-based Generators regardless of size.
 - c. Default Settings
 - (1) The Utility may specify alternate settings than those referenced in this Section on a case-by-case basis and shall inform the Applicant and Producer, allowing reasonable time for mutual agreement of the parties prior to execution of the IOA.
 - (2) Volt-VAR Settings
 - (a) This setting shall be enabled. All other reactive power control modes shall be disabled.
 - (b) Rotating machine-based Generators shall utilize a fixed reference voltage for this setting.
 - (c) Default settings shall conform to IEEE 1547-2018 Table 8.
 - (3) Voltage Trip and Ride-Through
 - (a) Voltage trip settings shall conform to IEEE 1547-2018 Table 11.
 - (b) Voltage ride-through performance shall conform to IEEE 1547-2018 Table 14.
 - (4) Frequency Trip and Ride-Through

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GENERATING FACILITY INTERCONNECTIONS

(D,N)

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- (a) Frequency trip settings shall conform to IEEE 1547-2018 Table 18.
- (b) Frequency ride-through performance shall conform to IEEE 1547-2018 Table 19.
- (c) Frequency droop performance shall conform to IEEE 1547-2018 Table 24.

7. Specific ESD Requirements

a. ESD Operating Restrictions

- (1) When an ESD is paired with a Net Metering System, the ESD, at the election of the Customer and/or Producer, may be programmed with either one or both of the following two operating restrictions, or no operating restriction, as follows:
 - (a) Restricted from Exporting electricity to the Distribution System (beyond Inadvertent Export); and/or
 - (b) Restricted to being charged solely from the Producer's Net Metering System and not from the Utility's Distribution System; or
 - (c) No operating restrictions, only where expressly authorized under a Commission-approved tariff, Utility program, or IOA that governs the operating capabilities of the ESD.
- (2) If the Customer and/or Producer elects to operate an ESD with an operating restriction(s), such election shall be stated in the Application and IOA, including a description of the operating restriction(s).
- (3) An attestation of the operating restriction(s), or lack of an operating restriction(s), shall be provided by both the Customer and the ESD Producer, if different entities.
- (4) After the submission of an Application or following an ESD's initial acceptance by the Utility to Interconnect, the presence or absence of an operating restriction(s) may be modified, but not until after an updated attestation is provided to the Utility by both the Customer and the ESD Producer, if different entities, and the Utility consents in writing to the modification. The Utility's written approval shall not be unreasonably withheld or delayed. Such changes in any operating restriction(s) shall also be subject to the Material Modification determination in Table 2.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- b. A stand-alone ESD Interconnected to the Utility's Distribution System that is not paired with a Generator, will charge solely from the Utility's Distribution System, and will discharge solely for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System.
 - c. An ESD paired with a Generator Interconnected to the Utility's Distribution System that, in addition to its normal operation, will discharge to provide back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System, after which it may discharge according to its normal operation.
8. Specific EV, V2G EV, Charger and Charging Station Requirements
- a. The Interconnection of a V2G EV and its EVSE to the Utility's Distribution System, or conversion of an EV charger, charging station, or EVSE to V2G, shall be subject to this Rule only when the V2G EV and its EVSE shall operate in a mode where discharging will occur when Interconnected and operating in Parallel Operation with the Utility's Distribution System.
 - b. V2G EV chargers or charging station inverters shall adhere to UL 1741 SB or UL 9741 to ensure that V2G systems can safely Export power from V2G EVs to the Utility's Distribution System.
 - c. V2G EVs configured as an AC bidirectional charging system, wherein inverter capabilities are onboard the vehicle, shall either adhere to:
 - (1) UL 1741 SC (when published and accepted by the Utility for use in this Rule) and SAE J3072; or
 - (2) as a matched-pair bidirectional system under UL 1741 SB, in conjunction with UL 9741, or other equivalent system-level certification recognized by the Utility.

Until such time UL 1741 SC is published and accepted by the Utility for use in this Rule, compliance with UL 1741 including Supplement SB, is required, where applicable.

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GENERATING FACILITY INTERCONNECTIONS

(D,N)

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- d. A V2G EV, EV charger, charging station, or EVSE connected to the Utility's Distribution System that shall discharge solely for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System.
- 9. Advanced Inverter Requirements
 - a. Inverter-based Generators shall comply with IEEE 1547-2018 and UL 1741 SB requirements.
 - b. All Advanced Inverters shall meet IEEE 1547-2018 Category B for normal operating performance and Category III for abnormal operating performance. Inverter-based Generators that cannot meet these requirements shall be reviewed on a case-by-case basis by the Utility and authorized for Interconnection or not at the Utility's discretion.
 - c. The default settings identified within this section shall be used by all inverter-based systems regardless of size.
 - d. The Utility may specify alternative site-specific settings on a case-by-case basis to preclude or reduce the Distribution System improvements that may be required as a direct result of the Interconnection or for other technical reasons unique to the location on the Utility's electric grid, and shall inform the Applicant and Producer, allowing reasonable time for mutual agreement of the parties prior to execution of the IOA.
 - e. Default Settings
 - (1) Volt-VAR Settings
 - (a) This setting shall be enabled. All other reactive power control modes shall be disabled.
 - (b) Inverter-based Generators shall utilize a fixed reference voltage for this setting.
 - (c) Default settings shall conform to IEEE 1547-2018 Table 8.
 - (2) Volt-Watt Settings
 - (a) This setting shall be enabled.
 - (b) Default settings shall conform to IEEE 1547-2018 Table 10.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

(D,N)

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

(3) Voltage Trip and Ride-Through

(a) Voltage trip settings shall conform to IEEE 1547-2018 Table 13.

(b) Voltage ride-through performance shall conform to IEEE 1547-2018 Table 16.

(4) Frequency Trip and Ride-Through

(a) Frequency trip settings shall conform to IEEE 1547-2018 Table 18.

(b) Frequency ride-through performance shall conform to IEEE 1547-2018 Table 19.

(c) Frequency droop performance shall conform to IEEE 1547-2018 Table 24.

10. Microgrid Requirements

a. Requirements for a Microgrid shall be evaluated by the Utility on a case-by-case basis. The defining characteristics for a Microgrid on the Utility's Distribution System are:

(1) Is capable of Parallel Operation with the Utility's Distribution System or Islanded operation, and not solely as an emergency back-up resource;

(2) Is comprised of one or more Generator and/or ESD;

(3) Has clearly defined electrical boundaries;

(4) Utilizes a Microgrid Interconnection Device at the PCC; and

(5) Utilizes a control system (Master Microgrid Controller) to manage and dispatch resources as a single controllable entity.

b. For a Microgrid comprised solely of inverter-based Generator technologies, at least one of the inverter-based technologies within the Microgrid shall be capable of Grid Forming operation when Islanded.

c. Each Microgrid shall be designed to Interconnect to the Utility Distribution System, to operate without adversely affecting the operations of the electric grid and without presenting safety hazards to Utility personnel or Customers, and in the case of a Hybrid Microgrid, to operate without adversely affecting the operations of the Microgrid's participants.

d. The Microgrid facilities and the Interconnection systems shall be in compliance with all applicable safety, power quality, and performance codes and standards of NFPA 70, IEEE, and the Utility's interconnection standards and procedures provided in this Rule.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

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G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- e. A Producer's Generating Facility may be part of a Customer Microgrid or be a participant in a Hybrid Microgrid and shall notify the Utility of its intention in the Interconnection Application.

11. Cybersecurity Requirements

- a. The Producer shall maintain good security practices regarding Generating Facility hardware and software in accordance with the IOA between the Producer and the Utility.
- b. Generating Facility hardware shall not be readily physically accessible to unauthorized persons (e.g., shall be locked or require some manner of authorized access) and strong passwords shall be assigned and maintained by the Producer for any device area network. Networked device default passwords and firmware reset shall be secured, abstracted, or made inaccessible.
- c. As applicable, equipment shall always be registered with the manufacturer.
- d. The Producer shall have and maintain security controls to protect the Utility's networks, systems, software, confidential information, and data. If the Generating Facility is interoperable with Utility's grid, the Producer shall, to the maximum extent possible, adhere to the guidance provided in the published version of IEEE 1547.3-2023.
- e. Generating Facilities with communication, Telemetry, and/or remote-control capability shall incorporate cybersecurity protections to prevent unauthorized access or disruption of the Utility's Distribution System. Such protections shall include cybersecurity policies, processes, and controls required for connectivity to the Utility systems, access to Utility data, or significant work affecting Utility systems.
- f. The Utility may establish and update its cybersecurity standards and procedures, which shall be incorporated into the IOA, and which may be updated from time to time and mutually agreed upon by the Producer and the Utility.

12. Communication Requirements

- a. The communication requirements in this Section apply to communication pathways and protocols that allow the Utility to remotely communicate with the individual Generating Facility's Advanced Inverter control, PCS, energy management system, or Master Microgrid Controller.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

G. DESIGN, TECHNICAL AND OPERATING REQUIREMENTS, (Continued)

- b. Inverter-based Generators, including V2G EVs, shall adhere to all of the following communication protocol requirements:
 - (1) shall be capable of remote communications and adhere to IEEE 1547-2018, Clause 10;
 - (2) software/firmware shall be capable of being updated locally or via remote communications;
 - (3) transport level protocol shall be TCP/IP; and
 - (4) shall be capable of supporting at least one of the following application-level protocols:
 - (a) IEEE 2030.5 (i.e., Smart Energy Profile 2.0 (SEP 2) CSIP or CSIP-AUS;
 - (b) IEEE 1815 (i.e., Distributed Network Protocol 3 (DNP3));
 - (c) SunSpec Modbus; or
 - (d) Other application-level protocols by mutual agreement of the Producer and the Utility.
- c. Direct communications to Advanced Inverters, PCSs, energy management systems, or Master Microgrid Controllers shall be made available (i.e., unlocked, functional, and capable of being provisioned to Utility systems) at the request of the Utility for use by the Utility when communications are required to prevent an Emergency or Unsafe Operating Conditions or to enable Customer participation in voluntary programs and/or tariffs when no alternative cost-effective communication pathway (e.g., via a vendor cloud service) can be established, via:
 - (1) Producer maintained wireless broadband internet and wireless communication capability of the Advanced Inverters, PCSs, energy management systems, or Master Microgrid Controllers; or
 - (2) Producer maintained wired broadband internet or Utility owned field area network communicating to local Utility gateway interfaced to a local DER communication interface on Advanced Inverters PCSs, energy management systems, or Master Microgrid Controllers.
- d. The operational data and control capabilities required by the Utility to ensure the safe, reliable, and tariff-compliant operation of the Distribution System, as defined in and limited to the data elements identified in IEEE 1547-2018 Clause 10, shall cost effectively be made available by the Producer or its vendors to the Utility through the communication pathways and protocols established under this Section.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

H. METERING, MONITORING AND TELEMETRY

1. All Generating Facilities shall be Metered in accordance with this Section and shall meet all applicable standards of the Utility contained in the Utility's applicable Tariff Schedules and published Utility manuals dealing with Metering specifications.
2. The requirements in this Section do not apply to Generating Facilities that are subject to separate Metering requirements under the Utility's currently effective Tariff Schedules, as approved by the Commission, including but not limited to those established pursuant to NRS 704.766 to 704.775 (Net Metering Systems). Such Tariff Schedules, as may be amended from time to time, shall govern the Metering for these Generating Facilities.
3. The ownership, installation, operation, reading, and testing of Metering for Generating Facilities shall be by the Utility.
4. Telemetry and Metering at the PCC may be required in cases where less intrusive or more cost-effective options for providing the necessary Generating Facility output data are unavailable. In exercising its discretion to require Net Generation Metering, the Utility shall consider all relevant factors, including but not limited to:
 - a. Data requirements in proportion to the need for information necessary to support relative Utility functions;
 - b. Producer election to install equipment that adequately addresses the Utility's operational requirements;
 - c. Accuracy and type of required Metering equipment to be equivalent and consistent (i.e., revenue grade) with purposes of collecting data;
 - d. The Generating Facility's size relative to the cost of the Metering/monitoring equipment;
 - e. Other means of obtaining the data (e.g. Generating Facility logs, proxy data etc.); and
 - f. Requirements under any IOA with the Producer.
5. PCC Metering
 - a. For purposes of assessing Utility charges for service, the PCC Metering shall be a bi-directional Meter so that power deliveries to and from the Producer's site can be separately recorded.
 - b. In order to accurately measure power flow in both directions, multiple Metering points may be required.
 - c. PCC Metering shall be equipped or designed to prevent reverse registration.

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PUCN Sheet No. _____

RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

H. METERING, MONITORING AND TELEMETRY, (Continued)

6. Telemetering

- a. If the Net Nameplate Rating of the Generating Facility is 1 MW or greater, Telemetering equipment at the Net Generation Metering location may be required at the Producer's expense to allow the Utility and the Customer's scheduling coordinator to monitor such large Generators for their impact upon the Distribution System.
 - b. The costs for Telemetering, including equipment, installation, and any costs for leased telephone lines are separate and in addition to other Metering costs addressed in Section H.8.
 - c. If the Generating Facility is Interconnected to a Distribution System operating at a voltage below 10 kV, then Telemetering equipment may be required on Generating Facilities with a Net Nameplate Rating of 250 kW or greater.
 - d. The Utility shall only require Telemetering to the extent that less intrusive or more cost-effective options for providing the necessary data in real time are unavailable.
 - e. Charges will be included in an applicable IOA.
7. If Utility-owned Metering is located on the Producer's Premises, the Producer shall provide, at no expense to the Utility, a suitable location for all such Metering.
 8. Metering Equipment, including an appropriate revenue-quality Meter, as defined in Rule 1, shall be installed if required in the Producer's applicable standby rate schedule.
 - a. All service switches, Meter sockets, Meter enclosures, cutouts and similar devices, irrespective of voltage, required in connection with Net Generation Metering shall be furnished, installed, maintained and owned by the Producer at no cost to the Utility.
 - b. The Utility shall furnish, install and own the appropriate Meter or Meters used for Net Generation Metering. Such installation location shall be furnished by the Producer and approved by the Utility, and shall, at reasonable times, be accessible for reading, testing and maintaining the Meter.
 9. ESD Metering Equipment, including an appropriate Utility-owned, bi-directional, Interval Meter, as defined in Rule 1, shall be installed for all ESD installations per applicable published Utility manuals and standards dealing with Metering specifications.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

H. METERING, MONITORING AND TELEMETRY, (Continued)

- a. All service switches, Meter sockets, Meter enclosures, cutouts and similar devices, irrespective of voltage, required in connection with ESD Metering shall be furnished, installed, maintained and owned by the Producer at no cost to the Utility.
- b. The Utility shall furnish, install and own the appropriate Meter or Meters used for ESD Metering, at its cost. Such installation location shall be furnished by the Producer and approved by the Utility, and shall, at reasonable times, be accessible for reading, testing and maintaining the Meter.

I. FACILITY OWNERSHIP AND COST RESPONSIBILITY

1. Facility Ownership

- a. Parallel Operation of Generating Facilities may require the installation of Interconnection Facilities or Distribution System improvements, the type, extent and costs of which shall be consistent with this Rule and determined by the Utility through the technical review process and/or an Interconnection Study as described in Section F.
- b. Interconnection Facilities installed on the Producer's side of the PCC may be owned, operated and maintained by either the Producer or the Utility.
- c. Interconnection Facilities installed on Utility's side of the PCC and Distribution System improvements shall be owned, operated and maintained only by the Utility.

2. Facility Cost Responsibility

- a. A Producer shall be responsible for the reasonably incurred costs of the Optional Pre-application Report (if requested) pursuant to Section E.1, the Application fee pursuant to Section E.2.c (Table 1) related to any required technical reviews pursuant to Sections F.2, F.3., and F.4, and any Interconnection Studies conducted pursuant to Section F.6 of this Rule solely to explore the feasibility and determine the requirements of Interconnecting a Generating Facility with the Utility's Distribution System.
- b. The Producer shall be responsible for all costs associated with the Interconnection Facilities owned by the Producer.
- c. The Producer shall be responsible for any costs reasonably incurred by the Utility in providing, installing, operating, or maintaining the Interconnection Facilities and Distribution System improvements required solely for the Interconnection of the Producer's Generating Facility with the Utility's Distribution System.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

I. FACILITY OWNERSHIP AND COST RESPONSIBILITY, (Continued)

- d. The cost responsibility for any Interconnection Facilities and Distribution System improvements required solely due to the load requirements of an ESD (e.g., the ESD is charged by the Utility's Distribution System), EV or V2G EV charger, or EV or V2G EV charging station shall be as set forth in Rule 9.
- e. Should the Utility combine the installation of Interconnection Facilities or Distribution System improvements required for the Interconnection of a Generating Facility with improvements to the Utility's Distribution System to serve other Customers or Producers, the Utility shall not include the costs of such separate or incremental facilities in the amounts billed to the Producer.
- f. The costs for required Interconnection Facilities and Distribution System improvements shall be paid by the Producer pursuant to the provisions contained in the IOA. Where the type and extent of the Interconnection Facilities or Distribution System improvements warrant additional detail, the Producer and the Utility shall execute separate agreement(s) to more fully describe and allocate the parties' responsibilities for installing, owning, operating and maintaining the Interconnection Facilities or Distribution System improvements.
- g. Interconnection Facilities connected to the Utility's side of the PCC and Distribution System improvements shall be provided, installed, owned and maintained by the Utility at the Producer's expense.
- h. When a Producer wishes to reserve Utility-owned Interconnection Facilities or Distribution System improvements installed and financed as Special Facilities for the Producer but idled by a change in the operation of the Producer's Generating Facility or otherwise, the Producer may elect to abandon or reserve such facilities consistent with the terms of its IOA with the Utility. If the Producer elects to reserve idle Interconnection Facilities or Distribution System improvements, the Utility shall be entitled to continue to charge the Producer for the costs related to the ongoing operation and maintenance of the Special Facilities.

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING

1. Facility Installation

- a. After executing the applicable agreements, the Utility and/or the Producer shall commence construction and installation of the Distribution System improvements or Interconnection Facilities that have been identified in the agreements using good faith efforts to meet schedules and fixed or estimated costs as appropriate.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING, (Continued)

- b. Prior to construction, the Applicant may request, or the Utility may require, a pre-construction coordination meeting to review scope, switching or outage coordination, site access and safety controls. The parties shall use good faith efforts to coordinate schedules and minimize Customer impacts.
- c. The Producer shall obtain all required permits and any AHJ clearances applicable to Producer-owned facilities.
- d. Work on Utility-owned facilities shall be performed only by the Utility.
- e. The Utility and the Producer shall confirm, in writing, the RPA established pursuant to Section F.1.e. for testing and commissioning per IEEE 1547-2018 requirements upon determination of Application completeness. Commissioning verification shall be performed at the agreed-upon RPA.
- f. If required to complete the installation of a Generating Facility or associated Interconnection Facilities, the Utility, may be required to perform a temporary disconnect and reconnect to facilitate safe work on the Customer's service entrance equipment or to allow inspection, testing, or commissioning of the Generating Facility.
 - (1) If a temporary disconnect and reconnect is required solely for modification of service entrance equipment (including installation or replacement of service panels), such work shall be performed and charged in accordance with Rule 16 and Schedule MC.
 - (2) Temporary disconnections and reconNECTIONS performed solely for modifications to Customer service entrance equipment pursuant to Rule 16 and not this Rule, shall be coordinated by the Utility as part of the facility installation process under Section J.1.a. Such work shall not be deemed to initiate, extend, or toll any timeline required by statute or regulation for the Utility's review of an Interconnection Application or issuance of PTO.
 - (3) Only authorized employees of the utility will be permitted to connect a Customer's service to the Utility's electric lines, or disconnect the same.
- g. The Utility may issue a TIA solely to permit the physical connection of a Generating Facility to the Utility's Distribution System for limited purposes such as inspection, testing, coordination, and commissioning-only operation. A Temporary Interconnection Agreement shall not be construed as PTO and is valid only for a short, defined period necessary to complete commissioning.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING, (Continued)

- (1) For Generating Facilities less than or equal to 25 kW Net Nameplate Rating, TIA shall be issued automatically by the Utility and shall allow commissioning-only Non-Export operation for the minimum duration necessary to complete commissioning.
- (2) For Generating Facilities greater than 25 kW Net Nameplate Rating, the Utility shall specifically issue a TIA. The Producer shall notify the Utility prior to commissioning, and commissioning-only operation shall be authorized by the Utility within a reasonable timeframe and performed under coordinated conditions.
- (3) A TIA automatically expires upon the earlier of:
 - (a) issuance of PTO; or
 - (b) Utility revocation.
- (4) Operation under a TIA remains subject to all safety and protection requirements of this Rule and all applicable permits required by the AHJ.

2. Facility Inspection

- a. Upon completion of installation and prior to Interconnection, the Producer shall notify the Utility and provide documentation including but not limited to:
 - (1) site plans and as-built one-line and/or three-line diagrams, clearly identifying the RPA;
 - (2) commissioning reports and documentation that may include verification of protection settings, Advanced Inverter testing consistent with IEEE 1547-2018 and UL 1741 requirements, Advanced Inverter functions and settings consistent with Section G.9.e, rotating machine settings consistent with Section G.6.c, and any Limited Generation Profile or Limited Export parameters, as applicable. If Telemetry or remote update capability is required, the Producer shall provide communications test results evidencing settings retrieval/control. For Generating Facilities less than or equal to 1 MW Net Nameplate Rating, such reports shall consist of paperwork only;
 - (3) for Generating Facilities greater than 1 MW Net Nameplate Rating, functional Commissioning Testing and temporary energization in accordance with this Rule;
 - (4) verification of the Visible Break Isolation Device including documentation (including photos) confirming that the lockable, accessible, visible-open disconnect switch is installed in accordance with this Rule, Utility standards, and NEC;

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING, (Continued)

- (5) Certification of equipment including evidence that major components (e.g., inverters) are Certified under UL 1741 SB/IEEE 1547-2018; and
 - (6) evidence of any relevant AHJ final inspection for Producer-owned facilities.
 - b. Following receipt and review of the required documentation, the Utility shall perform a physical inspection of the facility that may include, but may not be limited to, verification of labeling, the Visible Break Isolation Device, protection wiring, Meter installation, and any other items necessary to confirm safe Interconnection consistent with applicable Utility standards.
 - c. All inspections, testing, and verifications required under this Rule shall be performed at the RPA, as previously confirmed by the Utility and the Producer, to demonstrate compliance with any applicable technical and operational requirements, unless otherwise noted in this Rule.
3. Facility Testing
- a. The Producer shall be responsible for testing new Generating Facilities and associated Interconnection Facilities according to Attachment 3 and IEEE 1547.1-2020 to verify compliance with the safety and reliability provisions of this Rule prior to Parallel Operation with the Utility's Distribution System.
 - b. The Producer's Generating Facility shall be authorized for Parallel Operation or Momentary Parallel Operation with the Utility's Distribution System only upon the issuance of PTO by the Utility.
 - c. For non-Certified Equipment, the Producer shall develop a written testing plan to be submitted to the Utility for its review and acceptance prior to Interconnection. The testing plan shall, where applicable, incorporate the manufacturer's installation test procedures and conform to IEEE 1547.1-2020.
 - d. The Utility may require a Utility-witnessed Commissioning Test. If required by the Utility, the Producer shall coordinate scheduling of such test with no less than five (5) business days' advanced notice and provide the Utility an opportunity to witness the test. Facility testing shall be conducted at a time mutually agreeable to the Producer and the Utility, with the party conducting the test providing the other party the opportunity to witness the tests.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING, (Continued)

4. Facility Certification and PTO

- a. The Producer shall be responsible for ensuring Certification of new Generating Facilities and associated Interconnection Facilities pursuant to Attachment 3, Section 2.
- b. For Net Metering Systems:
 - (1) within ten (10) business days of receipt of both written notice from the Applicant that the installation of the Net Metering System is complete and a copy of any required final inspection clearance from the AHJ, the Utility shall either:
 - (a) issue PTO; or
 - (b) provide to the Applicant a specific written description of the deficiencies that must be corrected prior to PTO.
 - (2) at the time the Utility issues PTO, the Utility shall provide to the Producer a copy of the fully executed IOA if it has not already done so.
- c. For non-Net Metering Systems, within ten (10) business days of receipt of notice from the Producer that installation of the Generating Facility is complete the Utility shall either:
 - (1) issue PTO; or
 - (2) provide the Producer with a written list of deficiencies to be corrected. Upon notice to the Utility by the Producer that all necessary corrections have been made, the parties shall use good faith efforts to schedule any required re-inspection in a timely manner.
- d. The Producer's Generating Facility shall be authorized for Parallel Operation or Momentary Parallel Operation with the Utility's Distribution System only upon the issuance of PTO by the Utility. Issuance of PTO shall be contingent upon satisfactory completion of the requirements under this Section, provision of all required documentation, and compliance with all applicable agreements.

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

K. DISPUTE RESOLUTION

1. The Commission shall have initial jurisdiction to interpret, add, delete or modify any provision of this Rule or of any agreements entered into between the Utility and the Producer to implement this tariff ("the implementing agreements") and to resolve disputes regarding the Utility's performance of its obligations under its Tariff Schedules, the implementing agreements, and requirements related to the Interconnection of the Producer's Generating or Interconnection Facilities pursuant to this Rule.
2. Any dispute arising between the Utility and the Producer (individually "Party" and collectively "the Parties") regarding the Utility's performance of its obligations under its Tariff Schedules, the implementing agreements, and requirements related to the Interconnection of the Producer's facilities pursuant to this Rule shall be resolved according to the following procedures:
 - a. The dispute shall be reduced to writing by the aggrieved Party in a letter ("the dispute letter") to the other Party containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought, and express notice by the aggrieved Party that it is invoking the procedures under this Section.
 - b. Within forty-five (45) calendar days after the Utility receives the dispute letter, the Parties' authorized representatives shall meet and confer to try to resolve the dispute.
 - c. If the Parties do not resolve their dispute within forty-five (45) calendar days after the date of the dispute letter, the dispute shall, upon demand of either Party, be submitted to resolution before the Commission in accordance with the procedures outlined in NAC 703.616 to 703.651.
3. Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under this Rule and the implementing agreements, unless the implementing agreements have been terminated. Disputes as to the application and implementation of this Section shall be subject to resolution pursuant to the procedures set forth in this Section.

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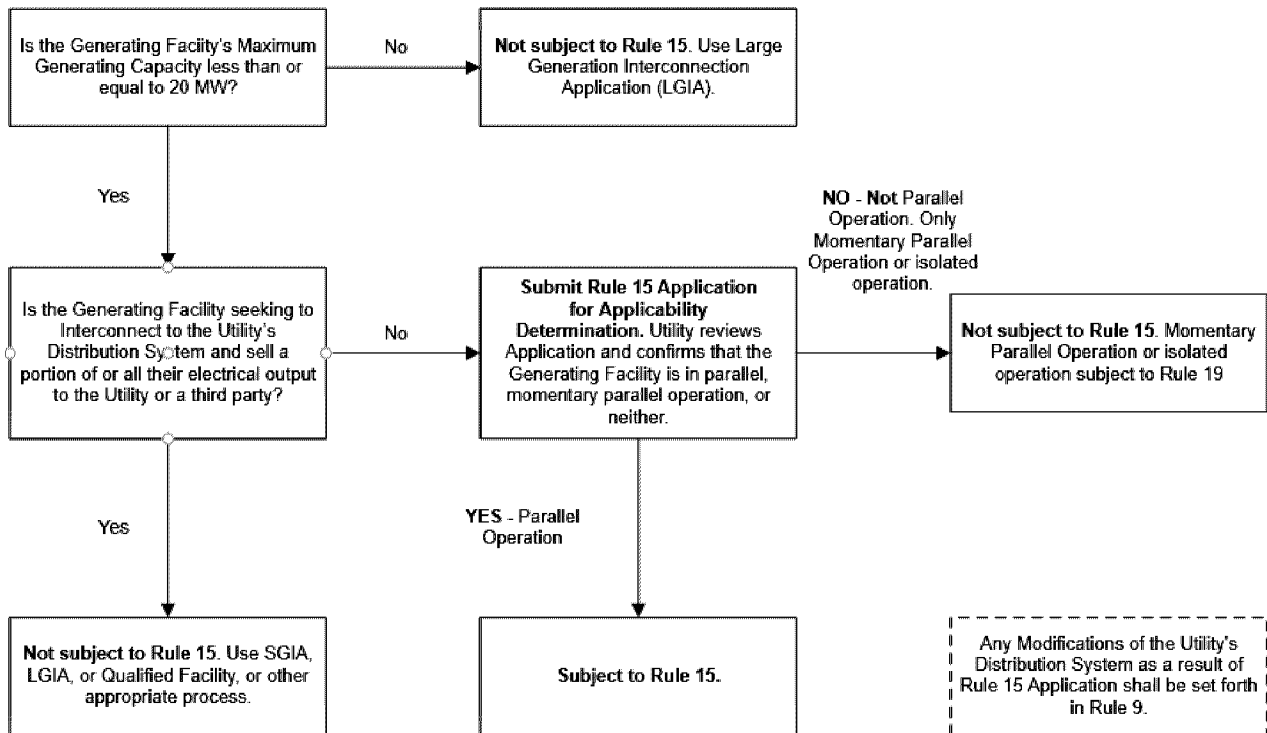
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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

Attachment 1: Applicability

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RULE NO. 15

(N)

GENERATING FACILITY INTERCONNECTIONS

Part 1 – Core Generator and Energy Storage Device Configurations				
Configuration or Use Case	Parallel with Utility?	Export to grid?	Subject to Rule 15?	Application or Notification?
Break-before-Make backup Generator with open-transition ATS (isolated standby backup)	No. ATS mechanically and electrically prevents any closed transition.	No (Non-Exporting by design and sequence)	No	No Rule 15 Application required. Subject to Rule 19.
Momentary Parallel Operation standby backup Generator with closed-transition ATS (Make-before-Break)	Yes, connected, but only for ≤ 15 seconds to synchronize prior to serving isolated load	No (Non-Exporting by design and sequence)	No	No Rule 15 Application required. Subject to Rule 19.
Stand-alone, Non-Exporting, behind-the-meter (BTM) Generator, using an option in Section G.2 for Non-Export status	Yes, Interconnected and Parallel Operation	No (Non-Exporting per an option in Section G.2)	Yes	Yes, Rule 15 Application
Stand-alone, Non-Exporting, BTM Energy Storage Device (ESD), charging from Utility grid, using an option in Section G.2 for Non-Export status, either discharging while parallel with Utility grid or after disconnecting from Utility grid	Yes, Interconnected and Parallel Operation	No (Non-Exporting per an option in Section G.2)	Yes	Yes, Rule 15 Application
Non-Exporting Generator paired with an ESD using an option in Section G.2 for Non-Export status	Yes, Interconnected and Parallel Operation	No (Non-Exporting per an option in Section G.2)	Yes	Yes, Rule 15 Application
NEM Systems: Generator only or Generator paired with ESD	Yes, Interconnected and Parallel Operation	Yes	Yes	Yes, NEM Application

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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

(N)

Exporting Generator, Stand-alone or paired with ESD not selling any output to Utility	Yes, Interconnected and Parallel Operation	Yes	Yes	Yes, Rule 15 Application
Exporting Generator under a buy-all / sell-all or QF arrangement	Yes, Interconnected and Parallel Operation	Yes	No	FERC/QF processes depending on size and contract
Microgrid capable of Parallel Operation and Islanding	Yes, Interconnected and Parallel Operation when grid-connected	Can be Exporting or Non-Exporting depending upon design	Yes	Yes, Rule 15 Application
Stand-alone Generator or Microgrid serving a fully isolated load with no Utility connection (off-grid)	No	No	No	None

Part 2 – EVSE and V2G EV Configurations

Configuration or Use Case	Parallel with Utility?	Export to grid?	Rule 15 applies?	Application or Notification?
EVSE (Level 1, 2, or DCFC) serving EVs as load only, no bidirectional (V2G) capability	Yes, Interconnected and Parallel Operation but EVSE and EV act solely as load when charging	No	No	Rule 3 application, treated under normal Utility service rules
EVs under Utility programs or tariffs, no bidirectional (V2G) capability	Yes, Interconnected and Parallel Operation, but EV acts solely as load when charging	No	No	Utility program enrollment and normal Utility service rules

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GENERATING FACILITY INTERCONNECTIONS

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Bidirectional EVSE or V2G EV, not configured for V2G operation so that the V2G EV is not capable of discharging and acts only as a load while connected to the grid	Yes, Interconnected and Parallel Operation, but V2G EV acts solely as load when charging	No	No	None
Bidirectional EVSE or V2G EV under Utility programs or tariffs, not configured for V2G operation so that the V2G EV is not capable of discharging and acts only as a load while connected to the grid	Yes, Interconnected and Parallel Operation, but V2G EV acts solely as load when charging	No	No	Utility program enrollment and normal Utility service rules
Bidirectional EVSE or V2G EV configured for V2G operation, discharging will not occur while connected to the grid, but discharging will occur during Islanded Microgrid or backup mode following Break-before-Make	Yes, Interconnected and Parallel Operation but V2G EV acts solely as load when charging	No Export while grid-connected (discharging only in Islanded Microgrid or backup mode)	Yes	Rule 15 Application
Bidirectional EVSE or V2G EV configured for V2G operation with discharging to occur while connected to the grid	Yes, Interconnected and Parallel Operation	Can be Exporting or Non-Exporting depending upon design	Yes	Rule 15 Application

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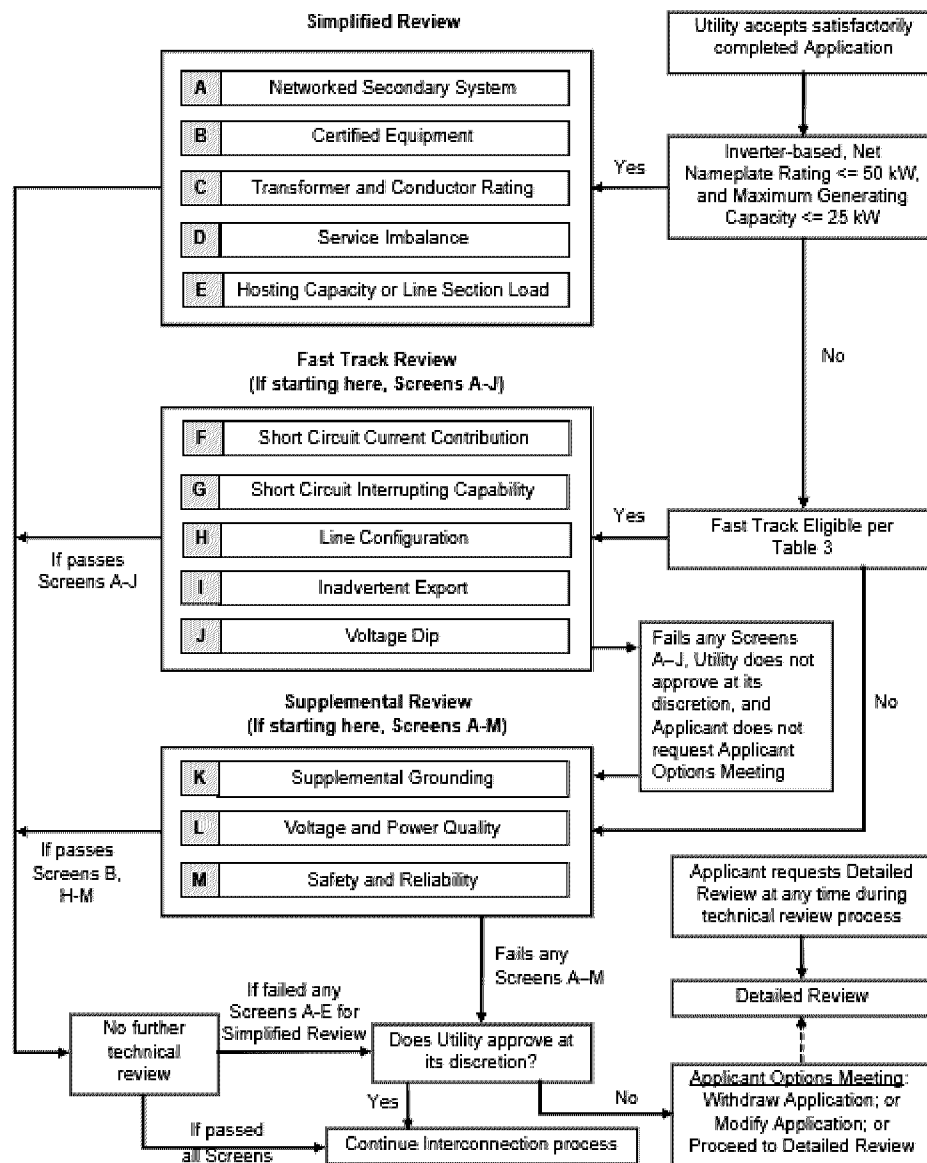
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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

Attachment 2:
Summary Flowchart of Technical Review Process



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RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

Attachment 3:
Testing and Certification Criteria

1. INTRODUCTION

This Attachment describes the test procedures and requirements for equipment used for the Interconnection of Generating Facilities to Utility's Distribution System. Equipment shall be subject to Type Testing, Production Testing, Commissioning Testing, and Periodic Testing consistent with IEEE 1547-2018, IEEE 1547.1-2020 and UL 1741 SB. These requirements ensure that the Generating Facilities will not adversely affect the Utility's Distribution System and that such facilities will cease to energize and provide power under abnormal conditions.

2. CERTIFICATION CRITERIA

- a. Equipment tested and approved (e.g. "Listed") by an accredited, nationally recognized testing laboratory (NRTL) as having met both the Type Testing and Production Testing requirements of IEEE 1547-2018 and UL 1741 SB shall be considered Certified Equipment.
- b. Proof of Certification shall consist of an NRTL-issued certificate including:
 1. Effective date of Certification and serial/model numbers;
 2. The software version (if applicable);
 3. Test procedures procedure and revision;
 4. Laboratory accreditation; and
 5. Technical ratings, trip settings, and designations for Non-Exporting and Non-Islanding capability.
- c. The Applicant shall ensure that Certification documentation is available from the manufacturer, NRTL, or an authorized third party.
- d. Use of non-Certified equipment requires a site-specific testing plan and Utility approval consistent with IEEE 1547.1-2020.

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GENERATING FACILITY INTERCONNECTIONS

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3. TYPE TESTING

Type Testing shall be conducted in accordance with IEEE 1547.1-2020 and UL 1741 SB to verify compliance with Interconnection performance requirements including voltage and frequency ride-through, protective trip functions, reactive power, interoperability, and communications.

4. PRODUCTION TESTING

Production Testing shall be performed in accordance with IEEE 1547.1-2020 and UL 1741 SB as part of routine factory testing to verify each unit's performance.

5. COMMISSION TESTING

- a. Commissioning Testing shall be performed onsite in accordance with IEEE 1547.1-2020 to verify protective settings and functional performance upon initial Parallel Operation, after modifications affecting Interconnection functions, or when otherwise required.
- b. Testing shall be performed by a qualified engineer, factory-certified technician, or licensed electrician.
- c. The Utility may witness Commissioning Testing or require Certification by the installer of test completion results.
- d. For Certified Equipment, testing may be limited to verification of protective settings, anti-Islanding, and Non-Export Functions.
- e. For non-Certified Equipment, full Commissioning Testing per IEEE 1547.1-2020 is required or as mutually agreed to by the Producer and the Utility.
- f. At the completion of testing, the Producer shall confirm all devices are set to Utility-approved settings and provide documentation of such.

6. PERIODIC TESTING

Periodic Testing shall be conducted in accordance with IEEE 1547.1-2020 and manufacturer's requirements at intervals not to exceed four (4) years. The Producer shall maintain test records for Utility inspection. Batteries used for Protective Functions shall be inspected monthly and replaced or subject to a discharge test at least once every four (4) years.

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GENERATING FACILITY INTERCONNECTIONS

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7. SUPPLEMENTAL TESTING PROCEDURES

Supplemental Testing shall be conducted as required by IEEE 1547.1-2020 and UL 1741 SB, including but not limited to verification of Non-Exporting capability, in-rush current, surge withstand, and Synchronization performance.

8. CLOSING PROVISIONS

Testing and Certification requirements under this Attachment shall be applied uniformly and consistent with IEEE 1547-2018, IEEE 1547.1-2020, and UL 1741 SB.

(N)

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Issued By:
Timothy Clausen
Vice President, Regulatory

ATTACHMENT 2

SIERRA PACIFIC POWER COMPANY

RULE NO. 15

GENERATING FACILITY INTERCONNECTIONS

A. GENERAL APPLICABILITY

- ~~6-1.~~ This Rule describes the interconnection, operating and Metering requirements for Generating Facilities intended to be connected to the Utility's electric Distribution System over which the Commission has jurisdiction. This Rule applies only to Generating Facilities with a Maximum Generating Capacity not capacity of 20,000 kilowatts MW or less at the Point of Interconnection unless otherwise required in federal or state law. Subject to the provisions of this Rule, the Utility will shall allow the interconnection of Generating Facilities with its electrical Distribution sSystem.
- ~~2.~~ The requirements of this Rule applies only to any Generating Facility Facilities interconnected to the Utility's with the Utility's facilities-Distribution System that will, or may, operate in parallel with the Utility's-Distribution System Generating Facilities Interconnection prior to the effective date of this Rule shall be governed by the requirements of the Rule in effect at the time the Generating Facilities were installed and their existing interconnection agreements, such that a continuous electrical path will be established between the Generating Unit(s) and the Utility's Distribution System at any time for any length of time, regardless of Non-Export or Export designation, except as identified in Section A.3 and as determined in Attachment 1 including:-
 - ~~a.~~ Retail Net Metering Systems (except for certain requirements as otherwise specified in this Rule);
 - ~~b.~~ Energy Storage Devices;
 - ~~c.~~ Vehicle-to-Grid Electric Vehicles and Electric Vehicle Supply Equipment;
 - ~~d.~~ Other retail behind-the-Meter Generating Facilities; and
 - ~~e.~~ Momentary Parallel backup Generators with Make-before-Break operation (such Generators shall only require notification to the Utility under this Rule).
- ~~3.~~ The Generating Facilities described below are not subject to Rule 15:-
 - ~~a.~~ Generating Facilities seeking to Interconnect to the Utility's Distribution System and sell a portion of or all their electrical output to the Utility or a third party (i.e., wholesale electrical sales) shall be addressed through the Utility's Small Generator Interconnection Agreement, Large Generator Interconnection Agreement, Qualified Facility, or other appropriate process, as applicable; and
 - ~~a.b.~~ Generating Facilities that are intended solely for electrically isolated operation and not in Parallel Operation with the Utility's distribution-Distribution systemSystem, are not addressed in this Rule. The Interconnection of such Such-Generating Facilities shall be addressed in the Utility's subject to Rule 19.
- ~~4.~~ Any Modification-modification of the Utility's Distribution System that is required as a result of a Producer's Application for Interconnection under this Rule, including Interconnection Facilities and any Distribution System improvements necessitated by the Generating Facility's load (e.g., load to charge an Energy Storage Device), generation characteristics, or auxiliary load, shall be as set forth in governed by Rule 9. If such modification is required as a result of a Producer's application for interconnection under this Rule, In such cases, no-a separate application under Rule 3 shall be application will not be required.

- 7.5. Generating Facilities interconnected prior to the effective date of this Rule shall be governed by the requirements of this Rule in effect at the time the Generating Facilities were installed and their existing IOA unless otherwise modified by mutual agreement of the Producer and Utility.
- 8.6. Capitalized terms used in this Rule, and not defined in the Utility's other tariffs, shall have the meaning ascribed to such terms in Section B of this Rule. The definitions set forth in this Rule shall apply only to this Rule and related tariff riders for Standby Service and may not apply to the Utility's other Rules.

B. DEFINITIONS AND ACRONYMS

The definitions set forth in this Section B are applicable only to this Rule, its corresponding agreements and rate schedules that apply to Standby Service.

AC: Alternating Current.

Active Anti-Islanding Scheme: A control scheme installed with the Generating Facility that senses and prevents the formation of an Unintentional Island.

Active Affordability Covenant: A covenant, condition, or restriction contained in a deed, contract, or other legal instrument which establishes a period of affordability and limits rent and Utility charges for low-income households.

Advanced Inverter (a.k.a., Smart Inverter): A Generating Facility's inverter capable of performing functions that when activated can autonomously contribute to grid support during excursions from normal operating voltage and frequency system conditions by providing dynamic reactive/real power support, voltage and frequency ride-through, ramp rate controls, and communication systems with ability to accept external commands and other functions. Such inverters can either be Grid Following or Grid Forming but must be grid interactive.

ANSI: American National Standards Institute.

Applicant: An Applicant The entity applying for interconnection, under the provisions of Utility's this Rule 45. The Applicant may or may not be the Producer or Customer.

Application: Documentation submitted to the Utility by the potential Applicant that contains sufficient information necessary to begin the application-Interconnection process. This also includes instances where a modification(s) to an existing Interconnection's equipment or operation take place necessitating the Utility to examine the potential effect(s) of the modification(s).

AHJ: Authority Having Jurisdiction.

ATS: Automatic Transfer Switch

Break-before-Make: A type of electrical transfer method where the connection to one power source is completely disconnected before a new connection to another source is established.

Certification; Certified; Certificate: The documented results of a successful Certification Testing.

Certification Test(ing)(s): A test(ing) adopted by the Utility that verifies conformance of certain equipment with Commission-approved performance standards in order to be classified as Certified Equipment. Certification Tests are normally performed by an Nationally Recognized Testing Laboratory such as the Underwriter's Laboratory. Attachment 3 to this Rule outlines such Certification Testing.

Certified Equipment: Equipment used in a Generating Facility that has passed the Certification Test.

Commission: The Public Utilities Commission of Nevada.

Commissioning Test(ing)(s): A test performed during the commissioning of all or part of a Generating Facility system to achieve one or more of the following:

Verify specific aspects of its performance;

Calibrate its instrumentation; and

Eestablish instrument or Protective Function set-points.

Customer(s): is defined in Rule 1.

Customer Microgrid: A Microgrid that uses only non-Utility infrastructure on the customer side of the Point of Common Coupling, including distribution lines, Generating Facilities, and related equipment, to meet its interconnected loads.

DC: Direct Current.

DCFC: Direct Current Fast Charger

Dedicated Transformer; Dedicated Distribution Transformer: A transformer that provides eElectricity SService to a single Customer. The Customer may or may not have a Generating Facility.

Detailed Review: Part of the technical review process as determined by Section F.6 of this Rule. If required, Detailed Review includes the Utility's performance of an Interconnection Study that establishes the requirements for Interconnection of a Generator or Generating Facility and may be performed as a result of unremedied failure of any of the technical review Screens or by request of the Applicant.

Distributed Energy Resource(s)(DER)(s): Distributed generation systems, energy efficiency, energy storage (including Energy Storage Devices), Electric Vehicles (including Vehicle-to-Grid Electric Vehicles) and demand-response technologies, which may be located on the Utility side or the Customer side of the Meter of a Utility Customer. This definition conforms to the definition of distributed resources in Nevada Administrative Code 704.90583 and shall be interpreted as meant to conform to future versions of that regulation unless otherwise stated in this Rule.

Distribution System: The Utility's electrical system consisting of Aall electrical wires, equipment, and other facilities owned or provided by the Utility by which the Utility provides dDistribution SService, including High Voltage Distribution SService as defined in Rule 9, to its Customers.

Electric Vehicle Supply Equipment (EVSE): The physical and electrical equipment, components and software associated with an Electric Vehicle or Vehicle-to Grid Electric Vehicle charger or charging station that facilitates the charging or discharging of Electricsuch vehicles.

Emergency: An actual or imminent condition or situation, which jeopardizes the Utility's Distribution System integrity.

Energy Storage Device (ESD): A device that captures energy produced at one time, stores that energy for a period of time, and delivers that energy as electricity for use at a future time.—For purposes of this Rule only and only where applicable within this Rule, an Energy Storage DeviceESD can be considered a Generator. While an Energy Storage DeviceESD may be paired with a Net Metering System, it does not qualify to be considered as a Net Metering System, either as a stand-alone installation or when paired with a Net Metering System. For purposes of this Rule only and only where applicable within this Rule, a Vehicle-to-Grid Electric Vehicle, including its EVSE, can be considered an ESD.

Enter Service: The beginning of Parallel Operation of a Generator with the Utility's energized Distribution System.

EV: Electric Vehicle. For the purposes of this Rule, an EV is defined as solely being capable of being operated in a charging only (load-only) mode. EVs that are to be operated in a discharging (Vehicle-to-Grid) mode are defined below.

Export; Exported; Exporting: The transfer of electricity from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling. This may include scenarios where Limited Export or Inadvertent Export could occur, or in association with Limited Generation Profile operation.

Fast Track Review: Part of the technical review process as determined by Section F.3 of this Rule. The Fast Track Review may result in approval of the Interconnection, the Utility performing Supplemental Review, or ana -Applicant's options-meeting if requested by the Applicant to discuss any failed Screens.

FERC: Federal Energy Regulatory Commission.

Field Testing: Testing performed in the field to determine whether equipment meets the Utility's requirements for safe and reliable Interconnection.

Generating Facility: All Generating Units that are included in a Generating Facility Interconnection Agreement ~~(IOA)~~.

Generator or Generating Unit: A device that converts mechanical, chemical or solar energy into electrical energy, including all of its protective and control functions and structural appurtenances. One or more Generators comprise a Generating Facility.

Grid Following Inverter: A type of Advanced Inverter that can synchronize its output voltage and frequency with the existing grid voltage and frequency.

Grid Forming Inverter: A type of Advanced Inverter that can create and regulate grid voltage and frequency and can operate independently or in coordination with other sources.

Gross Nameplate Rating: The gross generating AC capacity (kW) of a Generating Unit or the total of the gross generating capacities (kW) of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Facility(s). -For an EV or Vehicle-to-Grid EV, the gross nameplate rating shall be determined by the gross nameplate discharge power of the inverter (kW), and not the battery energy capacity (kWh).

