# Smart Inverter Working Group

March 16, 2023

01:00 – 2:30 pm

# Agenda

- Review and Status Recap of Topic E from LGP Workshop 3 (IOUs)
- Discussion on Testing and Certification Criteria (IOUs)
- Update on alternative option with relay (Industry)
  - Architecture on alternative option using a relay (Brian Lydic)
  - SEL Relay Capabilities (John Berdner)

# Summary of possible options to accomplish LGP with currently available products presented at LGP Workshop 2 & 3

*Takeaway from discussion with various industry members*

| Operational Option # | LGP Method Type | Output Measurement Point | 288 LGP Storage | 8760 LGP Storage | 288LGP to 8760LGP Translation/Creation | Applicable Standards | Industry Discussion Takeaway |
|---|---|---|---|---|---|---|---|
| 1 | **Method A:** Server stores 288 LGP and sends Gateway the 288 LGP automatically (or manually) on a yearly basis | Inverter Terminals | Server (Source)<br>Gateway (From Source) | Gateway | Gateway | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters | Technology application may be possible but there are areas needing further investigation and additional validation testing may be necessary |
| 1 | **Method B**: Server stores 8760 LGP and sends Gateway the 8760 LGP automatically (or manually) on a yearly basis | Inverter Terminals | Server | Server (Source)<br>Gateway (From Source) | Server | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters | Technology application may be possible but there are areas needing further investigation and additional validation testing may be necessary |
| 1 | **Method C:** Server stores 8760 LGP and sends Gateway the Plimit each hour of the 8760 LGP. Repeats each year unless a new 8760 LGP is uploaded | Inverter Terminals | Server | Server | Server | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters | Technology application may be possible but there are areas needing further investigation and additional validation testing may be necessary |
| 2 | **Method D:** Server stores 288 LGP and sends Gateway the 288 LGP automatically (or manually) on a yearly basis | PCC | Server (Source)<br>Gateway (From Source) | Gateway | Gateway | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters<br>3)UL PCS CRD for UL PCS Device | Technology application may be possible but industry is not actively pursuing making products available. Further testing may be necessary |
| 2 | **Method E:** Server stores 8760 LGP and sends Gateway the Plimit each hour of the 8760. Repeats each year unless a new 8760 LGP is uploaded | PCC | Server | Server | Server | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters | Technology application may be possible but industry is not actively pursuing making products available. Further testing may be necessary |
| 2 | **Method F:** Server stores 8760 LGP and sends Gateway the 8760 LGP automatically (or manually) on a yearly basis | PCC | Server | Server (Source)<br>Gateway (From Source) | Server | 1) CSIP for Gateway<br>2) UL1741+SA or UL1741SB, 3th Edition for inverters<br>3)UL PCS CRD for UL PCS Device | Technology application may be possible but industry is not actively pursuing making products available. Further testing may be necessary |
| 3 | **Method G:** Use of UL PCS with integrated schedule | PCC | PCS | PCS | N/A | 2) UL1741+SA or UL1741SB, 3th Edition for inverters<br>3)UL PCS CRD for UL PCS Device | Standards being developed- Anticipated by Q2- 2023 |

# Use of Non-Certified Equipment

- As presented in LGP Workshop 2 & 3, the IOUs recommend Operational Option 3, Method G: Use of UL PCS with Integrated Schedule.
- IOUs understand the UL PCS standards are on track to be completed by 2023 Q2. The standards are being designed to apply to all systems regardless of generating capacity.
- Further development and implementation of alternative approaches (e.g., testing procedures, testing, criteria, mitigation) would be duplicative and impose costs on requesting parties. Relying on the existing efforts of industry experts to design standards and test protocols is the best way to expedite and streamline the interconnection process for future projects.
- Resolution E-5230, 19/57 states: "We deny IREC's request on the use of non-certified devices. We affirm that the Large IOUs have the ability to allow non-certified devices by mutual agreement and nothing in our resolution of this issue impedes that ability. We, however, do not impose such a requirement."

# Existing Rule 21 Language Related to Testing and Certification Criteria

Rule 21 Section L.2.b. Non-Certified Equipment

For non-Certified equipment, some or all of the tests described in this Rule may be required by Distribution Provider for each Generating and/or Interconnection Facility. The manufacturer or laboratory acceptable to Distribution Provider may perform these tests. Test results for non-Certified equipment must be submitted to Distribution Provider for the Supplemental Review. Approval by Distribution Provider for equipment used in a particular Generating and/or Interconnection Facility does not guarantee Distribution Provider's approval for use in other Generating and/or Interconnection Facilities.

Rule 21 Section L.5.e. Non-Certified Equipment

Non-certified Equipment shall be subjected to the appropriate tests described in Type Testing (Section L.3) as well as those described in Certified Equipment Commissioning Tests (Section L.5.d). With Distribution Provider's approval, these tests may be performed in the factory, in the field as part of commissioning, or a combination of both. Distribution Provider, at its discretion, may also approve a reduced set of tests for a particular Generating Facility or, for example, if it determines it has sufficient experience with the equipment.

This reflects current language in tariff; however, updates are necessary to apply to LGP projects.