Host Load: Electrical power that is consumed by the Customer at the property on which the Generating Facility is located. This includes the consumption of electrical power of the Generating Unit(s) comprising the Generating Facility.

Hosting Capacity: The incremental amount of DER Maximum Generating Capacity or load that can be accommodated (i.e., is available) on a particular feeder section of the Utility's Distribution System at a given time under existing or forecasted grid conditions and operations without adversely impacting safety, power quality, reliability, or other operational criteria. Such capacity may be in terms of generation hosting capacity, photovoltaic hosting capacity, or load hosting capacity.

Hybrid Microgrid: A Microgrid that uses Utility and non-Utility infrastructure on the Microgrid's side of the Microgrid Interconnection Device, including distribution lines, Generating Facilities, and related equipment, to meet its interconnected loads.

IEEE: Institute of Electrical and Electronics Engineers.

Inadvertent Export: The unplanned, uncompensated transfer of ~~electrical energy~~ active power from a Generator or Generating Facility to the Utility's Distribution System across the Point of Common Coupling, limited as established in this Rule.

~~Initial Review:~~ ~~The review by the Utility following receipt of an Application, to determine the following: If an Generating Facility Application qualifies for Simplified Interconnection, or If an Generating Facility Application can be made to qualify for Interconnection with supplemental review determining any potential additional requirements, or If an Interconnection Study is required, the cost estimate and schedule for performing the Interconnection Study~~

In-rush Current: The current drawn by the Generating Facility during startup.

Intentional Island: The planned creation of an Island, usually following a loss of a portion of the Utility's Distribution System, with the knowledge and approval of the Utility.

Interconnection and Operating Agreement (IOA): An agreement between the Utility and the Producer that gives each ~~the~~ certain rights and obligations to effect, operate, modify, or end ~~it~~ interconnection.

Interconnection; (Interconnect(ed)): The physical connection of a Generating Facility whereby a continuous electrical path is established between the Generating Unit(s) and the Utility's Distribution System for more than fifteen (15) seconds at any time and during any planned operating mode of the Generating Unit(s), including an idle mode, in accordance with the requirements of these Rules so that Parallel Operation with the Utility's Distribution System can occur (or has occurred if Temporary

Interconnection Authorization (if applicable) and/or Permission to Operate has been provided by the Utility).

Interconnection Facilities: The electrical wires, switches and related equipment that interconnect a Generating Facility to the Utility's Distribution System.

Interconnection Study: A study to establish the requirements for Interconnection of a Generator or Producer/Generating Facility.

Interconnection Study Agreement: An agreement between the Utility and the Applicant that gives each certain rights and obligations regarding the Utility's performance of an Interconnection Study.

Interval Meter: is defined in Rule 1.

Island; Islanded; Islanding: A condition on the Utility's Distribution System in which one or more Generating Facilities deliver power to Customers using a portion of the Utility's Distribution System that is electrically isolated from the remainder of the Utility's Distribution System. A Hybrid Microgrid is a form of an Island.

kVA: Kilovolt-ampere.

kVAR: Kilovolt-ampere reactive.

kW: Kilowatt(s).

kWh: Kilowatt-hour(s).

Limited Export(ing): The limiting of the transfer of electrical energy from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling by the use of the appropriate methods or operating modes noted in Section G.2. A Limited Export value is fixed, does not vary with time, and is distinct from Limited Generation Profile. This may include scenarios where Inadvertent Export could occur, or in association with Limited Generation Profile operation.

Limited Generation Profile: An energy generation schedule or control profile implemented by a system or equipment configuration that specifies the maximum amount of electricity a Generator may produce, or an ESD or Vehicle-to-Grid EV may discharge, at specific times of the day and/or different times of the year. A Limited Generation Profile may be executed by a Certified Power Control System or energy management system with autonomous operational capabilities, or other control architectures (e.g., relay-based schemes) deemed acceptable and approved by the Utility at its discretion to reliably enforce specified energy generation or discharge limits. A Limited Generation Profile is distinct from Limited Export, which is a single fixed limit.

Line Section: That portion of the Utility's Distribution System connected to a Customer bounded by automatic sectionalizing devices or the end of the line.

Master Microgrid Controller: An intelligent Power Control System designed to manage and automate the operation of a Microgrid and has the capability to monitor, control, and obtain dynamic feedback from all the individual components that make up a Microgrid. When the Master Microgrid Controller is used to enforce Limited Export, Non-Exporting operation, or Limited Generation Profiles under this Rule, it shall meet the requirements applicable to a Certified Power Control System.

Material Modification(s): A change(s) or replacement of generating equipment, that is not a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original Application, IOA. Table 2 in Section E.3 of this Rule provides guidance regarding what changes to the existing circumstances of a Generating Unit's or Generating Facility's equipment or operation constitute a Material Modification.

Maximum Generating Capacity: The maximum electrical power output that a Generating Facility is capable of producing that is equal to the total Net Nameplate Rating of a Generating Facility when no limiting of its generating capacity is employed or is an amount less than the total Net Nameplate Rating when the generating capacity of a Generator or Generating Facility is limited (e.g., through the use of a Certified Power Control System, power relay(s), Protective Function(s), Limited Generation Profile

operation, or as determined by other similar device settings or adjustments), as determined by the limiting method. This capacity may be specified by the Applicant in the Application but shall be specified in the IOA and may reflect the total amount of generation output including ESD or Vehicle-to-Grid EV discharge, if applicable. For Non-Exporting systems, Inadvertent Export is not included.

Meter: is defined in Rule 1.

Metering Equipment: All equipment, hardware, software including Mmeter cabinets, conduit, etc. that is necessary for Metering.

Metering (Metered): The measurement of electrical power flow in kW and/or kWh, and, if necessary, kVAR, at a point, and its display to the Utility, as required by this Rule.

Microgrid: A self-sufficient energy system that serves a discrete geographic footprint, is comprised of a group of Interconnected loads and DERs that acts as a single controllable entity with respect to the grid, can operate either in Parallel Operation or Islanded, and has the defining characteristics as noted in Section G.10 of this Rule.

Microgrid Interconnection Device: A device that facilitates electrical separation of a Microgrid from the Utility's Distribution System. This device may provide the function of a normal paralleling device to reconnect the Microgrid with the Utility's Distribution System.

Momentary Parallel Operation: The physical and electrical interconnection of a Generating Facility to the Utility's Distribution System that established a continuous electrical path between them for fifteen seconds (900 cycles) or less.

MW: Megawatt(s).

NAC: Nevada Administrative Code.

Nationally Recognized Testing Laboratory (NRTL): A laboratory accredited to perform the Certification Testing requirements under this Rule.

NEC: The National Electric Code.

Net Energy Metering: Metering for the receipt and delivery of electricity between the Producer and the Utility pursuant to Nevada Revised Statutes (NRS) 704.769 and the Utility's Net Energy Metering Tariff Schedules, as may be amended from time to time Schedule NMR-A, NMR-B, NMR-G, and NMR-405. Over a given time frame, (typically a one month) the difference between these values yields either net consumption or surplus. The meter registers are ratcheted to prevent reverse registration. If available, a single meter may be allowed to spin backward to yield the same effect as a directional two-meter (or register) arrangement.

Net Generation Metering: The Metering of the net electrical energy output in kW and kWh from a given Generating Facility. This may also be the measurement of the difference between the total electrical energy produced by a Generating Unit and the electrical energy consumed by the auxiliary equipment necessary to operate the Generating Unit. For a Generating Unit with no Host Load, this is the Metering that is located at the Ppoint of Common Coupling. For a Generating Unit with Host Load, this is the Metering that is located at the Generating Unit bus after the point of auxiliary load(s) and prior to serving Host Load.

Net Metering Systems: Those systems operating in Parallel eOperationng in parallel with the Utility's Distribution System as set forth in NRS 704.766 to 704.775 and Schedule NMR-A, NMR-B, NMR-G, and NMR-405the Utility's Net Energy Metering Tariff Schedules, as may be amended from time to time. A Net Metering System is defined in NRS 704.771. The aAddition of an Energy Storage DeviceESD must not result in a violation of any limitations placed on Net Metering Systems in NRS 704.771.

Net Nameplate Rating: The gross AC generating capacity (kW) of a Generating Unit or the total of the gross AC generating capacity (kW) of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Unit(s) minus the consumption of electrical power of the Generating Unit(s). Where the gross generating capacity of a Generating Unit(s) or Units is limited (e.g., through the use of a Power cControl Ssystem, power relay(s), or other similar device

~~settings or adjustments, or as determined by Limited Export or Limited Generation Profile operation), the Net Nameplate Rating shall be the maximum specified by the Applicant in the Application. The Net Nameplate Rating will subsequently shall be contained specified in the IOA net metering agreement or Interconnection and Operating Agreement.~~

Network Service: More than one electrical feeder providing dDistribution sService at a Point of Common Coupling.

NFPA: National Fire Protection Association.

Non-Export(ing): Designed to prevent or limit the transfer of electrical energy from a Generating Unit or the Generating Facility across the Point of Common Coupling to the Utility through use of by any of the appropriate five options in Section G.2. 1.4. of this Rule. Non-Exporting includes scenarios where Inadvertent Export could occur.

Non-Islanding: Designed to detect and disconnect from a stable Unintentionaleed Island with matched load and generation. Reliance solely on under/over voltage and frequency trip is not considered sufficient to qualify as Non-Islanding.

NRS: Nevada Revised Statutes.

Optional Pre-application Report: A Utility-provided report that potential Applicants have the option to request to acquire certain information about the Utility's Distribution System conditions at their proposed Point of Interconnection prior to submitting an Application for Interconnection.

Optional Pre-application Report Request Form: The form that must be completed by a potential Applicant to request that the Utility provide an Optional Pre-application Report containing information about the Utility's Distribution System conditions at their proposed Point of Interconnection.

Parallel Operation: The simultaneous operation of a Generating Unit or Generating Facility, including power delivered to or received by the Utility's Distribution System, power delivered from the Utility's Distribution System (e.g., in the case of the charging of an ESD or Vehicle-to-Grid EV from the Utility's Distribution System), or an idle state, while Interconnected. ~~For the purpose of this Rule, Parallel Operation includes only those Generating Facilities that are so interconnected with the Utility's Distribution System for more than 900 cycles (fifteen seconds).~~

Periodic Test(ing): A test performed on part or all of a Generating Facility at pre-determined time or operational intervals to achieve one or more of the following: 1) Verify specific aspects of its performance, or 2) Calibrate instrumentation, or 3) Verify and re-establish instrument or Protective Function set-points.

Permission to Operate (PTO): The Utility's express written permission authorizing the Generating Unit or Generating Facility to commence Parallel Operation. This express written permission is separate from and shall occur following Temporary Interconnection Authorization if such authorization is first granted by the Utility.

Point of Common Coupling Metering: Metering located at the Point of Common Coupling. This is the same Metering as Net Generation Metering for Generating Facilities with no Host Load.

Point of Common Coupling (PCC): The transfer point for electricity between the electrical conductors of the Utility and the electrical conductors of the Producer.

Point of Interconnection (POI): The electrical transfer point between a Generating Facility and the ~~electrical distribution system~~ Utility's existing or planned Distribution System. This may or may not be coincident with the ~~Point of Common Coupling~~ PCC.

Power Control System (PCS): A system that limits or controls the generation output of Generators or a Generating Facility, including ESDs or Vehicle-to-Grid EVs, or the load requirement of such technologies to enforce Limited Export amounts, Non-Exporting operation, Limited Generation Profiles, ESD or Vehicle-to-Grid EV charge/discharge limits, or other allowable operating characteristics. Such a system may be Advanced Inverter-based or based upon other Certified technologies as approved by the Utility on a case-by-case basis at its discretion and may establish or manage a Limited Generation

Profile or Limited Export amount. A Certified PCS shall conform to Underwriters Laboratory (UL) 3141 only if and when such standard is fully approved, and then, only after its implementation date and acceptance by the Utility for use in this Rule.

Producer: The entity that executes an IOA with the Utility.—The Producer may or may not own and operate the Generating Facility, but is responsible for the rights and obligations related to the Interconnection and Operating Agreement~~IOA~~.

Production Test(ing): A test performed on each device coming off the production line to verify certain aspects of its performance.

Protective Function(s): The equipment, hardware and/or software in a Generating Facility (whether discrete or integrated with other functions) or on the Utility's Distribution System ~~whose purpose of which~~ is to protect against Unsafe Operating Conditions.

Prudent Electrical Practices: Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to design and operate electric equipment lawfully and safely, and ~~with safety~~, dependability, efficiency, and economy.

Qualified Low-Income Residential Building: As defined in Nevada Assembly Bill 458 (2025), referenced in this Rule only to establish eligibility for Interconnection.

Qualifying Facility: As defined in Rule 1.

Qualified Multifamily Affordable Housing Property (QMAHP): As defined in Nevada Assembly Bill 458 (2025), referenced in this Rule only to establish eligibility for Interconnection.

Reference Point of Applicability (RPA): A location proximate to the Generating Facility where the Interconnection and interoperability performance requirements as specified in IEEE 1547-2018 apply. This location shall be specified by the Applicant in the Application and determined by mutual agreement between the Applicant and the Utility.

Relevant Minimum Load: The lowest Line Section or substation load either measured or reasonably estimated by the Utility coincident with the Generating Facility's production (i.e., when the Generating Facility is producing). For inverter-based solar photovoltaic Generators with no paired ESD, the daytime minimum load shall be used (i.e., 10 AM Pacific Time to 4 PM Pacific Time for fixed panel systems and 8 AM Pacific Time to 6 PM Pacific Time for systems utilizing tracking).

Rule: As defined in Rule 1.

Scheduled Operation Date: The date specified in the Generating Facility's Interconnection Agreement~~IOA~~ when the Generating Facility is, by the Producer's estimate, expected to begin ~~initial~~ operation.

Screen(s): The aspects of the technical review process that gauge a Generator's or Generating Facility's impact on the Utility's Distribution System, adherence to certain technical requirements, and determine if a Generator or Generating Facility Application passes or fails Simplified Review, Fast Track Review, Supplemental Review, or if Detailed Review is required.

Secondary Network: A network supplied by several primary feeders suitably interlaced through the area in order to achieve acceptable loading of the transformers under emergency conditions and to provide a system of extremely high service reliability. Secondary networks usually operate at 600 volts~~V~~ or lower.

Service(s): As defined in Rule 1.

Section: Refers to a particular part of this Rule.

Simplified Interconnection Review: Interconnection conforming to the minimum requirements under this Rule, as determined by Section I. Part of the technical review process as determined by Section F.2 of this Rule. The Simplified Review may result in approval of the Interconnection or an Applicant's options meeting to discuss any failed Screens.

Single Line Diagram; Single Line Drawing: A schematic drawing, showing the major electric switchgear, Protective Function devices, wires, Generators, transformers and other devices, providing sufficient detail to communicate to a qualified engineer the essential design and safety of the system being considered.

Short Circuit Contribution Ratio (SCCR): The ratio of the Generating Facility's short circuit contribution to the Utility's short circuit contribution for a three-phase fault at the high voltage side of the distribution transformer connecting the Generating Facility to the Utility's Distribution System.

Short Circuit Interrupting Capability: The maximum fault current that can be safely interrupted by a protective device.

Solar-Powered Affordable Housing System: As defined in Assembly Bill 458 (2025). For purposes of this Rule, such systems are treated as Net Metering Systems.

Special Facilities: ~~Special Facilities that are:~~ (a) facilities requested by the Producer which are in addition to or in substitution for standard facilities which the Utility would normally provide for delivery of service at one point, through one Mmeter, at one voltage class under its Tariff Schedules, or (b) a pro rata portion of the facilities requested by an Aapplicant, allocated for the sole use of such Aapplicant, which would not normally be allocated for such sole use.—Unless otherwise provided by the Utility's filed Tariff Schedules, Special Facilities will be installed, owned and maintained or allocated by the Utility as an accommodation to the Producer only if acceptable for operation by the Utility and the reliability of service to the Utility's other customers is not impaired.

Stability: The return to normalcy of the Utility's Distribution System, following a disturbance. Stabilization is usually measured as a time period during which voltage and frequency are within acceptable ranges.

Standby Service: As defined in Rule 1.

Starting Voltage Drop: The percentage voltage drop at a specified point resulting from In-rush Current. ~~The SVDIt~~ can also be expressed in volts on a particular base voltage; (e.g., 6 volts on a 120-volt base, yielding a 5 percent% drop).

Supplemental Review: Part of the technical review process as determined by Section F.4 of this Rule. ~~A process wherein Utility further reviews an Application that fails one or more of the Initial Review Process screens. The Supplemental Review may result in one of the following: (a) approval of the Interconnection; (b) approval of Interconnection with additional requirements; or a meeting between the Utility and the Applicant to discuss the Applicant's options. (c) cost and schedule for an Interconnection Study.~~

Synchronization (Synchronizing)(Synchronize): The requirement at the time of Interconnection of a Generator that it shall Synchronize with the Utility's Distribution System in accordance with the Synchronization performance requirements of IEEE 1547-2018, Clause 4.10.4 and Table 5.

System Integrity: The condition under which a Distribution System is deemed safe and can reliably perform its intended functions in accordance with the safety and reliability rules of the Utility.

Tariff Schedule(s): As defined in Rule 1.

TCP/IP: Transmission Control Protocol/Internet Protocol, which is a suite of communication protocols used to interconnect network devices on the internet.

Telemetry, Telemetry: The electrical or electronic transmittal of Metering data on a real-time basis to the Utility.

Temporary Interconnection Authorization (TIA): If required by the Utility for certain Interconnections, the express written permission by the Utility authorizing the Interconnection of a Generating Facility for the limited purposes of inspection, testing, coordination, and commissioning. TIA shall specify any Non-Export limits, test windows, and witness requirements. TIA is not PTO, which authorizes Parallel Operation, and may be issued prior to the Utility's issuance of PTO.

Transfer Trip (Capability): A Protective Function that trips a Generating Facility remotely by means of an automated communications link controlled by Utility.

Type Test(ing): A test performed on a sample of a particular model of a device to verify specific aspects of its design, construction and performance.

UL: Underwriters Laboratory, Inc.

Unauthorized Interconnection: The physical Interconnection of a Generating Facility to the Utility's Distribution System, or the commencement of Parallel Operation, without first obtaining written TIA (if required) or PTO from the Utility in accordance with this Rule. An Unauthorized Interconnection also includes any circumstance in which a Generating Facility is energized and capable of Exporting power to the Utility's Distribution System prior to the Utility's express written authorization.

Unintentional Island: The unplanned creation of an island, usually following a loss of a portion of the Utility's Distribution System, without the knowledge and approval of the Utility.

Unsafe Operating Conditions: Conditions that, if left uncorrected, could result in harm to personnel, damage to equipment, loss of System Integrity or operation outside pre-established parameters required by the Interconnection and Operating Agreement (IOA).

Visible-Break Disconnect Isolation Device:—An electrical switching device that can separate the Generating Facility from Utility's Distribution System and is designed to allow visible verification that separation has been accomplished. This requirement can be met by opening the enclosure to observe the contact separation.

Vehicle-to-Grid (V2G) EV: An EV that has the bidirectional transfer of electricity between it and the Utility's Distribution System enabled through Certified bidirectional EVSE for V2G-AC, or an onboard inverter for V2G-DC, and that operates in Parallel Operation with the Utility's Distribution System. V2G operation may include charging from the Utility's Distribution System, discharging to serve all or a portion of onsite Host Load, and/or Exporting to the Utility's Distribution System. For purposes of this Rule, a V2G EV (meaning that its V2G operational mode is enabled) is considered an ESD.

C. APPLICABLE CODES AND STANDARDS

As applicable, Interconnections shall conform to the most recent approved versions of the codes and standards listed below (which may be a more recent year than indicated below) on the date the Application is accepted as complete and correct by the Utility, or successor standards:

IEEE Std 1453™-2022: IEEE Standard for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems.

IEEE Std 1547™-2018: IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, as amended by IEEE 1547a™-2020, including use of IEEE 1547.1™-2020 testing protocols to establish conformity.

IEEE Std 1547.1™-2020: IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces.

IEEE Std 1547.3™-2023: IEEE Guide for Cybersecurity of Distributed Energy Resources Interconnected with Electric Power Systems.

IEEE Std 1815™-2012: IEEE Standard for Electric Power Systems Communications—Distributed Network Protocol (DNP3).

IEEE Std 2030.5™-2023: IEEE Standard for Smart Energy Profile 2.0 Application Protocol (SEP 2.0).

NFPA 70®: National Electric Code® 2017 Edition (as modified by any local code amendments).

SAE J2847/3 for Plug-in Vehicles as a Distributed Energy Source

SAE J3072: Interconnection Requirements for Onboard, Grid Support Inverter Systems.

UL 1741: STANDARD FOR SAFETY Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources-, including Supplements SA, SB, SC (when published and accepted by the Utility for use in this Rule), and applicable Certification Requirement Decisions (CRD)

UL 3141: Outline of Investigation for Power Control Systems (only following this standard's full approval, implementation date, and acceptance by the Utility for use in this Rule).

UL 9741: STANDARD FOR SAFETY Electric Vehicle Power Export Equipment (EVPE)

G.D. RIGHTS AND OBLIGATIONS

1. A Producer shall execute ~~an agreement or an appropriate Interconnection and Operating Agreement~~IOA with the Utility governing the ~~Interconnection and operation of~~Ggenerating Ffacilities.
 - a. Pro forma agreements establishing the terms and conditions for ~~Interconnections and operation with the Utility's Distribution System~~ facilities for each applicable class ~~sh~~will be provided to the Producer by the Utility. Such agreements may be modified by mutual agreement as necessary to address specific ~~Interconnection requirements~~ that may exist~~ent~~ at the time of the execution of the agreement.
 - b. Producers having agreements executed prior to the effective date of this Rule that govern ~~Interconnection and Pparallel Ooperation~~ with the Utility's Distribution System facilities shall be governed by the provisions of those existing agreements.
 - c. The agreement shall include any necessary requirements for communications and communications facilities between the Utility and the Producer.
2. A Producer requiring other ~~Sservices~~ not addressed in this Rule may acquire such ~~Sservices~~ in accordance with the Utility's Tariff Schedules governing the provision of such ~~Sservices~~. Specific examples of other such ~~Sservices include, but include but~~ are not limited to: Supplemental Service for Customer load in excess of what is normally produced by the generating equipment, Backup Service for unscheduled outages of Generating Facilities, and Maintenance Backup Service for scheduled maintenance outages of Generating Facilities. Such ~~Sservices~~ are outside of the scope of this Rule.
3. ~~Interconnection described hereunder does not provide a Producer with any rights to use the Utility's system for the transmission, distribution, or wheeling of electric power, nor does Interconnection described hereunder limit those rights. Such rights to the use of the Utility's system must be addressed in separate agreements.~~
- 3.4. ~~Interconnection described hereunder does not require the Utility to purchase the output of a Ggenerating Ffacility. Such purchase arrangements must be addressed in separate agreements. Such rights to the use of the Utility's system or purchase arrangements must be addressed in separate agreements.~~
- 4.5. A Producer shall ascertain and comply with all applicable Commission-approved tariffs of the Utility, ~~applicable Federal Energy Regulatory Commission (FERC)-approved rules, tariffs, and regulations, and any local, state or federal law, statute or regulation that applies to the design, siting, construction, installation, operation, or any other aspect of the Generating Facilities and Interconnection Facilities.~~
- 5.6. ~~Design Reviews and Inspections. The~~ Utility shall have the right to review the design of a Producer's Generating Facility and Interconnection Facilities and to inspect a Producer's Generating and/or Interconnection Facilities prior to the provision of TIA (if applicable), PTO and the commencement of Parallel Operation with the Utility's Distribution System. The Utility may require a Producer to make modifications as necessary to comply with the requirements of this Rule. The Utility's review and authorization provision of TIA (if applicable) and/or PTO for authorizing Parallel Operation shall not be construed as confirming or endorsing the Producer's

design or as warranted by the Generating and/or Interconnection Facilities' safety, durability or reliability. The Utility shall not, by reason of such review or lack of review, be responsible for the strength, adequacy, or capacity of such equipment.

7. ~~Producers shall not begin Parallel Operation with the Utility's facilities~~Distribution System, with the exception of the provisions allowable under Section E.2 and any operation solely required to facilitate proper testing and inspection of the Generating Facility in accordance with Section J, for the first time until their Interconnection Facilities have been inspected by the Utility and written approval PTO is provided by the Utility to the Producer. Such approval may be withheld for noncompliance with the requirements of this Rule or any of the Utility's applicable tariffs.
- 6.8. ~~Right to Access.~~ A Producer's Generating Facility and Interconnection Facilities shall be reasonably accessible to Utility personnel as necessary for the Utility to perform its duties and exercise its rights under its tariffs filed with and approved by the Commission, and any agreement between the Utility and the Producer.
- 7.9. ~~Confidentiality of Information.~~ Any information pertaining to Generating and/or Interconnection Facilities provided to the Utility by a Producer shall be treated by the Utility in a confidential manner.
- 8.10. ~~Prudent Operation and Maintenance Required.~~ A Producer shall operate and maintain its Generating Facility and Interconnection Facilities in accordance with Prudent Electrical Practices and shall maintain compliance with Commission adopted standards for the Producer's particular Generating Facility ~~on~~ and Interconnection Facilities. Said standards shall be those in effect at the time a Producer executes the ~~Agreement~~IOA with the Utility.
11. 40. ~~The~~ Utility may limit the operation and/or disconnect or require the disconnection of a Producer's ~~Generating Facility from Utility's~~ Distribution System at any time, with or without notice, in the event of an Emergency, or to correct Unsafe Operating Conditions, or in the event that the Utility determines that the Generating Facility is an Unauthorized Interconnection. The Utility may also limit the operation and/or disconnect or require the disconnection of a Producer's ~~Generating Facility from the~~ Utility's Distribution System upon the provision of reasonable notice:
- a. ~~a1)~~ a1) to allow for routine maintenance, repairs or modifications to the Utility's Distribution System;
 - b. ~~b2)~~ b2) for cybersecurity-related concerns;
 - c. ~~c)~~ c) upon the Utility's determination that a Producer's Generating Facility is not in compliance with this Rule; or
 - d. ~~3d)~~ d) upon termination of the ~~Agreement~~IOA.
- The Producer and the Utility shall make good faith efforts to restore the Interconnection of the Generating Facility in a timely manner following a temporary limiting of operation or disconnection. The Producer may also be subject to additional charges, corrective requirements, or other remedies as may be contained in the IOA, or as authorized by the Commission.
- 9.12. ~~When operating in parallel~~During Parallel Operation, the Producer shall comply with all operational direction of the Utility at the time given with such direction subject to any conditions that the Producer and the Utility may mutually agree to incorporate in the ~~interconnection and operating Agreement~~IOA. Any dispute regarding such direction shall be handled after the fact in accordance with the dispute resolution procedures in Section ~~KH~~, below.
- 40.13. The operation of the Generating Facility ~~must~~ shall not reduce the quality of service described in Rule 2 to other Customers and ~~must~~ shall conform with the Utility's applicable design

standards. If the Generating Facility causes service interference, the Utility shall give notice and provide reasonable time for the Producer to take corrective action.

- ~~44.14. When an Interconnection Study is required as depicted in the Initial Review Process shown in Section 1.3 and described in pursuant to Section 4F.64, the Producer shall be responsible for paying to the Utility all reasonable costs incurred by the Utility in performing such a study unless such Parallel Operation has been requested by the Utility.~~

D.E. APPLICATION AND INTERCONNECTION PROCESS FOR INTERCONNECTION

1. Optional Pre-application Report

- a. A potential Applicant may request an Optional Pre-application Report for a specific site to obtain information about the Utility's Distribution System conditions at the proposed POI prior to submitting an Application for Interconnection by completing and submitting to the Utility an Optional Pre-application Report Request Form and a non-refundable fee of \$300.
- b. The Utility shall make the Optional Pre-application Report Request Form publicly accessible either as an online form, electronic document transferable through e-mail, or other format convenient to potential Applicants.
- c. Upon receipt of a completed Optional Pre-application Report Request Form and the non-refundable fee of \$300, the Utility shall provide the requested data to the potential Applicant within ten (10) business days, making reasonable and good faith efforts to provide all available data requested. However, the Utility shall only be obligated to provide existing data relevant to the request and shall not be obligated to provide data it does not possess at the time of the request nor to conduct a study or other analysis to generate such data. The Utility shall indicate on the form which data it cannot provide at the time of the request.
- ~~a.d.~~ None of the data provided by the Utility in an Optional Pre-application Report shall in any way imply or guarantee that a potential Applicant's Interconnection can be completed without impact(s) to the Distribution System or the need for Distribution System improvements.

7.2. 1.APPLICATION PROCESS-application Process

- a. Prior to receiving an Application, if requested by a potential Applicant and Upon such request, the Utility shall provide information and documents (such as e.g., the pro forma Interconnection and Operating Agreement IOA and the Application, technical requirements, specifications, listing of Certified Equipment, application fee information, applicable rate schedules and Metering requirements) in response to a potential Applicant's inquiry. Unless otherwise agreed upon, the Utility shall normally send all such information will normally be sent to an Applicant within five (5) business days following the initial request from the potential Applicant. The Utility will establish an individual representative as the single point of contact for the Applicant, but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility.
 - (1) For Net Metering Systems, the Utility shall send a description of the procedures by which a Customer may Interconnect with to the Utility's Distribution System under its Net Energy Metering Tariff Schedules and a copy of the standard IOA net metering contract with the and Application form.
- b. Applicant Completes an Application. All Applicants shall be required to complete and file submit an Application for Interconnection to the Utility and supply any relevant additional information requested by the Utility. The submission filing must include the completed Application and, any applicable fee for processing the Application and performing any

~~applicable to the Initial technical Review~~ to be completed by the Utility pursuant to Section ~~FD-1.c.~~

- (1) An Application for Interconnection of a Solar-Powered Affordable Housing System must include supporting documentation demonstrating that the system is located on a QMAHP, including a declaration of Active Affordability Covenants or a verification letter from a funding authority.

a.c. The Application processing fee shall vary based on the proposed Generating Facility that will be interconnected as indicated in the following Table 1 below:

TABLE 1

<u>Type of Interconnection</u>	<u>Technical Review Processing Fee</u>	<u>Interconnection Study Fee</u>
<u>Net Metering Systems</u>	<u>\$184*</u>	<u>Actual Costs Incurred</u>
<u>QMAHP</u>	<u>\$184*</u>	<u>Actual Costs Incurred</u>
<u>All Others</u>	<u>Actual Costs Incurred</u>	<u>Actual Costs Incurred</u>

<u>Generating Facility</u>	<u>Initial Review Fee</u>	<u>Supplemental Review Fee</u>	<u>Capacity</u>
<u><= 1 MW</u>	<u>\$119</u>	<u>None*</u>	
<u>All Others</u>	<u>Actual Costs Incurred*</u>	<u>Actual Costs Incurred*</u>	

* One fee for Simplified, Fast Track, and Supplemental Reviews. ~~If an interconnection study is required, pursuant to Section D.1.d, Producer will be charged the actual costs of a Supplemental Review Study pursuant to Section D.1.d.~~

d. Note: The Applicant may propose, and the Utility may negotiate, specific costs for processing non-standard installations such as multi-units, multi-sites, or otherwise as conditions warrant. The costs for the Initial Review and the Supplemental Review contained in this Section in Table 1, as well as may the language provided in Sections D.1.c and D.1.d do not apply under such circumstances.

e. An Application for Interconnection of a Solar-Powered Affordable Housing System may include:

- (1) A one-time allocation initiation fee, chargeable to the Applicant once, capped at the lesser of 25 dollars per user or 500 dollars per system.
- (2) -An occupancy change fee may be charged to the Producer for the second and subsequent occupancy change of the same unit within twelve (12) months. There is no fee for the first occupancy change in that period.

f. The Utility shall establish an individual representative as the single point of contact for the Applicant; but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility.

g. The Utility shall record the date and time it first receives an Application.

h. Within ten (10) business days of first receiving the an Application, the Utility shall normally acknowledge its receipt, and complete its first review of the Application, and inform the Applicant state whether if the Application has been completed adequately and has been accepted by the Utility. If the Application has been completed adequately, the Utility shall also determine the appropriate technical review level, pursuant to Section

F.1.b, and inform the Applicant of its determination. ~~If defects are noted, the Utility and Applicant shall cooperate in a timely manner to establish a satisfactory Application.~~

- (1) ~~For Net Metering Systems, the Utility shall send a standard Net Metering System-IOA Interconnection and Operating Agreement contract to the Applicant for signature (if the Applicant has not already been sent such agreement) if the data provided in the Application is complete and complies with the technical requirements of NRS 704.774. If the application is not complete or does not meet the technical requirements of NRS 704.774 the Utility shall return the application to the Applicant within 10 business days of receipt of the application specifying what is deficient in sufficient detail to enable the Applicant to correct the application for resubmission.~~

i. Applications Containing Defects

- (1) If the Utility identifies that the initial Application is not complete and contains deficiencies, errors, or omissions (collectively, "defects"), the Utility shall identify all such defects and shall return the Application to the Applicant within the ten (10) business days as indicated in Section E.2.h, specifying all such defects in sufficient detail to enable the Applicant to correct the Application for resubmission.
- (a) For Net Metering Systems, such Utility identification of defects shall additionally include adherence to the technical requirements of NRS 704.774.
- (2) Any Application containing defects that are not fully corrected by the Applicant after two subsequent Utility reviews of the Application in addition to the Utility's first review may be rejected at the Utility's discretion, provided the Utility and the Applicant have worked in good faith, and in a timely manner, to assist the Applicant in submitting a correct and complete Application.
- (3) An Application that, in the Utility's reasonable judgment and discretion, is materially incomplete, lacks substantial required information, or was submitted solely to obtain queue position without a good-faith effort to provide a correct and complete submission, shall be rejected. In such cases, the Applicant shall submit a new Application with all applicable fees. The new Application will be treated as an initial submission for purposes of queue position and Utility review.
- (4) Any defect(s) present in an Application that is(are) identified by the Utility in one of its subsequent reviews of the Application following its initial review that the Utility failed to identify in any of its previous reviews of the Application shall reset the iterative review process begun in Section E.2.i.(1).
- (5) Any additional defect(s) in a subsequent submission of an Application identified by the Utility that was(were) not present in the initial submitted Application and which occurred in one of the subsequent submissions of the Application shall not reset the iterative review process begun in Section E.2.i.(1).
- (6) If the Utility rejects an Application in accordance with and following completion of the iterative review process described in this Section, the Applicant shall submit a new Application and remit a new Application fee if the Applicant wishes to continue the application process. The Utility shall review the new Application for completeness and correctness as if it is an initial submission of the Application in accordance with Section E.2.h.
- (7) An Applicant may dispute the Utility's adherence to the iterative review process described in this Section and correctness in identifying defects in its initial or subsequently submitted Applications in accordance with Section K.

- j. The Utility shall record the date and time it accepts the Application as complete and correct and inform the Applicant of such date in a timely manner.

3. Modifications to Applications or Existing Generating Facility Installations

- a. The Applicant or the Producer shall notify the Utility of a modification to an Application or the equipment or operation of an existing Generating Facility in a timely manner or as required by the IOA.
- b. When notifying the Utility of a modification to an Application or the equipment or operation of an existing Generating Facility, the Applicant or the Producer shall include the relevant Generating Facility information (e.g., system rating, Advanced Inverter/PCS specifications, POI, as applicable) either originally approved or within the Application, together with the proposed changes and the elements to be modified clearly identified.
- c. A modification to an accepted Application before execution of the IOA, or issuance of PTO, and modifications to the equipment or operation of an existing Generating Facility, shall be reviewed by the Utility in accordance with Table 2 to determine whether such modification constitutes a Material Modification and the corresponding actions required of the Applicant or Producer.
- d. Any modification that does not reasonably fall within the descriptions in Table 2 shall be addressed by the Utility on a case-by-case basis. The Applicant or the Producer and the Utility shall make good faith efforts to determine if a modification constitutes a Material Modification and agree upon the resulting course of action in a timely manner, at the Utility's discretion.
- e. If it is determined by the Utility, either at its discretion or through the application of Table 2, that a new Application is required as a result of a Material Modification, the applicable provisions of Section E.2 and the technical review process in Section F shall apply.

TABLE 2

ID	<u>Modification to Applications or Existing Generating Facilities</u>	<u>Notification Required?</u>	<u>New Application required?</u>	<u>Proceed without Utility approval?</u>	<u>Updated agreement required?</u>
1.	<u>Like-for-like replacement of existing equipment that does not constitute Material Modification, with no increase in system output (vs. original agreement) and no change to generator operating modes.</u>	<u>No</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
2.	<u>Addition of a ≤ 50 kW Net Nameplate Rating, Non-Exporting resource (such as an ESD or V2G EV Charger configured for Non-Export) that does not increase Export capability at the PCC.</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
3.	<u>Modifications where system capacity or output increases at the PCC and no inverter power or PCS controls are used to limit the active power as stated in the original agreement size, including:</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
a)	<u>Replacement of existing equipment</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>

b)	<u>Inverter firmware upgrade materially affecting grid interaction</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
c)	<u>Change(s) to inverter characteristics that affect grid interaction</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
d)	<u>Modifications to the operating mode of the Generator(s) (Export or Non-Exporting).</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
4.	<u>Change to a different POI or PCC than stated in the current agreement</u>	<u>Yes</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
5.	<u>Sole change in ownership or Producer</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>Yes</u>
6.	<u>Permanent removal, retirement, or decommissioning of the Generating Facility</u>	<u>Yes</u>	<u>No</u>	<u>No</u>	<u>No</u>

- f. An Applicant or a Producer may dispute the Utility's determination of whether a modification constitutes a Material Modification or the actions required as a result of a modification in accordance with Section K, subject to and in accordance with the IOA.

F. TECHNICAL REVIEW PROCESS

I. INITIAL REVIEW PROCESS FOR APPLICATIONS TO INTERCONNECT GENERATING FACILITIES

1. Introduction

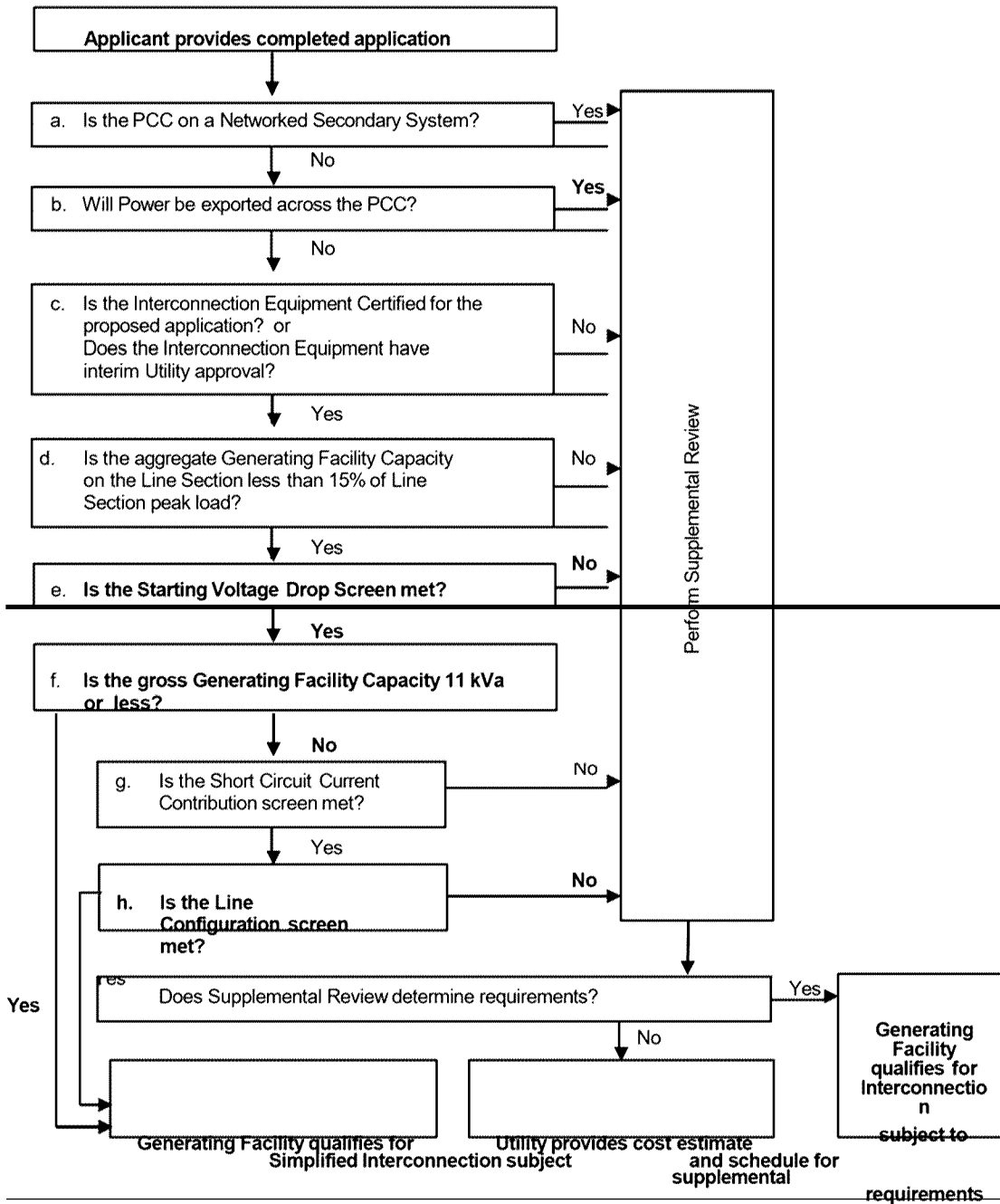
~~This Initial Review Process described in this Section creates a path for selection and rapid approval for the interconnection of those Generating Facilities that do not require an Interconnection Study. Failure to pass any screen of the Initial Review means only that further review and/or studies are required before the Generating Facility can be approved for interconnection with the Utility's Distribution System. It does not mean that the Generating Facility cannot be interconnected.~~

2. Purpose

The Initial Review determines:

- a. ~~If Generating Facility qualifies for Simplified Interconnection;~~
- b. ~~If a Generating Facility can be made to qualify for Interconnection with a Supplemental Review determining any potential additional requirements or~~
- c. ~~If an Interconnection Study is required, the cost estimates and schedule for performing the Interconnection Study.~~

3. The following flow chart provides a summary of the Initial Review Process that is referenced and more fully described in Section 4:



4. Initial Review Process Details

a. Is the PCC on a Networked Secondary System?

- If Yes, Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review.
- If No, continue to next screen.

Significance: Special considerations must be given to Generating Facilities proposed to be installed on networked secondary distribution systems because of the design and operational aspects of network protectors. There are no such considerations for radial distribution systems.

b. Will power be exported across the PCC?

- If Yes, Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review.
- If No, Generating Facility must incorporate one of the following five options:

Option 1: ("Reverse Power Protection"): To ensure power is never exported, a reverse power Protective Function must be implemented at the PCC. The default setting for this Protective Function, when used, shall be 0.1% (export) of the service transformer's rating, with a maximum .5 second time delay.

Option 2: ("Minimum Power Protection"): To ensure at least a minimum amount of power is imported at all times (and, therefore, that power is not exported), an under-power Protective Function may be implemented at the PCC. The default setting for this Protective Function, when used, shall be 5% (import) of the Generating Facility's total Gross Nameplate Rating, with a maximum 2.0 second time delay.

4. Initial Review Process Details, (Continued)

Option 3: ("Certified Non-Islanding Protection"): To ensure that Inadvertent Export of power is limited to acceptable levels, this option, when used, requires that all of the following conditions be met: (a) the total Gross Nameplate Capacity of the Generating Facility must be no more than 25% of the nominal ampere rating of the Producer's service equipment; (b) the total Gross Nameplate Capacity of the Generating Facility must be no more than 50% of the Producer's service transformer capacity rating (this capacity requirement does not apply to customers taking primary service without an intervening transformer); and (c) the Generating Facility must be certified as Non-Islanding.

Option 4: ("Relative Unit Size"): This option, when used, requires Net Nameplate Rating of the Generating Facility to be so small in comparison to its host facility's minimum load, that the use of additional Protective Functions is not required to insure that power will not be exported to Utility's Distribution System. This option requires the Generating Facility capacity to be no greater than 50% of the Producer's verifiable minimum Host Load over the past 12 months.

Option 5: ("Inverter as Control System"): To insure that Inadvertent Export of power is limited to acceptable levels, where a Generating Facility including Energy Storage Devices utilizes an inverter as the exclusive control system, all of the following conditions must be met: (a) the Generating Facility must utilize only UL-1741 certified or UL-1741 SA certified inverters; (b) the Generating Facility must monitor that total Inadvertent Export is maintained to be no more than the Generating Facility's Gross Nameplate Rating multiplied by 0.1 hours per day over a rolling 30-day period (e.g., for a 100-kVA gross nameplate Generating Facility, the maximum energy allowed to be exported for a 30-day period is 300 kWh); (c) the Generating Facility must disconnect from the Distribution System, ceasing to energize the Distribution System or halting energy production within two seconds after the period of continuous Inadvertent Export exceeds 30 seconds; (d) the Generating Facility must enter a safe operating mode where Inadvertent Export will not occur as a result of failure of the control or inverter

~~system for more than 30 seconds, which results in a loss of control signal, loss of control power or a single component failure or related control sensing of the control circuitry.; (e) the Generating Facility must be certified as Non-Islanding.~~

~~NOTE: Generating Facilities incorporating any of the five options above pass Screen D.~~

~~4. Initial Review Process Details, (Continued)~~

~~Significance:~~

~~(1) If it can be assured that the Generating Facility will not export power beyond Inadvertent Export, the Utility's Distribution System does not need to be studied for load-carrying capability or Generating Facility power flow effects on the Utility voltage regulators, as the Generating Facility will simply be reducing loading on the Utility's Distribution System.~~

~~(2) This Screen permits the use of reverse power relaying at the PGC as positive Anti-Islanding protection.~~

~~c. Is the interconnection equipment certified for the application or does the interconnection equipment have interim Utility approval?~~

~~• If Yes, continue to next screen.~~

~~• If No, Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review.~~

~~4. Initial Review Process Details, (Continued)~~

~~Significance:~~

~~If the Generating and/or Interconnection Facility has been Certified or previously approved by Utility, Utility does not need to repeat its review and/or test of the Generating Facility's Protective Functions scheme. Site Commissioning Testing may still be required to insure that the system is connected properly and that the protective functions are working properly.~~

~~Certification or Utility approval indicates the following criteria have been tested and verified:~~

- ~~• Basic protective function requirements met.~~
- ~~• Harmonic distortion limits met.~~
- ~~• Synchronizing requirements met.~~
- ~~• Power Factor regulation requirements met.~~
- ~~• Non-Islanding requirements met.~~
- ~~• If used, reverse power function requirement met.~~
- ~~• If used, under-power function requirement met.~~

~~d. Is the aggregate generating facility capacity on the line section less than 15% of line section peak load?~~

~~• If Yes, continue to next screen.~~

- ~~If No, Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review to determine cumulative impact on Line Section.~~

Significance:

- (1) ~~Low penetration of Generating Facility installations will have a minimal impact on the operation and load restoration efforts of Utility's Distribution System.~~
- (2) ~~The operating requirements for a high penetration of Generating Facilities may be different since the impact on the Utility's Distribution System will no longer be minimal, therefore requiring additional study or controls.~~

4. ~~Initial Review Process Details, (Continued)~~

e. ~~Is the starting voltage drop screen met?~~

- ~~If Yes, continue to next screen.~~
- ~~If No, Generating Facility does not qualify for Simplified Interconnection. Perform Supplemental Review.~~

Note: ~~This screen only applies to Generating Facilities that start by motoring the Generating Unit(s) such as induction generators.~~

Utility has two options in determining whether Starting Voltage Drop could be a problem. The option to be used is at the Utility's discretion:

Option 1: ~~The Utility may determine that the Generating Facility's starting Inrush Current is equal to or less than the continuous ampere rating of the Producer's Service Equipment.~~

Option 2: ~~The Utility may determine the impedances of the service distribution transformer (if present) and the secondary conductors to Producer's Service Equipment and perform a voltage drop calculation. Alternatively, the Utility may use tables or monographs to determine the voltage drop. Voltage drops caused by starting a Generating Unit as a motor must be less than 2.5% for primary interconnections and 5% for secondary interconnections.~~

Significance:

- (1) ~~This screen addresses potential voltage fluctuation problems for Generating Units that start by motoring.~~
- (2) ~~When starting, Generating Facilities should have minimal impact on the service voltage to other Utility Customers.~~
- (3) ~~Passing this screen does not relieve the Producer from ensuring that its Generating Facility complies with the flicker requirements of Section E.2.f.~~

4. ~~Initial Review Process Details, (Continued)~~

f. ~~Is the gross nameplate capacity of the generating facility 11 kVA or less?~~

- ~~If Yes, Generating Facility qualifies for Simplified Interconnection. Skip remaining screens.~~
- ~~If No, continue to next screen.~~

Significance:

~~The Generating Facility will have a minimal impact on fault current levels and any potential line over-voltages from loss of system neutral grounding.~~

g. ~~Is short circuit current contribution screen met?~~

- ~~If Yes, continue to next screen. Inverter-based Generating Facilities with a Gross Nameplate Rating of less than 25 kVA automatically pass this screen.~~
- ~~If No, Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review.~~

~~The Short Circuit Current Contribution Screen consists of two criteria; both of which must be met when applicable:~~

- (1) ~~When measured at primary side (high side) of a Dedicated Distribution Transformer serving a Generating Facility, the sum of the Short Circuit Contribution Ratios (SCCR) of all generating facilities connected to the particular Distribution System circuit that serves the Generating Facility must be less than or equal to 0.1.~~
- (2) ~~When measured at the secondary side (low side) of a shared distribution transformer, the short circuit contribution of the proposed Generating Facility must be less than or equal to 2.5% of the interrupting rating of the Producer's Service Equipment.~~

Significance:

~~If the Generating Facility passes this screen it can be expected that it will have no significant impact on the Utility's Distribution System's short circuit duty, fault detection sensitivity, relay coordination or fuse saving schemes~~

4. ~~Initial Review Process Details, (Continued)~~

h. ~~Is the line configuration screen acceptable for Simplified Interconnection?~~

- ~~If Yes, Generating Facility qualifies for Simplified Interconnection. Skip remaining screens. Single-phase inverter-based Generating Facilities automatically pass this screen.~~
- ~~If No, then Generating Facility does not qualify for Simplified Interconnection. Perform supplemental review.~~

~~Line Configuration Screen: Identify primary distribution line configuration that will serve the proposed Generating Facility. Based on the type of interconnection to be used for the Generating Facility, determine from table if the proposed Generating Facility passes the screen.~~

<u>Primary Distribution Line Type</u>	<u>Type of Interconnection to be made to Primary Distribution Line</u>	<u>Results/Criteria</u>
Three-phase, three wire	Any type	Pass Screen
<u>Three-phase, four wire</u>	<u>Single-phase line-to-neutral</u>	<u>Pass Screen</u>
Three-phase, four wire (For any line that has such a section OR mixed 3 wire & 4 wire)	All Others	To pass, aggregate Generating Facility Capacity must be less than or equal to 10% of Line Section Peak Load

Significance:

If the primary distribution circuit serving the Generating Facility is of a “three-wire” type, or if the Generating Facility’s interconnection transformer is single-phase and connected in a line-to-neutral configuration, then there is no concern about over-voltages to Utility’s, or other Customer’s equipment caused by loss of system neutral grounding during the operating time of Anti-Islanding protection.

1. Technical Review Level Determination and Process

- c. Utility Performs an Initial Review and Develops Preliminary Cost Estimates and Interconnection Requirements.
- a. Upon the Utility’s receipt/acceptance of a satisfactorily-completed Application and any additional information necessary to evaluate the Interconnection of a Generating Facility, including proposed Net Metering Systems, and receipt by the Utility of any applicable processing fee, the Utility shall determine the appropriate level of technical review required, inform the Applicant of such, and perform an Initial Review using the process defined in Section 1, begin performing technical review in accordance with the flowchart in Attachment 2. The business day response times for the Utility’s completion of Simplified Review, Fast Track Review, Supplemental Review, and review of the proposed RPA begin only after the Utility has confirmed with the Applicant that all the applicable information and fees in this Section have been submitted. The Initial Review determines if (a) the Generating Facility qualifies for Simplified interconnection, (b) the Generating Facility can qualify for Interconnection subject to minimal additional requirements, or (c) it will be necessary for Utility to perform an Interconnection Study to determine the Interconnection Requirements.
- b. The Utility shall determine which level of technical review is required as follows:
 - (1) If the proposed Generating Facility is a Certified inverter-based resource, has a Net Nameplate Rating of 50 kW or less, and has a Maximum Generating Capacity of 30 kW or less, then the Application qualifies to begin the technical review process with Simplified Review. Otherwise, the technical review process for the Application shall begin with either Fast Track Review or Supplemental Review.
 - (2) If the Application does not qualify for Simplified Review, based upon the proposed POI for the Generating Facility and its Maximum Generating Capacity, the Utility shall apply Table 3 to determine whether the Application may begin the technical review process with Fast Track Review or Supplemental Review.

TABLE 3

LINE VOLTAGE	FAST TRACK ELIGIBILITY	
	Regardless of location	On $\geq$ 600-amp line and $<$ 2.5 miles from substation
< 5 kV	< 1 MW	< 2 MW
5 kV – < 15 kV	< 2 MW	< 3 MW
15 kV – < 30 kV	< 3 MW	< 4 MW
30 kV – 69 kV	≤ 4 MW	≤ 5 MW

- (3) If the Maximum Generating Capacity of the proposed Generating Facility meets the criteria in Table 3 based upon the line voltage at the proposed POI, then the Application qualifies to begin the technical review process with Fast Track Review. Otherwise, the technical review process for the Application shall begin with Supplemental Review.
- c. At any time during the Application or technical review process, an Applicant may request the Utility to proceed to Detailed Review in lieu of performing Simplified Review, Fast Track Review, or Supplemental Review.
- d. Concurrently with the Utility's application of the appropriate technical review level, the following shall occur to review and confirm the RPA:
- (1) The Applicant shall provide a proposed RPA on the Application. Unless otherwise approved, the default RPA shall be the PCC.
- (2) The Utility shall complete its review of the proposed RPA within five (5) business days, shall determine if the proposed RPA is appropriate, and shall inform the Applicant of such determination in a timely manner.
- (3) If the Utility determines the proposed RPA to be inappropriate, the Utility shall notify the Applicant with an explanation as to why it requires correction. The Utility and the Applicant shall make good faith efforts to expeditiously meet and agree upon the RPA so as to not materially delay the technical review process.
- e. The Utility shall perform its technical review and determine the Interconnection requirements for each phase of a multi-phased Generator or Generating Facility Application at a single PCC (or RPA, if not the PCC) with consideration of previous phases but not future planned phases. Based on the requirements of future phases, (i) amendments to existing agreements may be required, including IOA, or (ii) existing agreements may be terminated by the Utility, or the Producer, and new agreements may be required.
2. Simplified Review
- a. The Utility shall complete its ~~Initial Simplified Review, absent any extraordinary circumstances,~~ within ten (10) business days if the Application qualifies for Simplified Interconnection Review and shall notify the Applicant if the Generating Facility meets all the applicable Simplified Review screens.
- b. The Utility's Simplified Review and shall consist of the following Screens:
- (1) Screen A: Networked Secondary System
- (a) The Utility shall determine whether the proposed Generating Facility would Interconnect to a networked secondary system.
- (b) If the proposed Generating Facility would not Interconnect to a networked secondary system, then the Application passes this Screen. If it does

interconnect to a networked secondary system, then the Application fails this Screen.

(2) Screen B: Certified Equipment

- (a) On the basis of the information provided in the Application or any additional information provided to the Utility by the Applicant or the Producer either at the Utility's request or subsequent to the original Application, the Utility shall determine to the best of its ability if all of the equipment proposed for the Generating Facility is Certified Equipment per the requirements set forth in this Rule or if it will temporarily approve certain equipment that is not Certified.
- (b) If all the equipment proposed for the Generating Facility is Certified Equipment or if the Utility has granted, at its discretion on a case-by-case basis, interim approval of certain equipment that is not Certified, then the Application passes this Screen. Otherwise, if all the equipment is not Certified Equipment and does not have interim approval by the Utility, then the Application fails this Screen.

(3) Screen C: Transformer and Conductor Rating

- (a) This Screen is not applicable to Interconnections on the primary side of a service transformer or Non-Export Generators that do not impose additional load on the Distribution System. Such Interconnections automatically pass this Screen.
- (b) If the proposed Generating Facility is to Interconnect on the secondary side of a service transformer, the Utility shall determine if the addition of the Generating Facility would cause the normal continuous rating of either the service transformer or secondary conductor to which the Generating Facility would be Interconnected to be exceeded.
- (c) For a Generating Facility proposed to Interconnect to a service transformer, if the addition of the proposed Generating Facility, when considering the total aggregate Maximum Generating Capacity of all existing Generating Facilities Interconnected to the service transformer or secondary conductor and that of the proposed Generating Facility, would not exceed the normal continuous ratings of both the service transformer and secondary conductor, then the Application passes this Screen. Otherwise, if it would exceed either the normal continuous ratings of the service transformer or secondary conductor, or both, then the Application fails this Screen.

(4) Screen D: Service Imbalance

- (a) If the proposed Generating Facility is single-phase and is to Interconnect on a center tap neutral of a 240 volt service, the Utility shall determine whether the addition of the Generating Facility would cause excessive imbalance between the two sides of the 240 volt service.
- (b) If the addition of the proposed Generating Facility would create an imbalance of twenty (20) percent or less of the normal continuous nameplate rating of the service transformer, then the Application passes this Screen. Otherwise, if it would create an imbalance of more than twenty (20) percent of the normal continuous nameplate rating of the service transformer, then the Application fails this Screen.

(5) Screen E: Hosting Capacity or Line Section Load

- (a) If Hosting Capacity values are available at the Generating Facility's POI, the Utility shall compare those values to the Generating Facility's Maximum Generating Capacity.
 - i. If the Maximum Generating Capacity of the Generating Facility imposed on the Utility's Distribution System by the Generating Facility- is less than or equal to ninety (90) percent of the appropriate Hosting Capacity value, then the Application passes this Screen. Otherwise, if it is greater than ninety (90) percent of the appropriate Hosting Capacity value, then the Application fails this part of this Screen. In the case of the Generating Facility imposing load on the Utility's Distribution System, the Utility shall also ensure that no planning or operational criteria are exceeded, which may not be adequately reflected in the Hosting Capacity value.
 - ii. If the Application fails this part of this Screen, then the Utility shall apply the next part of this Screen. If the Application passes the Screen in Section F.2.B.(5)(b), then the Application passes this Screen despite failing the Hosting Capacity part of this Screen.
- (b) If Hosting Capacity values are not available and cannot be reasonably estimated or calculated at the Generating Facility's POI or if Section F.2.b.(5)(a)(i) has been failed, and where twelve (12) months of Line Section minimum load data (including onsite load but not station service load served by the proposed Generating Facility) are available or can be estimated or calculated from existing data or from a power flow model, the Utility shall determine the Relevant Minimum Load and compare that value to the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility) that the Generating Facility will Interconnect to and to all Line Sections bounded by automatic sectionalizing devices upstream of the proposed Generating Facility. If adequate load data is not available and the Utility is unable to reasonably estimate or calculate the Line Section Relevant Minimum load, the Utility shall include the reason(s) that it is unable to do so in its technical review results.
 - i. If the Utility's comparison yields a one hundred (100) percent or less result(s), then the Application passes this Screen. Otherwise, if it yields a greater than a one hundred (100) percent result(s), then the Application fails this Screen. However, for this part of this Screen, if the Generating Facility has been designated as Non-Exporting, then it automatically passes this part of this Screen.
- (c) If both Hosting Capacity and Relevant Minimum Load values are not available and cannot be reasonably estimated or calculated at the Generating Facility's POI, the Utility shall compare the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility) to fifteen (15) percent of the peak (maximum) load of the Line Section to which the Generating Facility will Interconnect. If adequate load data is not available and the Utility is unable to reasonably estimate or calculate the Line Section peak load, the Utility shall include the reason(s) that it is unable to do so in its technical review results.
 - i. If the Utility's comparison yields a fifteen (15) percent or less result, then the Application passes this Screen. Otherwise, if it

yields a greater than fifteen (15) percent result, then the Application fails this Screen. However, for this part of this Screen, if the Generating Facility has been designated as Non-Exporting, then it automatically passes this part of this Screen.

- d. If any of the Simplified Review Screens are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, if the Utility does not approve the Interconnection, the Application shall proceed to the Applicant's options process pursuant to Section F.5.
- e. If ~~all the Initial Simplified Review Screens~~ are passed, then ~~determines that the proposed Generating Facility may can be~~ interconnected by means of a Simplified Interconnection without further technical review. The Utility shall provide the Applicant with a written description of the requirements for interconnection and the Interconnection and Operating Agreement OA pursuant to Section D.1.e E.2. in a timely manner if it has not already provided such agreement to the Applicant.

3. Fast Track Review

- a. The Utility shall begin Fast Track Review upon its determination that this review level is required to determine the Interconnection requirements for the Application based upon its technical review level determination, unless the Applicant requests that the Utility perform either Supplemental or Detailed Review in lieu of performing Fast Track Review. If the Utility determines that additional information is required to perform Fast Track Review, the Applicant and the Utility shall make good faith efforts to request and provide such information in a timely manner.
- b. The Utility shall complete its Fast Track Review within fifteen (15) business days if the Application qualifies for Fast Track Review and shall notify the Applicant in a timely manner if the Generating Facility meets all the applicable Fast Track Review Screens.
- c. The Utility's Fast Track Review shall include the Simplified Review Screens A through E in addition to the following Screens F through J below:

(1) Screen F: Short Circuit Current Contribution

- (a) Inverter-based Generating Facilities with a Net Nameplate Rating of less than 50 kW automatically pass this Screen.
- (b) The Utility shall determine if the addition of the Generating Facility would cause allowable Short Circuit Contribution Ratio limits to be exceeded by ensuring that both of the following criteria are met (when applicable):
 - i. When measured at primary side (high side) of a Dedicated Distribution Transformer serving a Generating Facility, the sum of the Short Circuit Contribution Ratios of all Generating Facilities connected to the particular Distribution System feeder that serves the Generating Facility must be less than or equal to 0.1; and
 - ii. When measured at the secondary side (low side) of a shared distribution service transformer, the short circuit contribution of the proposed Generating Facility must be less than or equal to 2.5 percent of the interrupting rating of the Producer's service equipment.
- (c) If the addition of the proposed Generating Facility, when considering the total aggregate Net Nameplate Ratings of all existing Generating Facilities Interconnected to the particular Distribution System feeder and the proposed Generating Facility meets both of the above criteria, then

the Application passes this Screen. Otherwise, if it does not meet one or both of the above criteria, then the Application fails this Screen.

(2) Screen G: Short Circuit Interrupting Capability

- (a) The Utility shall determine if the addition of the Generating Facility would cause the allowable Short Circuit Interrupting Capability of the Utility's protective devices or equipment on the Distribution System feeder or the Producer's protective devices or equipment to be exceeded.
- (b) If the addition of the proposed Generating Facility, when considered in aggregate with the Net Nameplate Ratings of all existing Generating Facilities on the Distribution System feeder, would not cause the Utility's protective devices or equipment on the Distribution System feeder or the Producer's protective devices or equipment to exceed 87.5 percent of their Short Circuit Interrupting Capability, then the Application passes this Screen. Otherwise, if it would cause the Utility's protective devices or equipment on the Distribution System feeder or the Producer's protective devices or equipment to exceed 87.5 percent of their Short Circuit Interrupting Capability, then the Application fails this Screen.

(3) Screen H: Line Configuration

- (a) Single-phase inverter-based Generating Facilities automatically pass this Screen when Interconnecting to a single-phase lateral or single-phase service transformer, or when Interconnecting line-to-neutral on a three-phase, four-wire primary Distribution System Line.
- (b) The Utility shall determine if the Interconnection of the proposed Generating Facility passes this Screen in accordance with the following:
 - i. If the primary Distribution System line configuration is three-phase, three-wire, then this Screen is passed for any single-phase Generating Facility Interconnecting to a single-phase lateral or single-phase service transformer, and any three-phase Generating Facility that is effectively grounded at the RPA; or
 - ii. If the primary Distribution System line configuration is three-phase, four wire, then this Screen is passed if the Interconnection to the primary Distribution System line is single-phase, line-to-neutral; or three-phase, four wire and effectively grounded at the RPA.
 - iii. Otherwise, the Application fails this Screen.

(4) Screen I: Inadvertent Export

- (a) This Screen only applies when the Net Nameplate Capacity of the Generating Facility minus its Maximum Generating Capacity is greater than 250 kW for a Generating Facility that can introduce Inadvertent Export. Otherwise, if that difference is 250 kW or less, then this Screen is automatically passed.
- (b) The Utility shall determine if the change in voltage at the point on the Utility's primary Distribution System nearest the POI due to Inadvertent Export of the Generating Facility does not exceed three (3) percent. The voltage change shall be estimated by applying the formula:

$$\frac{(R_{\text{source}} \times \Delta P) - (X_{\text{source}} \times \Delta Q)}{V^2}, \text{ where:}$$

- i. R_{source} equals the grid resistance;

- ii. ΔP equals (Net Nameplate Rating - the Maximum Generating Capacity) x power factor;
- iii. X_{source} equals the grid reactance;
- iv. ΔQ equals (Net Nameplate Rating - the Maximum Generating Capacity) x $\sqrt{(1 - \text{power factor}^2)}$; and
- v. V equals the primary Distribution System voltage.

(c) If the result of the above formula is three (3) percent or less, then the Application passes this Screen. Otherwise, if it is greater than three (3) percent, then the Application fails this Screen.

(5) Screen J: Starting Voltage Dip

(a) This Screen only applies to Generating Facilities that start by motoring the Generator(s). Inverter-based Generators automatically pass this Screen.

(b) The Utility shall determine if the starting of the Generator(s) associated with a proposed Generating Facility would exceed the maximum allowable voltage dip on its Distribution System by using either of the following two options at its discretion:

- i. Determining that the Generating Facility's starting In-rush Current is equal to or less than the continuous ampere rating of the Producer's service equipment; or
- ii. Determining the impedances of the ~~service~~-distribution ~~service~~ transformer (if present) and the secondary conductors to the Producer's ~~sService~~ eEquipment and performing a voltage dip~~drop~~ calculation. Alternatively, the Utility may use tables or nomographs to determine the voltage dip~~drop~~. Voltage ~~drops~~dips caused by starting a Generator as a motor must be less than two and one-half (2.5) %percent for primary Distribution System interconnections and five (5) %percent for secondary Distribution System interconnections.

(c) If, by employing either of the above two options, the Utility determines that the starting voltage dip of the Generator(s) associated with a proposed Generating Facility would not exceed the maximum allowable voltage dip on its Distribution System, then the Application passes this Screen. Otherwise, if it would exceed the maximum allowable voltage dip on its Distribution System, then the Application fails this Screen.

(d) Passing this Screen still requires the Producer to ensure that its Generating Facility complies with the flicker requirements of Section G.3.f.

d. If any of the Fast Track Review Screens are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, the Utility shall begin Supplemental Review unless the Applicant requests an Applicant's options meeting pursuant to Section F.5 in lieu of the Utility performing Supplemental Review.

e. If all Screens A through J are passed, the proposed Generating Facility may be Interconnected without further technical review. The Utility shall provide the Applicant with a written description of the requirements for Interconnection and the IOA pursuant to Section E.2 in a timely manner if it has not already provided such agreement to the Applicant.

4. Supplemental Review

- a. The Utility shall begin Supplemental Review upon its determination, based upon its review of the Application, that this review level is required to determine the Interconnection requirements, or if the Application has failed Fast Track review, unless the Applicant requests that the Utility perform Detailed Review in lieu of performing Supplemental Review. If the Utility determines that additional information is required to perform Supplemental Review, the Applicant and the Utility shall make good faith efforts to request and provide such information in a timely manner.
- b. The Utility shall complete its Supplemental Review within twenty (20) business days after the Applicant provides all the required information and if the Application qualifies for Supplemental Review. The Utility shall notify the Applicant if the Generating Facility meets all the applicable Supplemental Review Screens in a timely manner after the Supplemental Review has been completed.
- c. The Utility's Supplemental Review shall consist of Screens A through J (if not already performed as part of Fast Track Review) in addition to the following Screens K through M below:
 - (1) Screen K: Supplemental Grounding
 - (a) If Screen H was failed, then the Utility shall apply this Screen. If Screen H was passed, then this Screen is automatically passed.
 - (b) If the Generator is rotating machine-based, then effective grounding must be maintained for this Screen to be passed. Otherwise, this Screen is failed.
 - (c) If the Generator is inverter-based, then the Utility shall apply one of the following to evaluate if it is effectively grounded:
 - i. If the line-to-neutral connected load on the Distribution System feeder or Line Section is greater than thirty-three (33) percent of the peak load on the Distribution System feeder or Line Section, then this Screen is passed; or
 - ii. If a supplemental grounding software tool is used and it determines that supplemental grounding is not required to maintain effective grounding, then this Screen is passed; or
 - iii. If a supplemental grounding software tool is used and it determines that supplemental grounding is required, and the Applicant agrees to modify its system to include supplemental grounding, then this Screen is passed; or
 - iv. If a detailed Hosting Capacity analysis is used that incorporates evaluation of temporary overvoltage risk for inverters and if the Maximum Generating Capacity of the Generator is below the available Hosting Capacity at the POI, then this Screen is passed.
 - v. Otherwise, if none of the above four criteria are met, then the Application fails this Screen.
 - (2) Screen L: Voltage and Power Quality
 - (a) The Utility shall determine if the addition of the Generating Facility would cause voltage fluctuation or harmonic levels on the Line Section to be exceeded.

(b) The Utility shall consider the total aggregate Generating Facility Maximum Generating Capacity on the Line Section (existing plus the proposed Generating Facility):

- i. The voltage fluctuation shall be within acceptable limits as defined by IEEE 1547-2018; and
- ii. The harmonic levels shall meet IEEE 1547-2018 limits at the RPA.

(c) If both of the above two criteria are met, then the Application passes this Screen. Otherwise, if either or both of the above two criteria are not met, then the Application fails this Screen.

(3) Screen M: Safety and Reliability

(a) The Utility shall consider the following factors to determine if the Generating Facility may potentially impact safety and reliability on its Distribution System:

- i. If the Line Section has significant minimum loading levels dominated by a small number of customers (i.e., several large commercial customers);
- ii. If the loading along the Line Section is uniform or evenly distributed;
- iii. If the proposed Generating Facility is located in close proximity to the substation (i.e., less than two and one-half (2.5) electrical circuit miles), and if the Line Section from the substation to the PCC is a main backbone section of the Distribution System feeder rated for normal and emergency ampacity;
- iv. If the proposed Generating Facility incorporates a time delay function to prevent reconnection of the Generator(s) to the electrical Distribution System until system voltage and frequency are within normal limits for a prescribed time;
- v. If operational flexibility is reduced by the proposed Generating Facility, such that transfer of the Line Section(s) to which the Generating Facility is Interconnected to a neighboring distribution feeder/substation may trigger overloads or voltage issues; and
- vi. If the proposed Generating Facility employs equipment or systems Certified by a recognized standards organization or NRTL to address technical issues such as, but not limited to, Islanding, reverse power flow, or voltage quality.

(b) If all of the above six conditions are met, then the Application passes this Screen. Otherwise, if any of the above six conditions are not met, then the Application fails this Screen.

d. If any of Screens A through M are failed, the Utility at its discretion may approve the Interconnection provided such approval shall not impact the safety and reliability of its Distribution System. Otherwise, the Application shall proceed to the Applicant's options process pursuant to Section F.5.

e. If all Screens A through M are passed, the proposed Generating Facility may be Interconnected without further technical review. The Utility shall provide the Applicant with a written description of the requirements for Interconnection and the IOA pursuant to Section E.2. in a timely manner if it has not already provided such agreement to the Applicant.

5. Applicant's Options Meeting

- a. When the Utility determines that the Application does not pass Simplified Review, Fast Track Review, or Supplemental Review, it shall notify the Applicant of such determination and inform the Applicant of the basis of failure of each Screen(s) . In this instance, upon Applicant's notice to the Utility to participate in a meeting to discuss Applicant's options, tthe Utility and the Applicant shall make good faith efforts to expeditiously schedule and hold a meeting to discuss the Applicant's options. Additionally, the Applicant may request that the Utility schedule an Applicant options meeting at any time during the technical review process and the Utility shall be required to respond within twenty (20) business days of such request.
- b. In addition to any other option mutually agreed upon between the Utility and the Applicant, the Applicant shall have the following options:
 - (1) Withdraw the Application;
 - (2) Amend the Application and request the Utility to re-perform the specific failed technical review Screen(s); or
 - (3) Request the Utility to begin the Detailed Review process.
- c. If the Applicant chooses to amend the Application to address the specific failed technical review Screen(s):
 - (1) the Applicant shall submit to the Utility an amended Application demonstrating the redesign within ten (10) business days after the Applicant options meeting. If the amended Application is not received by the Utility within ten (10) business days, the Utility shall consider the Application withdrawn;
 - (2) an amended Application shall only include changes to address the specific failed technical review Screen(s) and only those other changes agreed to by the Utility at its discretion. Any other modifications to the Application shall be addressed in accordance with Section E.3; and
 - (3) the Utility shall review the amended Application, apply the failed technical review Screen(s), determine if the amended Application addresses the technical review Screen(s) failure(s), and shall notify the Applicant of the results of this review within ten (10) business days of receiving the amended Application.
- d. The Applicant's option to mitigate the failure of a technical review Screen(s) and submit an amended Application shall only be available once during the technical review process. Subsequent amending of the Application shall result in the Utility considering it as a new Application and reinitiating the technical review process from its beginning in accordance with Section E.2. .
- e. If the Applicant chooses to request the Utility begin Detailed Review, the Applicant shall submit to the Utility such request within ten (10) business days after it is notified by the Utility that the Application has been determined to not pass Simplified Review, Fast Track Review, or Supplemental Review, or after the Applicant's options meeting if one was conducted. If such notification is not received by the Utility within ten (10) business days, the Utility shall consider the Application withdrawn.

~~If the Application does not qualify for Simplified Interconnection as submitted, the Initial Review will include a Supplemental Review as described in Section I. The Supplemental Review will provide either (a) Interconnection requirements that shall include requirements beyond those for Simplified Interconnection, and an Interconnection and Operating Agreement, or (b) a cost estimate and schedule for an Interconnection Study. The Supplemental Review will be completed, absent any extraordinary circumstances, within 20 business days of receipt of a completed Application. Payment for the~~

~~Supplemental Review shall be submitted to the Utility within 10 calendar days after the results of the Supplemental Review are provided to the Applicant.~~

6. Detailed Review

- a. ~~d.~~ If When the Utility's an Initial Review technical review process reveals determines that the proposed Generating Facility Application does not pass all applicable technical review Screens, and the Applicant is unable to amend the Application adequately, or if the Applicant requests the Utility to begin Detailed Review at any time during the technical review process, the Utility shall conduct cannot be interconnected to Utility's system by means of a Simplified Interconnection pursuant to Sections I, below and Attachment 1, Testing and Certification Criteria, and that an Interconnection Study. An Interconnection Study determines if any significant Utility Interconnection Facilities or Distribution System improvements must be installed or be made to the Utility's Distribution System to accommodate the interconnection of an Applicant's Generating Facility.
- b. The Utility and the Applicant shall enter into an Interconnection Study a Agreement that provides for which allows the Utility to perform such additional studie an Interconnection Studys, facility design, and engineering, and to provide detailed cost estimates for actual cost billing to the Applicant at the Applicant's expense. The Interconnection Study Agreement shall set forth the Utility's schedule for completing such work and the estimated or fixed price costs of such studies and engineering.
- c. Upon completion of an Interconnection Study conducted pursuant to the Interconnection Study Agreement, the Utility shall provide the Applicant with the specific Interconnection requirements and study results in a timely manner, including:
- (1) details of any identified violations of any applicable design, planning, or operating criteria or standards including the estimated magnitude, duration, and/or frequency,
 - (2) as applicable, estimated costs of any required Interconnection Facilities and/or Distribution System improvements; and
 - (3) the estimated schedule for interconnecting the Generating Facility to accommodate execution of the agreements pursuant to Section E.2.D.1.e. in a timely manner.

Within the Interconnection Study, the Utility may also identify potential modifications to the Applicant's proposed Generating Facility or operating characteristics that could avoid or reduce required Interconnection Facilities and/or Distribution System improvements and/or costs.

- a. ~~d.~~ Following receipt of the Interconnection Study results, the Applicant may consider any potential modifications to the Generating Facility that may have been identified by the Utility. If the Applicant elects to proceed with any modifications to the proposed Generating Facility design, planning and/or operating characteristics (e.g., through the use of a PCS or Limited Generation Profile operation), the Applicant shall submit such modifications to the Utility in an updated Application and request an updated Interconnection Sstudy within ten (10) business days, otherwise, the Interconnect Study results shall be considered as final. If the Generating Facility's operating characteristics can be modified such that any required Distribution System improvements could be reduced or not required, within ten (10) business days of receipt of the required Distribution System improvements the Producer shall inform Utility of such capability and request Utility to determine the need for and scope of any Distribution System improvements based upon the modified operating characteristics.

- e. ~~Upon receipt of the Applicant's modifications to the Generating Facility and its request to perform an updated Interconnection Study, tUtility shall then determine and inform Producer of what modifications, if any, may be made to the required Distribution System improvements based upon Producer's modified operating characteristics, or shall inform Tthe Producer Utility shall, inform Utility of the time frame to make such a determination, within ten (10) business days, either:~~
- ~~-(1) -provide the Applicant with updated Interconnection Study results based on the revised Generating Facility design, planning, and/or operating characteristics;- or~~
 - ~~-(2) -inform the Applicant of the time frame require to provide such updated Interconnection Study results.~~
- f. ~~-Submission of an updated Application under this Section on the basis of Section F.6.d. shall not requireconstitute submission of a new Application and -of receipt of such modified operating characteristics. Modifications to the initial project scope Application that do not necessitate a new Application shawill not be assessedincur an additional Application or study fee.~~

~~2. INTERCONNECTION PROCESS~~

- ~~a. Where Applicable, Utility or Producer Installs Required Interconnection Facilities. Modification of the Utility's Distribution System shall be as set forth in Rule 9. If such modification is required as a result of a Producer's application for interconnection under this Rule, a separate Rule 3 application will not be required. After executing the applicable agreements, Utility or Producer will commence construction/ installation of the Distribution System improvements or Interconnection Facilities which have been identified in the agreements. The parties will use good faith efforts to meet schedules and fixed costs or estimated costs as appropriate.~~
- ~~b. Producer Arranges for and Completes Commissioning Testing of Generating Facility and Producer's Interconnection Facilities. The Producer is responsible for testing new Generating Facilities and associated Interconnection Facilities according to Attachment 1, Section 5, to ensure compliance with the safety and reliability provisions of this Rule prior to being operated in parallel with Utility's Distribution System. For non-Certified Equipment, the Producer shall develop a written testing plan to be submitted to Utility for its review and acceptance. Alternatively, the Producer and Utility may agree to have Utility conduct the required testing at the Producer's expense. Where applicable, the test plan shall include the installation test procedures published by the manufacturer of the generation or Interconnection equipment. Facility testing shall be conducted at a mutually agreeable time, and depending on who conducts the test, Utility or Producer shall be given the opportunity to witness the tests.~~
- ~~c. Utility Authorizes Parallel Operation or Momentary Parallel Operation. The Producer's Generating Facility shall be authorized for Parallel Operation or Momentary Parallel Operation, as applicable, with Utility's Distribution System upon satisfactory compliance with the terms of all applicable agreements and Utility's express written permission. Compliance may include, but not be limited to, provision of any required documentation and satisfactorily completing any required inspections or tests as described~~

~~herein or in the agreements formed between the Producer and Utility. A Producer shall not commence Parallel Operation of its Generating Facility with Utility's system unless it has received Utility's express written permission to do so.~~

~~E.G. — E. GENERATING FACILITY DESIGN, TECHNICAL AND OPERATING REQUIREMENTS~~

~~1. General Interconnection And Protection Requirements~~

- ~~a. Where there is a conflict between the technical requirements of IEEE 1547-2018 and this Rule, the technical requirements of IEEE 1547-2018 shall apply.~~

~~— The requirements in this Section E do not apply to Net Metering Systems as such systems are defined in Nevada Revised Statutes 704.766 to 704.775. Net Metering Systems shall meet all the requirements of:~~

~~(1) The National Electric Code;~~

~~(2) Underwriters Laboratories Inc.; and~~

~~(3) Institute of Electrical and Electronics Engineers with IEEE Standards 929 and 1547 having particular application. The optional and lockable disconnects of IEEE 1547 are required.~~

- ~~b. Enter Service requirements shall conform to IEEE 1547-2018 Table 4 with the intentional adjustable minimum delay, the Enter Service period (ramp duration), and the randomized time delay maximum interval each set to 300 seconds as a default. For Generators with a Net Nameplate Rating of less than 500 kVA, individual Generators may use the randomized time delay as an alternative to the Enter Service period (ramp duration).~~

- ~~c. The protective functions and requirements of this Rule are designed to protect the Utility's electrical Distribution sSystem and not the Generating Facility. A Producer shall be solely responsible for providing adequate protection for its Ggenerating Ffacility and linterconnection Ffacilities. The Producer's protective devices shall not impact the operation of other protective devices used on the Utility's Distribution sSystem in a manner that would affect the Utility's capability to provide reliable service to its Customers.~~

- ~~d. Drawings Required. Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, the Utility shall approve the Producer's Protective Function and control diagrams. Generating Facilities equipped with a Protective Function and control scheme previously approved by the Utility for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.~~

- ~~e. e. Generating Facility Conditions Not Identified. In the event that this Section of the Rule does not address the linterconnection requirements for a particular Generating Facility, the Utility may shall specify the technical other requirements for a particular to Interconnect the Generating Facility.~~

~~2. Non-Exporting and Limited Export Generating Facilities~~

- ~~a. Inadvertent Export from a Generating Facility shall comply with the limits identified in this Section for a Generating Facility to be designated as Non-Exporting or Limited Export.~~

- ~~b. If a Generating Facility uses any configuration or operating mode to limit the Eexport of power across the PCC, then the Maximum Generating Capacity shall be only the amount capable of being Exported (not including any Inadvertent Export).~~

- c. A Generating Facility shall incorporate one of the following options to be designated as Non-Exporting and shall inform the Utility of which option it will employ to be designated as Non-Exporting:
- (1) Option 1 ("Reverse Power Protection"):— To ensure power is never Eexported, a reverse power Protective Function ~~must~~ shall be implemented at the PCC. The default setting for this Protective Function, when used, shall be 0.1 percent (Eexport) of the service transformer's rating, with a maximum two (2.0) -5-second time delay.
 - (2) Option 2: ("Minimum Power Protection"):— To ensure at least a minimum amount of power is imported at all times (and, therefore, that power is not Eexported), an under-power Protective Function ~~shall~~ may be implemented at the PCC. The default setting for this Protective Function, when used, shall be five (5) %percent (import) of the Generating Facility's total Gross Nameplate Rating, with a maximum two (2.0) second time delay.
 - (3) Option 3: ("Certified Non-Islanding Protection"):— To ensure that Inadvertent Export of power is limited to acceptable levels, this option, when used, requires that all the following conditions be met:
 - (a) ~~T~~the total Gross Nameplate Capacity Rating of the Generating Facility ~~must~~ shall be no more than twenty-five (25) %percent of the nominal ampere rating of the Producer's service equipment;
 - (b) ~~T~~the total Gross Nameplate Capacity Rating of the Generating Facility ~~must~~ shall be no more than fifty (50) %percent of the Producer's service transformer capacity rating (this capacity requirement does not apply to Ceustomers taking primary service without an intervening transformer); and
 - (c) ~~T~~the Generating Facility ~~must~~ shall be Certified as Non-Islanding.
 - (4) Option 4: ("Relative Unit Size"):— This option, when used, requires the Net Nameplate Rating of the Generating Facility to be so small in comparison to its host facility's minimum Host Load, that the use of additional Protective Functions is not required to ensure that power will not be Eexported to the Utility's Distribution System. ~~This option requires T~~the Generating Facility's Net Nameplate Rating ~~shall~~ capacity to be no greater than fifty (50) percent% of the Producer's verifiable minimum Host Load over the past twelve (12) months.
- d. A Generating Facility shall incorporate one of the following options to be designated as Limited Export and shall inform the Utility of which option it will employ to be designated as Limited Export:
- (1) Option 15: ("Directional Power Protection Inverter as Control System"):— ~~This option, when used, requires the use of a power Protective Function at the PCC. The default setting for this Protective Function shall be the Maximum Generating Capacity value with a maximum two (2.0) second time delay. To insure that Inadvertent Export of power is limited to acceptable levels, where a Generating Facility including Energy Storage Devices utilizes an inverter as the exclusive control system, all of the following conditions must be met: (a) the Generating Facility must utilize only UL-1741 certified or UL-1741 SA certified inverters; (b) the Generating Facility must monitor that total Inadvertent Export is maintained to be no more than the Generating Facility's Gross Nameplate Rating multiplied by 0.1 hours per day over a rolling 30-day period (e.g., for a 100 kVA gross nameplate Generating Facility, the maximum energy allowed to be exported for a 30-day period is 300 kWh); (c) the Generating Facility must disconnect from the Distribution System, ceasing to energize the Distribution System or halting~~

~~energy production within two seconds after the period of continuous Inadvertent Export exceeds 30 seconds; (d) the Generating Facility must enter a safe operating mode where Inadvertent Export will not occur as a result of failure of the control or inverter system for more than 30 seconds, which results in a loss of control signal, loss of control power or a single component failure or related control sensing of the control circuitry; (e) the Generating Facility must be certified as Non-Islanding.~~

- (2) Option 2 ("Configured Power Rating"): A reduced output rating utilizing the power rating configuration setting of a Generator (if available) may be used to ensure that the Generator or Generating Facility does not generate electric power beyond a certain value that may be lower than the Gross Nameplate Rating or Net Nameplate Rating. The configuration setting corresponds to the active or apparent power ratings in Table 28 of IEEE Std 1547-2018, as described in Clause 10.4. A local DER communication interface is not required to utilize the configuration setting if it can be set by other Certified means. The reduced power rating may be indicated by means of a Gross Nameplate Rating or Net Nameplate Rating replacement, or a supplemental adhesive de-rating tag to indicate the reduced power rating. This option, when used, shall be Certified to IEEE 1547.1-2020. Use of a configured power rating not applied to individual Generator(s) shall require evaluation by mutual agreement between the Utility and the Producer.

e. A Generating Facility may incorporate one of the following options to be designated as either Non-Exporting or Limited Export:

- (1) Option 1 (Certified PCS): This option requires a Generating Facility to be designed with a Certified PCS, and the Generating Facility shall use the Certified PCS and Certified Advanced Inverter(s) to ensure either Non-Exporting designation or agreed-upon levels of Limited Export. This option, when used, shall have a maximum open loop response time of no more than thirty (30) seconds to ensure that Inadvertent Export is limited to acceptable levels.
- (2) Option 2 (Agreed-upon Means): This option requires a Generating Facility to be designed with other control systems and/or Protective Functions mutually agreed upon between the Utility and the Producer to ensure either Non-Exporting designation or agreed-upon levels of Limited Export. The limits may be based on technical limitations of the Interconnection Customer's equipment or the Utility's Distribution System equipment. To ensure that Limited Export and Inadvertent Export levels remain within mutually agreed-upon limits, the Interconnection Customer may use an uncertified PCS, an internal transfer relay, energy management system, or other Customer facility hardware or software if approved by the Utility on a case-by-case basis at its discretion.

3. ~~Control~~, Protective Functions and Safety Equipment Requirements

- a. The ~~P~~rotective ~~F~~unctions for ~~G~~enerating ~~F~~acilities operating in ~~P~~arallel ~~O~~peration with the Utility's ~~e~~lectrical ~~s~~ystem shall consist of an effective means of quickly detecting and protecting against the formation of an Unintentional Island on the Utility's Distribution System. Such Protective Functions shall trip and disconnect the Generating Facilities from the Utility's Distribution System and shall be able to sense and prevent reconnection when the Utility's Distribution System is de-energized. Protective Functions shall be subject to Utility approval and may include, but are not limited to:

- (1) ~~— An over/under voltage trip function and an over/under frequency trip function;~~
- (2) ~~— A means for disconnecting the Generating Facility from the Utility's electrical system when a protective function initiates a trip;~~

- (3) ~~A voltage and frequency sensing and time-delay function to prevent the Generating Facility from energizing a de-energized circuit and to prevent the generating facility from reconnecting with the Utility's electrical system unless the Distribution System service voltage and frequency is of specified settings and is stable for a minimum of five minutes; and~~
- (1) ~~A function to prevent the Generating Facility and associated Protective Functions contributing to the formation of an Unintended Island.~~ Definite-time and/or inverse-time under-/over-voltage element(s);
- (2) Definite-time under-/over-frequency element(s);
- (3) Rate-of-change of frequency element(s);
- (4) Directional power and/or over-/under-power element(s);
- (5) Transfer Trip Capability (meaning to receive a direct transfer trip from the Utility's electrical system protective devices); and
- (4)(6) Disconnecting Means Status (meaning to communicate the Generating Facility's Disconnecting Means status to the Utility's electrical system protective devices using "b-form" contacts).
- b. ~~c. Suitable Equipment Required.~~ Circuit breakers or other interrupting devices located at the Point of Common Coupling PCC must be Certified or "Listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for their intended application. This includes being capable of interrupting the maximum available fault current expected at their location. The Producer's Generating Facility and Interconnection Facilities shall be designed so that the failure of any one device shall not potentially compromise the safety and reliability of Utility's Distribution System.
- c. ~~d. Visible-Break Isolation Device Disconnect Required.~~ The Producer shall furnish and install a manual disconnect ~~d~~ Visible-Break Isolation Device that has a ~~v~~ Visible d Disconnect to isolate the Generating Facility from the Utility's Distribution System. The device ~~shall~~ must be accessible to Utility personnel at all times and be capable of being locked in the open position. Generating Facilities with Non-Islanding inverters totaling one (1) kilovolt-ampere (kVA) or less are exempt from this requirement.
- ~~e. Limits to Single Phase Generators.~~ For single-phase Generators connected to a shared single-phase secondary system, the maximum Net Nameplate Rating of the Generating Facilities shall be 20 kVA. Generators connected to a center tapped neutral 240-volt service must be installed such that no more than 6 kVA of imbalanced power is applied to the two "legs" of the 240-volt service. For Dedicated Distribution Transformer services, the maximum Net Nameplate Rating of a single-phase Generating Facility shall be the transformer nameplate rating. If the aggregate Net Nameplate Ratings of the Generating Facilities exceeds the aforementioned 20 kVA and 6 kVA limits, or the transformer nameplate rating, the Utility shall consider the operating characteristics and/or controls of the Generator(s) when determining if the Producer's single-phase Generator violates these limits.
- f. Optional Operating Restrictions
 - (1) ~~When an Energy Storage Device is paired with a Net Metering System, the Energy Storage Device, at the election of the Producer, may be programmed with either one or both of the following operating restrictions:~~
 - (a) ~~Restricted from exporting electricity to the Distribution System (beyond Inadvertent Export); and/or~~

~~(b) Restricted to being charged solely from the Producer's Net Metering System and not from the Utility's Distribution System.~~

~~(2) An election to operate an Energy Storage Device with an operating restriction will be stated in the Application, including a description of the operating restriction.~~

~~(3) An attestation of the operating restriction shall be provided by both the customer and the operator of the Energy Storage Device.~~

~~(4) After the submission of the Application, the presence or absence of an operating restriction may be modified, but not until after an updated attestation is provided to the Utility by the customer and the operator of the Energy Storage Device and the Utility consents in writing to the modification. The Utility's written approval will not be unreasonably withheld or delayed.~~

~~g. Drawings Required. Prior to Parallel Operation or Momentary Parallel Operation of the Generating Facility, the Utility shall approve the Producer's Protective Function and control diagrams. Generating Facilities equipped with a Protective Function and control scheme previously approved by Utility for system-wide application or only Certified Equipment may satisfy this requirement by reference to previously approved drawings and diagrams.~~

~~h. Generating Facility Conditions Not Identified. In the event this Rule does not address the Interconnection requirements for a particular Generating Facility, the Utility may specify other requirements.~~

4. Additional Requirements to Preclude Interference with Utility Operations

~~a. 2. The Producer shall not operate Generating or Interconnection Facilities that superimpose a voltage or current upon the Utility's Distribution System that interferes with Utility operations, service to Utility Customers, or communication facilities. If such interference occurs, the Producer must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by the Utility. If the Producer does not take corrective action in a timely manner, or continues to operate the facilities causing interference without restriction or limit, the Utility may, without liability, disconnect the Producer's facilities from the Utility's Distribution System, in accordance with Section C.9D.11 of this Rule. To eliminate undesirable interference caused by its operation, each Generating Facility shall meet the following criteria: All operation shall conform to the power-quality performance requirements of IEEE 1547-2018 Clause 7, the Utility's adopted default Advanced Inverter settings, and any specific Advanced Inverter settings required by the Utility on a case-by-case basis.~~

~~a. Normal Voltage Operating Range. The voltage operating range limits for Generating Facilities shall be used as a Protection Function that responds to abnormal conditions on Utility's Distribution System and not as a voltage regulation function. (1) Generating Facilities (11 kVA or less). Generating Facilities with a Gross Nameplate Rating of 11 kVA or less shall be capable of operating within the voltage range normally experienced on Utility's Distribution System. The operating range shall be selected in a manner that minimizes nuisance tripping between 106 volts and 132 volts on a 120-volt base. (88%-110% of nominal voltage). Generating Facilities shall cease to energize Utility's circuits whenever the voltage at the Point of Common Coupling deviates from the allowable voltage operating range.~~

~~2) Generating Facilities (greater than 11 kVA). Utility may have specific operating voltage ranges for Generating Facilities with Gross Nameplate Ratings greater than 11 kVA, and may require adjustable operating voltage settings. In the~~

~~absence of such requirements, the Generating Facility shall operate at a range between 88% and 110% of the applicable interconnection voltage.~~

- 3) ~~Voltage Disturbances. Whenever the Utility's Distribution System voltage at the Point of Common Coupling varies from normal (nominally 120 volts) by the predetermined amounts set forth in IEEE 1547, the Generating Facility's Protective Functions shall cause the Generator(s) to become isolated from Utility's Distribution System.~~
- b. ~~Flicker~~ Voltage interference causing a modulation of the light level of lamps sufficient to be irritating to humans, or which causes equipment mis-operation to occur shall be corrected by the Producer. ~~Objectionable~~ Unacceptable interference shall be as defined in accordance with IEEE 1453-2022, as referenced by IEEE 1547-2018 Clause 7.2.3 and Annex B, ~~or as otherwise specified by the Utility in any of the publications cited in IEEE 1547 describing objectionable flicker. Inverters Ceertified to IEEE 1547-2018 and operated using the Utility's default Aadvanced inverter settings shall be deemed compliant unless demonstrated otherwise.~~
- c. ~~Frequency. The Generating Facility shall operate in synchronism with the Utility Distribution System as described in IEEE 1547. When the system frequency is in the range given in IEEE 1547, the Generating Facilities shall cease to energize the Utility's Distribution Facilities System within the given clearing times. Adjustable under-frequency trip settings shall be coordinated with the Utility.~~ ~~Harmonics.~~
- c. ~~When the Producer is serving balanced linear loads, harmonic distortion shall be within the maximum harmonic current distortion percentages given in IEEE 1547-2018 Clause 7.3 and Table 26 and 27, evaluated at the RPA. Exception: The harmonic distortion of a Generating Facility located at a Customer's site shall be evaluated using the same criteria as the loads at that site.~~
- e. ~~Direct Current Injection.~~
- d. ~~Generating Facilities should not inject direct DC current greater than 0.5% percent of rated output current into the Utility's Distribution System, consistent with IEEE 1547-2018 Clause 7.14.~~
- f. ~~Power Factor. Each Generator in a Generating Facility shall be capable of operating at some point within a power factor range from 0.9 leading to 0.9 lagging. Operation outside this range is only acceptable in the case where the reactive power of the Generating Facility is used to meet the reactive power needs of the Host Loads. The Producer shall notify Utility if it is using the Generating Facility for power factor correction. The Utility may request a modification of this requirement for good cause.~~
- e. ~~Generating Facilities shall not contribute to an Unintendeded Island. This can be accomplished by one of the following options:~~
 - (1) ~~incorporating Ceertified Non-Islanding control functions into the Protective Functions; or~~
 - (2) ~~Verifying that local loads sufficiently exceed the load carrying capability, including that the reactive power requirements of the local loads sufficiently exceed the reactive power capability of the Generating Facility; or~~
 - (3) ~~incorporating Ttransfer Ttrip or an equivalent function in the Protective Functions.~~

6.5. Certain a-Technology Specific Requirements

- a. (1) ~~Three Phase Synchronous Generators.~~ For three-phase Generators, the Generating Facility circuit breakers shall be three-phase devices with electronic or electromechanical control. The Producer shall be responsible for properly

~~S~~synchronizing its Generating Facility with ~~the~~ Utility's Distribution System by means of either a manual or automatic ~~S~~synchronizing device. ~~Automatic S~~synchronizing is required for all synchronous Generators that have a ~~Short Circuit Contribution Ratio~~ (SCCR) exceeding 0.05. A Generator whose SCCR exceeds 0.05 shall be equipped with Protective Functions suitable for detecting loss of ~~S~~synchronization~~sm~~ and rapidly disconnecting the Generator from ~~the~~ Utility's ~~–~~ Distribution System. ~~Unless otherwise~~As agreed upon by the Producer and ~~the~~ Utility, synchronous Generators ~~may~~shall automatically regulate power factor ~~or, not~~ voltage, while operating in ~~P~~parallel Operation with ~~the~~ Utility's Distribution System. Power system stabilization is specifically not required for Generating Facilities under 10 MW Net Nameplate Rating.

- a. ~~Synchronization means that at the time of connection, the frequency difference shall be less than 0.2 Hertz, the voltage difference shall be less than 10%, and the phase angle difference shall be less than 10 degrees.~~
- b. ~~(2) Fault Detection.~~ A Generating Facility with an SCCR exceeding 0.1 or that does not meet any one of the options for detecting Unintentional Islands in Section G.4.e.E.3.d.1. shall be equipped with Protective Functions designed to detect Distribution System faults, both line- to-line and line-to-ground, and promptly remove the Generating Facility from the Utility's Distribution System in the event of a fault. ~~For a Generating Facility that cannot detect these faults within a half of one 0.5 seconds,~~ Transfer Trip or an equivalent function may be required. Reclose-blocking of the Utility's affected recloser(s) may also be required by the Utility where engineering review indicates a risk of reclosing onto an energized island or where protective coordination cannot otherwise be assured for Generating Facilities that exceed 15 percent of the peak load on the Line Section.
- c. ~~(2) Induction Generators.~~ Induction Generators do not require a ~~S~~synchronizing function. Starting or rapid load fluctuations on induction generators can adversely impact ~~the~~ Utility's ~~–~~ Distribution System's voltage. Corrective step-switched capacitors or other techniques may be necessary and may cause undesirable ferro-resonance. When these counter measures (e.g., additional capacitors) are installed on the Producer's side of the ~~Point of Common Coupling~~PCC, ~~the~~ Utility ~~must~~shall review these measures. Additional equipment may be required as determined ~~in~~ as a result of Supplemental Review or an Interconnection Study.
- d. For inverter-based Generators, only Advanced Inverters shall be used for Parallel Operation with the Utility's Distribution System. Non-utility-interactive or "stand-alone" inverters shall not be used for Parallel Operation with ~~the~~ Utility's Distribution System.
- e. ~~Generating Facilities with (3) Inverter Systems. Utility-interactive~~Advanced Inverters do not require separate ~~S~~synchronizing equipment.

6. Rotating Machine Generator Capabilities and Default Settings

- a. Rotating machine-based Generators shall meet IEEE 1547-2018 Category A for normal operating performance and Category I for abnormal operating performance. Rotating machine-based Generators that cannot meet these requirements shall be reviewed on a case-by-case basis by the Utility and authorized for Interconnection or not at its discretion.
- b. The default settings identified within this Section shall be used by all rotating machine-based Generators regardless of size.
- c. Default Settings
 - (1) The Utility may specify alternate settings than those referenced in this Section on a case-by-case basis and shall inform the Applicant and Producer, allowing reasonable time for mutual agreement of the parties prior to execution of the IOA.
 - (2) Volt-VAR Settings

- (a) This setting shall be enabled. All other reactive power control modes shall be disabled.
- (b) Rotating machine-based Generators shall utilize a fixed reference voltage for this setting.
- (c) Default settings shall conform to IEEE 1547-2018 Table 8.
- (3) Voltage Trip and Ride-Through
 - (a) Voltage trip settings shall conform to IEEE 1547-2018 Table 11.
 - (b) Voltage ride-through performance shall conform to IEEE 1547-2018 Table 14.
- (4) Frequency Trip and Ride-Through
 - (a) Frequency trip settings shall conform to IEEE 1547-2018 Table 18.
 - (b) Frequency ride-through performance shall conform to IEEE 1547-2018 Table 19.
 - (c) Frequency droop performance shall conform to IEEE 1547-2018 Table 24.

b. Supplemental Generating Facility Requirements

- ~~(1) Unintended Islanding for Generating Facilities that Fail the Export Screen. Generating Facilities shall not contribute to an Unintentional Island. This can be accomplished by one of the following options:~~
 - ~~-(a1) incorporating certified Non-Islanding control functions into the Protective Functions;~~
 - ~~-(b2) verifying that local loads sufficiently exceed the load carrying capability of the Generating Facility; or~~
 - ~~-(c3) incorporating transfer trip or an equivalent function in the Protective Functions.~~
- ~~(2) Fault Detection. A Generating Facility with an SCCR exceeding 0.1 or that does not meet any one of the options for detecting Unintended Islands in E.3.d.1. shall be equipped with Protective Functions designed to detect Distribution System faults, both line-to-line and line-to-ground, and promptly remove the Generating Facility from the Utility's Distribution System in the event of a fault. For a Generating Facility that cannot detect these faults within a half of one second, transfer trip or an equivalent function may be required. Reclose blocking of the Utility's affected recloser(s) may also be required by the Utility for Generating Facilities that exceed 15% of the peak load on the Line Section.~~

7. Specific ESD Requirements

a. ESD f. Optional Operating Restrictions

- (1) When an ~~Energy Storage Device~~ESD is paired with a Net Metering System, the ~~Energy Storage Device~~ESD, at the election of the Customer and/or Producer, may be programmed with either one or both of the following two operating restrictions, or no operating restriction, as follows:
 - (a) Restricted from Exporting electricity to the Distribution System (beyond Inadvertent Export); and/or

- (b) Restricted to being charged solely from the Producer's Net Metering System and not from the Utility's Distribution System; or
 - (c) No operating restrictions, only where expressly authorized under a Commission-approved tariff, Utility program, or IOA that governs the operating capabilities of the ESD.
- (2) If the Customer and/or Producer elects An election to operate an Energy Storage DeviceESD with an operating restriction(s), will such election shall be stated in the Application and IOA, including a description of the operating restriction(s).
 - (3) An attestation of the operating restriction(s), or lack of an operating restriction(s), shall be provided by both the Customer and the operator of the Energy Storage DeviceESD Producer, if different entities.
 - (4) After the submission of the an Application or following an ESD's initial acceptance by the Utility to Interconnect, the presence or absence of an operating restriction(s) may be modified, but not until after an updated attestation is provided to the Utility by both the Customer and the operator of the Energy Storage DeviceESD Producer, if different entities, and the Utility consents in writing to the modification. The Utility's written approval shall not be unreasonably withheld or delayed. Such changes in any operating restriction(s) shall also be subject to the Material Modification determination in Table 2.
- b. A stand-alone ESD Interconnected to the Utility's Distribution System that is not paired with a Generator, will charge solely from the Utility's Distribution System, and will discharge solely for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System.
 - c. An ESD paired with a Generator Interconnected to the Utility's Distribution System that, in addition to its normal operation, will discharge to provide back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System, after which it may discharge according to its normal operation.
8. Specific EV, V2G EV, Charger and Charging Station Requirements
- a. The Interconnection of a V2G EV and its EVSE to the Utility's Distribution System, or conversion of an EV charger, charging station, or EVSE to V2G, shall be subject to this Rule only when the V2G EV and its EVSE shall operate in a mode where discharging will occur when Interconnected and operating in Parallel Operation with the Utility's Distribution System.
 - b. V2G EV chargers or charging station inverters shall adhere to UL 1741 SB or UL 9741 to ensure that V2G systems can safely Export power from V2G EVs to the Utility's Distribution System.
 - c. V2G EVs configured as an AC bidirectional charging system, wherein inverter capabilities are onboard the vehicle, shall either adhere to:
 - (1) UL 1741 SC (when published and accepted by the Utility for use in this Rule) and SAE J3072; or
 - (2) as a matched-pair bidirectional system under UL 1741 SB, in conjunction with UL 9741, or other equivalent system-level certification recognized by the Utility.

Until such time UL 1741 SC is published and accepted by the Utility for use in this Rule, compliance with UL 1741 including Supplement SB, is required, where applicable.

- d. A V2G EV, EV charger, charging station, or EVSE connected to the Utility's Distribution System that shall discharge solely for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall first disconnect from the Utility's Distribution System before beginning to discharge within backup operation and shall cease to discharge prior to returning to normal operation Interconnected with the Utility's Distribution System.

9. Advanced Inverter Requirements

- a. Inverter-based Generators shall comply with IEEE 1547-2018 and UL 1741 SB requirements.
- b. All Advanced Inverters shall meet IEEE 1547-2018 Category B for normal operating performance and Category III for abnormal operating performance. Inverter-based Generators that cannot meet these requirements shall be reviewed on a case-by-case basis by the Utility and authorized for Interconnection or not at the Utility's discretion.
- c. The default settings identified within this section shall be used by all inverter-based systems regardless of size.
- d. The Utility may specify alternative site-specific settings on a case-by-case basis to preclude or reduce the Distribution System improvements that may be required as a direct result of the Interconnection or for other technical reasons unique to the location on the Utility's electric grid, and shall inform the Applicant and Producer, allowing reasonable time for mutual agreement of the parties prior to execution of the IOA.
- e. Default Settings

(1) Volt-VAR Settings

- (a) This setting shall be enabled. All other reactive power control modes shall be disabled.
- (b) Inverter-based Generators shall utilize a fixed reference voltage for this setting.
- (c) Default settings shall conform to IEEE 1547-2018 Table 8.

(2) Volt-Watt Settings

- (a) This setting shall be enabled.
- (b) Default settings shall conform to IEEE 1547-2018 Table 10.

(3) Voltage Trip and Ride-Through

- (a) Voltage trip settings shall conform to IEEE 1547-2018 Table 13.
- (b) Voltage ride-through performance shall conform to IEEE 1547-2018 Table 16.

(4) Frequency Trip and Ride-Through

- (a) Frequency trip settings shall conform to IEEE 1547-2018 Table 18.
- (b) Frequency ride-through performance shall conform to IEEE 1547-2018 Table 19.
- (c) Frequency droop performance shall conform to IEEE 1547-2018 Table 24.

10. Microgrid Requirements

- a. Requirements for a Microgrid shall be evaluated by the Utility on a case-by-case basis. The defining characteristics for a Microgrid on the Utility's Distribution System are:
 - (1) Is capable of Parallel Operation with the Utility's Distribution System or Islanded operation, and not solely as an emergency back-up resource;
 - (2) Is comprised of one or more Generator and/or ESD;
 - (3) Has clearly defined electrical boundaries;
 - (4) Utilizes a Microgrid Interconnection Device at the PCC; and
 - (5) Utilizes a control system (Master Microgrid Controller) to manage and dispatch resources as a single controllable entity.
- b. For a Microgrid comprised solely of inverter-based Generator technologies, at least one of the inverter-based technologies within the Microgrid shall be capable of Grid Forming operation when Islanded.
- c. Each Microgrid shall be designed to Interconnect to the Utility Distribution System, to operate without adversely affecting the operations of the electric grid and without presenting safety hazards to Utility personnel or Customers, and in the case of a Hybrid Microgrid, to operate without adversely affecting the operations of the Microgrid's participants.
- d. The Microgrid facilities and the Interconnection systems shall be in compliance with all applicable safety, power quality, and performance codes and standards of NFPA 70, IEEE, and the Utility's interconnection standards and procedures provided in this Rule.
- e. A Producer's Generating Facility may be part of a Customer Microgrid or be a participant in a Hybrid Microgrid and shall notify the Utility of its intention in the Interconnection Application.

11. Cybersecurity Requirements

- a. The Producer shall maintain good security practices regarding Generating Facility hardware and software in accordance with the IOA between the Producer and the Utility.
- b. Generating Facility hardware shall not be readily physically accessible to unauthorized persons (e.g., shall be locked or require some manner of authorized access) and strong passwords shall be assigned and maintained by the Producer for any device area network. Networked device default passwords and firmware reset shall be secured, abstracted, or made inaccessible.
- c. As applicable, equipment shall always be registered with the manufacturer.
- d. The Producer shall have and maintain security controls to protect the Utility's networks, systems, software, confidential information, and data. If the Generating Facility is interoperable with Utility's grid, the Producer shall, to the maximum extent possible, adhere to the guidance provided in the published version of IEEE 1547.3-2023.
- e. Generating Facilities with communication, Telemetry, and/or remote-control capability shall incorporate cybersecurity protections to prevent unauthorized access or disruption of the Utility's Distribution System. Such protections shall include cybersecurity policies, processes, and controls required for connectivity to the Utility systems, access to Utility data, or significant work affecting Utility systems.
- f. The Utility may establish and update its cybersecurity standards and procedures, which shall be incorporated into the IOA, and which may be updated from time to time and mutually agreed upon by the Producer and the Utility.

12. Communication Requirements

- a. The communication requirements in this Section apply to communication pathways and protocols that allow:
 - (1) the Utility to remotely communicate with the individual Generating Facility's Advanced Inverter control, PCS, energy management system, or Master Microgrid Controller.
- b. Inverter-based Generators, including V2G EVs, shall adhere to all of the following communication protocol requirements:
 - (1) shall be capable of remote communications and adhere to IEEE 1547-2018, Clause 10;
 - (2) software/firmware shall be capable of being updated locally or via remote communications;
 - (3) transport level protocol shall be TCP/IP; and
 - (4) shall be capable of supporting at least one of the following application-level protocols:
 - (a) IEEE 2030.5 (i.e., Smart Energy Profile 2.0 (SEP 2) CSIP or CSIP-AUS;
 - (b) IEEE 1815 (i.e., Distributed Network Protocol 3 (DNP3));
 - (c) SunSpec Modbus; or
 - (d) Other application-level protocols by mutual agreement of the Producer and the Utility.
- c. Direct communications to Advanced Inverters, PCSs, energy management systems, or Master Microgrid Controllers shall be made available (i.e., unlocked, functional, and capable of being provisioned to Utility systems) at the request of the Utility for use by the Utility when communications are required to prevent an Emergency or Unsafe Operating Conditions or to enable Customer participation in voluntary programs and/or tariffs when no alternative cost-effective communication pathway (e.g., via a vendor cloud service) can be established, via:
 - (1) Producer maintained wireless broadband internet and wireless communication capability of the Advanced Inverters, PCSs, energy management systems, or Master Microgrid Controllers; or;
 - (2) Producer maintained wired broadband internet or Utility owned field area network communicating to local Utility gateway interfaced to a local DER communication interface on Advanced Inverters PCSs, energy management systems, or Master Microgrid Controllers. -
- d. The operational data and control capabilities required by the Utility to ensure the safe, reliable, and tariff-compliant operation of the Distribution System, as defined in and limited to the data elements identified in IEEE 1547-2018 Clause 10, shall cost effectively be made available by the Producer or its vendors to the Utility through the communication pathways and protocols established under this Section.

H. ~~G.~~—METERING, MONITORING AND TELEMETRY

- 1. ~~General Requirements.~~ All Generating Facilities shall be Mmetered in accordance with this Section ~~G~~ and shall meet all applicable standards of the Utility contained in the Utility's applicable ~~T~~ariff ~~S~~chedules and published Utility manuals dealing with Metering specifications.
- 2. The requirements in this Section ~~G~~ do not apply to Metering of Generating Facilities that are subject to separate Mmetering requirements under the Utility's currently effective Tariff operating under Schedules Nos. NMR-A, NMR-B, NMR-G, and N, MR-405 as approved by the

~~Commission, including but not limited to those established and offered pursuant to Nevada Revised Statutes NRS 704.766 to 704.775 (Net Metering Systems). Such Tariff Schedules, as may be amended from time to time, shall govern the Schedule Nos. NMR-A, NMR-B, NMR-G, and NMR-405 establish separate Mmetering requirements for these Generating Facilities.~~

3. ~~Metering by non-Utility Parties.~~ The ownership, installation, operation, reading, and testing of Metering for Generating Facilities shall be by the Utility.
- 7.4. ~~To the extent existing Telemetry and Metering at the Point of Common Coupling PCC Generation may be required in cases where Metering to the extent that less intrusive and/or more cost-effective options for providing the necessary Generating Facility output data are not unavailable. In exercising its discretion to require Net Generation Metering, the Utility shall consider all relevant factors, including but not limited to:~~
 - a. Data requirements in proportion to the need for information necessary to support relative Utility functions;
 - b. Producer election to install equipment that adequately addresses the Utility's operational requirements;
 - c. Accuracy and type of required Metering equipment to be equivalent and consistent (i.e., revenue grade) with purposes of collecting data;
 - d. ~~Cost of Metering relative to the need for and accuracy of the data;~~
 - e.d. The Generating Facility's size relative to the cost of the Metering/monitoring equipment;
 - f.e. Other means of obtaining the data (e.g. Generating Facility logs, proxy data etc.); and
 - g.f. Requirements under any ~~Interconnection and Operating Agreement~~ IOA with the Producer.
5. ~~Point of Common Coupling PCC Metering-~~
 - a. For purposes of assessing Utility charges for service, the ~~Point of Common Coupling PCC~~ Metering shall be a bi-directional ~~Mmeter~~ so that power deliveries to and from the Producer's site can be separately recorded.
 - b. In order to accurately measure power flow in both directions, multiple Metering points may be required.
 - h.c. ~~Such Point of Common Coupling PCC~~ Metering shall be equipped or designed to prevent reverse registration.
6. ~~Telemetering-~~
 - a. If the Net Nameplate Rating of the Generating Facility is ~~4,000 kilowatts~~ 1 MW or greater, Telemetering equipment at the Net Generation ~~or~~ Metering location may be required at the Producer's expense to allow the Utility and the Customer's scheduling coordinator to monitor such large Generators for their impact upon the ~~Ddistribution Ssystem~~.
 - b. -The costs for Telemetering, including equipment, installation, and any costs for leased telephone lines are separate and in addition to other Metering costs addressed in Section ~~G.7H.8 below~~.
 - c. -If the Generating Facility is ~~interconnected~~ to a ~~Ddistribution Ssystem~~ operating at a voltage below 10 kV, then Telemetering equipment may be required on Generating Facilities with a Net Nameplate Rating of 250 kilowatts kW or greater.
 - d. -The Utility shall only require Telemetering to the extent that less intrusive ~~and/or~~ more cost-effective options for providing the necessary data in real time are ~~not unavailable~~.
 - i.e. -Charges will be included in an applicable ~~Interconnection and Operating Agreement~~ IOA.

- ~~8.7. Location.~~ Where the Utility-owned Metering is located on the Producer's Premises, the Producer shall provide, at no expense to the Utility, a suitable location for all such Metering.
- ~~9.8. Net Generation Metering.~~ Metering Equipment, including an appropriate revenue-quality Meter, as defined in Rule 1, shall be installed if required in the Producer's applicable standby rate schedule.
- a. All service switches, Meter sockets, Meter enclosures, cutouts and similar devices, irrespective of voltage, required in connection with Net Generation Metering shall be furnished, installed, maintained and owned by the Producer at no cost to the Utility.
 - b. The Utility ~~shall~~ will furnish, install and own the appropriate Meter or Meters used for Net Generation Metering. Such installation location shall be furnished by the Producer and approved by the Utility, and shall, at reasonable times, be accessible for reading, testing and maintaining the Meter.
- ~~10.9. Energy Storage DeviceESD Metering.~~ Metering Equipment, including an appropriate Utility-owned, bi-directional, Interval Meter, as defined in Rule 1, shall be installed for all ESD installations per applicable published Utility manuals and standards dealing with Metering specifications.
- a. All service switches, Meter sockets, Meter enclosures, cutouts and similar devices, irrespective of voltage, required in connection with ~~Energy Storage DeviceESD~~ Metering shall be furnished, installed, maintained and owned by the Producer at no cost to the Utility.
 - b. The Utility shall furnish, install and own the appropriate Meter or Meters used for ~~Energy Storage DeviceESD~~ Metering, at its cost. Such installation location shall be furnished by the Producer and approved by the Utility, and shall, at reasonable times, be accessible for reading, testing and maintaining the Meter.
 - c. ~~This requirement may be modified or eliminated by the Commission.~~

I. F. FACILITY OWNERSHIP AND COST RESPONSIBILITY, (Continued)

1. ~~Scope and Ownership Of Interconnection Facilities~~ Facility Ownership
 - a. ~~Scope.~~ Parallel Operation of Generating Facilities may require the installation of Interconnection Facilities or Distribution System improvements to be made to Utility's Distribution System ("Distribution System improvements"). ~~The type, extent and costs of Interconnection Facilities and Distribution System improvements which shall be consistent with this Rule and determined by the Utility through the Supplemental technical Review process and/or an Interconnection Studies as described in Section FD.~~
 - b. ~~Ownership.~~ Interconnection Facilities installed on the Producer's side of the Point of Common Coupling PCC may be owned, operated and maintained by either the Producer or the Utility.
 - c. ~~Interconnection Facilities installed on Utility's side of the Point of Common Coupling PCC and Distribution System improvements shall be owned, operated and maintained only by the Utility.~~
2. ~~Responsibility of Costs of Interconnecting a Generating Facility~~ Cost Responsibility
 - a. ~~Study and Review Costs.~~ A Producer shall be responsible for the reasonably incurred costs of the Optional Pre-application Report (if requested) pursuant to Section E.1, the Application fee pursuant to Section E.2.c (Table 1) related to any required Initial technical Reviews pursuant to Sections F.2, F.3., and F.4, and any Interconnection Studies conducted pursuant to Section F.6D.2 of this Rule solely to explore the feasibility

and determine the requirements of interconnecting a Generating Facility with the Utility's Distribution System.

- ~~b. Facility Costs. The A Producer shall be responsible for all costs associated with the Interconnection Facilities owned by the Producer.~~
- ~~c. The Producer shall also be responsible for any costs reasonably incurred by the Utility in providing, installing, operating, or maintaining the Interconnection Facilities and Distribution System improvements required solely for the Interconnection of the Producer's Generating Facility with the Utility's Distribution System.~~
- ~~a. Generating Facilities eligible for Net Energy Metering under Schedule No. NMR-B are exempt from any costs associated with Distribution System improvements.~~
- ~~Net Metering Systems. Generating Facilities eligible for service under Schedules NMR-A, NMR-G, and NMR-405 are responsible for the cost of Distribution System improvements necessary for the interconnections of the Net Metering System pursuant to Rule 9.~~
- ~~d. The cost responsibility for any Interconnection Facilities and/or Distribution System improvements required solely due to the load requirements aspects of an Energy Storage Device ESD (e.g., the ESD Energy Storage Device is charged by the Utility's Distribution System), EV or V2G EV charger, or EV or V2G EV charging station, shall be as set forth in Rule 9.~~
- ~~e. Separation of Costs. Should the Utility combine the installation of Interconnection Facilities or Distribution System improvements required for the Interconnection of a Generating Facility with improvements to the Utility's Distribution System to serve other Customers or Producers, the Utility shall not include the costs of such separate or incremental facilities in the amounts billed to the Producer.~~

~~3. Installation Of Interconnection Facilities Owned And Operated By The Utility~~

- ~~f. a. Agreement Required. The costs for required Interconnection Facilities and Distribution System improvements shall be paid by the Producer pursuant to the provisions contained in the Interconnection Operating Agreement IOA. Where the type and extent of the Interconnection Facilities or Distribution System improvements warrant additional detail, the Producer and the Utility shall execute separate agreement(s) to more fully describe and allocate the parties' responsibilities for installing, owning, operating and maintaining the Interconnection Facilities and Distribution System improvements.~~
- ~~g. b. Distribution System Improvements. Interconnection Facilities connected to the Utility's side of the Point of Common Coupling PCC and Distribution System improvements shall be provided, installed, owned and maintained by the Utility at the Producer's expense.~~
- ~~h. c. Reservation of Unused Facilities. When a Producer wishes to reserve Utility-owned Interconnection Facilities or Distribution System improvements installed and financed as Special Facilities for the Producer, but idled by a change in the operation of the Producer's Generating Facility or otherwise, the Producer may elect to abandon or reserve such facilities consistent with the terms of its Interconnection and Operating Agreement IOA with the Utility. If the Producer elects to reserve idle Interconnection Facilities or Distribution System improvements, the Utility shall be entitled to continue to charge the Producer for the costs related to the ongoing operation and maintenance of the Special Facilities.~~

J. FACILITY INSTALLATION, INSPECTION, AND COMMISSIONING

1. Facility Installation

- a. After executing the applicable agreements, the Utility and/or the Producer shall commence construction/ and installation of the Distribution System improvements or Interconnection Facilities which that have been identified in the agreements. The parties will use good faith efforts to meet schedules and fixed or estimated costs or estimated costs as appropriate.
- b. Prior to construction, the Applicant may request, or the Utility may require, a pre-construction coordination meeting to review scope, switching or outage coordination, site access and safety controls. The parties shall use good faith efforts to coordinate schedules and minimize Customer impacts.
- c. -The Producer shall obtain all required permits and any AHJ clearances applicable to Producer-owned facilities.
- d. -Work on Utility-owned facilities shall be performed only by the Utility.-
- e. The Utility and the Producer shall confirm, in writing, the RPA established pursuant to Section F.1.e. for testing and commissioning per IEEE 1547-2018 requirements upon determination of Application completeness. Commissioning verification shall be performed at the agreed-upon RPA.
- f. If required to complete the installation of a Generating Facility or associated Interconnection Facilities, the Utility, may be required to perform a temporary disconnect and reconnect to facilitate safe work on the Customer's service entrance equipment or to allow inspection, testing, or commissioning of the Generating Facility.
 - (1) If a temporary disconnect and reconnect is required solely for modification of service entrance equipment (including installation or replacement of service panels), such work shall be performed and charged in accordance with Rule 16 and Schedule MC.
 - (2) Temporary disconnections and reconnections performed solely for modifications to Customer service entrance equipment pursuant to Rule 16 and not this Rule, shall be coordinated by the Utility as part of the facility installation process under Section J.1.a. Such work shall not be deemed to initiate, extend, or toll of any timeline required by statute or regulation for the Utility's review of an Interconnection Application or issuance of PTO.
 - (3) Only authorized employees of the utility will be permitted to connect a Customer's service to the Utility's electric lines, or disconnect the same.
- g. The Utility may issue a TIA solely to permit the physical connection of a Generating Facility to the Utility's Distribution System for limited purposes such as inspection, testing, coordination, and commissioning-only operation. A Temporary Interconnection Agreement shall not be construed as PTO and is valid only for a short, defined period necessary to complete commissioning.
 - (1) For Generating Facilities less than or equal to 25 kW Net Nameplate Rating, TIA shall be issued automatically by the Utility and shall allow commissioning-only Non-Export operation for the minimum duration necessary to complete commissioning.
 - (2) For Generating Facilities greater than 25 kW Net Nameplate Rating, the Utility shall specifically issue a TIA. The Producer shall notify the Utility prior to commissioning, and commissioning-only operation shall be authorized by the Utility within a reasonable timeframe and performed under coordinated conditions.

- (3) A-TIA automatically expires upon the earlier of:
 - (a) issuance of PTO, or
 - (b) Utility revocation.
- (4) Operation under a TIA remains subject to all safety and protection requirements of this Rule and all applicable permits required by the AHJ.

2. Facility Inspection

- a. Upon completion of installation and prior to Interconnection, the Producer shall notify the Utility and provide documentation including but not limited to:
 - (1) site plans and as-built one-line and/or three-line diagrams, clearly identifying the RPA;
 - (2) commissioning reports and documentation that may include verification of protection settings, Advanced Inverter testing consistent with IEEE 1547-2018 and UL 1741 requirements, Advanced Inverter functions and settings consistent with Section G.9.e, rotating machine settings consistent with Section G.6.c, and any Limited Generation Profile or Limited Export parameters, as applicable. If Telemetry or remote update capability is required, the Producer shall provide communications test results evidencing settings retrieval/control. For Generating Facilities less than or equal to 1 MW Net Nameplate Rating, such reports shall consist of paperwork only;
 - (3) for Generating Facilities greater than 1 MW Net Nameplate Rating, functional Commissioning Testing and temporary energization in accordance with this Rule;
 - (4) verification of the Visible Break Isolation Device including documentation (including photos) confirming that the lockable, accessible, visible-open disconnect switch is installed in accordance with this Rule, Utility standards, and NEC;
 - (5) Certification of equipment including evidence that major components (e.g., inverters) are Certified under UL 1741 SB/IEEE 1547-2018; and
 - (6) evidence of any relevant AHJ final inspection for Producer-owned facilities.
- b. Following receipt and review of the required documentation, the Utility shall perform a physical inspection of the facility that may include, but may not be limited to, verification of labeling, the Visible Break Isolation Device, protection wiring, Meter installation, and any other items necessary to confirm safe Interconnection consistent with applicable Utility standards.
- c. All inspections, testing, and verifications required under this Rule shall be performed at the RPA, as previously confirmed by the Utility and the Producer, to demonstrate compliance with any applicable technical and operational requirements, unless otherwise noted in this Rule.

3. Facility Testing

- a. The Producer ~~is shall be~~ responsible for testing new Generating Facilities and associated Interconnection Facilities according to Attachment 13, ~~Section 5,~~ and IEEE 1547.1-2020 to ~~ensure~~ verify compliance with the safety and reliability provisions of this Rule prior to ~~being operated in parallel~~ Parallel Operation with the Utility's Distribution System.
- b. The Producer's Generating Facility shall be authorized for Parallel Operation or Momentary Parallel Operation with the Utility's Distribution System only upon the issuance of PTO by the Utility. ~~No Customer or contractor shall operate, energize, or~~

place in service a Generating Facility in Parallel Operation with the Utility's Distribution System until the Utility has issued written PTO.

A Generating Facility operated without PTO shall be deemed an Unauthorized Interconnection. In such cases, the Utility may:

- immediately disconnect the Generating Facility from the Distribution System;
- suspend or delay further processing of the Interconnection Application until the violation has been remedied;
- require inspection, verification, or corrective work at the Customer's expense prior to issuing Interconnection Authorization (if applicable) or PTO; or
- impose fees or penalties as follows:
 - A fee of \$xx shall apply for each field visit required by the Utility to disconnect or verify compliance for an Unauthorized Interconnection;
 - Repeat violations by a contractor may result in suspension of the contractor's ability to submit Interconnection Applications on behalf of Customers for up to six (6) months, subject to Commission oversight.

- c. For non-Certified Equipment, the Producer shall develop a written testing plan to be submitted to the Utility for its review and acceptance prior to Interconnection. The testing plan shall, where applicable, incorporate the manufacturer's installation test procedures and conform to IEEE 1547.1-2020. Alternatively, the Producer and Utility may agree to have Utility conduct the required testing at the Producer's expense. Where applicable, the testplan shall include the installation test procedures published by the manufacturer of the generation or Interconnection equipment.
- d. The Utility may require a Utility-witnessed Commissioning Test. If required by the Utility, the Producer shall coordinate scheduling of such test with no less than five (5) business days' advanced notice and provide the Utility an opportunity to witness the test. Facility testing shall be conducted at a time mutually agreeable time to the Producer and the Utility, with the party and depending on who conductings the test providing the other party, Utility or Producer shall be given the opportunity to witness the tests.

4. Facility Certification and PTO

- a. The Producer shall be responsible for ensuring Certification of new Generating Facilities and associated Interconnection Facilities pursuant to Attachment 3, Section 2.
- b. For Net Metering Systems:
- (1) wWithin ten (10) business days of receipt of both written notice from being notified by the net metering Applicant that the installation of the Net Metering System is complete and being provided by the Applicant a copy of any required final inspection clearance from the governmental authority with jurisdiction over the Net Metering System's installationAHJ, the Utility must shall either:
 - (a) authorize and allow Interconnection by the Applicantissue PTO; or
 - (b) -provide to the Applicant a specific written description of the deficiencies that must be corrected prior to InterconnectionPTO.
 - (2) For Net Metering Systems, at the time the Utility issues PTO, will, at or before the time the Utility shall provide to the Producer authorizes the Interconnection by the Customer, send a copy of the fully executed Nnet Mmetering System contract agreementIOA if it has not already done so.
- c. For non-Net Metering Systems, within ten (10) business days of receipt of notice from the Producer that installation of the Generating Facility is complete the Utility shall either:
- (1) issue PTO; or
 - (2) provide the Producer with a written list of deficiencies to be corrected. Upon notice to the Utility by the Producer that all necessary corrections have been

made, the parties shall use good faith efforts to schedule any required re-inspection in a timely manner.

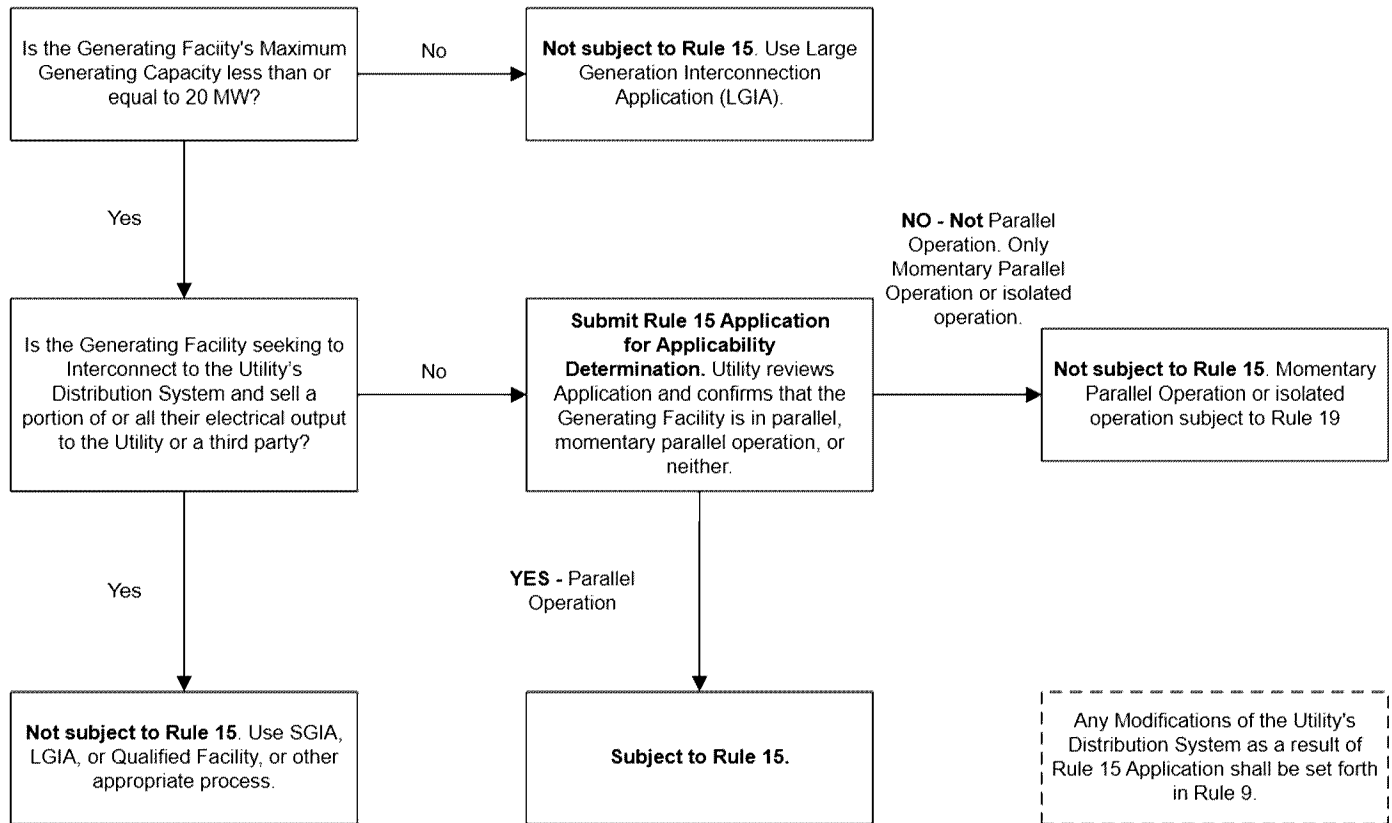
- d. ~~Utility Authorizes Parallel Operation or Momentary Parallel Operation. The Producer's Generating Facility shall not commence be authorized for be authorized for Parallel Operation or Momentary Parallel Operation, as applicable, with the Utility's Distribution System until only upon the Utility issuance of issues-PTO by the Utility. upon satisfactory compliance with the terms of all applicable agreements and Utility's express written permission. Compliance may include, but not be limited to, Issuance of PTO shall be contingent upon satisfactory completion of the requirements under this Section, provision of all any required documentation, and compliance with all applicable agreements, satisfactorily completing any required inspections or tests as described herein or in the agreements formed between the Producer and Utility. A Producer shall not commence Parallel Operation of its Generating Facility with the Utility's system unless it has received Utility's express written permission to do so.~~

K. H. DISPUTE RESOLUTION PROCESS

1. ~~The following procedures will apply for disputes arising from this Rule. The Commission shall have initial jurisdiction to interpret, add, delete or modify any provision of this Rule or of any agreements entered into between the Utility and the Producer to implement this tariff ("the implementing agreements") and to resolve disputes regarding the Utility's performance of its obligations under its Tariff Schedules, the implementing agreements, and requirements related to the Interconnection of the Producer's Generating or Interconnection Facilities pursuant to this Rule.~~
2. Any dispute arising between the Utility and the Producer (individually "Party" and collectively "the Parties") regarding the Utility's performance of its obligations under its Tariff Schedules, the implementing agreements, and requirements related to the Interconnection of the Producer's fFacilities pursuant to this Rule shall be resolved according to the following procedures:-
 - a. The dispute shall be reduced to writing by the aggrieved Party in a letter ("the dispute letter") to the other Party containing the relevant known facts pertaining to the dispute, the specific dispute and the relief sought, and express notice by the aggrieved Party that it is invoking the procedures under this Section H.2.
 - b. Within forty-five (45) calendar days of after the Utility receives date of the dispute letter, the Parties' authorized representatives shawill be required to meet and confer to try to resolve the dispute.
 - c. ~~b.~~ If the Parties do not resolve their dispute within forty-five (45) calendar days after the date of the dispute letter, the dispute shall, upon demand of either Pparty, be submitted to resolution before the Commission in accordance with the procedures outlined in NAC 703.616 to 703.651.
3. Pending resolution of any dispute under this Section, the Parties shall proceed diligently with the performance of their respective obligations under this Rule and the implementing agreements, unless the implementing agreements have been terminated. Disputes as to the aApplication and implementation of this Section shall be subject to resolution pursuant to the procedures set forth in this Section.

Attachment 1:

Applicability



Part 1 – Core Generator and Energy Storage Device Configurations

<u>Configuration or Use Case</u>	<u>Parallel with Utility?</u>	<u>Export to grid?</u>	<u>Subject to Rule 15?</u>	<u>Application or Notification?</u>
<u>Break-before-Make backup Generator with open-transition ATS (isolated standby backup)</u>	<u>No. ATS mechanically and electrically prevents any closed transition.</u>	<u>No (Non-Exporting by design and sequence)</u>	No	<u>No Rule 15 Application required. Subject to Rule 19.</u>
<u>Momentary Parallel Operation standby backup Generator with closed-transition ATS (Make-before-Break)</u>	<u>Yes, connected, but only for ≤ 15 seconds to synchronize prior to serving isolated load</u>	<u>No (Non-Exporting by design and sequence)</u>	No	<u>No Rule 15 Application required. Subject to Rule 19.</u>
<u>Stand-alone, Non-Exporting, behind-the-meter (BTM) Generator, using an option in Section G.2 for Non-Export status</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>No (Non-Exporting per an option in Section G.2)</u>	Yes	<u>Yes, Rule 15 Application</u>

<u>Stand-alone, Non-Exporting, BTM Energy Storage Device (ESD), charging from Utility grid, using an option in Section G.2 for Non-Export status, either discharging while parallel with Utility grid or after disconnecting from Utility grid</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>No (Non-Exporting per an option in Section G.2)</u>	<u>Yes</u>	<u>Yes, Rule 15 Application</u>
<u>Non-Exporting Generator paired with an ESD using an option in Section G.2 for Non-Export status</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>No (Non-Exporting per an option in Section G.2)</u>	<u>Yes</u>	<u>Yes, Rule 15 Application</u>
<u>NEM Systems: Generator only or Generator paired with ESD</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes, NEM Application</u>
<u>Exporting Generator, Stand-alone or paired with ESD not selling any output to Utility</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>Yes</u>	<u>Yes</u>	<u>Yes, Rule 15 Application</u>
<u>Exporting Generator under a buy-all / sell-all or QF arrangement</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>Yes</u>	<u>No</u>	<u>FERC/QF processes depending on size and contract</u>
<u>Microgrid capable of Parallel Operation and Islanding</u>	<u>Yes, Interconnected and Parallel Operation when grid-connected</u>	<u>Can be Exporting or Non-Exporting depending upon design</u>	<u>Yes</u>	<u>Yes, Rule 15 Application</u>
<u>Stand-alone Generator or Microgrid serving a fully isolated load with no Utility connection (off-grid)</u>	<u>No</u>	<u>No</u>	<u>No</u>	<u>None</u>

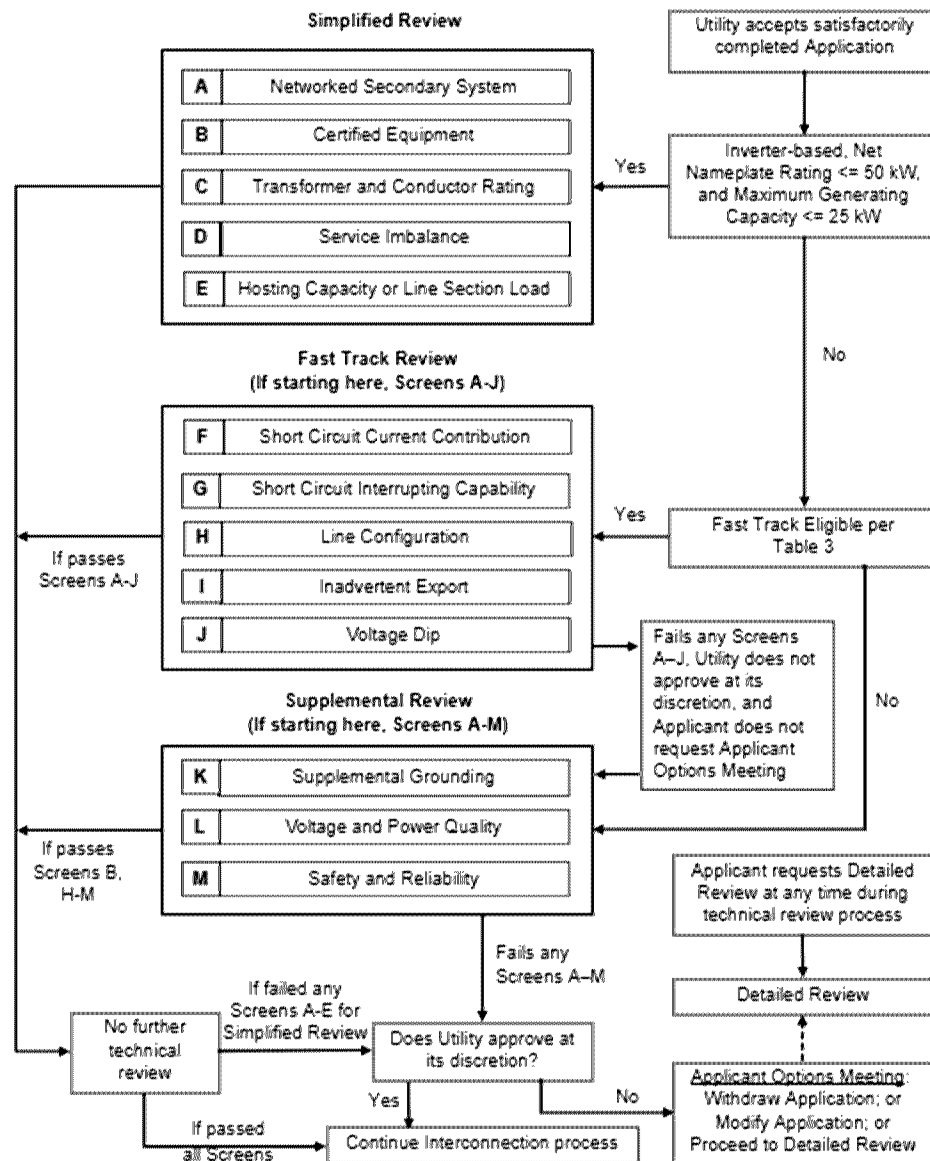
Part 2 – EVSE and V2G EV Configurations

<u>Configuration or Use Case</u>	<u>Parallel with Utility?</u>	<u>Export to grid?</u>	<u>Rule 15 applies?</u>	<u>Application or Notification?</u>
<u>EVSE (Level 1, 2, or DCFC) serving EVs as load only, no bidirectional (V2G) capability</u>	<u>Yes, Interconnected and Parallel Operation but EVSE and EV act solely as load when charging</u>	<u>No</u>	<u>No</u>	<u>Rule 3 application, treated under normal Utility service rules</u>
<u>EVs under Utility programs or tariffs, no bidirectional (V2G) capability</u>	<u>Yes, Interconnected and Parallel Operation, but EV acts solely as load when charging</u>	<u>No</u>	<u>No</u>	<u>Utility program enrollment and normal Utility service rules</u>

<u>Bidirectional EVSE or V2G EV, not configured for V2G operation so that the V2G EV is not capable of discharging and acts only as a load while connected to the grid</u>	<u>Yes, Interconnected and Parallel Operation, but V2G EV acts solely as load when charging</u>	<u>No</u>	<u>No</u>	<u>None</u>
<u>Bidirectional EVSE or V2G EV under Utility programs or tariffs, not configured for V2G operation so that the V2G EV is not capable of discharging and acts only as a load while connected to the grid</u>	<u>Yes, Interconnected and Parallel Operation, but V2G EV acts solely as load when charging</u>	<u>No</u>	<u>No</u>	<u>Utility program enrollment and normal Utility service rules</u>
<u>Bidirectional EVSE or V2G EV configured for V2G operation, discharging will not occur while connected to the grid, but discharging will occur during Islanded Microgrid or backup mode following Break-before-Make</u>	<u>Yes, Interconnected and Parallel Operation but V2G EV acts solely as load when charging</u>	<u>No Export while grid-connected (discharging only in Islanded Microgrid or backup mode)</u>	<u>Yes</u>	<u>Rule 15 Application</u>
<u>Bidirectional EVSE or V2G EV configured for V2G operation with discharging to occur while connected to the grid</u>	<u>Yes, Interconnected and Parallel Operation</u>	<u>Can be Exporting or Non-Exporting depending upon design</u>	<u>Yes</u>	<u>Rule 15 Application</u>

Attachment 2: Attachment 2:

Summary Flowchart of Technical Review Process



Attachment 32:1

—Testing and Certification Criteria

1. Introduction~~INTRODUCTION~~

a. ~~—This Section Attachment describes the test procedures and requirements for equipment used for the Interconnection of Generating Facilities to Utility's Distribution System. Equipment shall be subject to Included are Type Testing, Production Testing, Commissioning Testing, and Periodic Testing consistent with IEEE 1547-2018, IEEE 1547.1-2020 and UL 1741 -SB. These requirements ensure that the Generating Facilities will not adversely affect the Utility's Distribution System and that such facilities will cease to energize and provide power under abnormal conditions. The procedures listed rely heavily on those described in appropriate Underwriters Laboratory (UL), Institute of Electrical and Electronic Engineers (IEEE), and International Electrotechnical Commission (IEC) documents—most notably UL 1741 and IEEE 929, as well as the testing described in May 1999 New York Standardized Interconnection Requirements. These procedures and requirements were developed prior to the completion of IEEE 1547 Standard for Distributed Resources Interconnected with Electric Power Systems, and may be revisited once that standard is published.~~

b. ~~—The tests described here, together with the technical requirements in Section GE of this Rule, are intended to provide assurance that the Generating Facility's equipment will not adversely affect the Utility's Distribution System and that a Generating Facility will cease providing power to the Utility's Distribution System under abnormal conditions. The tests were developed assuming a low level of Generating Facility penetration or number of connections to the Utility's Distribution System. At high levels of Generating Facility penetration, additional requirements and corresponding test procedures may need to be defined.~~

cb. ~~—This test specification also provides a means of "certifying" equipment. Once a Generating Unit or device has been Certified per this Certification process, it may be considered to be suitable for use as part of a Generating Facility Interconnected with the Utility's Distribution System. Subject to the exceptions described in this Attachment, the Utility will not require a Producer to repeat the design review or test the Protective Functions of equipment that has been Certified.~~

d. ~~—The Certification process is intended to facilitate Generating Facility interconnections. Certification is not a prerequisite to Interconnect a Generating Facility. The use of non-certified equipment may be acceptable to the Utility, subject to testing and approval by the Utility as discussed below.~~

2. Certification~~CERTIFICATION CRITERIA~~Criteria

a. Equipment tested and approved (e.g. "Listed") by an accredited, nationally recognized testing laboratory ("NRTL") as having met both the Type Testing and Production Testing requirements of IEEE 1547-2018 and UL 1741 -SB shall be described in this document Attachment is considered to be "Certified Equipment," for purposes of Interconnection with Utility's Distribution System. Certification may apply to either a pre-packaged system or an assembly of components that address the necessary functions. Type Testing may be done in the manufacturer's factory or test laboratory, or in the field. At the discretion of the testing

~~laboratory, field certification may apply only to the particular installation tested. In such cases, some or all of the tests may need to be repeated at other installations.~~

- b. Proof of Certification ~~shall consist of an~~by a NRTL-issued ~~will consist of a certificate with the following information for each device~~including:

1. ~~_____~~ (1) ~~Administrative~~

2. ~~_____~~

1. ~~_____~~ (a) ~~The e~~Effective date of C~~certification or applicable~~and serial/model numbers
(~~range or first in series~~), and/or other proof that C~~certification is current~~;

(b) ~~_____~~ Equipment model number(s) of the Certified E~~equipment~~;

2. ~~_____~~ (c) ~~The software version utilized in the equipment, (if applicable);~~

3. ~~_____~~ (d) ~~Test procedures specified (including date or procedure and revision number); and~~

4. ~~_____~~ (e) ~~Laboratory accreditation; and~~

~~(by whom and to what standard);~~

(2) ~~_____~~ Technical (~~a~~As a~~Appropriate~~)

(a) ~~_____~~ Device ratings (kW, kVA, Volts, Amps, etc.);

(b) ~~_____~~ Maximum available fault current in a~~Amps~~;

(c) ~~_____~~ In-rush Current in a~~Amps~~;

(d) ~~_____~~ T~~rip points~~settings, if factory set (trip value and timing)

(e) ~~_____~~ Trip point and timing ranges for adjustable settings

(f) ~~_____~~ Nominal power factor or range if adjustable

(g) ~~_____~~ If the device/system is C~~ertified~~ as for and designations for N~~on-E~~exporting and the method used (reverse power or under power); and

3.5. ~~_____~~ (h) ~~If the device/system is Certified as Non-Islanding capability.~~

- c. ~~It is the responsibility of t~~The Applicant to ~~shall~~ ensure that ~~the equipment manufacturer ensures that Certification documentation information is made publicly available by from the~~ manufacturer, NRTL~~the testing laboratory~~, or ~~by an authorized~~ third party.
- ~~e.d.~~ Use of non-Certified equipment requires a site-specific testing plan and Utility approval consistent with IEEE 1547.1-2020.

3. TYPE TESTING

a. ~~—Type Testing shall be conducted in accordance with IEEE 1547.1-2020 and UL 1741 -SB to verify compliance with Interconnection performance requirements including voltage and frequency ride-through, protective trip functions, reactive power, interoperability, and communications. s and Requirements for Interconnection Equipment Certification. Type Testing provides a basis for determining that equipment is designed appropriately and meets the specifications for being designated as Certified Equipment under this Rule. The requirements described in this Section cover only issues related to Interconnection and are not intended to address device safety or other issues outside the needs of the relationship between the Utility and the Producer operating a Generating Facility.~~

~~The following table defines the test requirements by Generator or inverter technology. While UL 1741 was written specifically for inverters, the requirements are readily adaptable to synchronous Generators, induction Generators, as well as single/multi-function controllers and protection relays. Until a universal test standard is developed, the Utility or a NRTL shall adapt the procedures referenced in the following table as appropriate and necessary for a Generating and/or Interconnection Facility or associated equipment performance and its control and protection system functions.~~

Type Test and Requirements for Interconnection Equipment Certification

Type Test	Reference (1)	Inverter	Synchronous Machine	Induction Machine
Utility Interaction	UL 1741-39	X	X	X
DC Isolation	UL 1741 – 40.1	X	-	-
Simulated PV Array (Input) Requirements	UL 1741 – 41.2	X	-	-
Dielectric Voltage Withstand	UL 1741 - 44	X	X	X
Power Factor	UL 1741 – 45.2.2	X	X	X
Harmonic Distortion	UL 1741 – 45.4	X	X	X
DC Injection	UL 1741 – 45.5	X	-	-
Utility Voltage and Frequency Variation	UL 1741 – 46.2	X	X	X
Reset Delay	UL 1741 – 46.2.3	X	X	X
Loss of Control Circuit	UL 1741 – 46.4	X	X	X
Short Circuit	UL 1741 – 47.3	X	X	X
Load Transfer	UL 1741 – 47.7	X	X	X
Surge Withstand	3.a	X	X	X
Anti-islanding	3.b	(2)	(2)	(2)
Non-export	3.c	(3)	(3)	(3)
In-rush Current	3.d	(4)	(4)	(4)
Synchronization	3.e	(5)	X	-

Table Notes:

- (1) References are to section numbers in either UL 1741 (Inverters, Converters and Charge Controllers for use in Independent Power Systems) or this Rule. References in UL 1741 to "photovoltaics" or "inverter" may have to be adapted to the other technologies by the testing laboratory to appropriately apply in the tests to other technologies.
- (2) Required only if Non-Islanding designation.
- (3) Required only if Non-Export designation is desired.
- (4) Required for Generators that use Utility power to motor to speed.
- (5) Required for all synchronous Generators as well as Inverters that operate as voltage sources when connected to Utility.

Note:

X = Required
— = Not Required

UL 1741, *Inverters, Converters and Charge Controllers for use in Independent Power Systems*, Revised January 2001.

b. ~~Anti-Islanding Test~~

~~Devices that pass the Anti-Islanding test procedure described in UL 1741 Section 46.3 will be considered Non-Islanding for the purposes of these interconnection requirements. The test is required only for devices for which a Certified Non-Islanding designation is desired.~~

c. ~~Non-Export Test~~

~~Devices that pass the Non-Exporting test procedure described in Section 7.a. of this Attachment will be considered Non-Exporting for the purposes of these Interconnection requirements. This test is required only for devices for which a Certified Non-Export designation is desired.~~

d. ~~In-Rush Current Test~~

~~Generation equipment that utilizes Utility power to motor up to speed will be tested using the procedure defined in Section J.7.b. of this Attachment to determine the maximum current drawn during this startup process. The resulting In-rush Current is used to estimate the Starting Voltage Drop.~~

e. ~~Surge Withstand Capability Test~~

~~Interconnection equipment shall be tested for surge withstand capability (SWC), both oscillatory and fast transient, in accordance with the test procedure defined in IEEE/ANSI C62.45 using the peak values defined in IEEE/ANSI C62.41 Tables 1 and 2 for location category B3. An acceptable result occurs even if the device is damaged by the surge, but is unable to operate or energize the Utility's~~

~~Distribution System. If the device remains operable after being subject to the surge conditions, previous Type Tests related to the Utility's protection and power quality will need to be repeated to ensure the unit will still pass those tests following the surge test.~~

~~f. Synchronization Test~~

~~This test verifies that the unit synchronizes within the specified voltage/ frequency/phase angle requirements. It is applied to synchronous Generators and inverters capable of operating as a voltage source while connected to Utility's Distribution System. This test is not necessary for induction Generators or current source inverters. The test will start with only one of the three parameters:~~

~~(1) voltage difference between Generating Facility and Utility's Distribution System;~~

~~(2) frequency difference; or~~

~~(3) phase angle outside of the synchronization specification.~~

~~Initiate the synchronization routine and verify that the Generating Facility is brought within specification prior to synchronization. Repeat the test five times for each of the three parameters. For manual synchronization with synch check or manual control with auto synchronization, the test must verify that paralleling does not occur until the parameters are brought within specifications.~~

4. PRODUCTION TESTING

~~As a minimum, the Utility Voltage and Frequency Variation Test procedure described in UL1741 under Manufacturing and Production Tests, Section 68 shall be performed as part of routine production (100 percent) on all equipment used to interconnect Generating Facilities to the Utility's Distribution System. This testing may be performed in the factory or as part of a Commissioning Test (Section 5.). Production Testing shall be performed in accordance with IEEE 1547.1-2020 and UL 1741 -SB as part of routine factory testing to verify each unit's performance.~~

5. COMMISSION TESTING

~~a. Commissioning Testing, where required, will~~shall ~~be performed on-site in accordance with IEEE 1547.1-2020 to verify protective settings and functionality performance u. Upon initial Parallel Operation, after modifications affecting Interconnection functions, or when otherwise required, of a Generating Facility, or any time interface hardware or software is changed that may affect the functions listed below, a Commissioning Test must be performed.~~

~~a.b. Testing shall be performed by An~~a ~~individual qualified in testing protective equipment (professional engineer, factory-Certified-certified technician, or licensed electrician, with experience in testing protective equipment) must perform Commissioning Testing in accordance with the manufacturer's recommended test procedure to prove the settings and requirements of this Rule.~~

~~c. b. The Utility has the right to~~may ~~witness Commissioning Testings as described below, or to require written Certification by the installer describing which of tests completion were performed and their results.~~

b. ~~For Certified Equipment, testing may be limited to verification of Protective Functions settings, anti-Islanding, and Non-Export Functions. to be tested during commissioning, particularly with respect to non-Certified Equipment, may consist of the following:~~

d. _____

c. _____

_____ (1) _____ • _____ Over and under voltage;_i

d. _____

_____ (2) _____ • _____ Over and under frequency;_i

e. _____

_____ (3) _____ • _____ Anti-Islanding function (if applicable);_i

f. _____

_____ (4) _____ • _____ Non-Export function (if applicable);_i

g. _____

_____ (5) _____ • _____ Inability to energize dead line;_i

h. _____

_____ (6) _____ • _____ Time delay on restart after utility source is stable;_i

i. _____

_____ (7) _____ • _____ Utility system fault detection (if used);_i

j. _____

_____ (8) _____ • _____ Synchronizing controls (if applicable); and

k. _____

l. _____ (9) _____ • _____ Other Interconnection Protective Functions that may be required as part of the Interconnection and Operating Agreement;_i

_____ Commissioning Testing shall include visual inspections of the Interconnection equipment and protective settings to confirm compliance with the Interconnection requirements.

m. _____

n. cb. _____ Other checks and tests that may need to be performed include:

o. _____

_____ (1) _____ • _____ Verifying final Protective Function settings;_i

p. _____

_____ (2) _____ • _____ Trip test; and

q. _____

r. _____ (3) _____ • _____ In-service test;_i

s. _____

t. dc. _____ Certified Equipment

u. _____

v. _____ Generating Facilities qualifying for Simplified Interconnection incorporate Certified Equipment that have, at a minimum, passed the Type Tests and Production Tests described in this Rule and are judged to have little or no potential impact on the Utility's Distribution System. For such Generating Facilities, it is necessary to perform only the following tests:

w. _____

x. _____ (1) _____ Protective Function settings that have been changed after factory testing will require field verification. Tests shall be performed using injected secondary frequencies, voltages and currents, applied waveforms, a test connection using a Generator to simulate abnormal Utility voltage or frequency, or varying the set points to show that the device trips at the measured (actual) utility voltage or frequency.

y. _____

z. _____ (2) _____ The Non-Islanding function will be checked by operating a Visible Break Isolation Device (load break disconnect switch) to verify the Interconnection equipment ceases to energize the Utility's Distribution System and does not re-energize for the required time delay after the switch is closed.

aa. _____

bb. _____ (3) _____ The Non-Exporting function shall be checked using secondary injection techniques. This function may also be tested by adjusting the Generating Facility output and local loads to verify that the applicable Non-Exporting criteria (i.e., reverse power or under power) are met.

cc. _____

dd. _____ ed. _____ Non-Certified Equipment

ee. e. _____ For nNon-Certified Equipment, full Commissioning Testing per IEEE 1547.1-2020 is required or as mutually agreed to by the Producer and the Utility. shall be subjected to the appropriate tests described in Type Testing (Section 3.) as well as and those described in Certified Equipment Commissioning Tests (Section 5.c.). With the Utility's approval, these tests may be performed in the factory, in the field as part of commissioning, or a combination of both. The Utility, at its discretion, may also approve a reduced set of tests for a particular application or, for example, if it determines it has sufficient experience with the equipment.

ff. _____ fe. _____ Verification of Settings

gg. f. _____ If the testing is part of the commissioning process, then, aAt the completion of such testing, the Producer shall confirm all devices are set to Utility-approved settings and provide. This step shall be documentdocumentationed of such in the Commissioning Test Certification.

gf. _____ Trip Tests

Interconnection Protective Functions and devices (e.g., reverse power relays) that have not previously been tested as part of the Interconnection Facility with their associated interrupting devices (e.g., contactor or circuit breaker) shall be trip tested during commissioning. The trip test shall be adequate to prove that the associated interrupting devices open when the protective devices operate. Interlocking circuits between Protective Function devices or between interrupting devices shall be similarly tested unless they are part of a system that has been tested and approved during manufacture.

hg. _____ In-Service Tests

Interconnection Protective Functions and devices that have not previously been tested as part of the Interconnection Facility with their associated instrument transformers or that are wired in

~~the field shall be given an in-service test during commissioning. This test will verify proper wiring, polarity, CT/PT ratios, and proper operation of the measuring circuits. The in-service test shall be made with the power system energized and carrying a known level of current. A measurement shall be made of the magnitude and phase angle of each Alternating Current (AC) voltage and current connected to the protective device and the results compared to expected values. For protective devices with built-in Metering functions that report current and voltage magnitudes and phase angles, or magnitudes of current, voltage, and real and reactive power, the metered values may be used for in-service testing. Otherwise, portable ammeters, voltmeters, and phase-angle meters shall be used.~~

6. PERIODIC TESTING

~~Periodic Testing of Interconnection-related Protective Functions shall be performed conducted in accordance with IEEE 1547.1-2020 and as specified by the manufacturer's requirements at intervals not to exceed, or at least every four (4) years. All ~~Periodic T~~tests prescribed by the manufacturer shall be performed. The Producer shall maintain ~~p~~Periodic ~~T~~testtest records for Utility reports or a log for inspection by the Utility. Periodic Testing conforming to Utility test intervals for the particular line section may be specified by the Utility under special circumstances, such as high fire hazard areas. Interconnection Facilities that depend upon a ~~b~~Batteryies used for Protective Functions shall be inspected monthly and checked and logged once per month for proper voltage. Once every four years, the battery must be either replaced or subject to a discharge test at least once every four (4) years performed.~~

7. SUPPLEMENTAL TESTING PROCEDURES

Supplemental Testing shall be conducted as required by IEEE 1547.1-2020 and UL 1741 -SB, including but not limited to verification of Non-Exporting capability, in-rush current, surge withstand, and Synchronization performance.

8. ~~Closing Provisions~~CLOSING PROVISIONS

Testing and Certification requirements under this Attachment shall be applied uniformly and consistent with IEEE 1547-2018, IEEE 1547.1-2020, and UL 1741 -SB.

~~This section describes the additional Type Tests necessary to qualify a device as Certified for use on Utility's Distribution Systems. These Type Tests are not contained in Underwriters Laboratories UL 1741 Standard Inverters, Converters and Controllers for Use in Independent Power Systems, or other referenced standards, but are considered necessary for Certification by the Utility.~~

~~a. Non-Exporting Test Procedures~~

~~The Non-Exporting test is intended to verify the operation of relays, controllers and inverters designed to limit the export of power and certify the equipment as meeting the requirements of Screen b2, Options 1 and 2, of the Initial rReview process. Tests are provided for discrete relay packages and for controllers and inverters that include the intended function.~~

~~(1) Discrete Reverse Power Relay Test~~

~~This version of the Non-Exporting test procedure is intended for discrete reverse power and under power relay packages provided to meet the requirements of Options 1 and 2 of~~

~~Screen b2. It should be understood that in the reverse power application, the relay will provide a trip output with power flowing in the export (toward the Utility Distribution System) direction.~~

~~(a) Step 1__ : Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings:~~

- ~~(1) Determine the corresponding secondary pickup current for the desired export power flow of 0.5 secondary watts (the minimum pickup setting, assumes 5 Amps and 120V CT/PT secondary).~~
- ~~(2) Apply nominal voltage with minimum current setting at zero (0) degrees phase angle in the trip direction.~~
- ~~(3) Increase the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power.~~
- ~~(4) For relays with adjustable settings, repeat this test at the midpoint, and maximum settings. Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay does not operate (measured watts will be zero or negative).~~

~~(b) Step 2__ : Leading Power Factor Test:~~

- ~~(1) Apply rated voltage with a minimum pickup current setting (calculated value for system application) and apply a leading power factor load current in the non-trip direction (current lagging voltage by 135 degrees).~~
- ~~(2) Increase the current to relay rated current and verify that the relay does not operate.~~
- ~~(3) For relays with adjustable settings, this test should be repeated at the minimum, midpoint and maximum settings.~~

~~(c) Step 3__ : Minimum Power Factor Test:~~

- ~~(1) At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees.~~
- ~~(2) Increase the current level to pickup (about 10 times higher than at 0 degrees) and verify that the relay operates.~~
- ~~(3) Repeat for phase angles of 90, 180 and 270 degrees and verify that the relay does not operate.~~

~~(d) Step 4__ : Negative Sequence Voltage Test:~~

- ~~(1) Using the pickup settings determined in Step 1, apply rated relay voltage and current at 180 degrees from tripping direction, to simulate normal load conditions (for three phase relays, use I_a at 180, I_b at 60 and I_c at 300 degrees).~~
- ~~(2) Remove Phase 1 voltage and observe that the relay does not operate.~~
- ~~(3) Repeat for Phases 2 and 3.~~

~~(e) Step 5: Load Current Test:~~

- ~~(1) Using the pickup settings determined in Step 1, apply rated voltage and current at 180 degrees from the tripping direction, to simulate normal load conditions (use I_a at 180, I_b at 300 and I_c at 60 degrees). Observe that the relay does not operate.~~

~~(f) Step 6: Unbalanced Fault Test:~~

- ~~(1) Using the pickup settings determined in Step 1, apply rated voltage and two times rated current, to simulate an unbalanced fault in the non-trip direction (use V_a at 0 degrees, V_b and V_c at 180 degrees, I_a at 180 degrees, I_b at 0 degrees, and I_c at 180 degrees). Observe that the relay, especially single phase, does operate properly.~~

~~(g) Step 7: Time Delay Settings Test~~

- ~~(1) Apply Step 1 settings and set time delay to minimum setting.~~
- ~~(2) Adjust the current source to the appropriate level to determine operating time, and compare against calculated values.~~
- ~~(3) Verify that the timer stops when the relay trips.~~
- ~~(4) Repeat at midpoint and maximum delay settings.~~

~~(h) Step 8: Dielectric Test~~

- ~~(1) Perform the test described in IEC 414 using 2 kV RMS for one minute.~~

~~(i) Step 9: Surge Withstand Test:~~

- ~~(1) Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand test described in Section 3.e.~~

~~(2) Discrete Under-Power Relay Test~~

~~This version of the Non-Exporting test procedure is intended for discrete under-power relay packages and meets the requirements of Option 2 of Screen b2. A trip output will be provided when import power (toward the Producer's Load) drops below the specified level.~~

~~Note: For an under-power relay, pickup is defined as the highest power level at which the relay indicates that the power is less than the set level.~~

~~(a) Step 1: Power Flow Test at Minimum, Midpoint and Maximum Pickup Level Settings:~~

- ~~(1) Determine the corresponding secondary pickup current for the desired power flow pickup level of 5% of peak load minimum pickup setting).~~
- ~~(2) Apply rated voltage and current 0 (zero) degrees phase angle in the direction of normal load current.~~

~~(3) Decrease the current to pickup level. Observe the relay's (LCD or computer display) indication of power values. Note the indicated power level at which the relay trips. The power indication should be within 2% of the expected power.~~

~~(4) For relays with adjustable settings, repeat the test at the midpoint and maximum settings.~~

~~(5) Repeat at phase angles of 90, 180 and 270 degrees and verify that the relay operates (measured watts will be zero or negative).~~

~~(b) Step 2: Leading Power Factor Test:~~

~~(1) Using the pickup current setting determined in Step 1, apply rated voltage and rated leading power factor load current in the normal load direction (current leading voltage by 45 degrees).~~

~~(2) Decrease the current to 145 percent of the pickup level determined in Step 1 and verify that the relay does not operate.~~

~~(3) For relays with adjustable settings, repeat the test at the minimum, midpoint and maximum settings.~~

~~(c) Step 3: Minimum Power Factor Test:~~

~~(1) At nominal voltage and with the minimum pickup (or ranges) determined in Step 1, adjust the current phase angle to 84 or 276 degrees.~~

~~(2) Decrease the current level to pickup (about 10 percent of the value at 0 degrees) and verify that the relay operates.~~

~~(3) Repeat for phase angles 90, 180 and 270 degrees and verify that the relay operates for any current less than rated current.~~

~~(d) Step 4: Negative Sequence Voltage Test~~

~~(1) Using the pickup settings determined in Step 1, apply rated relay voltage and 25 percent of rated current in the normal load direction, to simulate light load conditions.~~

~~(2) Remove Phase 1 voltage and observe that the relay does not operate.~~

~~(3) Repeat for Phases 2 and 3.~~

~~(e) Step 5: Unbalanced Fault Test~~

~~(1) Using the pickup settings determined in Step 1, apply rated voltage and two times rated current, to simulate an unbalanced fault in the normal load direction (use V_a at 0 degrees, V_b and V_c at 180 degrees, I_a at 0 degrees, I_b at 180 degrees, and I_c at 0 degrees). Observe that the relay, especially single-phase types, operates properly.~~

~~(f) Step 6: Time Delay Settings Test~~

~~(1) Apply Step 1 settings and set time delay to minimum setting.~~

~~(2) Adjust the current source to the appropriate level to determine operating time and compare against calculated values. Verify that the timer stops when the relay trips.~~

~~(3) Repeat at midpoint and maximum delay settings.~~

~~(g) Step 7: Dielectric Test~~

~~(1) Perform the test described in IEC 414 using 2 kV RMS for one minute.~~

~~(h) Step 8: Surge Withstand~~

~~(1) Perform the surge withstand test described in IEEE C37.90.1.1989 or the surge withstand test described in Section 3.e.~~

~~(3) Tests for Inverters and Controllers with Integrated Functions:~~

~~— Inverters and controllers designed to provide reverse, under power, or Inadvertent Export functions shall be tested to certify the intended operation of this function. Three testing methods are acceptable:~~

~~(a) Method 1:— If the inverter or controller utilizes external current/voltage measurement to determine the reverse or under power condition, then the inverter or controller shall be functionally tested by application of appropriate secondary currents and potentials as described in the Discrete Reverse Power Relay Test, Section 7.a.(1) of this Rule Attachment.~~

~~(b) Method 2:— If external secondary current or voltage signals are not used, then unit-specific tests must be conducted to verify that power cannot be exported across the PCC for a period exceeding 0.5 seconds for Option 1 or exceeding two seconds for Option 2 of Section 1.4.b. These may be factory tests if the measurement and control points are integral to the unit, or they may be performed in the field.~~

~~(c) Method 3:— For Option 5 of Section 1.4.b, the tests will verify that the Generating Facility controls the generation and/or load to limit Inadvertent Export events as specified in Option 5 subsections (a)–(e). These may be factory tests if the measurement and control points are integral to the unit, or they may be performed in the field.~~

b. — In-Rush Current Tests Procedures

~~— These tests will determine the maximum In-rush Current drawn by the Generator:~~

~~(1) Locked Rotor Method— Use the test procedure defined in NEMA MG-1 (manufacturer's data is acceptable if available).~~

~~(2) Start-Up Method:—~~

~~(a)~~

~~Install and setup the Generating Facility equipment as specified by the manufacturer.~~

~~(b) Using a calibrated oscilloscope or data acquisition equipment with appropriate speed and accuracy, measure the current draw at the Point of Interconnection POI as the Generating Facility starts up and parallels with the Utility's Distribution System. Startup shall follow the normal, manufacturer-specified procedure. Sufficient time and current resolution and accuracy shall be used to capture the maximum current draw within five percent. In-rush Current is defined as the maximum current draw from the Utility during the startup process, using a 10-cycle moving average. During the test, the Utility source, real or simulated, must be capable of maintaining voltage within $\pm 5\%$ of rated at the connection to the unit under test.~~

~~(c) Repeat this test five times.~~

ATTACHMENT 3

Narrative Discussion of Rules No. 15 Tariff Revisions

Background

Guided by ordering paragraphs 16 and 17 of the Public Utilities Commission of Nevada's ("Commission's") December 27, 2024, order in Docket No. 24-05041, 2025-2044 Triennial Integrated Resource Plan and 2025-2027 Energy Supply Plan of Nevada Power Company d/b/a NV Energy ("Nevada Power") and Sierra Pacific Power Company d/b/a NV Energy ("Sierra" and, together with Nevada Power, the "Companies" or "NV Energy"), ("2024 Joint IRP Order"), and by feedback from Rules No. 15 stakeholders, NV Energy has developed a modernized, more transparent interconnection tariff that better supports Nevada's clean energy, energy storage, and transportation electrification objectives. NV Energy undertook a thorough examination of its entire Rules No. 15 in accordance with the Commission's guidance and the many changes proposed by stakeholders, with particular focus on integrating distributed energy resources ("DERs"), energy storage devices ("ESDs"), and electric vehicle/vehicle-to-grid ("EV"/"V2G") use cases in a consistent, standards-based framework.¹

In Advice Letters Nos. 562 and 689-E, NV Energy presents to the Commission its proposed comprehensive reorganization, clarification, and modernization of Rules No. 15, including explicit alignment with current Institute of Electrical and Electronics Engineers ("IEEE") and Underwriter Laboratories, Inc. ("UL") standards and clearer screening review and study pathways. This comprehensive revision also provides the additional specificity requested by stakeholders and implements the Commission's directive for NV Energy to develop and propose reliability-based thresholds and related tracking for net energy metering ("NEM") systems and other DER on NV Energy's electric distribution system, while safeguarding its customers through more clearly defined cost responsibility and recovery provisions for applicants.

The proposed Rules No. 15 are the product of an extensive stakeholder engagement process conducted from March through November 2025. Nearly 70 participants from industry, government agencies, law firms, and renewable energy organizations engaged in ten (10) structured workshops, supplemented by informal meetings and telephone discussions. NV Energy provided public notice of the stakeholder process and distributed pre-read materials in advance of each session to focus discussion and facilitate meaningful feedback. NV Energy also held targeted pre-session meetings with the Interstate Renewable Energy Council ("IREC") to refine agendas and ensure that key technical and policy issues were clearly framed for stakeholder input. Over the course of this process, NV Energy received and evaluated more than 100 stakeholder questions and comments submitted through workshops, e-mail, and written correspondence on topics including the applicability of various devices and configurations, ESD metering requirements, and EV and V2G

¹ This narrative refers to Rules No. 15 in plural as it applies to both Nevada Power's and Sierra's Rule No. 15.

technical requirements. For each workshop, NV Energy prepared and circulated final meeting notes capturing stakeholder comments, questions, and NV Energy's responses, providing a clear record of how stakeholder input informed the revisions proposed in the proposed Rules No. 15.

NV Energy has updated its Rules No. 15 with the Distributed Energy Resource Management System ("DERMS") it is currently implementing, explicitly in mind by defining clear, technology-neutral requirements for communications, operational data, and controllability for certain generating facilities and ESDs, while avoiding prescriptive program design or vendor-specific solutions. The proposed Rules No. 15 consolidate DER communications and operational data expectations into dedicated provisions that specify when interval metering, telemetering, communications interfaces, and advanced inverter functions must be enabled so that eligible DERs can be visible to, and eventually interoperable with, a future DERMS. It clarifies how export limits, operating modes (including non-export and limited export), and default advanced inverter settings consistent with IEEE 1547-2018 and UL 1741 SB are to be applied at the point of interconnection, so that DER can be safely integrated into DERMS, enabled monitoring and control schemes without further changes necessary to the Rule. However, the Rules No. 15 do not select or approve any particular DERMS platform, establish specific dispatch algorithms or control strategies, or define participation terms, compensation, or program rules for DERMS-enabled services. Those issues are reserved for future resource planning, program design, and tariff proceedings. In short, the proposed Rules No. 15 establish the minimum technical and communications capabilities needed to make DERs "DERMS-ready," while leaving the design and operation of DERMS-based programs and use cases to subsequent NV Energy filings.

Summary of Revisions

NV Energy revised its Rules No. 15 with the following objectives:

1. Modernize the Rules so they better support Nevada's clean energy, energy storage, and transportation electrification policies and reflects the growing diversity of DERs on its electric distribution system;
2. Make the Rules more accessible, transparent, and usable for applicants by clarifying applicability, definitions, and process steps so customers and developers can more easily understand what is required to interconnect;
3. Establish clearer, more granular screening review and study pathways (*i.e.*, Simplified, Fast Track, Supplemental, and Detailed Review) with improved transparency around timelines and requirements, to reduce delay and uncertainty in the interconnection process;
4. Explicitly incorporate emerging use cases such as stand-alone energy storage, hybrid photovoltaic ("PV") and energy storage, EV and V2G systems, microgrids, limited generation profile, and non-export and limited export configurations so they

are treated consistently within a single, coherent framework;

5. Align NV Energy's technical requirements with current industry standards (including modern IEEE and UL standards, particularly, IEEE 1547-2018 and UL 1741) and ensure compatibility with future grid-management tools such as DERMS and hosting capacity analysis;
6. Develop and embed reliability-based thresholds and tracking for NEM systems and other DERs on the electric distribution system, so that DER growth is proactively managed in a way that maintains safe, reliable operation of the grid;
7. Respond to stakeholder and IREC feedback by making interconnection processes more specific, predictable, and transparent, thereby reducing disputes over roles, responsibilities, and technical or procedural expectations; and
8. Improve internal consistency across NV Energy's tariffs by harmonizing its Rules No. 15 with related schedules and riders (*e.g.*, NMR-2025, standby, Qualifying Facility ("QF"), V2G pilots).

NV Energy has accomplished these objectives by:

- Expanding and updating key definitions and terms in the Rules No. 15 so that modern DERs, ESDs, EV charging, and V2G use cases are clearly and consistently described within a single framework;
- Restructuring the Rules to group related topics and process steps together, including new sections that bring together technical review and study pathways, technical requirements, and metering and telemetry provisions, which reduces redundancy and improves the Rules' internal logic and usability;
- Implementing large-scale structural and formatting improvements by adding descriptive headings, breaking long paragraphs into focused subsections, and using tables and lists to highlight decision points, responsibilities, and technical criteria, thereby improving readability and access to key requirements for applicants and internal users;
- Making comprehensive refinements and clarifications to the general narrative of the Rules so that the applicability of each review path, the triggers for more detailed studies, and the outcomes of those studies are more explicit and easier to follow;
- Explicitly incorporating and clarifying treatment of emerging configurations that were previously ambiguous or scattered, including stand-alone energy storage, PV plus energy storage hybrids, non-export and limited export systems, microgrids, and EV and V2G interconnections, and specifying the conditions under which each configuration may interconnect;

- Aligning technical requirements with current IEEE and UL standards and related industry guidance, and organizing those requirements in a way that supports future use of DERMS, hosting capacity analysis, and other grid management tools while maintaining clear, practical obligations for applicants;
- Developing and embedding reliability-based thresholds and tracking concepts for NEM systems and other DERs on the electric distribution system, by clarifying how projects are screened, when they trigger additional technical review or mitigation, and how NV Energy will monitor and respond to reliability constraints;
- Clarifying and refining NV Energy's and applicants' respective responsibilities regarding cost allocation, metering, system protection, communications capabilities, and ongoing operational obligations, in order to protect both customers and applicants and to reduce future disagreement over interpretation of the Rules; and
- Improving alignment between Rules No. 15 and related tariffs and riders, including NEM riders, standby service riders, Qualifying Facility "QF" schedules, and V2G pilots, so that cross-references are consistent and the treatment of generation and energy storage facilities is harmonized across NV Energy's tariffs.

NV Energy has expanded and reorganized its proposed Rules No. 15 in many areas, making them more detailed than the current Rules in order to improve comprehension, specificity, and accessibility for applicants and internal users. Many of the changes proposed by stakeholders during the workshop process, and those reflected in the Commission's directives in Docket No. 24-05041, have been incorporated into the proposed Rules No. 15.

1. Rules No. 15 Sections Revisions

Sections within the Rules No. 15 have been revised, reorganized or added as detailed below:

- Section A: Applicability (renamed from "General")
- Section B: Definitions and Acronyms (renamed from "Definitions")
- Section C: Applicable Codes and Standards (new section)
- Section D: Rights and Obligations (Section C in the current Rules)
- Section E: Application for Interconnection (Section D in the current Rules; renamed from "Application and Interconnection Process")
- Section F: Technical Review Process (Section I in the current Rules; renamed from "Initial Review Process for Application to Interconnect Generating Facilities")
- Section G: Design, Technical and Operating Requirements (Section E in the current

- Rules; renamed from “Generating Facility Design and Operating Requirements”)
- Section H: Metering, Monitoring and Telemetry (Section G in the current Rules)
- Section I: Facility Ownership and Cost Responsibility (Section F in the current Rules; renamed from “Interconnection Facility Ownership”)
- Section J: Facility, Installation, Inspection, and Commissioning (relocated from Section D in the current Rules; renamed from “Application and Interconnection Process”)
- Section K: Dispute Resolution (Section H in the current Rules; renamed from “Dispute Resolution Process”)

The revised and new sections improve clarity, separate unrelated provisions that are currently consolidated in the Rules, and address new issues as required.

2. Section A: Applicability

This section has been revised and reorganized to define the scope and applicability of Rules No. 15. The proposed language addresses a wider range of modern DERs, such as ESDs and EVs and EV supply equipment (“EVSE”) configured for V2G operation. In general, any DER that will operate in parallel operation or momentary parallel operation with the NV Energy’s electric distribution system will be required to submit an application under Rules No. 15, improving NV Energy’s visibility into facilities interconnecting with its grid and ensuring consistent application of safety and technical standards.

During the stakeholder sessions, several parties expressed confusion about how the Rules No. 15 apply to backup ESDs, NEM systems, and other specific use cases. Stakeholders also requested that the proposed Rules ensure that EVs are properly addressed and to avoid language where any EV capable of V2G discharging would need to submit a Rules No. 15 application if such capability was not enabled. In response, NV Energy refined the language and added a new attachment (Attachment 1 – Applicability) that illustrates common configurations and use cases, whether they are considered in parallel operation, exporting to the grid, subject to the Rules No. 15 and need to submit an application. The attachment also guides applicants when they must follow another process, such as that found in Rule No. 19 or Rule No. 3, to provide clarity for stakeholders. Attachment 1 is intended to provide practical guidance to applicants when an application is required and how different configurations are treated under the Rules.

Section A also clearly identifies when Rules No. 15 do not apply, with cross-references to other governing processes or tariffs. For example, wholesale interconnections under Federal Energy Regulatory Commission jurisdiction will continue to be processed under the applicable Small Generator Interconnection Agreement, Large Generator Interconnection Agreement, or QF process, as appropriate. Isolated systems are not subject to Rules No. 15 and are instead addressed

under NV Energy's Rules No. 19 (Standby Service), and any modifications to the distribution system itself remain governed under its Rules No. 9 (Line Extensions). Overall, this section is intended to provide clearer guidance to applicants when they must submit an application, while more comprehensively capturing all DERs operating in parallel operation with NV Energy's distribution system to support planning, operations, and risk management.

3. Section B: Definitions and Acronyms

This section has been expanded to incorporate terminology as well as acronyms that reflect modern DER technologies, evolving industry standards, and widely adopted IEEE concepts. New defined terms, including functional roles, device classifications, and technical acronyms, were added to support clarity, align with IEEE 1547-2018 and related standards, and ensure consistent use of terminology throughout the Rules. IREC also recommended new defined terms such as "export capacity" to properly distinguish between the full nameplate capacity and how much energy export could be pushed back onto the grid, as this distinction plays a role in the technical screens. NV Energy agrees this distinction should be defined but alternatively use "maximum generating capacity" that aligns with IEEE terminology. Attachment 4 - Table Summary of Rules No. 15 Tariff Revisions – to this filing lists all the new defined terms and acronyms.

4. Section C: Applicable Codes and Standards

This new section has been added to consolidate all the referenced codes and standards throughout the Rules. It includes IEEE 1547-2018 and UL 1741 SB, as well as associated communications protocols and testing procedures. These updates are intended to ensure that interconnected resources meet up-to-date safety, interoperability, and performance requirements, including the advanced grid support functions now expected of modern inverters and power control systems ("PCS").

In addition, this section acknowledges certain emerging or forthcoming standards that are not yet formally published but are anticipated to become the primary governing standards for DER certification and performance. By referencing these evolving standards in a forward-looking manner, Rules No. 15 create a pathway for new technologies, such as V2G applications and advanced PCS configurations, to be certified and interconnected without frequent tariff revisions.

5. Section D: Rights and Obligations

This section contains minor but important revisions to reflect current interconnection practices and operational needs. The edits incorporate the concepts of temporary interconnection authorization ("TIA") and permission to operate ("PTO") to better distinguish the stages of energization prior to full approval. Language was also expanded to allow NV Energy to limit or disconnect a generating facility due to cybersecurity related concerns.

6. Section E: Application for Interconnection

This section has been revised to improve structure and specify when timelines begin. New subsections and concepts are also introduced:

- a. **Optional Pre-Application Report (Sections E.1, I.2):** This is a new optional report, allowing customers to request system data, such as hosting capacity, prior to submitting an interconnection application. This report is available for a fee of \$300, which is consistent with industry practices and common utility pre-application report fees. The report provides applicants with early insight into distribution system conditions that may impact project viability to improve transparency and efficiency.

NV Energy initially proposed to make this report available only for projects larger than 25 kilowatt (“kW”) net nameplate rating, but stakeholders recommended offering it to all applicants, regardless of system size, noting that customers may be willing to pay the fee and that system size is often not yet finalized at early planning stages. NV Energy agreed with this recommendation and did not limit eligibility accordingly.
- b. **Solar-Powered Affordable Housing System (Section E.2.b):** To incorporate solar-powered affordable housing systems established under Nevada Assembly Bill 458 (2025), which was enacted earlier this year, Rules No. 15 now include “Solar-Powered Affordable Housing Systems” as a defined term and clarify that qualified multifamily affordable housing properties will follow the same interconnection application process and safety review as NEM systems. Under the proposed Rules, these systems are generally treated the same as NEM systems for purposes of interconnection review, so they are evaluated under the same technical standards, screening criteria, and protection requirements.
- c. **Application Containing Defects (Section E.2):** This section has been added as required by ordering paragraph 9 of the Commission’s September 18, 2024, order in Docket No. 24-02026, Sierra’s 2024 general rate case. Under this process, an application may be rejected if the applicant fails to fully correct identified defects after two subsequent reviews by NV Energy, in addition to the initial review of the original submission. During stakeholder discussions, several participants expressed confusion about what would be considered an “error” or how it would apply if NV Energy later identified a new deficiency that had not been flagged in prior reviews. In response, NV Energy refined and clarified the language to address these concerns. The subsection also now includes a cross-reference to Section K for dispute resolution. The new language establishes clear limits on repeated re-work and multiple reviews to help manage NV Energy’s workload.

d. **Modifications to Applications or Existing Generating Facilities (Section E.3):**

This section adds a new modifications provision, clarifying which changes to an existing generating facility require NV Energy to be notified, require NV Energy’s approval, or require a new interconnection application. A new defined term “Material Modification(s)” has been added to define a change to generating facility equipment that could have an impact on the original technical review or interconnection study results. A new Table 2 within that section provides structured guidance to help applicants understand how different types of modifications are evaluated, including equipment replacements, operating-mode changes, and configuration updates. Defining material modification(s) and allowing minor modifications is in line with industry best practices. IREC’s Model Interconnection Procedures – 2023 Edition highlights this issue, noting that the lack of clear modification rules can lead to inequitable outcomes in the interconnection queue. By implementing this, NV Energy aligns with IREC’s recommendation to clearly define technical changes that can be made without submitting an entire new application.

During a stakeholder meeting, a representative from the Regulatory Operations Staff of the Commission suggested that Rules No. 15 should explicitly address the decommissioning of systems. In response, NV Energy added decommissioning to Table 2, clarifying that producers must notify NV Energy when a generating facility is removed, retired, or otherwise permanently decommissioned.

7. Section F: Technical Review Process

Previously Section I - Initial Review Process for Applications to Interconnect Generating Facilities, this section has been substantially updated to introduce a modern, tiered screening framework and improve consistency and transparency, following industry best practices.

- a. **New Tiered Screening Framework (Sections F.1-4):** The Rules’ current initial and supplemental review processes have been restructured into simplified, fast track, supplemental, and detailed reviews, allowing NV Energy to prioritize review resources on higher-risk or exporting systems. These updates modernize the screening process, follow industry best practices and IREC’s Model Interconnection Procedures – 2023 Edition, provide clearer pathways for applicants, and strengthen system reliability. Under the proposed Rules, all applications will be screened, including NEM systems under simplified review. Importantly, even when one or more screens are not passed, NV Energy may still approve the interconnection if it determines that the proposed generating facility will not adversely impact the safety or reliability of its distribution system.
- b. **New Screens (Sections F.2, F.3):** The proposed screening framework also

introduces new technical screens based on hosting capacity and maximum generating capacity. These screens rely on actual feeder limits and distribution system data, including information available on NV Energy's Distributed Resources Plan ("DRP") publicly accessible web portal, to support transparent and reasonable engineering decisions. By grounding screening outcomes in quantifiable system capabilities, the Rules better align interconnection decisions with real-world grid conditions.

In addition, the Rules now explicitly recognize limited export and non-export configurations, allowing certain projects with zero or tightly managed export to follow more streamlined review paths. Depending on the configuration and risk profile, these systems may qualify for simplified review or, in some cases, bypass certain export-related screens altogether, while still meeting all applicable safety and technical requirements. This approach facilitates the interconnection of comparatively low-impact DERs, such as backup-only energy storage or limited export systems, without compromising distribution system reliability. In developing these screens, many stakeholders offered recommendations, which NV Energy has carefully considered and, where feasible, incorporated into the Rules No. 15 revisions.

- c. **Reference Point of Applicability (Sections F, G.4, J.1, J.2):** To align with the updated IEEE 1547-2018 standard, the concept of the reference point of applicability ("RPA") has been adopted in the proposed Rules No. 15. The RPA refers to the designated point in the interconnection design where performance and protection requirements apply. It provides a clear and documented location for technical review screening, testing and compliance (especially in complex DER configurations), and ensures that installation, inspection, and commissioning activities are referenced to a single, agreed-upon point on the distribution system (the default RPA will be the point of common coupling unless a different location is mutually agreed upon between the applicant and NV Energy).
- d. **Applicants' Options Meeting (Section F.5):** Applicants now have the option to elect to proceed directly to detailed review at any time, providing greater flexibility. In a detailed review meeting, applicants may discuss failed technical review screens with NV Energy and decide whether to withdraw, modify, or proceed to a detailed review process.

8. Section G: Design, Technical, and Operating Requirements

This section has been substantially revised and updated to incorporate modern technical standards and to address the growing diversity of DER technologies interconnecting to the distribution system. The section has also been reorganized into clear, technology-specific subsections to improve usability, transparency, and ease of applying requirements to different configurations.

- a. **IEEE 1547-2018 Grid Support Functions (Sections G.6, G.9):** The proposed Rules No. 15 explicitly adopt the IEEE 1547-2018 grid support functions for rotating machine generators (Section G.6) and advanced inverters (Section G.9). Under the new provisions, interconnected generating facilities are required to provide capabilities such as voltage and frequency ride-through, active and reactive power control, and other advanced grid support functions consistent with IEEE 1547-2018. These capabilities enable DERs to support, rather than disrupt, local grid conditions, such as improving voltage stability, reducing nuisance tripping, and enhancing the overall resilience of the distribution system. By leveraging these grid support functions, NV Energy can better integrate higher levels of DERs, potentially defer certain upgrades to its distribution system, and maintain safer, more reliable service as adoption of solar, storage, and other technologies continues to grow.
- b. **Emerging Technologies:** New subsections have been added to explicitly address the requirements for emerging and increasingly common technologies, such as ESDs (Section G.7), EVs, including V2G, and EVSE (Section G.8), and microgrids (Section G.10).

These technologies often involve more complex system designs, control schemes, and operating modes. The new language recognizes that different configurations may require additional technical review to evaluate their impacts on safety and reliability. By clearly bringing these technologies within the scope of Rules No. 15 and allowing for reasonable discretion on NV Energy's part where needed, the proposed Rules provide a more robust and flexible framework for reviewing non-traditional DER designs while still supporting innovation and customer adoption.

Several stakeholders provided detailed suggestions on NV Energy's proposed V2G language, including recommendations on definitions and the incorporation of specific technical standards. In response, NV Energy has added certain standards references to Section C for consistency and clarity. NV Energy had initially proposed requiring that V2G configurations adhere to standards such as SAE J2847/3 (Communication for Plug-in Vehicles as a Distributed Energy Source). Multiple stakeholders, however, advised that imposing this requirement at this time would be premature. Upon further review, NV Energy concurred and removed that proposed specific V2G standard requirement from the proposed Rules, while still recognizing these standards as informative references.

Stakeholders also raised concerns regarding references to National Fire Protection Association standards and Authority Having Jurisdiction ("AHJ") approval, citing that enforcement of such requirements falls outside of NV Energy's jurisdiction. NV Energy acknowledged these comments, clarifying that although AHJ approval is a necessary step for interconnection, it does not supersede the utility's obligation

to ensure distribution safety and reliability if an AHJ-approved project presents unsafe operating conditions or adverse risk to the grid. As a result, NV Energy maintains the original proposed language, concluding that NV Energy will maintain system safety and reliability without infringing on AHJ authority.

- c. **Cybersecurity Requirements (Section G.11, D.11):** A new cybersecurity subsection has been added to help ensure that NV Energy's distribution system is protected from cyber vulnerabilities, particularly as DERs begin communicating with NV Energy's DERMS platform or other systems. The new section incorporates high-level cybersecurity safeguards to protect NV Energy's network, systems, and customers from cyber vulnerabilities associated with increasing DER connectivity. The Rules clarify that any communications interfaces used for DER monitoring, control, or data exchange must comply with applicable NV Energy cybersecurity requirements and standards, and that NV Energy may limit or disable communications functions that pose unacceptable cyber risk.
- d. **Communications Protocols (Section G.12):** This new section establishes the communication protocols for DERs with communications capabilities to adhere to the communications and interoperability provisions of IEEE 1547-2018 and related standards, so that NV Energy can securely verify settings, coordinate grid-support functions, and where applicable, exchange operational data. Aligning communications requirements with IEEE 1547-2018 provides a consistent, vendor-neutral framework for how advanced inverters, ESDs, and other DERs interface with NV Energy's distribution system and operational systems.

Stakeholders asked for clarification on the proposed language regarding the producer shall not lock the utility or its designated third-party representatives out of local communication interface. NV Energy provided clarity on the reasons local communication interface shall not be locked by adding that direct communications shall be made available at the request of the utility to prevent an emergency or unsafe operating conditions or to enable cost-effective pathways to customer participation in voluntary programs and/or tariffs. This clarification improves transparency and predictability for producers and customers by defining the limited circumstances under which local communications access may be requested.

9. Section H: Metering, Monitoring, and Telemetry

This section has been revised primarily to improve formatting, organization, and clarity, with no substantive changes to technical or procedural requirements. Specific references to individual NMR schedules were replaced with a general NMR reference so Rules No. 15 do not need conforming edits each time those schedules are revised or new schedules are added. This ensures long-term consistency and reduces administrative burden while maintaining alignment with

applicable NMR requirements through cross-reference rather than direct citation.

Several stakeholders requested that NV Energy remove the separate metering requirement for ESDs, emphasizing that the additional meter increases project cost and installation complexity. NV Energy carefully considered these recommendations but decided not to propose elimination of the requirement at this time and will continue to review it in future updates. The use of PCS and other export-control technologies is newly introduced in the Rules and remains an evolving area. NV Energy believes it is prudent to maintain the existing metering requirement while it gains additional operational experience with these configurations and evaluates whether alternative methods (such as certified and validated PCS controls) could provide equivalent assurance. NV Energy will continue to review this requirement and potential alternatives in future updates, but no changes are proposed at this time.

10. Section I: Facility Ownership and Cost Responsibility

This section has been updated to clarify cost responsibility by adding the fee for the optional pre-application report and expanding references to Rules No. 9 to address interconnection facilities and distribution system improvement costs associated with new or increased load from ESDs or EV/EVSE. In addition, NV Energy made minor cosmetic edits and removed the cost exemption for systems under the NMR-B tariff in the current Rules to properly align with Nevada Revised Statutes 704.773(3)(a)(2),² meaning that cost responsibility is applied consistently across NEM system installations for systems over 25 kW.

11. Section J: Facility Installation, Inspection, and Commissioning

- a. **Pre-Construction Meeting Option (Section J.1.b):** The proposed Rules No. 15 introduce a new concept of an optional pre-construction coordination meeting, which may be requested by either NV Energy or the applicant. This meeting would be intended to occur after interconnection approval but before construction or major field work begins to provide a structured opportunity for both parties to review the project scope, schedule, required outages, site access needs, and safety requirements. During this coordination, the parties could also confirm metering and telemetry requirements and locations, discuss any protection or communications work to be performed by each party, and review commissioning and testing expectations. By formalizing this pre-construction touchpoint, the Rules are

² 3. If the net metering system of a customer-generator who accepts the offer of a utility for net metering has a capacity of more than 25 kilowatts, the utility:

- (a) May require the customer-generator to install at its own cost:
 - (1) An energy meter that is capable of measuring generation output and customer load; and
 - (2) Any upgrades to the system of the utility that are required to make the net metering system compatible with the system of the utility.

designed to reduce misunderstandings in the field, minimize changes and re-work, and support safer, more efficient project execution for both applicants and NV Energy.

- b. **Temporary Disconnect/Reconnect Process (Section J.1.f):** As a result of Docket No. 24-03026, which involved a NEM customer complaint regarding temporary disconnect/reconnect process delays, NV Energy clarified and separated the process from the Rules No. 15 interconnection process. The proposed language now expressly calls out that work performed solely to modify customer equipment, such as upgrading service panels, must be coordinated under NV Energy's Rules No. 16 (Service Connections, Meters, and Customer's Facilities), and that such work should not extend or restart the Rules No. 15 interconnection timelines. This distinction is intended to prevent confusion between basic service work and DER interconnection review, and to ensure that customers are not subject to unnecessary delays in receiving PTO once the Rules No. 15 requirements have been satisfied.
- c. **Temporary Interconnection Authorization (new defined term):** A new mechanism for TIA has been added that allows for temporary, non-export interconnection for commissioning and testing before NV Energy inspection and provision of full PTO. In the stakeholder process, NV Energy was informed that customers and contractors often need to perform commissioning activities prior to PTO, and in practice some of this testing was already happening informally, without clear expectations from NV Energy. The TIA creates a formal, transparent "test-mode" path to address that need.

Under this approach, for smaller systems (≤ 25 kW net nameplate rating), a TIA is automatically granted for commissioning-only, non-export operation once the customer or producer notifies NV Energy of their planned commissioning. For larger systems (>25 kW net nameplate rating), the producer must notify NV Energy before commissioning, and NV Energy will issue a TIA for a limited period, during which the system may operate in a controlled, non-export test mode.

A TIA would expire upon issuance of PTO or upon NV Energy revocation, and all normal safety, permitting, and code requirements continue to apply during this period. There are no new fees associated with the TIA as the goal is to simply add clarity and a practical, customer-friendly method of completing necessary commissioning activities while maintaining safety and compliance.

12. Section K: Dispute Resolution

Revisions to Section K are minimal and include minor formatting edits that do not alter the substance or intent of the existing dispute resolution provisions.

IREC Topics

Throughout the Rules No. 15 revision and update process, NV Energy carefully reviewed IREC's written comments and guidance documents including the IREC Model Interconnection Procedures - 2023 Edition, Toolkit & Guidance for the Interconnection of Energy Storage & Solar-Plus-Storage - March 2022, and the Decision Options Matrix for IEEE 1547-2018 Adoption - September 17, 2024, to help inform and guide the proposed revisions. Many of the concepts and best practices identified by IREC have been incorporated into the proposed Rules' language. In addition to the public stakeholder sessions, NV Energy held multiple meetings solely with IREC to discuss specific technical and policy topics and walk through the Decision Options Matrix. As a result of this collaborative process, the proposed Rules No. 15 reflect numerous IREC recommendations related to the Application process, technical screening, defined terms, and adoption of IEEE 1547-2018.

NV Energy was directed by the Commission in its 2024 Joint IRP Order in ordering paragraph 16 to "...include an update on the topics outlined above by IREC including why or why not these items were addressed in the meetings and formal filing." The key topics raised by IREC were outlined in paragraph 63 of the 2024 Joint IRP Order as follows:

- a. *"The HCA's role in streamlining the interconnection process and evaluation to determine which initial review screens are commonly failed and/or could be replaced by the more precise evaluation found in the HCA and examination of NV Energy's supplemental review process (Ex. 2000 at 46-47);"*
- b. *"Modernizing the screening and study processes to recognize recent developments, including the use of acceptable export controls as described in the Toolkit and Guidance for the Interconnection of Energy Storage and Solar-Plus-Storage to incorporate best practices for export controls in Rule 15 (Ex. 2000 at 46-49);"*
- c. *"The Decision Options Matrix for IEEE 1547-2018 Adoption which IREC notes NV Energy has rightly acknowledged, but which IREC states it's uniquely positioned to guide NV Energy through the process of adopting as IREC engineers assisted in developing IEEE 1547-2018 and has developed tools for guidance and best practices for this subject. (Ex. 2001 at 11-14); and"*
- d. *"The voltage variation evaluation recommendations found in IEEE 1547-2018, including the magnitude DER output change and threshold percentage which IREC asserts will permit more DERs to interconnect to the grid under the 3% voltage change measure as opposed to NV Energy's existing 2.5% standard (Ex. 2001 at 14-15.)"*

NV Energy has considered and addressed those topics in the proposed Rules No. 15 revisions as follows:

- a. NV Energy agrees that hosting capacity analysis (“HCA”) can play an important role in streamlining the interconnection process and better targeting engineering review where it is most needed. In the proposed Rules No. 15 revisions, NV Energy has explicitly incorporated hosting capacity and relevant minimum load as part of the screening framework, using distribution data to inform review outcomes.

At the same time, HCA is not a complete substitute for all technical review screens, particularly for location-specific protection, operational, or abnormal configuration issues that are not fully captured in a static HCA results data set.

- b. NV Energy agrees that modernizing the technical screening and study processes to recognize recent developments in export controls is important and has incorporated many of the concepts described in IREC’s documents. In the proposed Rules No. 15, the current initial and supplemental review processes are proposed to be replaced with a modern tiered framework (simplified, fast track, supplemental, and detailed review) that better aligns review effort with project size and export risk. Within this framework, NV Energy has adopted several of the technical screening and study approaches described in IREC’s materials, including explicit treatment of limited export and non-export configurations, the use of hosting capacity, relevant minimum load, and aggregate export screens, and clearer pathways for projects using acceptable export controls and PCS. These changes are intended to recognize and enable best practices for export control while maintaining distribution system safety, reliability, and power quality.
- c. NV Energy has utilized IREC’s Decision Options Matrix throughout the Rules No. 15 revisions and update process to evaluate technical, operational, and regulatory pathways for aligning with IEEE 1547-2018. This matrix has been instrumental in documenting considerations among internal NV Energy teams and stakeholders. During stakeholder sessions, NV Energy regularly referenced the matrix to tie discussions back to the decision options utilized.

The final version of the IREC Decision Options Matrix is included as Appendix 7 to these Rule No. 15 Advice Letters Nos. 562 and 689-E filings, with topics underlined that have been incorporated into the proposed Rules. All the decision options categorized as near-term have been incorporated in the Rules, with several found in Section G for the different operating requirements. Many of the mid-term options are also found in Sections F and G relating to the interconnection technical review screens, communication protocols, enter service settings, and the RPA.

Some mid- and long-term options, however, have intentionally been left blank in the matrix or not embedded in the proposed Rules No. 15 language, as they are better suited to implementation through supplemental materials, such as handbooks, application forms, and internal procedures, which NV Energy plans to update after the Commission adopts the proposed Rules.

- d. NV Energy has addressed this issue by revising the voltage variation criterion it uses in its HCA to the IEEE 1547-2018 three (3) percent voltage change value in November 2024 and incorporated it into proposed technical screen I (inadvertent export) in the Rules No. 15. Screen I allows non-export and limited export DER to pass where any inadvertent export is brief, bounded, and does not produce more than approximately a three (3) percent voltage change at the relevant point on the feeder, thereby enabling more DER to interconnect while maintaining compliance with appropriate voltage limits and system reliability requirements.

NEM Reliability Thresholds

In response to ordering paragraph 17 of the December 27, 2024, Joint IRP Order, NV Energy has incorporated NEM reliability impact thresholds (“Thresholds”) directly into the proposed Rules No. 15 by embedding a structured, multi-level technical review process and explicit screening criteria that are applied at the point of interconnection and along relevant line sections for NEM systems. The proposed Rules No. 15 introduce technical review screen E, which applies thresholds in sequence using hosting capacity, relevant minimum load, and a conservative fallback percentage-of-peak-load test, with non-export systems automatically passing aspects of the screen because they do not add incremental export to the distribution system.

The thresholds are supported by default-enabled advanced inverter functions aligned with IEEE 1547-2018, a strengthened commissioning and compliance process that requires verification of settings and UL 1741 SB Certification prior to PTO, and a tracking and reporting framework that leverages NV Energy’s DRP HCA and DER analytics tools to monitor penetration and mitigation outcomes over time. Together, these revisions ensure that incremental NEM penetration is evaluated against clearly defined, enforceable, and auditable reliability criteria within the Rules No. 15, and that NEM growth does not degrade distribution system reliability by causing overloads, unacceptable voltage excursions, or protection miscoordination, but instead is integrated in a controlled manner with targeted mitigation where necessary.

Conforming Updates

The revisions to the Rules No. 15 will necessitate conforming updates to certain other NV Energy Rules and rate schedules that currently reference Rules No. 15, specific section numbers within Rules No. 15, or legacy terminology that has been reorganized in these Advice Letters Nos. 562 and 689-E filings. These impacts are substantially administrative in nature and are limited to updating cross-references, headings, and defined terms so that those tariffs correctly point to the proposed Rules No. 15 provisions. The revisions to Rules No. 15 do not, by themselves, alter the rates, eligibility criteria, or core terms and conditions of those other rules and schedules.

Following Commission approval of the proposed Rules No. 15, NV Energy will review all affected tariffs and Rules, including applicable net metering riders, standby service riders, QF schedules, and related EV/V2G pilot schedules, and will submit a subsequent filing(s) to update cross-references and terminology as needed to align them with the Commission-approved Rules No. 15.

Rate schedules that reference Rules No. 15 that may need to be updated once the Rules have been finalized and approved by the Commission include:

- Schedule NMR-A – (Residential and Small General Service)
- Schedule NMR-B
- Schedule NMR-G
- Schedule NMR-405
- Schedule NMR-2025 –new 15-minute netting rider
- Schedule SSR – Small Standby Service Rider
- Schedule LSR – Large Standby Service Rider
- Schedule QF
- Schedule CSPP
- Schedule ESB-V2G – Electric School Bus Vehicle-to-Grid Trial
- Schedule IAIWP

ATTACHMENT 4

Attachment 4 to Advice Letter
Table Summary of Rules No. 15 Revisions
Nevada Power Company and Sierra Pacific Power Company

The following provides an overview of Key Revisions of Rules No. 15.

	<u>Section Title</u>		<u>Key Revisions</u>	<u>Rationale</u>
	Section A - Applicability		Changed "General" to "Applicability" section	Consolidate information on Rules No. 15 scope and applicability
			Reorganized and expanded the Applicability section to clearly define Rules No. 15 scope and when it applies.	Improve transparency and reduce misapplication for modern DER configurations.
A. 1.			Replaced net capacity with new defined term "Maximum Generating Capacity" of 20 MW at the Point of Interconnection	Align terminology with IEEE 1547-2018 and better capture mixed DER configurations.
A. 2.			Expanded applicability details to facilities that operate in parallel operations regardless of Non-Export or Exporting, with a reference to a new Attachment 1	Address applicability to the Rule for modern technology and emerging technologies, such as Energy Storage, and Vehicle-to-Grid. Provides clarity on back up generators' applicability to the Rule.
A. 3.			Specifically address Generating Facilities that are not subject to Rules No. 15: facilities seeking to sell their electrical output and facilities that are fully isolated	Added for clarity that separate application processes apply for these type of facilities
A. 5.			Added specific language for existing agreements and applicability of new rule only as modified by mutual agreement	Grandfathering clause.
	Section B - Definitions and Acronyms		Added a dedicated Acronyms subsection and updated definitions to support the revised review framework and modern DER configurations.	Improve readability and ensure consistent interpretation across the Rule.
B.	Definitions and Acronyms			
	Removed terms		Initial Review	Screening tier updated to new framework
	Acronyms		AC	Ease of reference
			ANSI	Ease of reference
			AHJ	Ease of reference
			ATS	Ease of reference
			Commission	Ease of reference
			DC	Ease of reference
			DCFC	Ease of reference
			FERC	Ease of reference
			IEEE	Ease of reference

<u>Section Title</u>	<u>Key Revisions</u>	<u>Rationale</u>
	kVA	Ease of reference
	kV/AR	Ease of reference
	kW	Ease of reference
	kWh	Ease of reference
	MW	Ease of reference
	NAC	Ease of reference
	NEC	Ease of reference
	NFPA	Ease of reference
	NRS	Ease of reference
	UL	Ease of reference
	TCP/IP	Ease of reference
New Terms	Active Affordability Covenant	Support AB458 (2025) concepts
	Qualified Low-Income Residential Building	Support AB458 (2025) concepts
	Qualified Multifamily Affordable Housing Property (QMAHP)	Support AB458 (2025) concepts
	Solar-Powered Affordable Housing System	Support AB458 (2025) concepts
	Customer(s)	Referenced from Rules 1
	Interval Meter	Referenced from Rules 1
	Meter	Referenced from Rules 1
	Qualifying Facility	Referenced from Rules 1
	Rule	Referenced from Rules 1
	Service(s)	Referenced from Rules 1
	Standby Service	Referenced from Rules 1
	Tariff Schedule(s)	Referenced from Rules 1
	Optional Pre-application Report	Updated Application options
	Optional Pre-application Report Request Form	Updated Application options
	Temporary Interconnection Authorization (TIA)	New defined concept
	Unauthorized Interconnection	New defined concept
	Permission to Operate (PTO)	Formal definition
	Section	Ease of reference
	Advanced Inverter (a.k.a., Smart Inverter)	Support IEEE 1547-2018 concepts
	Customer Microgrid	Support IEEE 1547-2018 concepts
	Distributed Energy Resource(s)(DER)(s)	Support IEEE 1547-2018 concepts
	Electric Vehicle Supply Equipment (EVSE)	Support IEEE 1547-2018 concepts
	EV	Support IEEE 1547-2018 concepts
	Grid Following Inverter	Support IEEE 1547-2018 concepts
	Grid Forming Inverter	Support IEEE 1547-2018 concepts
	Hybrid Microgrid	Support IEEE 1547-2018 concepts
	Intentional Island	Support IEEE 1547-2018 concepts
	Master Microgrid Controller	Support IEEE 1547-2018 concepts
	Microgrid	Support IEEE 1547-2018 concepts

<u>Section Title</u>	<u>Key Revisions</u>	<u>Rationale</u>
	Microgrid Interconnection Device	Support IEEE 1547-2018 concepts
	Power Control System (PCS)	Support IEEE 1547-2018 concepts
	Vehicle-to-Grid (V2G) EV	Support IEEE 1547-2018 concepts
	Enter Service	Support IEEE 1547-2018 concepts
	Export; Exported; Exporting	Formal definition
	Limited Export(ing)	Support IEEE 1547-2018 concepts
	Limited Generation Profile	Support IEEE 1547-2018 concepts
	Material Modification(s)	Updated Application requirements
	Maximum Generating Capacity	Replaced net capacity concept
	Reference Point of Applicability (RPA)	Support IEEE 1547-2018 concepts
	Synchronization (Synchronizing)(Synchronize)	Updated technical requirements
	TCP/IP	Support IEEE 1547-2018 concepts
	Detailed Review	Updated technical review process
	Fast Track Review	Updated technical review process
	Hosting Capacity	Updated technical review process
	Interconnection Study Agreement	Updated technical review process
	Relevant Minimum Load	Updated technical review process
	Screen(s)	Updated technical review process
	Simplified Review	Updated technical review process
	Short Circuit Interrupting Capability	Updated technical review process
Updated Terms	Certification Test ==> Certification Test(ing)(s)	Cosmetic change
	Commissioning Test ==> Commissioning Test(ing)(s)	Cosmetic change
	Energy Storage Device == > Energy Storage Device (ESD)	Cosmetic change
	Interconnection and Operating Agreement ==> Interconnection and Operating Agreement (IOA)	Cosmetic change
	Island; Islanding == > Island; Islanded; Islanding	Cosmetic change
	Non-Exporting ==> Non-Exporting(ing)	Cosmetic change
	Periodic Test ==> Periodic Test(ing)	Cosmetic change
	Point of Interconnection ==> Point of Interconnection (POI)	Cosmetic change
	Production Test ==> Production Test(ing)	Cosmetic change
	Simplified Interconnection ==> Simplified Review	Updated technical review process
	Telemetering ==> Telemetering, Telemetry	Cosmetic change
	Transfer Trip ==> Transfer Trip (Capability)	Cosmetic change
	Type Test ==> Type Test(ing)	Cosmetic change
	Unintended Island ==> Unintentional Island	Cosmetic change
	Visible Disconnect ==> Visible-Break Isolation Device	Cosmetic change

	<u>Section Title</u>	<u>Key Revisions</u>	<u>Rationale</u>
	Section C - Applicable Codes and Standards	Added a dedicated section consolidating the codes and standards referenced across Rules No. 15.	Improve structure and reduce duplicative or inconsistent references.
		IEEE Std 1453™-2022: IEEE Standard for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems.	Provide a consistent reference for power quality evaluation.
		IEEE Std 1547™-2018: IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces, as amended by IEEE 1547a™-2020, including use of IEEE 1547.1™-2020 testing protocols to establish conformity.	Align technical requirements with national interconnection standards.
		IEEE Std 1547.1™-2020: IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces.	Align technical requirements with national interconnection standards.
		IEEE Std 1815™-2012: IEEE Standard for Electric Power Systems Communications—Distributed Network Protocol (DNP3).	Support technology-neutral communications requirements and future DERMS interoperability.
		IEEE Std 2030.5™-2023: IEEE Standard for Smart Energy Profile 2.0 Application Protocol (SEP 2.0).	Support technology-neutral communications requirements and future DERMS interoperability.
		NPPA 700®: National Electric Code® 2017 Edition (as modified by any local code amendments).	Ensure electrical installation expectations are clear.
		SAE J3072: Interconnection Requirements for Onboard, Grid Support Inverter Systems.	Provide EV-specific reference points while keeping requirements technology-neutral.
		UL 1741/UL 1741 SA/UL 1741 SB: STANDARD FOR SAFETY Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources.	Provide clear equipment certification expectations.
		UL 3141: Outline of Investigation for Power Control Systems (only following this standard's full approval and implementation date).	Provide clear equipment certification expectations.
		UL 9741: STANDARD FOR SAFETY Electric Vehicle Power Export Equipment (EVPE)	Provide clear equipment certification expectations.

	Section Title	Key Revisions	Rationale
	Section D - Rights and Obligations	Clarified rights and obligations and the agreement structure that implements Rules No. 15, including for net metering systems where applicable.	Improve transparency on how Rules No. 15 are implemented through agreements.
D.1		Clarified agreement naming and applicability to capture both Net Metering agreements and the Interconnection and Operating Agreement (IOA).	Ensure the appropriate agreement form is used by project type.
D.6		Clarified obligations related to Temporary Interconnection Authorization and Permission to Operate, including when parallel operation is permitted.	Align with new TIA concepts and prevent unauthorized operation.
D.7		Added exception note for parallel operation for commissioning and testing before inspection and PTO.	Added to account for new exceptions provided for in Section J.
D.11		Added or clarified references to Unauthorized Interconnection as a safety and cybersecurity risk.	Protect system reliability and customer and Utility data.
D.11		Clarified expectations for restoring connection in a timely manner once issues are resolved, subject to applicable tariffs and agreements.	Reduce ambiguity and set clear expectations for reconnection.
		Formatting, redundancy removals, and other clarifying edits without changing requirements.	Improve readability.
	Section E - Application for Interconnection	Reorganized application requirements, timelines, and documentation to align with the revised technical review framework.	Improve predictability and reduce incomplete applications.
E.1	Optional Pre-application Report	Added an optional, fee-based pre-application report process, including a request form, available data scope, a response target, and an "as-of" data disclaimer.	Provide early information to applicants and reduce late-stage redesigns.
E.1.a.		Applicant may request optional Pre-Application Report for a non-refundable fee of \$300	Practice and cost is based on industry practice. NV Energy initially proposed this option for applications with facilities > 25 kW, but updated it to open to everyone, following some stakeholder requests. Since it is prior to submitting application, the size of the system would be unknown. It is also an optional report that any customer should an applicant chooses to pay for.
E.2.b.(1)	Application Process	Added application provisions for Solar-Powered Affordable Housing Systems and qualifying affordable housing projects, including related cost treatment.	Implement statutory affordable housing pathway requirements.
E.2.g.		Clarified how the Utility records date and time of application receipt and completion for timeline tracking.	Improve timeline transparency and reduce disputes.

	Section Title	Key Revisions	Rationale
E.2.i.		Expanded the defects process to clarify what constitutes a defect, cure expectations, and how additional deficiencies are handled.	Address stakeholder confusion and reduce repeated restart cycles. (Per Docket 24-02026).
E.3	Modifications to Applications or Existing Generating Facilities	Added a Material Modification framework describing when changes require notice, additional information, or a revised application.	Align with industry practice and provide predictable treatment.
		Added a reference table with common modification scenarios and required actions.	Improve consistency and efficiency of determinations.
		Clarified that applicants may dispute Utility determinations regarding Material Modifications.	Provide procedural transparency and fairness.
		Updated fee and cost references to remain consistent with revised review and optional pre-application options.	Keep the application section aligned with cost responsibility provisions.
		Formatting and clarity edits without changing requirements.	Improve readability.
	Section F - Technical Review Process	Section I - Initial Review Process for Applications to Interconnect Generating Facilities has been renamed, moved and largely restructured into a tier review framework: Simplified, Fast Track, Supplemental, Detailed Review	Updated to streamline interconnections, allocate technical resources efficiently, and improve customer experience. NV Energy followed IREC's model procedures structure on the technical review process and reviewed with IREC the updates during the stakeholder process and one-on-one meetings.
F.1	Technical Review Level Determination and Process	Describes technical review timelines, criteria for the level of technical review required, confirmation of RPA, and reference flowchart Attachment 2	Provide predictable pathways and appropriate engineering rigor.
F.2	Simplified Review	Describes Simplified Review timeline, process, and technical screens	Enable streamlined interconnection while maintaining safety and reliability.
F.3	Fast Track Review	Describes Fast Track timeline, process, and technical screens	Balance speed with grid reliability.
F.4	Supplemental Review	Describes Supplemental timeline, process, and technical screens	Provide an intermediate option before detailed studies.
F.5	Applicant's Options	Clarified applicant options when screens are not passed (including design changes or proceeding to study).	Provide flexibility to achieve safe interconnection.
F.6	Detailed Review	Clarified when detailed studies apply and when projects may proceed directly to Detailed Review.	Ensure complex projects receive appropriate engineering review.

	Section Title	Key Revisions	Rationale
	Section G - Design, Technical and Operating Requirements	Consolidated and updated technical requirements to support modern DER, DERMS readiness, and technology-neutral interoperability while aligning with national standards.	Improve safety, reliability, and operational visibility of interconnected DER.
		Updated general requirements and cross-references to avoid duplicative provisions and to direct net metering-specific terms to the applicable net metering provisions.	Improve structure and reduce internal inconsistencies.
G.1	General Interconnection Requirements	Updated references from "IEEE 1547" to "IEEE 1547-2018", including Enter Service requirements. Removed applicability reference to Net Metering Systems.	New Rules No. 15 align with 2018 version of IEEE 1547. All technical requirements apply to both Net Metering Systems and non-Net Metering Systems. Any subsections that do not apply to Net Metering Systems are specified in that specific section.
G.2	Non-Exporting and Limited Export Generating Facilities	Added subsection to address Inadvertent Export limits, Maximum Generating Capacity for export limits, four non-Export options, two limited Export options, and Power Control Systems controls for non-Export and Limited Export behavior.	Aligns with IEEE 1547-2018 to provide interconnection pathways for non-Export and Limited Export configurations. Support common modern configurations while maintaining grid protection.
G.3	Protective Functions and Safety Equipment Requirements	Expands protective functions to including anti-islanding controls, voltage/frequency trips, and sensing when the Distribution System is de-energized. There are up to six protective functions that Utility approval shall be subjected to.	Provide consistency with IEEE 1547-2018 national standard for enhanced safety and system protections to support modern DER integrations. Maintain safe operation and system protections with increasing DER penetration.
G.4	Additional Requirements to Preclude Interference with Utility Operations	Expands power-quality requirements by referencing IEEE 1547-2018 and IEEE 1453-2022 for flicker, harmonic limits, DC injection, and anti-islanding methods.	Provide consistency with IEEE 1547-2018 national standard to ensure that interconnected DER do not negatively affect grid service quality or cause unsafe operating conditions.
G.5	Certain Technology Specific Requirements	Expands clarity on technical requirements based on generator type, including synchronization, fault-detection, for three-phase synchronous and induction Generators.	Align modern technical requirements with technology-specific generators to prevent misoperation and ensuring reliable system performance.
G.6	Rotating Machine Generator Capabilities and Default Settings	Added subsection for Rotating Machine technical requirements, including performance categories, interoperability categories, certification, trip settings, ride-through settings, and grid support.	Provide consistency with IEEE 1547-2018 national standard and ensure system reliability with more interconnected rotating machine DER.
G.7	Specific Energy Storage Device Requirements	Added subsection for Energy Storage Devices technical requirements, including export/charging restrictions for NEM paired with ESD, attestation & modification process, and ESD backup requirements for stand-alone and NEM paired with ESD systems.	Provide clear and defensible evaluation path for Energy Storage Device, relying on IEEE 1547-2018 national standard for technical guidance. Support safe and consistent interconnection of storage devices.

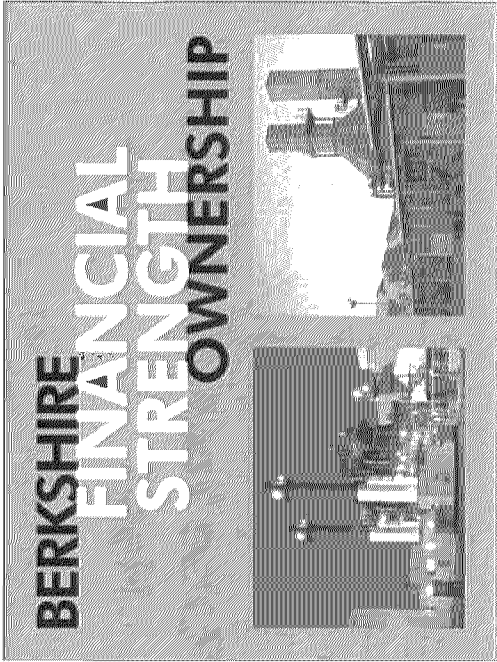
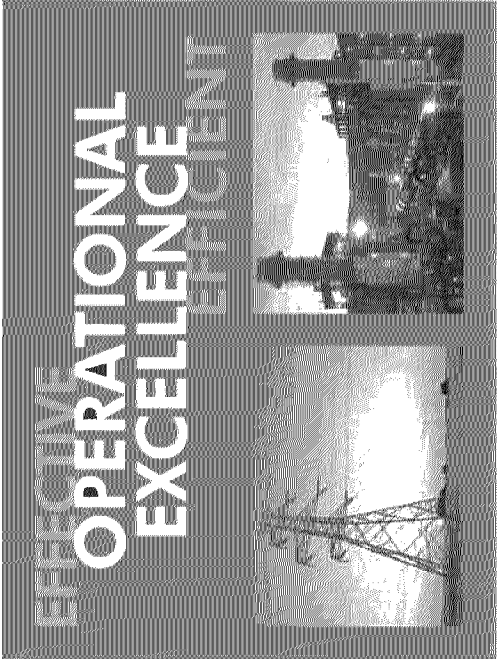
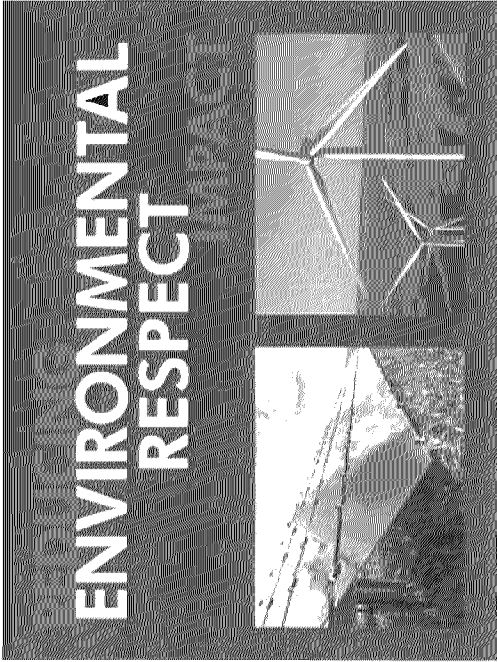
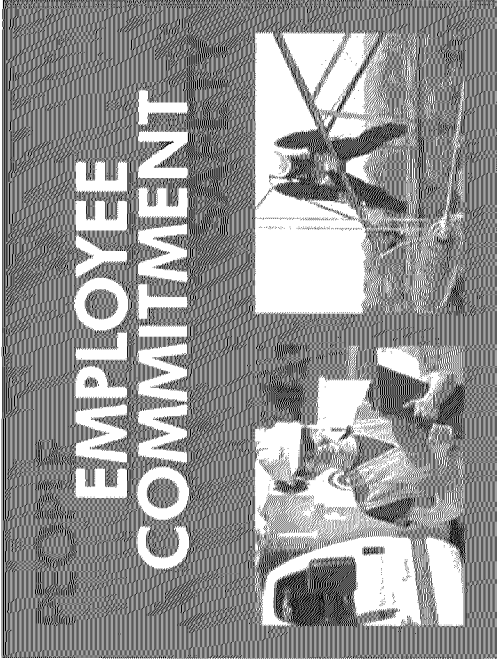
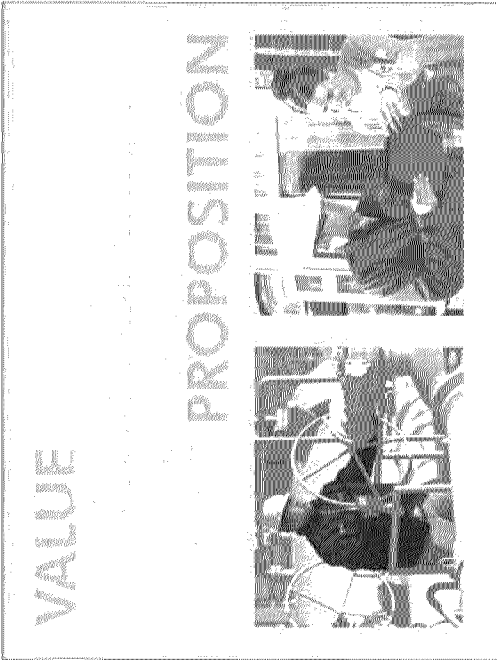
	Section Title	Key Revisions	Rationale
G.8	Specific Electric Vehicle, Charger and Charging Station Requirements	Added subsection for bi-directional Electric Vehicles and Electric Vehicle Supply Equipment technical requirements, including applicability, safety certification paths, and backup-only discharging. Technical requirements are called out for both V2G-DC and V2G-AC pathways, including draft certification standards pending finalization.	Provides clear and defensible evaluation path for bi-directional EV/EVSE, which is absent from current Rules No. 15, relying on IEEE 1547-2018 national standard for technical guidance. Reference draft standards to futureproof the Rule while providing near-term technical requirement guidance. Address emerging EV interconnection configurations.
G.9	Advanced Inverter Requirements	Added subsection for Advanced Inverter technical requirements, including performance categories, interoperability categories, certification, trip settings, ride-through settings, and grid support.	Provide consistency with IEEE 1547-2018 national standard and ensure system reliability with more interconnected Advanced Inverter DER.
G.10	Microgrid Requirements	Added subsection for Microgrid technical requirements including definition, criteria, safety, reliability, protections, code adherence, and Utility notification.	Provide clear and defensible evaluation path for Microgrids, which is absent from current Rules No. 15, relying on IEEE 1547-2018 national standard for technical guidance.
G.11	Cybersecurity Requirements	Added subsection for cybersecurity technical requirements, including guidance from IEEE 1547.3-2023 for physical security, passwords, firmware, and protection of utility systems.	Address cybersecurity risks and threats associated with communications requirements. Mitigate cyber risk and establish a technology-neutral foundation for DERMS interoperability.
G.12	Communication Requirements	Added subsection for communication requirements, including DER communications architecture, requiring remote communications support via at least one of three approved protocols (IEEE 2030.5, DNP3, SunSpec), firmware updates, access to local ports upon request for grid services programs, and telemetry sharing.	Provides clarity for adhering with IEEE 1547-2018 communication requirements to support modern DER integrations and providing a pathway to accommodate future grid services programs and tariffs.

	<u>Section Title</u>	<u>Key Revisions</u>	<u>Rationale</u>
	Section H - Metering, Monitoring and Telemetry	Reorganized metering, monitoring, and telemetry provisions and aligned terminology with updated capacity definitions.	Improve clarity and reduce future maintenance.
H.2		Removed specific tariff schedule references and replaced them with general references to applicable tariffs and agreements.	Avoid needing Rule changes when separate tariffs are updated.
		Aligned metering-related cost responsibility treatment by removing inconsistent exceptions, where applicable.	Ensure consistent application of cost responsibility principles.
		Removed section d	Remove exception for NMR-B cost responsibility for consistency
H.6		Specify "Net Nameplate Rating" for section c	To specify where the size threshold applies since a new Maximum Generating Capacity term has been introduced
		Clarified where thresholds depend on Net Nameplate Rating and where Maximum Generating Capacity is used for broader applicability.	Ensure thresholds and requirements are applied consistently.
		Removed redundant language regarding Commission authority to modify or eliminate provisions.	Streamline the Rule and avoid duplication.
		Formatting and minor clarity edits without changing requirements.	Improve readability.
	Section I - Facility Ownership and Cost Responsibility	Updated ownership and cost responsibility provisions to align with revised processes and remove inconsistent exceptions.	Improve consistency and transparency for applicants and customers.
I.2	Facility Cost Responsibility	Added cost responsibility for the optional pre-application report.	Align with the optional service added in the application section.
I.2.a		Removed cost exception for NMR-B	NMR-B Net Metering is not exempt from cost of Distribution System improvements. Apply cost responsibility consistently and align with Nevada statutes.
		Clarified cost responsibility treatment for bi-directional EV and EV supply equipment when treated as an ESD/DER for interconnection purposes.	Ensure EV-related interconnections are treated consistently.
I.2.c.		Clarified that net metering systems may rely on the applicable net metering agreement for certain cost terms where appropriate.	Preserve net metering-specific contractual treatment.
I.2.d.			
I.2.e.		Formatting and minor clarifications without changing requirements.	Improve readability.

	Section Title	Key Revisions	Rationale
	Section J - Facility Installation, Inspection, and Commissioning	Clarified installation, inspection, testing, and authorization steps, including controlled energization for commissioning where applicable.	Improve safety and reduce unauthorized operation.
J.1.	Facility Installation	Clarifies installation procedures, coordination meetings, permitting, Utility-owned facility work rules, RPA confirmation, temporary disconnect rules, and Temporary Interconnection Authorization for commissioning.	Aligns with IEEE 1547-2018 to standardize installation timeline expectations and enables controlled method for limited energization commissioning. Reduce rework and field delays.
J.1	Temporary Disconnect and Reconnect Process	Clarifies that temporary disconnect and reconnect work required solely for modification of Customer service entrance equipment is coordinated under Rule 16 and Schedule MC and does not initiate, extend, or toll Rule No. 15 interconnection timelines.	Clarifies the boundary between basic service work and DER interconnection review in response to Commission Docket No. 24-03026 and reduces avoidable delays in PTO once Rule No. 15 requirements have been satisfied. Clarify the boundary between service work and interconnection review and reduce avoidable PTO delays.
J.2.	Facility Inspection	Adds detailed documentation requirements, including diagrams, commissioning reports, certification/isolation device certification, and inspection/testing at the RPA.	Aligns with IEEE 1547-2018 to standardize inspection expectations for Utility reviewer and installers. Improve consistency and predictability of inspections.
J.3	Facility Testing	Clarifies facility testing to follow IEEE 1547.1-2020 guidelines, obtain PTO before parallel operation, and allows the Utility to review testing plans for non-certified equipment and conduct witness testing during commissioning.	Aligns with IEEE 1547.1-2020 to ensure proper equipment operation and protection before interconnection. Confirm proper equipment operation and protection before interconnection.
J.4	Facility Certification and Permission to Operate	Clarifies certification obligations for Producer, sets PTO timelines for both NEM and non-NEM systems, defines requirements for deficiency notice, and confirm parallel operation after insurance of PTO.	Improves clarity on the PTO process with Interconnection timelines and enhances safety by preventing unauthorized operation prior to PTO.
	Section K - Dispute Resolution	Reorganized and clarified dispute resolution procedures, including escalation to the Commission where necessary.	Provide a clear, consistent pathway to resolve disputes.
K.1		Clarified that disputes are reduced to writing with relevant facts, issues, and requested relief and that the parties meet and confer within a defined period.	Encourage early resolution supported by a complete record.
K.2		Clarified that unresolved disputes may be submitted to resolution before the Commission after the meet-and-confer period.	Preserve Commission jurisdiction and provide a final forum.
K.3		Clarified obligations during dispute resolution unless otherwise ordered.	Maintain safe and reliable operation while disputes are pending.
K.4		Removed redundancies and made formatting edits without changing requirements.	Improve readability.

	<u>Section Title</u>		<u>Key Revisions</u>	<u>Rationale</u>
Attachment 1	Applicability		New attachment to summarize Applicability section.	Provides customer guidance on when to apply for Rule No. I.5 application, along with specific examples on configuration and use cases.
Attachment 2	Summary Flowchart of Technical Review Process		New attachment to summarize Technical Review Process levels and applicable screens.	Provides guidance on the new framework for the Technical Review
Attachment 3	Testing and Certification Criteria		Existing attachment updated to reference testing procedures	Updated to be more refined and avoid redundant data from referenced testing procedures

ATTACHMENT 5 PART 1



NV Energy's Rule 15 Update and Net Energy Metering Thresholds

First Stakeholder Meeting and Overview of Stakeholder Engagement Plan

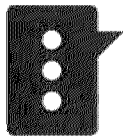
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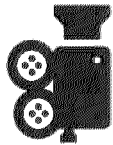
Engage & Participate



Actively
Participate



Ask
Questions in
Chat



Cameras
Preferred



Raise Your
Hand



Please
Mute

Agenda



- Introductions
- Stakeholders
- Goals
- Background
- Scope of the Effort
- Stakeholder Engagement Process
- Meetings and Timelines
- Related Workshops & Activities
- Key Aspects of IEEE 1547-2018
- Overview of Current Rule 15
- Updates for Consideration
- Contemplated Review Flow for Consideration
- Preliminary Workshop and Breakout Session Topics
- Q&A
- Closing

Introductions



- NV Energy
 - Joe Sinobio, Director, Integrated Grid Planning
 - Project Director, Technical Expert
 - Patricia Rodriguez, Director, Integrated Energy Services Optimization
 - Chris Belcher, Manager, Integrated Energy Services Policy and Compliance
 - Regulatory and Policy
 - Diego Tapias, P.E., Sr. Engineer, Renewables
 - Technical Support Expert
- Ennovara
 - Hector Dominguez, P.E., Director
 - Technical Expert
 - Justin Williams, Principal Engineer
 - Technical Lead
 - Jericha Mendoza, Energy Engineer
 - Technical Support, Data Analytics
 - Amy Lahav, Principal Consultant
 - Project Coordinator, Facilitator, & Regulatory Support

Stakeholders



- Government & Regulatory Agencies
 - Regulatory Operations Staff of the Public Utilities Commission of Nevada (“Staff”)
 - Office of the Attorney General’s Bureau of Consumer Protection (“BCP”)
- Local Governments
- Electric Cooperatives & Utilities
- Renewable Energy Advocacy & Trade Organizations
- Large Corporations & Energy Consumers
- Solar & Renewable Energy Developers
- Electrical Contractors & Solar Installers
- Engineering, Energy Storage & Microgrid Companies
- Industry Equipment Manufacturers and Vendors

Goals



Comply with Directives 16 and 17 of the Public Utilities Commission of Nevada's ("Commission's") Order in Docket No. 24-05041 (NPC SPPC IRP) issued December 27, 2024 (the "Order"), that NV Energy schedule public meetings with all interested stakeholders to update Rule 15, with a formal filing due by January 1, 2026, and that NV Energy propose Net Energy Metering ("NEM") reliability impact thresholds, related tracking, and Rule 15 or another tariff revisions to ensure that there are no negative distribution system impacts with incremental NEM penetration in its next IRP or IRP amendment filing after obtaining stakeholder input during the planned 2025 Rule 15 workshops.

Background



- Rule 15 (the “Rule”) governs the interconnection of generating facilities of 20 MW or less operating in parallel with the electric distribution system (including high-voltage distribution).
- Rule 15 is mainly aligned with IEEE Standard 1547 (formerly entitled, “IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems”).
- IEEE 1547-2018 represents a complete update of that industry standard (now entitled “IEEE Standard for Interconnection of Distributed Energy Resources with Associated Electric Power Systems Interfaces”).
- The vast majority of the sheets comprising Rule 15 show a 2018 date because NV Energy filed Rule 15 in its entirety for both Nevada Power Company and Sierra Pacific Power Company (collectively, the “Companies”) in 2017 in Commission Docket Nos. 17-06014 and 17-06015 when language mainly related to Energy Storage Devices was added (Commission Order issued April 13, 2018).
- There have been periodic updates of certain sheets in Rule 15, mainly updating application fees.
- The bulk of Rule 15 may be unchanged from 2003, coinciding with the vintage of the previous version of IEEE 1547-2003.

Scope of the Effort



- Update Rule 15 for both Companies considering:
 - Compliance & Regulatory Alignment
 - Clarification & Updating Processes & Timelines
 - Technical & Grid Impacts
 - Modern Technologies & Capabilities
 - Best practices and applicable requirements from other states, utilities, and industry standards
 - Stakeholder Feedback
 - IREC topics/documents identified by the Commission¹
- Update associated internal NV Energy documents and processes, as required.
 - Application Forms
 - Agreements templates (*e.g.*, Interconnection and Operating Agreement, Interconnection Study Agreement).
 - Company standards (*e.g.*, RE-1 (10 MW or less), RE-2 (greater than 10 MW), RE-3 (Net Metering Systems)).
 - Process flows and training
 - Handbooks
 - Technical study templates

¹ Per the Commission's Order, paragraph 66 and directive 16.

Stakeholder Engagement Process



- **Participants**
 - Facilitator: Ennovara
 - NV Energy: Subject Matter Experts
 - Stakeholder representatives
- **Meeting Process**
 - Agenda and pre-read materials will be sent at least one week before workshops and technical sessions.
 - Stakeholders are encouraged to ask questions and provide feedback during and in between workshops.
 - The end of each workshop will connect back to IREC topics for alignment.
- **Documentation & Follow-Up**
 - NV Energy will document stakeholder feedback and action items.
 - Meeting minutes will be distributed.
 - Additional comments can also be submitted via Microsoft Forms.

Meetings and Timeline



- Ongoing Workshops: Monthly cadence for regular updates, progress, and stakeholder engagement
- Breakout Technical Sessions: Address specific technical or process topics; in-between the workshops; to include the specific proposed language updates, additions, or deletions
- Final Stakeholder Redline Review Target Date: October 2025
- Internal NV Energy Review and Finalize: November 2025
- Filing of Revised Rule 15 with the Commission: December 12, 2025 (anticipated)

Related Workshops & Activities



- NV Energy is actively working on several related initiatives that may drive certain language in Rule 15:
 - Distributed Energy Resource Management System (“DERMS”) – Optimizing grid integration of Distributed Energy Resources (“DERs”)
 - Locational Net Benefits Analysis (“LNBA”) – Evaluating benefits of DERs
 - Rule 9 – Analyzing electric vehicle charging station and data center new service processes and timelines
 - Hosting Capacity Analysis (“HCA”) – Evaluating analytical techniques, update frequency, and data redaction
 - 2025 Nevada Legislative Session – Related bills
- Ensure that Rule 15 language remains flexible enough to align with the goals of these initiatives.
- NV Energy representatives from each initiative will actively participate in these workshops and technical sessions as needed to ensure alignment.

Key Aspects of IEEE 1547 – 2018



The main purpose of updating IEEE 1547 from 2003 to 2018 was to address the growing penetration of DERs and ensure that they could operate safely, reliably, and effectively within modern power grids. Key drivers for the update included:

- Improved Grid Stability & Reliability
 - The 2003 standard required near instantaneous disconnection of DERs during grid disturbances. The 2018 update introduced ride-through capabilities, allowing DERs to support grid stability rather than exacerbating issues.
 - Enhanced coordination with grid voltage and frequency fluctuations to avoid unnecessary system shutdowns.
- Integration of Smart Inverters & Advanced Functions
 - The update incorporated advanced inverter functions, such as voltage regulation, frequency response, and reactive power support.
 - Allowed for grid-supportive DER behavior, reducing the need for costly infrastructure upgrades.
- Compatibility with Evolving Grid Modernization Efforts
 - Supported higher DER penetration, especially solar, wind, and battery storage, without compromising grid reliability.
 - Aligned with FERC, NERC, and state interconnection policies to ensure consistency across utilities.

Key Aspects of DER 1547 – 2018



Cont.

- Enhanced Interoperability & Communication Standards
 - Required DERs to have standardized two-way communication interfaces, improving monitoring, control, and grid coordination.
 - Facilitated remote adjustments by utilities to optimize DER contributions under changing grid conditions.
- Cybersecurity & Resilience Considerations
 - Recognized the need for secure, remote control of DERs to mitigate cybersecurity risks.
 - Ensured DER settings could be updated as grid requirements evolve.

Overview of Current Rule 15



Interconnection Process Overview

- Pre-Application & Inquiry: NV Energy provides information, including tariffs, agreements, and technical standards.
- Application Submission: Includes system details, fees, and initial engineering review.
- Initial and Supplemental Review: Determines eligibility for simplified interconnection or need for further study.
- Interconnection Study (if needed): Evaluates grid impact and identifies potential upgrades and cost estimates.
- Agreement & Construction: If approved, NV Energy and Producer execute an Interconnection and Operating Agreement and construct any necessary upgrades.
- Testing & Commissioning: Facility undergoes verification testing before receiving final permission to operate.

Overview of Current Rule 15



Technical & Compliance Requirements

- Protective Functions
 - Over/under voltage & frequency trip settings
 - Anti-islanding protection for grid stability
 - Accessible, visible-open, and lockable disconnect switch
- Metering & Monitoring
 - Bi-directional metering required at Point of Common Coupling
 - Facilities over 1 MW may require real-time telemetry
- Cost Responsibility
 - Producers bear costs of interconnection facilities and distribution system improvements
 - Net metering systems under certain programs may be exempt from some costs
- Compliance & Enforcement
 - NV Energy can limit operation or disconnect non-compliant facilities
 - Facilities must meet IEEE 1547, UL 1741, and state standards

Updates for Consideration to the Current Rule



PLEASE NOTE:

The proposed revisions/additions to the NV Energy's current Rule 15 on the following slides are provided for informational and discussion purposes only, capture currently known issues or contemplated revisions to Rule 15, and should be considered as a work in progress. NV Energy may alter any of this information as appropriate in its actual filings with the Commission for approval of an updated Rule 15 for the Companies based on discussions with stakeholders and continued consideration of the issues.

Notable Revisions/Additions for Consideration



- **Revise and expand: Introductory section**
 - Revise: “General” section to “Applicability”
 - Add: Provisions to Applicability section
- **Revise: Certain existing defined terms**
- **Add: Certain defined terms (examples below)**
 - Advanced, grid following, and grid forming inverters, (customer and hybrid) microgrid, export/exporting, fast track interconnection, hosting capacity, intentional and unintentional islands, interconnection authorization, interconnection study agreement, island interconnection device, limited export, limited generation profile, master microgrid controller, optional pre-application report (request form). permission to operate, screen, short-term interrupting capability, V2G
- **Add: More comprehensive list of applicable industry standards (examples below)**
 - ANSI, IEEE, SAE, UL
- **Add: Optional Pre-Application Report**
 - Proposed as not applicable to potential applications below 25 kW to limit volume and focus on interconnections of a higher capacity
 - Ten business day turnaround time for utility response to properly completed request form (for clarity, this is not the official completed Rule 15 interconnection application referenced in NAC 704.8823(1))
 - Existing data only; no utility obligation to perform analysis or study
 - No guarantee of accuracy when completed interconnection application is received and accepted
 - Information on the report – to be determined

Notable Revisions/Additions for Consideration



- **Add: Application containing deficiencies, errors or omissions**
 - If not rectified by the Applicant after two iterative Utility reviews, the Application shall be rejected by the Utility and the Applicant shall submit a new Application and remit a new Application fee should the Applicant wish to continue the application process (in response to Directive 10 of the Commission's November 12, 2024, Modified Final Order in Docket No. 24-02026, at page 220)
- **Add: Modifications to equipment, operation, or ownership**
 - Replacement of existing equipment with the exact same equipment type, where the system output does not exceed what is listed in an original agreement, and where the operating modes are not adjusted, would not require approval from the utility or for the utility to be informed
 - Inform utility if modification would increase the system capacity or output with no controls in place to limit to original agreement amount or if a different point of interconnection or common coupling is proposed
 - Change of ownership would require minimum 30-day utility notification prior to change
- **Revise and expand: Initial Review (simplified interconnection) and Supplemental Review (fast-track interconnection) screens/process, including an updated process diagram**
 - Add: Initial Review screens (Transformer or Conductor Rating, Single-Phase Generator Unbalance, Short Term Interrupting Capability, Hosting Capacity (with 15 percent screen back-up))
 - Add: Supplemental Review screens (Line Section Minimum Load, Voltage and Power Quality, Safety and Reliability)
 - Revise: Non-exporting/limited export/exporting screen

Notable Revisions/Additions for Consideration



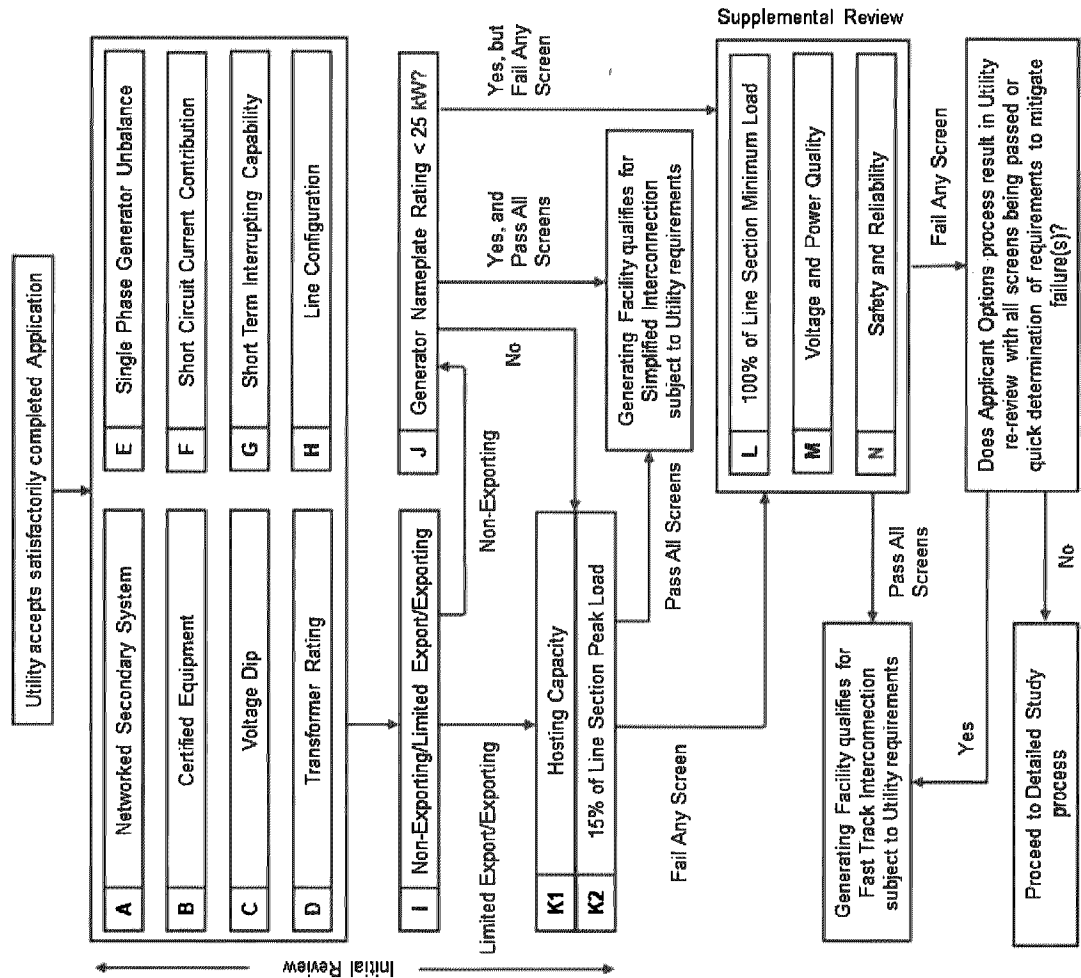
- **Add: Applicant Options process following Supplemental Review**
 - If application fails Initial and Supplemental Review, meeting to discuss options
 - Applicant can 1) withdraw the application, 2) amend the application and request re-review, or 3) request detailed interconnection study
 - If the applicant chooses to amend the application
 - Must resubmit within 10 business days after the meeting, otherwise the application would be considered withdrawn
 - Amendment must only relate to failed Initial and/or Supplemental screens; 10 business day utility turnaround after receiving amended application
 - Other material application changes will cause the application to be considered resubmitted as if new
- **Expand: Energy storage device requirements**
 - Ensure that all reasonably known common configurations and operating scenarios are addressed
- **Add: Electric Vehicle/charger/charging station requirements (including V2G)**
 - Connection of an EV, EV charger or charging station with only charging capability is not subject to the Rule (unless a Generator is installed in association with it)
 - Connection of a V2G-capable EV to an existing EV charger or charging station with only charging capability is not subject to the Rule
 - Interconnection of a V2G-capable EV charger or charging station, or conversion of an existing EV charger or charging station to V2G capability, is subject to the Rule
 - Interconnection of any EV, charging devices, or configurations capable of Parallel Operation and discharge of energy to the utility Distribution System are subject to the Rule

Notable Revisions/Additions for Consideration



- Add: Electric Vehicle/charger/charging station requirements (including V2G)
 - Connection of a V2G-capable EV, EV charger, or charging station for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the utility must either first disconnect from the utility's system or employ a "break-before-make" transfer scheme that results in only Momentary Parallel Operation when switching to backup operation to not be subject to the Rule
- Add: Advanced (Smart) Inverter requirements (in progress)
- Add: Microgrid requirements (in progress)
- Add: Cybersecurity requirements (in progress)
- Add: Communication requirements (in progress)
- Revise and expand: Inspection, testing and certification requirements (in progress)
 - Modern UL 1741 standards
 - Installer training/certification
 - Better defined inspection

Contemplated Initial & Supplemental Review Flow for Consideration



WORK IN PROGRESS
NOT FINAL - PENDING STAKEHOLDER DISCUSSION

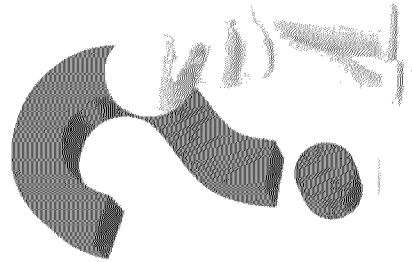
Preliminary Workshop and Breakout Session Topics



- **Workshop Topics**
 - General Overview & Stakeholder Kickoff
 - Application & Administrative Overview
 - Generating Facility Review & Screening
 - Interconnection Process & Grid Integration
 - Testing, Certification & Compliance
 - Facility Design, Technical & Operational Requirements
 - Final Redline Review & Stakeholder Feedback
- **Breakout Sessions**
 - Smart Inverter Settings & Grid Coordination
 - Energy Storage Device Requirements and Control
 - Net Energy Metering Process
 - Advanced Metering, Telemetry & Monitoring
 - Electric Vehicle Infrastructure, Requirements & Interconnection



Question and Answers



Closing



- NV Energy and Ennovara
 - Schedule next Workshop and First Technical Breakout Session
 - Compile and distribute meeting notes
 - Make Microsoft Forms site available and inform workshop participants
- Stakeholder Participants
 - Provide comments and questions via Microsoft Forms to be emailed by end of the week.
 - Come prepared to comment and provide input in upcoming Workshops and Breakout Sessions.



NV Energy's Rule 15 Update and Net Energy Metering Thresholds Workshop #1 Meeting Minutes

Date: March 31, 2025

Location: Microsoft Teams Virtual Meeting

Purpose: First Stakeholder Meeting and Overview of Stakeholder Engagement Plan

Participants: NV Energy Distributed Resources Plan ("DRP") Interested Stakeholders and other interested parties. There were 88 total participants, with 29 being internal NV Energy or Ennovara participants, and approximately 24 stakeholder groups represented.

Please note that recording these meetings, including the use of Artificial Intelligence ("AI")-based transcription, or recording tools, is not authorized as Nevada law requires the explicit consent of all participants. NV Energy and Ennovara kindly appreciate your understanding and cooperation.

Agenda Overview:

NV Energy hosted the first of several planned virtual workshops pursuant to the findings in Sections E and F of the Order issued December 27, 2024, in Public Utilities Commission of Nevada ("Commission") Docket No. 24-05041 (NPC SPPC IRP). This workshop focused on the stakeholder process for updating NV Energy's Rule 15 along with the development of the Net Energy Metering ("NEM") distribution system reliability impact thresholds, baseline conditions for Rule 15 and related IEEE 1547-2018, and an initial review of updates for consideration.

The meeting began with a discussion about the use of AI to record meetings. NV Energy's legal counsel clarified that, in accordance with Nevada state laws requiring participant approval for recordings, these Rule 15 workshops and breakout sessions will not be recorded by AI or any other means. A stakeholder was asked to turn off their AI recording of the meeting.

Agenda Item 1: Introductions

Discussion: Key and recurring team members from NV Energy and their consultant Ennovara introduced themselves. Additional subject matter experts and representatives from various NV Energy departments, as well as external consultants, will be brought into future workshops and sessions as needed.

Agenda Item 2: Stakeholders

Discussion: Ennovara indicated that the stakeholder distribution list was initially developed using the 2024 Integrated Resource Plan ("IRP") interveners list and expanded to include participants representing organizations that NV Energy anticipated being interested in the topics being

discussed and who responded to the public workshop notice. Stakeholder groups were reviewed to provide context on the range of industries and interests represented in the meeting.

Stakeholder Question: Eight participants requested to be added to the stakeholder distribution list. They were encouraged to provide their contact information in the workshop chat to ensure inclusion in future communications.

Action Items: All requested contacts have been added to the distribution list and provided with a copy of the presentation.

Agenda Item 3: Goals

Discussion: Ennovara indicated that the Rule 15 update, NEM thresholds, and stakeholder workshops are being conducted in direct response to the Commission's Order in Docket No. 24-05041, issued on December 27, 2027. Informal efforts to modernize Rule 15 have been underway for several years, prompted by the adoption of IEEE Standard 1547-2018, which introduces updated technical requirements to enable greater integration of Distributed Energy Resources ("DERs") on the grid. NV Energy is required to file the revised Rule 15, fully considering IEEE Standard 1547-2018, by January 1, 2026.

Stakeholder Question: A Staff representative asked whether the Rule 15 update will be submitted as a standalone filing or included as part of an IRP or IRP amendment.

NV Energy Response: Since the Rule 15 update involves a tariff change, it will most likely be submitted as a standalone filing.

Agenda Item 4: Background

Discussion: NV Energy indicated that Rule 15 governs the interconnection of generating facilities up to 20 MW that operate in parallel with the electric distribution system, including high-voltage distribution. It is based on IEEE Standard 1547, which was originally adopted in 2003 and later fully updated in 2018.

In 2017, NV Energy submitted a full update to Rule 15 for both Nevada Power and Sierra Pacific Power in Docket Nos. 17-06014 and 17-06015. This update, approved in 2018, primarily addressed energy storage devices, and carried forward the existing structure of Rule 15. As a result, most sheets in Rule 15 display a 2018 date, which gives the impression that the Rule was updated to align with IEEE 1547-2018.

However, the technical requirements from IEEE 1547-2018 were not incorporated due to the timing of the release of the standard. The bulk of Rule 15 remains aligned with the older 2003 version of the standard. Since 2018, only limited updates have been made, mostly related to application fees. A comprehensive update is still needed to fully reflect the requirements of IEEE 1547-2018 and support the integration of a modern grid and DERs.

Agenda Item 5: Scope of the Effort

Discussion: NV Energy indicated that the Rule 15 update focuses on regulatory alignment, process clarity, technical improvements, and stakeholder input. As part of this effort, NV Energy also reviewed interconnection standards and best practices from other utilities and states for adaptation and consideration.

NV Energy noted that these meetings will focus on updates to Rule 15, and that related internal documents such as forms, agreements, and technical standards will also need to be revised to align with the final version approved by the Commission.

Agenda Item 6: Stakeholder Engagement Process

Discussion: Ennovara indicated that the meeting process is intended to include the right subject matter experts from NV Energy and its consultants and ensure stakeholders are actively engaged to provide substantive input and feedback.

- Pre-read materials and agendas will be distributed at least one week before workshops and technical sessions.
 - Stakeholders are encouraged to pre-read to actively participate in workshops.
- Stakeholder meetings and working groups will be publicly noticed.
- NV Energy will identify which IREC-related topics are covered in each session to include in pre-read materials.
- A Microsoft Forms link will accompany meeting minutes and allow for transparent stakeholder comments and ongoing input.
- A running log of stakeholder feedback, action items, and key issues will be maintained.

Stakeholder Question: Representatives from IREC had questions about how the stakeholder engagement process would align with IREC's recommendations and offered to present materials and/or tools.

Ennovara Response: The expectation is that IREC will be active in each of the workshops and breakout sessions as they can provide insight from many lessons learned from experience in other states.

Action Item: NV Energy and Ennovara will reach out to IREC to coordinate.

Agenda Item 7: Meetings and Timeline

Discussion: Ennovara indicated that the meetings are expected to mostly be 90 minutes with some expected to be two hours. They will be held approximately every two weeks to capture workshops and breakout sessions. The schedule was developed to allow for final review of the proposed red line changes to Rule 15 in October and allow for sufficient time for NV Energy to finalize the revised Rule 15 for submittal to the Commission mid-December, before the holidays.

Agenda Item 8: Related Workshops & Activities

Discussion: Ennovara indicated that NV Energy has several other related initiatives, such as development of a Distributed Energy Resources Management System ("DERMS"), happening at

the same time as the Rule 15 Update. NV Energy will include personnel from their staff and their consultants who are also working on these connected activities to provide input during the meetings so that the revision of Rule 15 remains flexible and aligned with the other initiatives.

Stakeholder Question: A Staff representative asked if there are any known related bills in the current 2025 Nevada Legislative Session.

Ennovara Response: The stakeholder engagement process is intending to watch for any bills that are proposed and passed that impact the revisions to Rule 15. No explicit bills are known currently.

Agenda Item 9: Key Aspects of IEEE 1547

Discussion: Ennovara indicated that the main purpose of updating IEEE 1547 was to address the growing penetration of DERs to ensure grid safety and reliability. The 2018 version of the standard was expanded to accommodate other DER, solar photovoltaic (“PV”) with smart inverters, energy storage, and electric vehicles with bidirectional charging/discharging capability.

Stakeholder Question: An IREC representative asked if the revised 1547 settings being contemplated in Rule 15 would align with default settings.

Ennovara Response: While further discussions in breakout sessions will go deeper into this question, the default settings are contemplated, recognizing that locational needs may need custom settings, with updated communication standards.

Agenda Item 10: Overview of Current Rule 15

Discussion: NV Energy referred stakeholders to the full Rule 15 tariff on NV Energy’s website while it reviewed the full process, generally noting the tariff covers the interconnection process and technical & compliance requirements, recognizing some applications have reduced requirements.

Stakeholder Question: A solar contractor representative asked if there will be additional fees for an Interconnection Study, will they need approval before installation starts, and should permitting be done before installation/interconnection.

NV Energy and Ennovara Response: The current version of Rule 15 is still in effect and will be until the revised Rule 15 is approved by the Commission, expected mid-2026. Section D of the current rule covers fees.

Stakeholder Question: An IREC representative asked about the redline process and whether there would be an effort to reach consensus before submitting the revised Rule 15 to the Commission for approval.

Ennovara Response: The most effective approach for stakeholder engagement around redlines to the current Rule is still being evaluated, but recommendations on best practices are welcomed.

Agenda Item 11: Notable Revisions/ Additions for Considerations

Discussion: NV Energy noted that while updates to Rule 15 have been under consideration for some time, none are “set in stone” at this time, and shared some proposed revisions for future discussion and stakeholder input. NV Energy also indicated that the volume and scope of the changes, including potential reorganization of the Rule, may make a traditional redline version difficult to follow.

Stakeholder Question: An IREC representative asked where the requirements for IEEE 1547 currently reside and suggested that future workshops address whether these requirements and default settings should be included in Rule 15 or in a handbook.

NV Energy Response: NV Energy acknowledged the suggestion and noted that the first technical session, anticipated for mid-April, will focus on energy storage device controls, where this topic can be further explored.

Agenda Item 12: Preliminary Workshop and Breakout Session Topics

Discussion: Ennovara indicated that the first breakout session is tentatively scheduled for April 16 and is expected to focus on energy storage device requirements and controls. Stakeholders were invited to share input on which topics they would like to prioritize early in the process. NV Energy noted that topic prioritization will depend on subject matter expert availability, scheduling, and topic interdependence. A list of proposed workshop and breakout session topics was shared for discussion.

Agenda Item 13: Question and Answers

Discussion: No additional questions were raised.

Agenda Item 14: Closing

Discussion: NV Energy concluded the meeting by outlining near-term action items and encouraging stakeholders to come prepared to provide comments and input during upcoming workshops and breakout sessions.

Meeting Questions from the Chat

Stakeholder Question: A Staff representative asked if the Rule 15 updates will have impact on the proposed NMR-2025 tariff or vice versa.

NV Energy Response: The Rule 15 Update effort is a technical update and does not cover billing, which is managed in the applicable schedule.

Stakeholder Question: A solar developer representative asked whether there is a way to know in advance if certain areas are already failing the short circuit current contribution screens, referencing utilities that share maps showing saturated equipment. They also asked if energy storage could be considered a potential mitigation strategy in such cases.

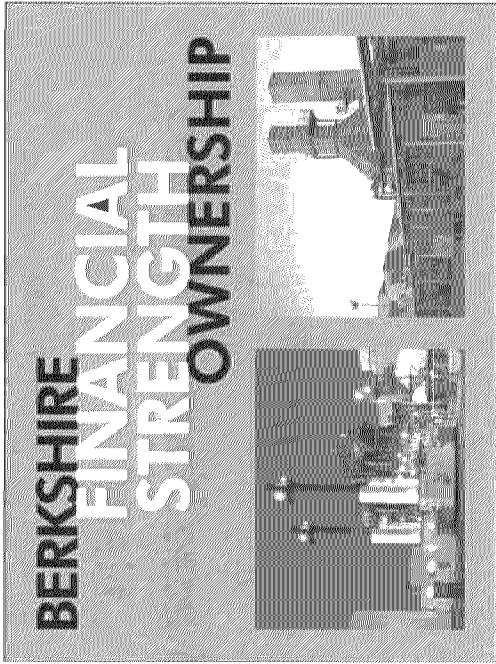
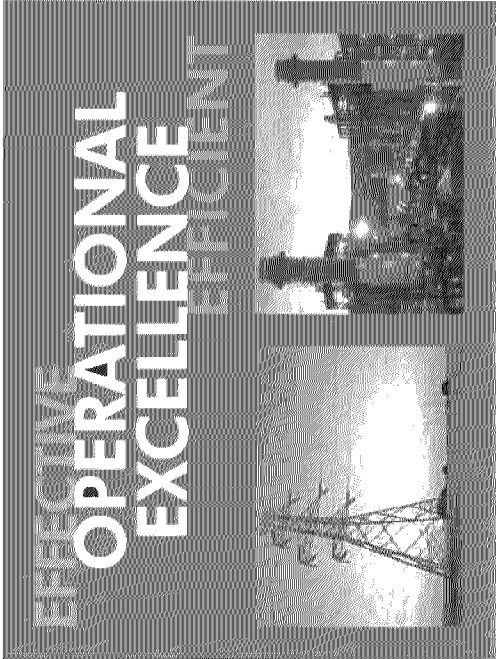
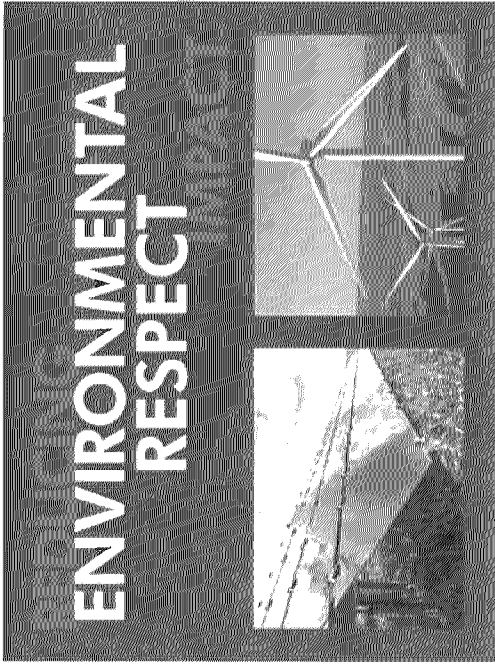
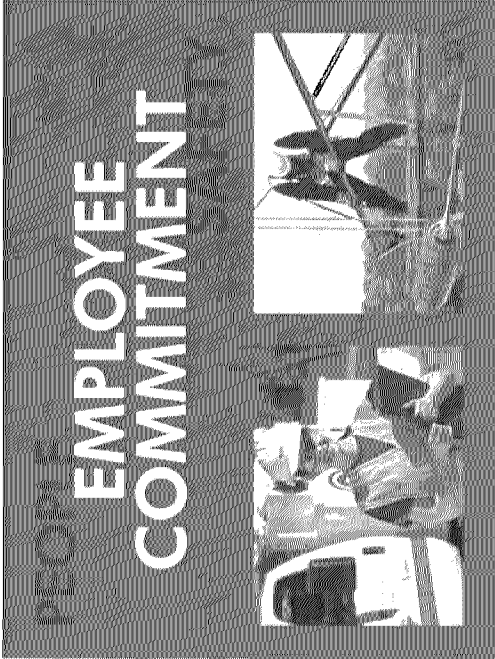
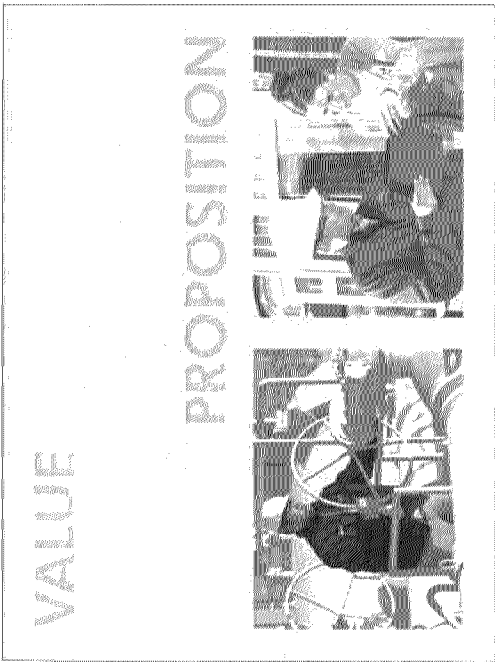
NV Energy Response: The issue will be discussed internally with the appropriate departments and may be addressed in future technical sessions.

Stakeholder Question: A Staff representative asked whether voltage support, frequency regulation, or other ancillary service needs would be considered in a way that could incentivize the installation of smart devices, such as inverters, on specific feeders.

NV Energy Response: This is an important consideration and will be a key part of technical discussions related to smart inverter settings.

Stakeholder Question: A solar industry representative asked whether there will be tailored processes for different customer types—such as retrofits for homeowners, new construction for residential and commercial builders, and installations for commercial building owners. The stakeholder emphasized the need for a distinct process for new construction to improve timelines and coordination.

NV Energy Response: NV Energy agreed that improvements could be made to the application process across customer types and proposed exploring these changes further in a net metering breakout session. NV Energy welcomed assistance in identifying key stakeholders for that discussion and reiterated its intent to improve the process.



NV Energy's Rule 15 Update and Net Energy Metering Thresholds Series

Breakout Session #1 – Energy Storage Device (“ESD”) & Electric Vehicle (“EV”) Interconnection

April 16, 2025



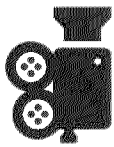
Engage & Participate



Actively
Participate



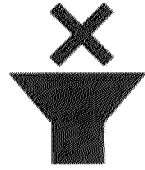
Ask
Questions in
Chat



Cameras
Preferred



Raise Your
Hand



Please
Mute



Please no
Recording



Agenda

Energy Storage Device Requirements and Control & Electric Vehicle Infrastructure

- Welcome & Objectives
- New Defined Terms
- Codes & Standards
- Design, Technical, Operating Requirements
- Metering, Monitoring, & Telemetry
- Stakeholder Feedback
- IREC Tie Back
- Q&A
- Closing

Welcome



- NV Energy
 - Patricia Rodriguez, Director, Integrated Energy Services Optimization
 - Joe Sinobio, Director, Integrated Grid Planning
 - Project Director, Technical Expert
 - Chris Belcher, Manager, Integrated Energy Services Policy and Compliance
 - Regulatory and Policy
 - Diego Tapias, P.E., Sr. Engineer, Renewables
 - Technical Support Expert
- Ennovara
 - Hector Dominguez, P.E., Director
 - Technical Expert
 - Justin Williams, Principal Engineer
 - Technical Lead
 - Jericha Mendoza, Energy Engineer
 - Technical Support, Data Analytics
 - Amy Lahav, Principal Consultant
 - Project Coordinator, Facilitator, & Regulatory Support



Welcome

NV Energy Subject Matter Experts

- Electric Vehicle Programs
 - Adam Grant, Director, Integrated Energy Services Operations
 - Justin Torosian, PM Electrification
- Energy Storage
 - Diego Tapias, P.E., Sr. Engineer, Renewables
- Metering
 - Bennie Palmore, Manager, Electric Meter Operations
 - Tiffany Noda, Engineer I-Metering
 - Eric Smith, Engineer II-Metering



Objectives

Rule 15 Energy Storage Device Requirements and Control & Electric Vehicle Infrastructure

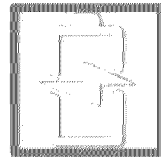
- Key Focus Areas
 - Definitions
 - Codes & Standards
 - Design, Technical and Operating Requirements
 - Metering, Monitoring and Telemetry
- Future Conversations
 - Applications & Administrative
 - Facility Review & Screening Process
 - Smart Inverter Settings & Grid Coordination
 - Facility Ownership and Cost
 - Facility Installation, Inspection and Commissioning

Updates for Consideration

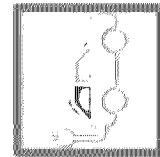


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Energy Storage Device Requirements and Control



Electric Vehicle Infrastructure

Definitions



*Clear, consistent definitions align everyone
on the same page.*

Definitions



Rule 15 Term	Rule 15 Definition	IREC Term	IREC Definition
Certified Equipment	Equipment used in a Generating Facility that has passed the Certification Test.	Certified Equipment	Equipment certified per UL 1741, UL 9741, SAE J3072, or other approved standards.
Energy Storage Device (ESD)	A device that captures energy produced at one time, stores that energy for a period of time, and delivers that energy as electricity for use at a future time. For purposes of this Rule only <i>and only where applicable within this Rule</i> , an Energy Storage Device can be considered a Generator. While an Energy Storage Device may be paired with a Net Metering System, it does not qualify to be considered as a Net Metering System, either as a stand-alone installation or when paired with a Net Metering System. <i>For purposes of this Rule only and only where applicable within this Rule, a V2G electric vehicle charger or charging station can be considered an Energy Storage Device.</i>	Energy Storage System (ESS)	A mechanical, electrical, or electrochemical means to store and release electrical energy, and its associated interconnection and control equipment.
Export; Exporting	<i>The transfer of electrical energy from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling. This may include scenarios where Limited Export or Inadvertent Export could occur, or in association with Limited Generation Profile operation.</i>	Export Capacity	The amount of power that can be transferred from the DER to the Distribution System. Export Capacity is either the Nameplate Rating, or a lower amount if limited using an acceptable means.

Definitions



Rule 15 Term	Rule 15 Definition	IREC Term	IREC Definition
Generating Facility	All Generating Units that are included in a Generating Facility Interconnection and Operating Agreement.	Generating Facility	The equipment used by an Interconnection Customer to generate, store, manage, interconnect, and monitor electricity. A Generating Facility includes the interconnection equipment required to safely interconnect the facility with the distribution system.
Host Load	Electrical power that is consumed by the Customer at the property on which the Generating Facility is located.	Host Load	Electric power, less DER auxiliary load, consumed by the customer at the same location the DER is interconnected.
Inadvertent Export	The unplanned, uncompensated transfer of electrical energy from a Generator or Generating Facility to the Utility's Distribution System across the Point of Common Coupling, limited as established in this Rule.	Inadvertent Export	The unscheduled export of active power from a DER, exceeding a specified magnitude and for a limited duration, typically due to transient conditions.
Limited Export	The limiting of the transfer of electrical energy from a Generating Unit or Generating Facility to the Utility across the Point of Common Coupling by the use of any of the methods or operating modes noted in Section xxx.	Limited Export	The exporting capability of a DER whose generating capacity is limited using a configuration or operating mode that prevents exports above a defined limit.
Limited Generation Profile	An energy generation schedule controlled and executed by a Power Control System that specifies the maximum amount of electricity a Generator may produce, or an Energy Storage Device or Electric Vehicle may discharge, at different hours of the day and/or different times of the year.		

Definitions



Rule 15 Term	Rule 15 Definition	IREC Term	IREC Definition
Net Nameplate Rating	The gross generating capacity of a Generating Unit or the total of the gross generating capacity of the Generating Units comprising a Generating Facility as designated by the manufacturer(s) of the Generating Unit(s) minus the consumption of electrical power of the Generating Unit(s). Where the gross-generating capacity of a Generating Unit(s) or Units is limited (e.g., through the use of a Power Control System, power relay(s), or other similar device settings or adjustments, or as determined by Limited Export or Limited Generation Profile operation), the Net Nameplate Rating shall be the maximum specified by the Applicant in the Application. The Net Nameplate Rating will subsequently be contained in the Net Metering System agreement or Interconnection and Operating Agreement.	Nameplate Rating	The sum total of maximum rated power output of all of a DER's constituent generating units and/or ESS as identified on the manufacturer nameplate, regardless of whether it is limited by any approved means.
Non- Exporting	Designed to prevent or limit the transfer of electrical energy from a Generating Unit or the Generating Facility across the Point of Common Coupling to the Utility by any of the five options in Section I.4.b of this Rule. Non-Exporting includes scenarios where Inadvertent Export could occur.	Non- Exporting DER	DER configured to supply energy only to on-site load and prevent intentional export to the grid (except for brief, inadvertent export).
Parallel Operation	The simultaneous operation of a Generating Unit or Generating Facility, including with power delivered to or received by the Utility's Distribution System, while Interconnected. For the purpose of this Rule, Parallel Operation includes only those Generating Units or Generating Facilities that are so Interconnected with the Utility's Distribution System for more than 900 cycles (fifteen seconds) at any time.	Parallel Operation	The simultaneous operation of a generating facility with power delivered or received by the electric power system while interconnected. Parallel operation includes only those generating facilities that are interconnected with the electric power system for more than 60 cycles (one second).

Definitions

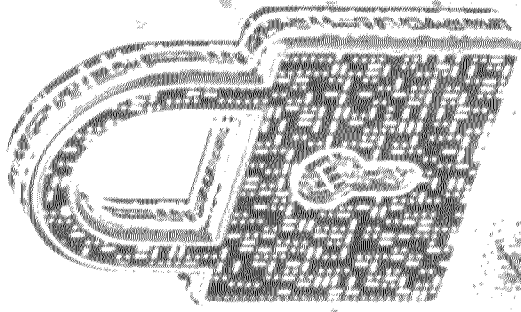


Rule 15 Term	Rule 15 Definition	IREC Term	IREC Definition
Power Control System (PCS)	<i>A system that uses software to limit and control the generation output of Generators, including Energy Storage Devices or Electric Vehicles, or load requirement of such technologies. Such a system may be Advanced Inverter-based or based upon other certified technologies and may establish or manage a Limited Generation Profile.</i>	Power Control System (PCS)	Systems or devices that electronically limit or control steady-state currents to a programmable limit.
Vehicle-to-Grid (V2G)	<i>The ability of an electric vehicle (EV) to discharge electricity from its battery to the electric grid through a bidirectional charger, including, but not limited to, vehicle-to-home and vehicle-to-building.</i>	Vehicle-to-Grid (V2G)	The capability of an EV and associated EVSE to deliver power from the vehicle battery back to the electric grid.

Codes & Standards



Codes and standards form the foundation for interoperability, grid support, and future-ready solutions.



Codes & Standards



Standard	Category	Notes
IEEE 1547-2018 / 1547a / 1547.1	Interconnection & Testing	Overall standard for distributed energy resource interconnection and interoperability
UL 1741 / SA / SB	Smart Inverter Certification	Overall standard for inverters, converters, and charge controllers used in renewable energy systems, ensuring their safe and reliable operation
IEEE 2030.5 (SEP 2.0)	Communications Protocol	Defines a communication protocol enabling smart devices and the grid to exchange information, facilitating the integration of distributed energy resources
IEEE 1815 (DNP3)	DER Comms (SCADA)	Specifies the structure, functions, and interoperable application options for the DNP3 protocol
IEEE 2030.2	Energy Storage Integration	Focuses on the interoperability of ESDs integrated with the electric power infrastructure, defining technical characteristics and integration methods
SAE J3072	EV Safety & Interconnection	Establishes requirements for a grid support inverter system function that is integrated into EV

Codes & Standards



Standard	Category	Notes
SAE J2847/3	EV Grid Communication	Provides guidance on communication for EVs acting as distributed energy resources
UL 9741	EV Safety & Interconnection	Safety standard focusing on bidirectional EV charging equipment that can both charge EVs and export power from them to the electric power system
SAE J2931/7	EV Comms Security	Establishes the security requirements for digital communication between EVs, EV Supply Equipment, and utilities



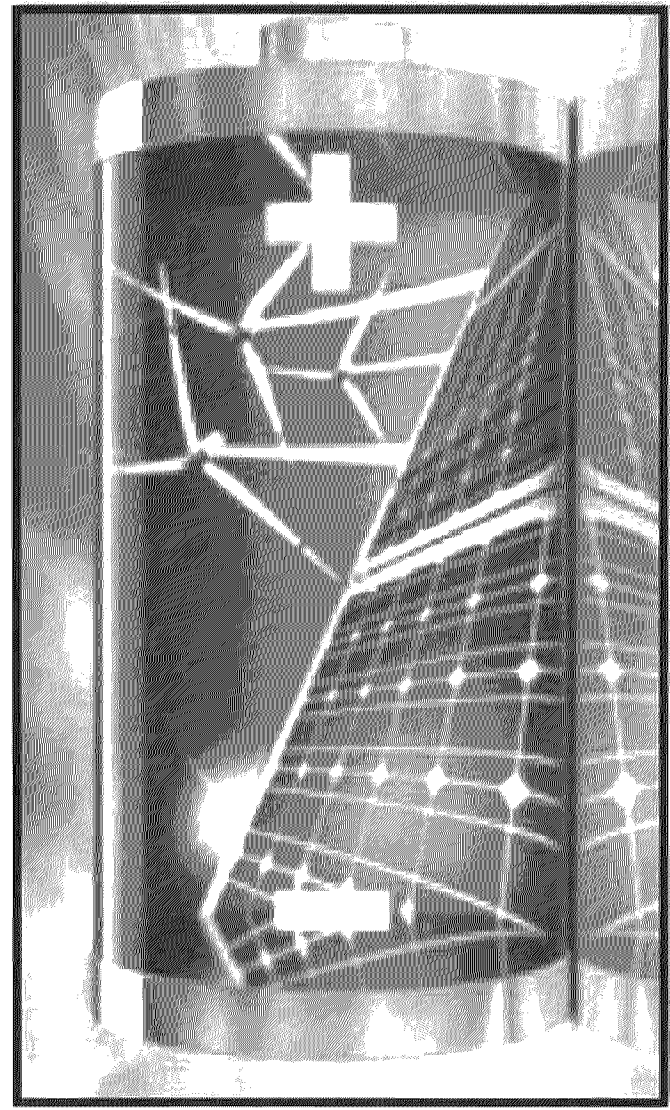
Design, Technical & Operating Requirements

Future-ready design and operations for a safe and reliable integrated system.



Design, Technical & Operating Requirements

Energy Storage



Design, Technical & Operating Requirements



5. Specific Energy Storage Device Requirements

a. Energy Storage Device ~~Optional~~ Operating Restrictions *[moved from Section E.1.f]*

(1) When an ~~Energy Storage Device~~ ESD is paired with a Net Metering System, the ~~Energy Storage Device~~ ESD, at the election of the *Customer* and/or Producer, may be programmed with *either* one or both of the following operating restrictions, *or no operating restriction, as follows*:

- (a) Restricted from Exporting electricity to the Distribution System (beyond Inadvertent Export); and/or
- (b) Restricted to being charged solely from the Producer's Net Metering System and not from the Utility's Distribution System.; *or*
- (c) *No operating restrictions.*

(2) *If the Customer and/or Producer elects* An election to operate an Energy Storage Device ESD with an operating restriction(s), ~~will such election shall~~ be stated in the Application and Interconnection and Operating Agreement, including a description of the operating restriction(s).

(3) An attestation of the operating restriction(s), *or lack of an operating restriction(s)*, shall be provided by both the Ceustomer and the ESD Producer, *if different entities* operator of the Energy Storage Device.

(4) After the submission of the Application, the presence or absence of an operating restriction(s) may be modified, but not until after an updated attestation is provided to the Utility by *both* the Ceustomer and the operator of the Energy Storage Device ESD Producer, *if different entities*, and the Utility consents in writing to the modification. The Utility's written approval ~~will~~ *shall* not be unreasonably withheld or delayed.

Design, Technical & Operating Requirement

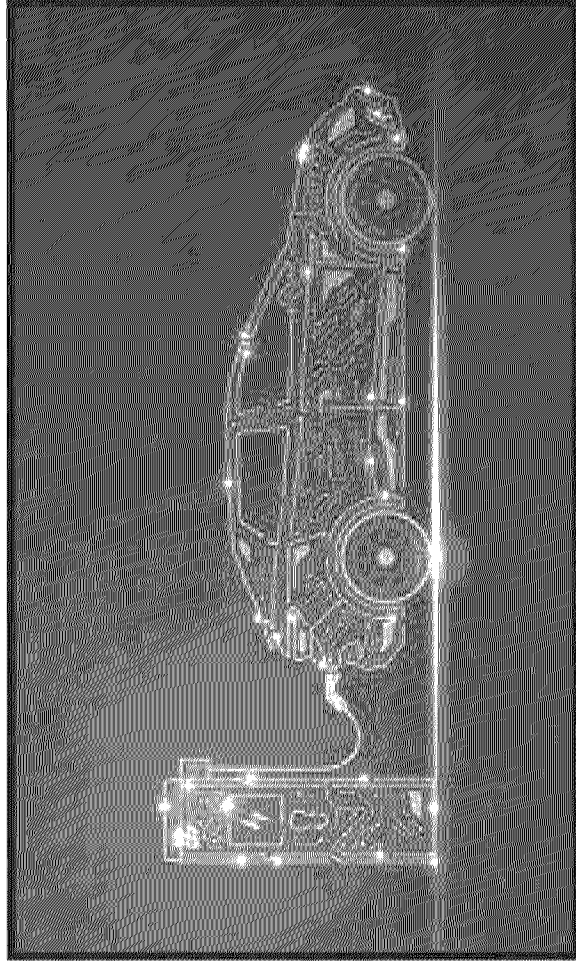
5. Specific Energy Storage Device Requirements (cont.)

- b. *A stand-alone ESD Interconnected to the Utility's Distribution System that is not paired with a Generator and is capable of being charged solely from the Utility's Distribution System, and shall only be discharged to provide back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall either first disconnect from the Utility's Distribution System in 15 seconds or less or employ a Break-before-make transfer scheme when switching to backup operation to ensure that no Parallel Operation occurs while it is discharging.*
- c. *An ESD paired with a Generator Interconnected to the Utility's Distribution System that will provide back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall either first disconnect from the Utility's Distribution System or employ a Break-before-make transfer scheme when switching to backup operation.*

EV Infrastructure & Bidirectional Charging



Electric Vehicles



EV Infrastructure & Bidirectional Charging



6. *Specific Electric Vehicle, Charger and Charging Station Requirements*

- a) *The connection of an EV charger or charging station with only charging capability to the Utility's Distribution System is not subject to this Rule, unless a Generator (e.g., solar photovoltaic and/or an ESD) is installed in association with it and the Generator will be Interconnected and will operate in Parallel Operation with the Utility's Distribution System.*
- b) *The connection of an EV or V2G-capable EV to an existing EV charger or charging station with only charging capability to the Utility's Distribution System is not subject to this Rule.*
- c) *The Interconnection of a V2G-capable EV charger or charging station to the Utility's Distribution System, or conversion of an existing EV charger or charging station to V2G capability, shall be subject to this Rule when EV discharging and/or export to the Utility's Distribution System will occur when the V2G-capable EV charger or charging station is Interconnected and operating in Parallel Operation with the Utility's Distribution System.*

EV Infrastructure & Bidirectional Charging



6. *Specific Electric Vehicle, Charger and Charging Station Requirements*
 - d. *V2G-capable EV charger or charging station inverters shall adhere to UL 9741 (Safety standard for bidirectional EV charging equipment) to ensure that V2G systems can safely export power from EVs to the Utility's Distribution System.*
 - e. *V2G-capable EVs with a built-in inverter shall also adhere to standard SAE J3072: Interconnection Requirements for Onboard, Grid-support Inverter Systems.*
 - f. *A V2G-capable EV, EV charger, or charging station connected to the Utility's Distribution System for the purpose of providing back-up service to all or part of a Customer's load during an interruption of electric service from the Utility shall either first disconnect from the Utility's Distribution System in 15 seconds or less or employ a Break-before-make transfer scheme when switching to backup operation to ensure that no Parallel Operation occurs while discharging.*



10. Communication Requirements

- c. *V2G-capable EVs with a built-in inverter shall also adhere to standard SAE J2847/3: Communication for Plug-in Vehicles as a Distributed Energy Source.*
- d. *EV charger or charging station V2G Interconnections shall be capable of supporting the following protocols:*
 - 1) *OpenADR (Open Automated Demand Response); and*
 - 2) *ISO/DIS 15118 Road vehicles: V2G communication interface.*

Metering, Monitoring & Telemetry



***Visibility, control, and
trust in how these
resources interact with
the distribution system.***



Metering, Monitoring & Telemetry



H. METERING, MONITORING AND TELEMETRY *[moved from Section G]*

9. Energy Storage Device Metering Equipment, including an appropriate Utility-owned, bi-directional, Interval Meter, as defined in Rule 1, shall be installed per applicable published Utility manuals and standards dealing with Metering specifications. *[moved from Section G.8]*
 - a. All service switches, Meter sockets, Meter enclosures, cutouts and similar devices, irrespective of voltage, required in connection with Energy Storage Device Metering shall be furnished, installed, maintained and owned by the Producer at no cost to the Utility.
 - b. The Utility shall furnish, install and own the appropriate Meter or Meters used for Energy Storage Device Metering, at its cost. Such installation location shall be furnished by the Producer and approved by the Utility, and shall, at reasonable times, be accessible for reading, testing and maintaining the Meter.
 - c. This requirement may be modified or eliminated by the Commission.

Stakeholder Feedback



Clarity on definitions and requirements?

Barriers to implementation?

Flexibility vs. Visibility

IREC Tie-Back



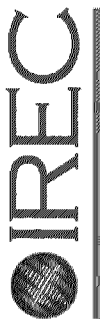
BATRIES-TOOLKIT-FINAL-3.28.22

- Non-export, attestation, system use clarity

Decision-Options-Matrix-for-IEEE-1547-2018: flexible certification and screening

- Topic 20, 22, 26

Paving_the_Way_V2G-Standards_Jan.2022_Final



IRTC Tie-Back

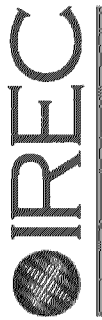
B. Mid Term			
Communication protocols and ports	Consider specifying protocols and ports if known and of interest to utilities at this time. Requirements for having the necessary communications equipment (e.g., gateway with a specific port) could cause DERs to include "stranded" equipment that is never used if it is never connected to a communications system. On the other hand, having the equipment installed ensures that it is available to connect at a future date, if desired. See communications/control roadmap in the Long-Term topic. [MTGS V.C]	DO 20a-1: Specify protocol(s) to be used at the DER interface or aggregator.	☐
		DO 20a-2: Specify protocols and/or ports to be used at the DER interface or aggregator.	☐
		DO 20a-3: Do not specify protocols or ports at the DER interface or aggregator.	☐
		DO 20b-1: Specify that systems which require "telemetry" must comply with communication equipment requirements.	☐
		DO 20b-2: Specify that systems of all sizes must comply with communication equipment requirements.	☐
		DO 20b-3: Implement equipment requirements in the future when ready to implement 1547-standardized communications.	☐



IREC Tie-Back



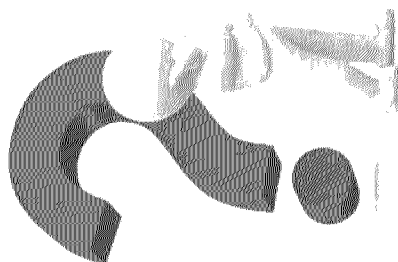
IREC		IREC	IREC
B. Mid Term			
Export control and power control systems (may be optional or long-term)	While not strictly required for IEEE 1547 adoption, export controls and power control systems (PCS) may be used for some aspects of IEEE 1547 implementation, including RPA selection, volt-watt implementation (see DO 18a-1), and limit maximum active power implementation (see DO 18b-1), in addition to other interconnection or tariff-related reasons. These export controls can be considered part of the interconnection system, and certification or compliance with certain requirements could be considered necessary in certain "fast track" or "simplified" interconnection processes. [MTGS V.H, BATTERIES Toolkit]. Guidelines can be found in the MIP.	DO 22a-1: Include specific technical and certification requirements for export controls and PCS in the interconnection rule (see BATTERIES Toolkit Chapter III). DO 22a-2: Leave technical and certification requirements for export controls undefined. DO 22b-1: Add information on PCS and export limiting equipment to application forms (see BATTERIES Chapter VIII). DO 22b-2: Do not update application forms with export controls information. DO 22c-1: Implement other elements of BATTERIES Toolkit export control recommendations (e.g., Chapters II, IV, VI, VII, IX). DO 22c-2: Do not implement other BATTERIES Toolkit elements at this time.	☐ ☐ ☐ ☐ ☐ ☐



C. Long Term				
Prioritization vs. export limiting	Export limits can potentially interfere with DER systems providing full grid support capability. For example, a non-exporting storage system may not be able to fully increase power output in line with frequency droop requirements for underfrequency events if output would exceed local load. IEEE 1547-2018 does not address situations related to export limiting in its prioritization of DER responses in subclause 4.7. Since this can affect bulk grid reliability, seek input from transmission operators or regional reliability coordinator when assigning priority of functions. See discussion in IEEE 1547.2	DO 26-1: Create prioritization to be used for all export-limiting DERs.	☐	
		DO 26-2: Allow utility and customer to agree on prioritizations for each individual interconnection application as needed.	☐	
		DO 26-3: Do not address prioritization for export-limited DERs until national standards are established.	☐	



Question and Answers



Closing



- NV Energy and Ennovara
 - Schedule next Workshop and Second Technical Breakout Session
 - Compile and distribute meeting notes from First Technical Breakout Session
 - Review and assess any comments, questions, or suggested edits to the Rule arising from the First Technical Breakout Session
 - Review and assess any Microsoft Forms stakeholder feedback
- Stakeholder Participants
 - Provide comments and questions via Microsoft Forms
 - Continue to come prepared to comment and provide input in upcoming Workshops and Breakout Sessions.



NV Energy's Rule 15 Update and Net Energy Metering Thresholds Breakout #1 Meeting Minutes

Date: April 16, 2025

Location: Microsoft Teams Virtual Meeting

Purpose: Breakout Session on Electric Vehicle and Energy Storage Device Requirements

Participants: NV Energy Distributed Resources Plan ("DRP") Interested Stakeholders and other interested parties.

Please note that recording these meetings, including the use of AI-based transcription, or recording tools, is not authorized as Nevada law requires the explicit consent of all participants. We kindly appreciate your understanding and cooperation.

Agenda Overview:

NV Energy held a virtual workshop to discuss Electric Vehicle ("EV") Infrastructure and Energy Storage Device ("ESD") Requirements and Control. The workshop is being conducted pursuant to the December 27, 2024, Order of the Public Utilities Commission of Nevada ("Commission") issued in Docket No. 24-05041.

Agenda Item 1: Welcome and Objectives

Discussion: The session objectives were focused on EV and ESD topics. An overlap across topics was expected, and efforts were made to streamline the conversation. Some questions may be deferred to future focused sessions, specifically including smart inverter settings and grid coordination, due to the complexity and importance of these topics. Additional NV Energy Subject Matter Experts were introduced for this technical breakout session, including representatives from the Electric Vehicle Programs, Metering, and Interconnection areas.

NV Energy emphasized that the content to be presented in the session represented initial thoughts and draft language only. Nothing is finalized, and any proposed changes are open for feedback and discussion. Stakeholders were encouraged to share ideas and express their support or opposition to the proposed language. Final decisions will be made later in the year, following internal review and analysis of all stakeholder input.

Agenda Item 2: New Defined Terms

Discussion: Definitions within Rule 15 were presented relating to ESDs and EVs. Some definitions were revised and additions were made to improve clarity and alignment. For ease of understanding, proposed additions were shown in blue italics text (*example*) while the proposed deletions were marked with a red strikethrough (~~example~~), similar to Nevada legislative formatting.

Revisions for the definition for “Energy Storage Device” were made to add clarity on treating EVs as an ESD for a vehicle to grid (“V2G”) EV charger or charging station under Rule 15. New definitions were also added to expand for EVs and to define Exporting.

Stakeholder Comment: An IREC representative offered an alternative definition for “Limited Generation Profile” (“LGP”) below:

“A predefined schedule or control profile, implemented by an autonomous system or equipment configuration, that limits the amount of electricity a Distributed Energy Resource (DER) may generate or discharge at specific times of day and/or times of year. An LGP may be executed by a Certified Power Control System (PCS), energy management system (EMS), or other control architectures—including relay-based systems enforced by Real-Time Automation Controllers (RTACs)—provided the configuration reliably enforces export limits and has either been certified, commissioned, or otherwise technically validated. LGP enforcement may involve:

- *Certified PCS or EMS systems with autonomous operational capabilities;*
- *Relay-based schemes, including configurations where:*
 - *An RTAC-enforced relay limits export directionally according to schedule;*
 - *An uncertified PCS handles DER operations in parallel with a utility-enforceable relay;*
 - *The combined control scheme has passed commissioning or undergone sufficient technical evaluation to satisfy utility requirements.”*

NV Energy Response: The proposed definition will be reviewed and considered for inclusion in the updated Rule.

NV Energy Comment: An NV Energy Electrification representative suggested the possibility of using the term Electric Vehicle Supply Equipment (“EVSE”) rather than Electric Vehicle Charger or Charging Station within the ESD Rule 15 definitions. The suggestion will be considered.

Stakeholder Question: A Robco Electric representative asked, “What is the problem that these new definitions are supposed to solve?”

Ennovara Response: The new definitions are intended to cover new equipment and concepts such as EV’s and smart inverters that are being added to Rule 15.

Stakeholder Comment: A Staff representative noted and clarified that battery storage is not considered a generator under the Commission’s definitions but agreed that it should and will be considered a generator under Rule 15.

NV Energy Response: NV Energy agreed with the stakeholder’s comments.

Stakeholder Comment: An IREC representative noted that instead of the defined term “Net Nameplate Rating”, they use the term “Nameplate Rating” to cover a similar concept. IREC elaborated that in other parts of the country, it is more common to not include “gross” or “net”. Generally, IREC noted they use other defined terms that should be considered. For instance, on Slide 10, NV Energy’s defined term for “Net Nameplate Rating” is the IREC defined term “Export

Capacity”. Other states use the export capacity limit for screening a project to consider how much energy export could be pushed back onto the grid, however, if protection screening is being done to calculate current, then the full nameplate capacity is needed. Definitions play a role in the actual screens.

NV Energy Response: NV Energy will consider IRECs recommendations.

Stakeholder Comment: An IREC representative also suggested that a definition for “Export Capacity” be added.

NV Energy Response: NV Energy will consider adding “Export Capacity” to the defined terms.

NV Energy Question: An NV Energy Metering representative asked, “In the context of “Net Nameplate Rating”, do we need to specify if we are referring to the AC (Alternating Current) or DC (Direct Current) rating?”

NV Energy Response: NV Energy will update the definition as appropriate.

Stakeholder Question: A Bombard Renewable Energy representative asked if an AC-coupled battery that was to be used during outages would need to comply with these changes because it is classified as a battery storage system (ESD). Example: a gas generator AC-coupled battery with an automatic control switch (“ACS”).

NV Energy Response: Rule 15 applies to parallel operating generators that interconnect with the grid for more than 15 seconds. For systems with a Break-Before-Make transfer switch so that the generator or ESD would not be connected to the grid for more than 15 seconds, Rule 15 would not apply.

Agenda Item 3: Codes & Standards

Discussion: NV Energy indicated that the current Rule 15 referenced very few codes and standards throughout the Rule (mainly IEEE 1547 and UL 1741) and lacked a comprehensive consolidated list. To improve clarity and alignment with industry practices, NV Energy is proposing to add a stand-alone section for Codes and Standards that would contain additional applicable codes and standards, specifically related to ESDs and EVs, and other relevant technical and safety standards. NV Energy did not cover all the codes and standards being considered for inclusion in the Rule, but the list will be included in a later workshop.

Stakeholder Comment: An IREC representative suggested referencing UL 3141 because it relates to power control systems which can monitor and control import/export limitations on limited generation profiles.

NV Energy Response: NV Energy stated that it is familiar with the referenced document and is considering how to handle protocols for power control systems and will consider inclusion of UL 3141 in the Rule in some manner.

Agenda Item 4: Design, Technical, Operating Requirements

Energy Storage Device Discussion: The proposed changes for the Energy Storage Device Requirements in Section 5a on Slide 17 are meant to provide clarity to the language and alignment with the terminology across the Rule. The operating restrictions for ESDs were laid out to ensure that bill credits for energy generated were only received from renewable sources. NV Energy is proposing adding Sections 5b and 5c for ESD requirements on Slide 18 to clarify how ESDs meant only to be operated as back-up must disconnect from the utility grid to ensure proper isolation when transitioning to back-up mode for safety and compliance.

Stakeholder Question: A Lion Energy representative asked what the current rule is regarding importing and exporting. In California, Rule 21 does not allow both importing and exporting.

NV Energy Response: Recognizing the Rule is being updated, NV Energy responded that import and export are currently allowed in parallel operation. If the ESD is classified as Non-Export, Export is acceptable within the limits of Inadvertent Export. Exporting more than the Inadvertent Export amount would classify the ESD as Exporting rather than Non-Exporting. Importing can occur to charge a Non-Exporting ESD. There are additional device restrictions in Rule 15.

Stakeholder Comments: Several ESD industry representatives such as Sol-Up and Lion Energy expressed concerns regarding the existing requirement in the Rule for a separate ESD meter and requested the ESD meter requirement be removed in this revision of Rule 15. They noted that the utility could rely on the net meter. A Sol-Up representative stated that the ESDs they install do not export to the grid and do not back feed stored power to the grid. And also noted they have a 3-phase sol-ark system that needs two meter sockets, questioned why NV Energy needed an ESD meter when other public utilities do not require a separate ESD meter, and asked how the meter affects billing.

NV Energy Response: NV Energy noted that the ESD meter is currently critical in assisting with usage and generation disputes and complaints, as well as characterizing power flows.

Stakeholder Question: A Sol-Up representative asked, “Does a gas generator need a meter?”

NV Energy Response: A gas generator, which is not a renewable net metering generator, needs telemetry if the capacity is greater than 1 MW, but there are also some telemetry requirements specified for generators by size. There will be a future workshop including the topic of Metering.

Stakeholder Question: A Lion Energy representative asked, “Regarding Slide 24, would an ESD meter be required for a zero Export or Limited Export device, with no net metering, but allowing for ESD charging from grid?”

NV Energy Response: NV Energy indicated, as described, a standalone ESD would still need an ESD meter. Conservatively, a DC-coupled solar plus battery configuration, with no grid charging, would still be a generator in parallel with the grid and would require an ESD meter, even with no net metering.

Stakeholder Comment: A Lion Energy representative mentioned that many other states find that it is not beneficial to have net metering. However, if a customer needs an additional meter for the utility, customers shouldn’t have to pay for the meter, interface with the meter, or manage it. The

representative also mentioned that he will fill out the Microsoft Forms feedback form to get more information on if they need to design their system around the utility meter.

NV Energy Response: NV Energy noted the feedback.

Stakeholder Question: A Sol-Up representative asked if they were permitted to charge their ESD systems from the grid. If so, can NV Energy clarify why it matters how that stored energy is subsequently used? How do the three meters affect billing?

NV Energy Response: ESDs are permitted to charge from the grid. NV Energy had previously noted that the ESD meter is currently critical in assisting with usage and generation disputes and complaints, as well as characterizing power flows.

Stakeholder Comment: An IREC representative offered a reference table from Ameren in Illinois that requests customers choose between different configurations and specifies certain requirements (see Appendix 1), asking if NV Energy might consider something similar.

NV Energy Response: NV Energy acknowledged the information and indicated that such a table will be considered.

EV Discussion: NV Energy indicated that it is proposing new language in the Rule to address EVs, specifically grid connected V2G-capable infrastructure under Rule 15. NV Energy specified that only EV chargers with charging capability only that were paired with a generator or ESD that would operate in parallel with the utility grid would fall under Rule 15. Language regarding specific safety standards for EV chargers and charging station inverters is also proposed to be added. NV Energy emphasized that the current language was still being refined. Communication requirements specific to EV chargers and inverters were pulled, this topic will be discussed more thoroughly in an upcoming dedicated workshop.

Stakeholder Question: An IREC representative expressed concerns with adding the UL 9741 in the codes and standards as manufacturers may currently not be implementing this standard. The representative asked if the standard was required or optional. The representative explained his understanding that with this standard if one looks at bidirectional chargers that have UL 9741 certification, they are dual listed for UL 1741 and UL 9741. UL 9741 also refers to UL 1741. The representative indicated that he is unaware that UL 9741 can replace UL1741. Some manufacturers may only do the UL 1741 certification.

NV Energy Response: NV Energy responded that it does not envision UL 9741 replacing UL 1741, and that it was a proposed added code specifically addressing and relevant to V2G charging and discharging. However, changes to the codes and standards requirements in the Rule are still up for discussion.

Stakeholder Comment: An IREC representative stated that there are clear standards to rely on for the V2G direct current (DC) configuration, including UL 1741. For EVSE addressed in Paragraph e. on Slide 21, IREC suggested adding another sentence noting that J3072 applies to EV and language regarding the forthcoming UL 1741 SC that will address the EVSE itself.

NV Energy Response: NV Energy will consider this approach.

Agenda Item 5: Metering, Monitoring, & Telemetry

Discussion: NV Energy highlighted that this section was moved from Section G as it is currently in the Rule and there were no presently proposed changes from the current Rule 15 language. No additional questions regarding Metering were asked and NV Energy noted that there will be another breakout session specifically addressing metering, monitoring & telemetry.

Agenda Item 6: Stakeholder Feedback

Discussion: Ennovara opened the floor for questions and comments from participants to bring up anything that was not yet addressed.

Stakeholder Question: A representative from Bombard Renewable Energy asked if NV Energy had a stance on accepting manufacturers that have utility grade meters in lieu of a traditional meter.

NV Energy and Ennovara Response: An NV Energy Metering representative responded that currently all meters are key and critical. Ennovara added that the utility did not have a lot of experience in these devices and encouraged the stakeholder to share more information in the feedback form.

Stakeholder Question: A representative from Sol-Up asked about the process on requesting removal of the ESD metering requirement. It was highlighted that other states, including California, did not require a separate ESD meter.

NV Energy and Ennovara Response: Ennovara acknowledged the concerns on the ESD metering requirements, and any stakeholder feedback and concerns will be reviewed with internal NV Energy departments. An NV Energy Legal representative added that the current stakeholder process will lead to a formal filing of the proposed changes with the Commission. Stakeholders were encouraged to present evidence supporting their concerns for NV Energy to consider as changes to the Rule are evaluated. Additional workshops will also provide stakeholders opportunities to further elaborate on their concerns around ESD metering.

Stakeholder Question: Regarding Slide 24, a Staff representative requested clarification that Section 9.c is in the current Rule 15.

NV Energy Response: NV Energy confirmed that the section exists in the current Rule 15 but was moved from Section G. to Section H.

Agenda Item 7: IREC Tie Back

Discussion: Ennovara listed the referenced IREC materials being reviewed to help update Rule 15. Three topics (20, 22 and 26) from the Decision Option Matrix were introduced relating to EV and ESDs to begin the discussion for the stakeholders. Discussion on communication protocols and ports were deferred to a future breakout session.

Agenda Item 8: Questions and Answers

Discussion: No additional questions were raised.

Agenda Item 9: Closing

Discussion: Ennovara and NV Energy concluded the meeting by encouraging stakeholders to submit feedback forms and come prepared with questions and comments to help ensure the productivity of future sessions. The next meeting was tentatively scheduled for early May, and the focus topic will cover the Application Process and Administrative sections of Rule 15.

Other Meeting Questions from the Chat

Stakeholder Question: A Sol-Up representative commented that in Southern Nevada, solar and storage systems have less value with the new time-of-use period of 6pm – 9pm.

NV Energy Response: NV Energy responded that the Commission assessed that ESDs could assist with the load after the solar drops off during the shorter on-peak period.

Stakeholder Question: A stakeholder representing an independent advisory group of retired professionals, asked if there was any plan to make solar and storage dispatchable by the utility. The Utility would be able to request energy from the ESD and there would be an agreement with that customer indicating the utility could pull energy from the customer's battery when needed.

NV Energy Response: NV Energy indicated that it currently has Demand Response programs that eligible ESDs can participate in. Customers agree to provide energy from their batteries to the grid during designated demand periods. In return, customers receive compensation for their participation.

Action Items:**NV Energy**

- Demand Response program details to be shared directly upon request.
- NV Energy to schedule next Workshop and Second Technical Breakout Session.
- NV Energy to distribute meeting minutes.
- NV Energy to review and assess comments, questions and suggested edits to the Rule arising from this first Technical Breakout Session.
- NV Energy to review and assess Microsoft Forms feedback.

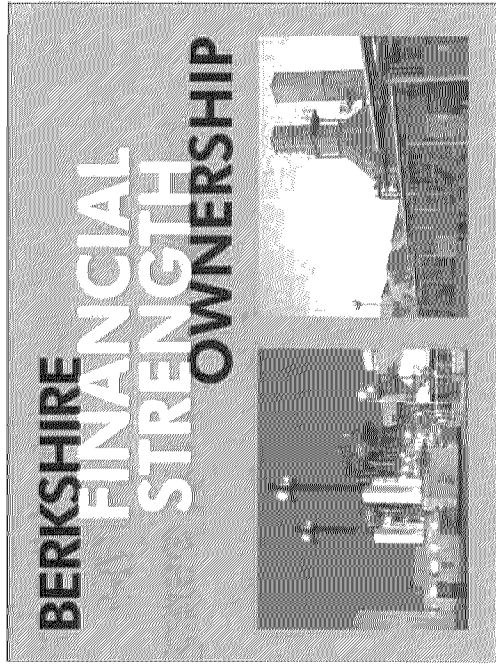
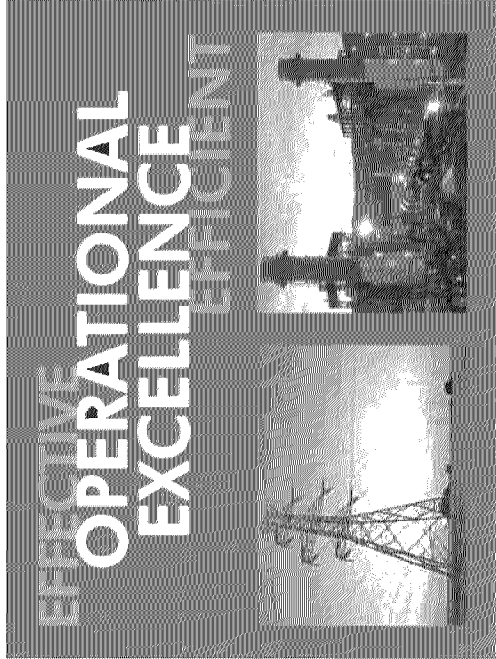
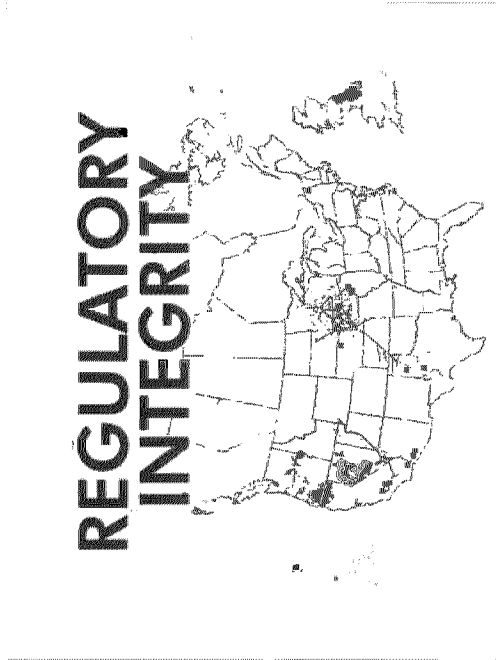
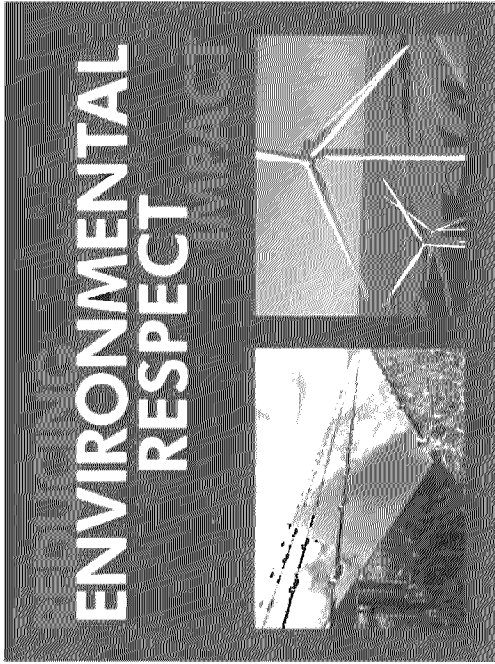
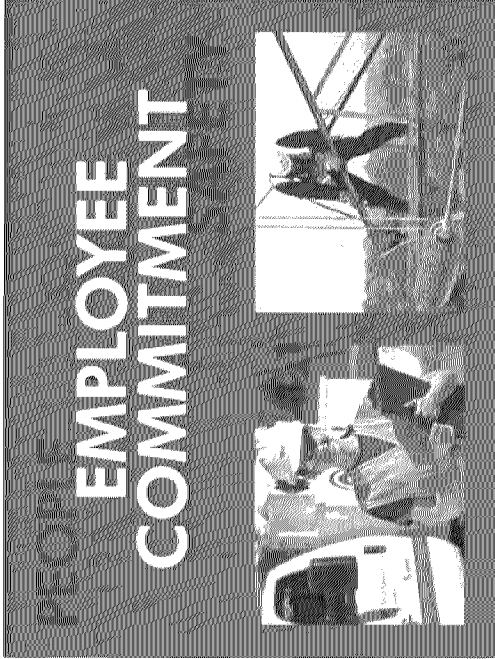
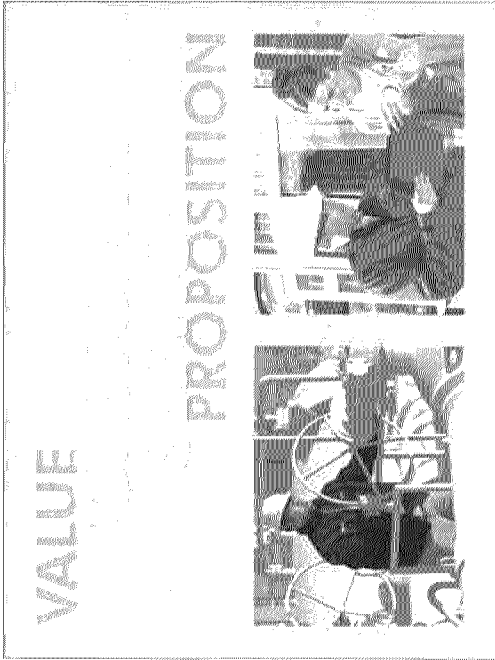
Stakeholders

- Provide additional feedback via Microsoft Forms, as desired.

Appendix 1

From IREC: “For NEM Compliance, in Ameren IL territory. The utility offers the following table within their PowerClerk application forms, that asks the customer to choose which configuration they have. Just curious if NVE has something like this or may consider if it helps applicants with choices (Please see the table below from the IL utility)”

Description	Export Compensation	Applicable Tariff	Hardware And Controls Required
Type 1-NEEx: ESS can only charge from appropriate source , no ESS export allowed	All export netted through NM or gross output compensated thru QF	Rider NM or QF	Power Control System (PCS)* (No Exchange Mode)
Type 1-Ex: ESS can only charge from appropriate source, ESS export allowed	All export netted through NM or gross output compensated thru QF	Rider NM or QF	PCS (Export Only Mode) or DC Coupled with 2 Quadrant Inverter (Generation Only)
Type 2-NEEx: ESS can charge from appropriate source and Grid, no ESS export allowed	All export netted through NM or gross output compensated thru QF	Rider NM or QF	PCS (Import Only Mode)
Type 2-Ex: ESS can charge from appropriate source and Grid, ESS export allowed	Only energy-sourced kWhr receive export netting or gross output compensated thru QF	Rider NM or QF	Separate energy-source and ESS meters
Type 3-NEEx: ESS can only charge from Grid, no ESS export allowed	NA	standard rates	PCS (Import Only Mode) or Relaying
Type 3-Ex: ESS can only charge from Grid, ESS exports allowed	MISO or NA	standard rates	No Requirement
* Power Control System (PCS): Depending on the 'description,' PCS equipment can be certified by UL for the following modes: • <i>Export Only Mode</i> – ESS may export to grid during discharging, but shall not import from grid for charging purposes • <i>Import Only Mode</i> – ESS may import from grid during charging, but shall not export to the grid for discharging purposes • <i>Unrestricted Mode</i> – ESS may import from grid during charging and may export to grid for discharging purposes • <i>NO Exchange Mode</i> – ESS shall not exchange power with grid for charging or discharging purposes			



NV Energy's Rule 15 Update and Net Energy Metering Metering Thresholds Series

Workshop #2 – Applicability & Application for Interconnection

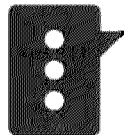
May 14, 2025



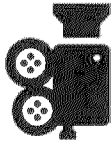
Engage & Participate



Actively
Participate



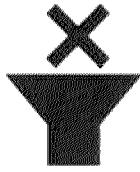
Ask
Questions in
Chat



Cameras
Preferred



Raise Your
Hand
*(state your
name & org)*



Please
Mute



Please no
Recording



Agenda

Applicability & Application for Interconnection

- Welcome & Objectives
- Rule 15 Updates
 - Applicability
 - Application for Interconnection
- IREC Tie Back
- Q&A
- Closing

Welcome



NV Energy

- Patricia Rodriguez, Director
 - Integrated Energy Services Optimization
- Joe Sinobio, Director
 - Integrated Grid Planning
- Chris Belcher, Manager
 - Integrated Energy Services Policy and Compliance
- Diego Tapias, P.E., Sr. Engineer
 - Renewables



Welcome

Ennovara

- Hector Dominguez, P.E., Director
 - Technical Expert
- Justin Williams, Principal Engineer
 - Technical Lead
- Jericha Mendoza, Energy Engineer
 - Technical Support, Data Analytics
- Amy Lahav, Principal Consultant
 - Project Coordinator, Facilitator, & Regulatory Support



Objectives

Rule 15 Applicability & Applications for Interconnection

Key Focus Areas

- Applicability
- Application for Interconnection
- Future Conversations
 - Net Metering
 - Technical Review Process
 - Design, Technical and Operating Requirements
 - Facility Installation, Inspection and Commissioning

Redlines for Consideration

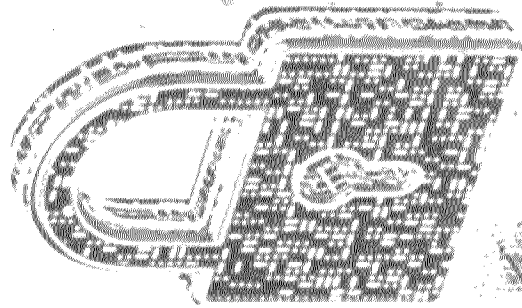


PLEASE NOTE:

The proposed revisions/additions to NV Energy's current Rule 15 on the following slides are provided for informational and discussion purposes only, capture currently known issues or contemplated revisions to Rule 15, and should be considered as a work in progress. NV Energy may alter any of this information as appropriate in its actual filings with the Commission for approval of an updated Rule 15 for the Companies based on discussions with stakeholders and continued consideration of the issues.



B. Applicability





B. Applicability

B. GENERAL APPLICABILITY

1. This Rule describes the Interconnection, operating and Metering requirements for Generating Facilities intended to be connected to the Utility's electric Distribution System over which the Commission has jurisdiction.
2. This Rule applies only to Generating Facilities with a Net capacity Nameplate Rating of 20,000 kilowatts MW or less unless otherwise required in federal or state law. Generating Facilities with a Net Nameplate Rating of greater than 20 MW are not subject to this Rule and shall be addressed through the Utility's Large Generator Interconnection Application or other appropriate process.
3. Generating Facilities seeking to Interconnect to the Utility's Distribution System and sell a portion of or all their electrical output to the Utility or a third party are not subject to this Rule and shall be addressed through the Utility's Small Generator Interconnection Application, Large Generator Interconnection Application, Qualified Facility, or other appropriate process, as applicable. Subject to the provisions of this Rule, the Utility will allow the interconnection of Generating Facilities with its electrical system.

B. Applicability



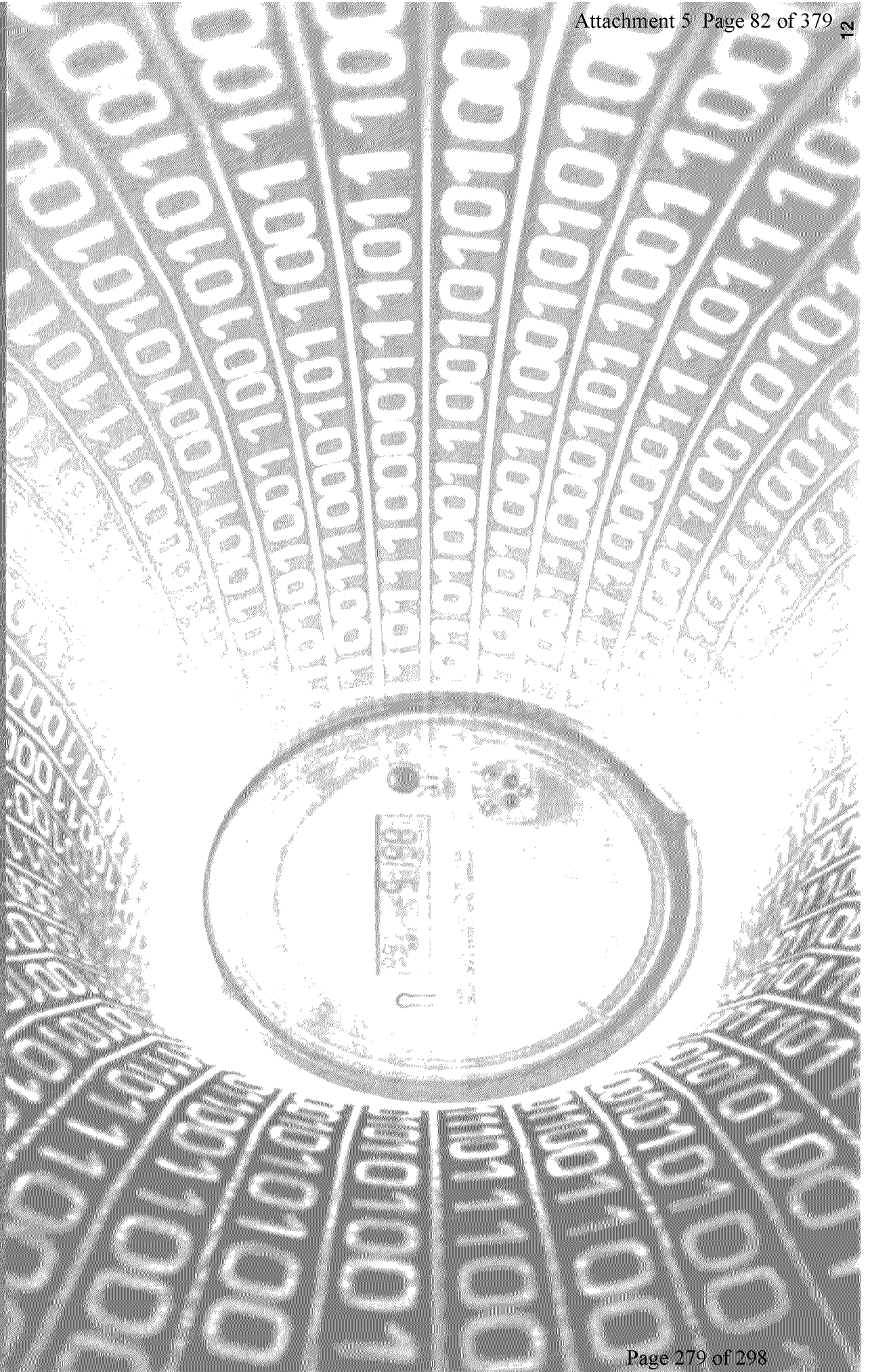
4. The requirements of this Rule apply only to Generating Facilities Interconnected with the Utility's facilities that will operate in parallel (Parallel Operation) with the Utility's Distribution System. Producers seeking to connect Generating Facilities to the Utility's Distribution System wherein there will be a continuous electrical path established between the Generating Unit(s) and the Utility's Distribution System at any time and during any planned operating mode of the Generating Unit(s) must file an Application under this Rule to enable the Utility to determine if the Interconnection will result in Parallel Operation, Momentary Parallel Operation, or neither, and therefore the requirements of this Rule apply or not and whether technical review of the Interconnection is required or not. However, this requirement for an Application shall not apply to the connection of an Electric Vehicle to the Utility's Distribution System with only charging capability.
5. Net Metering Systems are subject to this Rule, but not all provisions as specifically noted within this Rule and require a different Application and Interconnection and Operating Agreement than non-Net Metering System Interconnections.
6. Generating Facilities Interconnected prior to the effective date of this Rule shall be governed by the requirements of this Rule in effect at the time the Generating Facilities were installed and their existing Interconnection and Operating Agreements.

B. Applicability



7. Capitalized terms used in this Rule, and not defined in the Utility's other tariffs, shall have the meaning ascribed to such terms in Section B of this Rule. The definitions set forth in this Rule shall apply only to this Rule and, related tariff riders for standby service and service and may not apply to the Utility's other Rules.
8. Generating Facilities that are intended for isolated operation, both in terms of their load and generation characteristics (e.g., Energy Storage Devices), and not Parallel Operation with the Utility's Distribution System are not addressed in subject to the requirements of this Rule. The connection of such Generating Facilities to the Utility's Distribution System shall be addressed in the Utility's Rule 19. The determination of whether the Generating Facility Interconnection is subject to the requirements of this Rule or Rule 19 shall be at the sole discretion of the Utility based on the information provided by the Applicant in an Application under this Rule.
9. Modification of the Utility's Distribution System as a result of a Producer's Application for Interconnection under this Rule, including both Interconnection Facilities and Distribution System improvements which may result from either the load or generation characteristics of a Generating Facility, shall be as set forth in Rule 9. [moved from section D. 2. a.]
10. A separate Rule 3 application shall not be required as a result of a Producer's application for Interconnection under this Rule.
11. Subject to the provisions of this Rule, the Utility shall allow the Interconnection of Generating Facilities with its electrical system Distribution System.

E. Application for Interconnection



E. Application for Interconnection



E. APPLICATION AND INTERCONNECTION PROCESS FOR INTERCONNECTION

1. Optional Pre-application Report

- a. A potential Applicant may request an optional Pre-application Report for a specific site to obtain information about Distribution System conditions at the proposed POI prior to submitting an Application for Interconnection by completing and submitting to the Utility a Pre-application Report Request Form and a non-refundable fee of \$\$. Potential Net Metering System Interconnections below a Net Nameplate Rating of 25 kW are not eligible to request or receive this optional Pre-Application Report.
- b. The Utility shall make the Pre-application Report Request Form publicly-accessible either as an online form, electronic document transferrable through e-mail, or other format convenient to potential Applicants.
- c. Upon receipt of a completed Pre-application Report Request Form and the non-refundable fee of \$\$, barring unforeseen circumstances, the Utility shall provide the requested data to the potential Applicant within ten (10) business days, making reasonable and good faith efforts to provide all available data requested. However, the Utility shall be obligated to provide existing data relevant to the request only and shall not be obligated to provide data it does not possess at the time of the request nor to conduct a study or other analysis to generate such data. The Utility shall indicate on the form which data it cannot provide at the time of the request.
- d. In requesting the optional Pre-application Report, the potential Applicant acknowledges that none of the data provided by the Utility in any way implies or guarantees that its Interconnection can be completed without impacts to the Distribution System or the need for Distribution System Improvements, and that given the dynamic nature of the Distribution System, the data provided in the Pre-Application Report may become outdated and not be useful or accurate at the time of the submission of the satisfactorily completed and accepted Application for Interconnection.

E. Application for Interconnection



2. APPLICATION PROCESS

- a. Upon request, the Utility will provide information and documents (such as the pro forma Interconnection and Operating Agreement and the Application, technical requirements, specifications, listing of Certified Equipment, application fee information, applicable rate schedules and Metering requirements) in response to a potential Applicant's inquiry. Unless otherwise agreed upon, the Utility will normally send all such information ~~will normally be sent to~~ an Applicant within five (5) business days following the initial request from the Applicant.
- b. The Utility shall establish an individual representative as the single point of contact for the Applicant but may allocate responsibilities among its staff to best coordinate the Interconnection of an Applicant's Generating Facility.
- c. For Net Metering Systems, the Utility will send a description of the procedures by which a Customer may Interconnect with the Utility and a copy of the standard Net Metering System contract Interconnection and Operating Agreement with the Applicant form.
- d. ~~Applicant Completes an Application.~~ All Applicants shall be required to complete and file submit an Application for Interconnection to the Utility and supply any relevant additional information requested by the Utility. The submission filing must include the completed Application, a fee for processing the Application and performing the Initial Review to be completed by the Utility pursuant to Section F.1.e.

E. Application for Interconnection



- e. The Application fee shall vary based on the Net Nameplate Rating of the proposed Generating Facility that will be Interconnected as indicated in the following table:

Generating Facility Net Nameplate Rating	Initial Review Fee	Supplemental Review Fee
≤ 1 MW	\$XXX	None*
All Others	Actual Costs Incurred*	Actual Costs Incurred*

* If an Interconnection Study is required, pursuant to Section F.4D.1.d, the Producer will be charged the actual costs of a Supplemental Review Study pursuant to Section D.1.dF.2.

- f. Note: The Applicant may propose, and the Utility may negotiate, specific costs for processing non-standard installations such as multi-units, multi-sites, or otherwise as conditions warrant. The costs for the Initial Review and the Supplemental Review contained in this Section as well as the language provided in Sections D.1.c and D.1.d do not apply under such circumstances.

- g. The Utility shall record the date and time it first receives an Application.

- h. Within ten (10) business days of receiving the Application, the Utility shall normally acknowledge its receipt and inform the Applicant state whether the Application has been completed adequately. If defects are noted, the Utility and Applicant shall cooperate in a timely manner to establish a satisfactory Application. For Net Metering Systems, the Utility shall send a standard Net Metering System Interconnection and Operating Agreement contract to the Applicant for signature if the data provided is complete and complies with the technical requirements of NRS 704.774. If the Application is not complete or does not meet the technical requirements of NRS 704.774, the Utility shall return the Application to the Applicant within ten (10) business days of receipt of the Application specifying what is deficient in sufficient detail to enable the Applicant to correct the Application for resubmission.

E. Application for Interconnection



- i. An Application containing deficiencies, errors or omissions that are not rectified by the Applicant after two iterative Utility reviews of the Application shall be rejected by the Utility and the Applicant shall submit a new Application and remit a new Application fee should the Applicant wish to continue the application process. The Utility shall review the new Application for completeness and correctness in accordance with Section E.2.h.
 - j. The Utility shall record the date and time it accepts the Application as satisfactorily completed and inform the Applicant of such acceptance in a timely manner.
 - k. The Utility shall determine the Interconnection requirements for each phase of a multi-phased Generator or Generating Facility Application at a single PCC with consideration of previous phases and not future planned phases. Amendments to existing agreements, including Interconnection and Operating Agreements, may be required, or existing agreements may be terminated by the Utility or the Producer and new agreements may be required, based on the requirements of future phases.
3. Modifications to Existing Equipment or Operation
 - a. Replacement of existing equipment associated with a Generating Facility that does not constitute a Material Modification, where the system output does not exceed what is listed in the original Interconnection and Operating Agreement, and where the operating modes of the Generators comprising a Generating Facility are not adjusted, shall not require the Producer to inform or receive approval from the Utility.

E. Application for Interconnection



- b. The Producer shall contact the Utility and may be required to submit an Application in order for the Utility to adequately assess the effect(s) of a modification(s) to equipment or operation of a Generator or Generating Facility if the Producer:
- (1) will replace or replaces existing equipment,
 - (2) will upgrade or upgrades inverter firmware that affects grid interaction,
 - (3) will change or changes inverter characteristics that affect grid interaction, or
 - (4) will modify or modifies the operation of the Generators comprising a Generating Facility,
- such that the system capacity or output increases as measured at the PCC and no inverter power or Power Control System controls are employed to limit the active power output to the inverter listed size in the original Interconnection and Operating Agreement. The Utility shall make good faith efforts to determine, at its sole discretion, if an Application is required in a reasonable amount of time following notification by the Producer. The Utility review process and timelines in Section F shall apply if the Utility determines that a new Application is required.

E. Application for Interconnection



- c. A Producer shall notify the Utility, and a new Application shall be required if the Producer proposes a different POI or PCC for an existing Generator or Generating Facility that differs from either points as stated in the existing Interconnection and Operating Agreement. The Utility review process and timelines in Section F shall apply.
- d. If the sole change to an existing Generator or Generating Facility Interconnection is a change in ownership or Producer, the new owner or Producer shall inform the Utility a minimum of 30 days prior to such change so that any existing agreements, including the Interconnection and Operating Agreement, may be updated or a new agreement(s) can be executed.

IREC Tie-Back



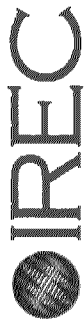
BATRIES-TOOLKIT-FINAL-3.28.22

- New Use Cases, Tech Neutral, Pre-application reports, Timelines

Decision-Options-Matrix-for-IEEE-1547-2018: flexible certification and screening

- Topic 1, 11, 14, 15, 16

IRRC Tie-Back



A. Near Term				
Adoption timeline	Equipment listing to UL 1741 SB certifies conformance with 1547-2018 for inverter-based resources and some other interconnection equipment. Compliance requirements are usually based on the interconnection application submission date. Some projects have long interconnection review and lead times and may not be installed until long after the application date. Appropriate Rule language is available in MIP Section IV.A.	DO 1a: Beginning on [insert effective date] DERs shall be required to comply with IEEE 1547-2018.	☒	
		DO 1b-1: Base compliance date on application submission date.	☒	
		DO 1b-2: Base compliance date on installation date (may be useful for larger projects with long lead times).	☐	
		DO 1b-3: Differentiate compliance date mechanism between smaller and larger projects.	☐	
B. Mid Term				
Reference point of applicability (RPA)	Consider process related improvement that allows RPA designation by applicant and for utility to review. This may involve changes to application forms (such as online application portals), initial review processes, and provisions to allow RPA review/discussion during the scoping meeting. [MTGS IV]. The MIP offer updated process guidelines and so does the BATTIES Toolkit.	DO 11-1: Require RPA to be noted in the application forms and use RPA recommended language from Appendix E and F of BATTIES Toolkit as a starting point.	☒	
		DO 11-2: Specify elsewhere how the RPA information is processed.	☐	
		DO 11-3: Do not introduce new requirements related to the RPA.	☐	

IREC Tie-Back



B. Mid Term			
Requirements for replacement units	For end-of-life or other equipment replacements, define whether or not the most recent technical requirements, certifications, and settings must be followed. It could be beneficial to ensure that "legacy" interconnection equipment (such as an inverter) is upgraded to the most recent standards over time. However, warranty replacements are usually like-for-like and should be accommodated. Additionally, DER owners may keep spare parts on hand for future use to limit downtime during repair. Contractual obligations for notifying the utility of equipment changes and the requirements for updated equipment should be clear at the time of interconnection. Note that "material modification" guidelines could be developed to ensure an easy transition to new equipment and note under which circumstances further evaluation must be conducted by the utility. [MTGS VI]	DO 14a-1: Allow replacement equipment to match the certification and technical requirements of originally evaluated and installed equipment. Require settings to match those specified in the Interconnection/Operating Agreement. DO 14a-2: Require replacement equipment to conform to certification and technical requirements of rule in effect at time of replacement. Make exception for warranty work (and potentially for previously acquired equipment). Require settings to match those specified in the Interconnection/Operating Agreement. DO 14a-3: Require replacement equipment to conform to certification and technical requirements of rule in effect at time of replacement. Make exception for warranty work (and potentially for previously acquired equipment). Require settings to match those specified by the utility or default URP at the time of replacement. DO 14b-1: Update definitions of material modification for already interconnected DERs. Establish when notification or further evaluation (and related fees) must occur, dependent on replacement type and power specifications. DO 14b-2: Leave material modification process unchanged or undefined. DO 14c-1: Establish process for determining changes to settings when replacement equipment is updated. DO 14c-2: Do not define process for determining changes to settings when replacement equipment is update.	☐ ☐ ☐ ☐ ☐ ☐ ☐



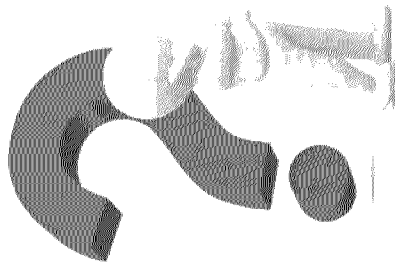
B. Mid Term			
Standard interconnection agreements	As required, include provisions for adhering to required functional settings and updating settings or equipment over time.	DO 15a-1: Update standard interconnection agreement to meet contractual obligations (operating requirements) regarding functional settings.	☐
		DO 15a-2: Do not update standard interconnection agreement to meet contractual obligations regarding functional settings.	☐
		DO 15b-1: Update standard interconnection agreement to meet contractual obligations (operating requirements) regarding future replacement equipment (see DO 14a).	☐
		DO 15b-2: Do not update standard interconnection agreement to meet contractual obligations regarding replacement equipment	☐



S					



Question and Answers





Closing

- NV Energy and Ennovara
 - Schedule next Workshop and Breakout Session
 - Compile and distribute Session notes
 - Review and assess any comments, questions, or suggested edits to the Rule arising from this Session
 - Review and assess new Microsoft Forms stakeholder feedback
- Stakeholder Participants
 - Provide comments and questions via Microsoft Forms
 - Continue to come prepared to comment and provide input in upcoming Workshops and Breakout Sessions.



NV Energy's Rule 15 Update and Net Energy Metering ("NEM") Thresholds Workshop #2 Meeting Minutes

Date: May 14, 2025

Location: Microsoft Teams Virtual Meeting

Purpose: Workshop on Applicability & Application for Interconnection

Participants: NV Energy Distributed Resources Plan ("DRP") Interested Stakeholders and other interested parties.

Please note that recording these meetings, including the use of AI-based transcription, or recording tools, is not authorized as Nevada law requires the explicit consent of all participants. We kindly appreciate your understanding and cooperation.

Agenda Overview:

NV Energy held a virtual workshop to discuss the Rule 15 sections for Applicability and Application for Interconnection. The workshop is being conducted pursuant to the December 27, 2024, Order of the Public Utilities Commission of Nevada ("Commission") issued in Docket No. 24-05041.

Agenda Item 1: Welcome and Objectives

Discussion: The workshop session was focused on the Applicability and Application for Interconnection sections of Rule 15. An overlap across topics is expected, and specific topics have been identified for upcoming workshops.

NV Energy emphasized that the content to be presented in the session represented initial thoughts and draft language only. Nothing is finalized, and any proposed changes are open for feedback and discussion. Stakeholders were encouraged to share ideas and express their support or opposition to the proposed language. Final decisions will be made later in the year, following internal review and analysis of all stakeholder input.

Agenda Item 2: Applicability

Discussion: NV Energy presented the red lines for consideration and reiterated that the current state of updates was not set in stone. Based on inputs from stakeholders or internal discussion, things may change. As a reminder, regarding the red lines formatting: black text refers to existing language (example), blue text (*example*) is new proposed language, and red strikethrough is proposed for removal (~~example~~).

The current "General" section of Rule 15 was proposed to be renamed to "Applicability" as the section already contained language pertaining to applicability. Any applicability language

included throughout the Rule was also moved to this section. Cosmetic changes, such as capitalization of defined terms, were proposed throughout the Rule.

Stakeholder Comment: A representative from Staff asked to confirm if the definition for the “Net Nameplate Rating” threshold was referring to AC or DC.

NV Energy Response: The AC vs. DC question should be clearly stated in the definitions. NV Energy added that the “Net Nameplate Rating” definition and its use in certain sections was also still being considered based on IREC and stakeholder feedback.

Stakeholder Question: A Tesla representative asked how the rule language impacts the pathway for interconnection for virtual power plants (“VPPs”).

NV Energy Response: NV Energy acknowledged the interest in the potential for VPPs and noted that new technologies such as VPPs were being reviewed and considered in the Rule 15 updates.

Stakeholder: Representatives from Tesla and the Vehicle-Grid Integration Council (“VGIC”) raised concerns about the language around “Vehicle-to-Grid (“V2G”)-Capable” with the existence of several electric vehicles that are V2G “capable” (e.g., all Ford F-150 Lightnings, nearly all GM Electric Vehicles (“EVs”), Tesla Cybertrucks, Nissan Leafs, Kia EV9, etc.) already on NV Energy’s system, but not being enabled or utilized in that capacity. The VGIC representative mentioned language in California and Maryland and indicated that the VGIC looks forward to submitting red lines via the online form but would generally avoid terms like “capable.”

NV Energy Response: NV Energy will consider updating the initial proposed language relating to V2G regarding this concern.

Stakeholder Question: A Vote Solar representative asked to clarify how net metering customers with excess generation were addressed in Rule 15.

NV Energy Response: NV Energy stated that Net Metering customers were subject to Rule 15, but not all sections of the Rule, and that language was being added to clarify this.

Stakeholder Question: An IREC representative asked for clarification on the newly added item #3 regarding Small Generator Interconnection Applications, Large Generator Applications, Qualified Facilities, and other processes for interconnection.

NV Energy Response: Based on recent experience with large generators looking to interconnect to the Utility’s distribution system rather than the transmission system, this provision was proposed to be added to clarify that customers intending to sell power, that are not net metered, are not subject to Rule 15 and would be addressed under other applicable processes, such as the Large Generator Interconnection Agreement (“LGIA”) Process.

Stakeholder Question: A VGIC representative asked if item #3 is suggesting that a customer must sell a portion of their electrical output and would like NV Energy to consider that customers may not want sell power under net metering or VPP rules and might just want to charge their EV. There should be an option to self-consume from your EV.

NV Energy Response: NV Energy is soliciting feedback and working together with stakeholders so that it does not inadvertently do anything detrimental to the process. The intent is not to impede

some of these things, but NV Energy will always work to keep the integrity of the grid. The Rule will need to be updated to clarify which situations fall under Rule 15 and what does not.

Discussion: The changes in item 4 in the Applicability section were meant to clarify that Generating Facilities were subject to the Rule when there was a continuous electric path (Parallel Operations) with the Utility's Distribution System. NV Energy reminded the stakeholders that Energy Storage Devices were considered generators that would also be subject to the Rule. It was noted that Electric Vehicles that only had charging capability would not be subject to the Rule and acknowledged that further refinement may be needed to update the language to properly address Electric Vehicles and V2G configuration.

Stakeholder Question: A Robco representative asked if an Energy Storage Device ("ESD") is charging from PV or the grid and discharging only at back-up scenarios and technically not parallel operations, why there are rules when the incentive model is working against selling power back to the grid.

NV Energy Response: NV Energy's explained that its main concern is that the ESD could maintain a continuous electrical path and remain connected to the grid even during back-up mode, creating a potential risk of unintended discharge. In some cases, the modes of the batteries may be unknown, raising safety concerns, particularly for field personnel working on the electric distribution system.

Discussion: Item 5 is proposed to be added to clarify that Net Metering systems were subject to Rule 15, although specific provisions in the Rule are noted as not applicable to Net Metered systems. Some technical requirements in the Rule do not apply to Net Metering systems, but NV Energy standard RE-3 applies. NV Energy noted that the next Rule 15 Workshop would focus on Net Metering to further address related topics.

Proposed changes to Item 8 are intended to clarify that systems operating in isolation, without a continuous electrical path to the Utility Distribution System for more than 15 seconds, are subject to Rule 19 rather than Rule 15. Given that ESDs can both charge and discharge, the applicable rule depends on the interconnection configuration, requiring NV Energy's review to determine the correct pathway. NV Energy acknowledged that the proposed changes in Items 4 and 8 had caused confusion and committed to refining the language to ensure there were no conflicts. Other proposed changes to the Applicability section were cosmetic or involved relocating content from other sections.

Agenda Item 3: Application for Interconnection

Optional Pre-Application Report Discussion: NV Energy presented this proposed new section of the Rule to allow applicants to submit a request for information on current distribution system conditions. The actual application forms have not been developed yet but will be aimed at providing existing system data – recognizing that no new data would be generated in response to applications. NV Energy noted that many other jurisdictions offer this type of report for a non-refundable fee, which is being considered. The report would primarily be intended for larger projects, as pre-application reports would only be allowed for potential projects greater than or equal to 25 kW. NV Energy is looking to align this process with other utilities.

The application form will likely resemble the existing Rule 15 application form and process, to be made available online or upon request. The process would be proposed to follow a 10-business day timeline, like the other process timelines. NV Energy highlighted that the pre-application

report would be intended to provide more up-to-date information but that system conditions may change between the time the report was issued and when a formal application for interconnection might be submitted.

Application Process Report Discussion: NV Energy provided a high-level overview of the general steps of applicants going through the Rule 15 process. The proposed changes in this section are mostly cosmetic such as capitalizing defined terms and moving sections. Subsections are proposed to record the date and time at certain steps of the application process to ensure NV Energy accurately tracks the timelines and stays within the established time frames. Additionally, new language is proposed to address applications that contain errors after two iterative reviews by NV Energy. Specifically, Subsection (i) is proposed to be added to allow NV Energy to reject such applications and require the applicant to submit a new application. The last Subsection (k) is proposed to be added for multi-phase projects. It clarifies that NV Energy will evaluate interconnection requirements based on each individual phase, considering only those phases that have already been implemented, not future planned phases.

Modifications to Existing Equipment or Operation Discussion: This proposed new section of the Rule would outline how modifications to the existing Generating Facilities will be reviewed and managed. Minor equipment replacements that do not alter system capacity, operating modes, or exceed original agreement limits would not require Utility notification or approval. However, Utility notification, and potentially a new Application, would be required if the Producer replaces equipment, upgrades firmware, alters inverter characteristics, or modifies operations in a way that increases system output at the Point of Interconnection (“POI”) or Point of Common Coupling (“PCC”) beyond original specifications. If a new POI or PCC is proposed, a new Application would be mandatory. In cases of ownership changes, NV Energy must be informed at least 30 days in advance to update or execute new agreements. NV Energy mentioned that this approach aligns with practices adopted by other jurisdictions.

Stakeholder Comment: An IREC representative suggested an additional new defined term: “Material Modification: a modification that has a material impact on the cost or timing of processing an Application with a later queue priority date or a change in the Point of Interconnection. A Material Modification does not include, for example, (a) a change of ownership of a DER, (b) a change or replacement of generating equipment that is a like-kind substitution in size, ratings, impedances, efficiencies, or capabilities of the equipment specified in the original Application, (c) replacement of existing inverters with inverters that conform to more recent standards after the state has adopted their use, as long as the Export Capacity does not change; or (d) a reduction in the Nameplate Rating and/or Export Capacity of the DER of ten percent (10%) or less.”

NV Energy Response: NV Energy will consider the definition in the red lines.

Stakeholder Question: A Staff representative asked if there was a plan to specify exclusions, as previously discussed in NEM workshops, and whether a threshold would be applied in cases where a replacement device included different firmware outside of a customer’s control.

NV Energy Response: NV Energy plans to clarify thresholds and notes tolerance levels will be properly investigated and considered for inclusion in the definitions.

Stakeholder Question: A Staff representative suggested adding a public portal or report for transparency on application review/processing timelines, like the Rule 9 New Construction portal.

NV Energy Response: NV Energy acknowledged that the process could be improved and noted that efforts are underway to streamline it, such as bringing the application processing, previously completed by external contractors, in-house.

Agenda Item 4: IREC Tie Back

Discussion: Ennovara noted that NV Energy had a prior meeting with IREC to discuss the updates and the relevant IREC recommendations. Specifically, five topics (1, 11, 14, 15, and 16) from the Decision Option Matrix were summarized that are currently under review. No final decisions have been made, but NV Energy shared its current stance on each topic. An adoption timeline, as recommended by IREC, will likely be established at the filing of the updated Rule or at the Commission's direction. The compliance date will likely be based on the application submission date. The Reference Point of Applicability ("RPA") concept exists in IEEE 1547-2018, was introduced by IREC, and is being considered for the NV Energy process. Items such as standard interconnection agreements and application forms will be updated in alignment with the approval of an updated Rule 15.

Stakeholder Question: A Staff representative requested clarification on whether islanding would be addressed in the Application, referencing NV Energy's proposed microgrid project on Mt. Charleston that is being designed for full islanding operation.

NV Energy Response: NV Energy and IREC clarified that Decision Option 16 listed all the considerations that might go into the Application Forms, such as islanding information.

Agenda Item 5: Questions and Answers

Discussion: No additional questions were raised.

Agenda Item 6: Closing

Discussion: Ennovara and NV Energy thanked the stakeholders for their great discussion and feedback on the current proposed red lines to Applicability and Application for Interconnection Sections of Rule 15. The meeting was concluded by encouraging stakeholders to submit additional feedback via the Microsoft forms and come prepared with questions and comments to help ensure productive future sessions. The next meeting was tentatively scheduled for early June, and the focus topic will cover the Net Metering process.

Other Meeting Questions from the Chat

Stakeholder Question: A VGIC representative asked if there is a requested due date for red lines to be submitted in the feedback form?

NV Energy Response: NV Energy indicated to please submit them by October.

Stakeholder Question: A Staff representative asked if someone could please provide an additional description of PowerClerk and how NV Energy uses it.

NV Energy Response: "PowerClerk" is the name of the internet website software that hosts and facilitates Net Metering Interconnection applications. This website is where NV Energy and the

Applicant interact to submit net metering generator designs and data, attach documents, and review the paperwork needed to complete the interconnection requirements.

Stakeholder Question: A Staff representative asked if there is any rule clarification needed for future community-based solar resources that might be Power Purchase Agreements and not NV Energy owned, especially if the Nevada Clean Energy Fund grant materializes down the road.

NV Energy Response: NV Energy will consider community-based solar resources and confirm that the Rule does not conflict with the statute.

Stakeholder Comment: A representative from Ovation Contracting, Inc. commented: “Regarding deficiencies, errors and omissions in applications, is the review process of applications going to be improved? We have had multiple net-metering applications where we responded with the exact information that was requested, yet the information that was attached or included was not reviewed. Instead, we repeated our request for review of the information that had just been submitted.”

NV Energy Response: NV Energy acknowledged that the application process could be improved and that it is actively working to ensure that the applications are reviewed properly.

Action Items:

NV Energy and Ennovara

- Schedule the next Workshop and Second Technical Breakout Session on Net Metering in early June;
- Distribute meeting minutes;
- Review and assess comments, questions and suggested edits to the Rule arising from this Workshop; and
- Review and assess Microsoft Forms feedback.

Stakeholders

- Provide additional feedback via Microsoft Forms by the end of October.