

PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298



Pacific Gas & Electric Company
ELC (Corp ID 39)
Status of Advice Letter 6929E
As of April 4, 2024

Subject: Joint Proposed Modifications to Implement Limited Generation Profiles Pursuant to Ordering Paragraph 3 of Resolution E-5230

Division Assigned: Energy

Date Filed: 05-01-2023

Date to Calendar: 05-12-2023

Authorizing Documents: E-5230

Disposition:	Signed
Effective Date:	03-21-2024

Resolution Required: Yes

Resolution Number: E-5296

Commission Meeting Date: 03-21-2024

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PUBLIC UTILITIES COMMISSION
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From: Energy Division PAL Coordinator

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May 1, 2023

ADVICE 5025-E
(Southern California Edison Company - U 338-E)

ADVICE 6929-E
(Pacific Gas and Electric Company - U 39-E)

ADVICE 4215-E
(San Diego Gas and Electric Company - U 902-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Proposed Modifications to Implement Limited Generation Profiles Pursuant to Ordering Paragraph 3 of Resolution E-5230

PURPOSE

The purpose of this advice letter is to comply with Ordering Paragraphs 2 and 3 of Resolution E-5230 regarding the interconnection process necessary for the implementation of Limited Generation Profile projects.

BACKGROUND

Resolution E-5230, dated December 1, 2022 (Resolution), requires that:

The subsequent ALs shall specify which items have reached consensus within the workshop participants and which items have not reached consensus. If an item has not reached consensus, the Large IOUs shall provide details as to the bases for lack of consensus and the alternative proposals, if any. This requirement is applicable to all topics identified in this Resolution. The Large IOUs shall also update their proposals as appropriate. The subsequent ALs shall also distinguish sections that have already been approved per this Resolution and those that have been modified due to the discussions.¹

The Investor-owned Utilities (IOUs) consist of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company.

¹ Resolution, p. 8.

DISCUSSION

A. IOU Participation in Workshops

Ordering Paragraph 2 of Resolution E-5230 ordered the IOUs to participate in at least two half-day workshops (Limited Generation Profile “LGP” workshops) to discuss all material articulated in the Discussion section of Resolution E-5230. The LGP workshops were to commence within 30 days after submittal of the Advice Letters ordered per Resolution E-5211, and no later than February 17, 2023.² In the LGP workshops, the IOUs were expected to address topics identified by Energy Division as needing discussion and prepare relevant presentations. The IOUs were required to issue presentations ahead of the workshops to allow parties to prepare for the LGP workshops. Deadlines for circulating the agenda and presentations were required to be coordinated with Energy Division. In addition to the LGP workshops, the Resolution noted that agenda items might also be discussed through the Smart Inverter Working Group (SIWG) ahead of the scheduled workshops; the IOUs were ordered to attend and participate in such discussions.

On January 5, 2023, Energy Division sent an email to the Service List of R.17-07-007 and the SIWG list (1) requesting topics for the LGP workshops, and (2) providing the following schedule for the separately planned SIWG meetings and the four LGP workshops:

- SIWG: January 19, 2023
- LGP Workshop #1 – February 1, 2023 (12-4p)
- SIWG: February 2, 2023
- SIWG: February 16, 2023
- LGP Workshop #2 – February 21, 2023 (9a-4p)
- SIWG: March 2, 2023
- LGP Workshop #3 – March 14, 2023 (9a-4p)
- SIWG: March 16, 2023 (if needed)
- LGP Workshop #4 – Week of March 27 (if needed)³
- SIWG: March 30, 2023 (if needed)⁴

Below is an overview of each LGP Workshop and SIWG meeting, including (i) topics presented, (ii) how the IOUs met the Resolution E-5230 directive to issue presentations ahead of workshops, and (iii) how the IOUs met deadlines for circulating presentations as coordinated with Energy Division. Based on the IOUs’ development of presentations

² On January 9, 2023, the Large IOUs jointly filed Advice 4941-E (SCE), 6816-E (PG&E), and 4138-E (SDGE) in response to Resolution E-5211.

³ Workshop #4 was determined to be needed and occurred on April 7, 2023 (8a-2p).

⁴ The March 30, 2023 SIWG meeting was determined to be needed to continue discussion on Resolution E-5230 topics. In addition, Resolution E-5230 topics were also discussed at the April 13, 2023 SIWG meeting.

in coordination with the Energy Division, and the IOUs' participation in four LGP workshops and six SIWG meetings in support of LGP workshops, the IOUs have complied with the workshop participation and analysis-related provisions in Resolution E-5230.

SIWG Meeting (January 19, 2023)

The January 19, 2023 SIWG meeting was held to provide background on Resolution E-5230, including an overview of the LGP Workshop schedule. The Public Advocates Office gave a presentation on, and discussed the benefits of, using 288-unique LGP values. The IOUs were not requested to prepare a presentation for the meeting but did actively participate in the January 19, 2023 SIWG meeting. The agenda and presentation are provided at [Limited Generation Profiles \(ca.gov\)](#).

LGP Workshop #1 (February 1, 2023 from 12-4p)

On January 5, 2023, Energy Division provided the IOUs a list of topics that were to be discussed in LGP workshops and SIWG meetings. For Workshop #1, the topics to be discussed were: Topic F (implementing more than 12 LGP values per year) and Topic E (implementation of LGP using current smart inverter functions). On January 19, 2023, the IOUs provided Energy Division draft presentations for LGP Workshop #1. On January 23, 2023, Energy Division provided the IOUs its comments on the IOUs' draft Workshop #1 presentation. On January 30, 2023, the IOUs provided Energy Division final slides for the LGP Workshop #1, which addressed Energy Division feedback. On January 30, 2023, Energy Division updated the LGP Workshop #1 meeting notice to include all materials to be discussed during LGP Workshop #1. On February 1, 2023, LGP Workshop #1 was held from 12pm to 4pm and the IOUs fully engaged and participated in the workshop. The agenda, presentations, and a transcript from Workshop #1 are provided at [Limited Generation Profiles \(ca.gov\)](#).

SIWG Meeting (February 2, 2023)

The February 2, 2023 SIWG meeting was held to review LGP Items B.1 (Quarterly Reports: Re-affirm [Automated Metering Infrastructure] AMI process) and B2 (Use of Gross Nameplate Rating). The IOUs developed a presentation for each item and provided those to Energy Division on February 2, 2023, prior to the 1pm start of the SIWG meeting. On February 2, 2023, the IOUs fully engaged and participated in the SIWG meeting. The agenda and IOU presentations are provided at [Limited Generation Profiles \(ca.gov\)](#).

SIWG Meeting (February 16, 2023)

The February 16, 2023 SIWG meeting was held to review LGP Items Topic E (Implementation of Limited Generation Profiles Using Current Smart Inverter Functions) and Topic C (Overview of Proposals in ALs). The IOUs developed a presentation for each item and provided those to Energy Division on February 16, 2023, prior to the 1pm start of the SIWG meeting. On February 16, 2023, the IOUs fully engaged and

participated in the SIWG meeting. The agenda and IOU presentations are provided at [Limited Generation Profiles \(ca.gov\)](#).

LGP Workshop #2 – February 21, 2023 (9a-4p)

For LGP Workshop #2, the topics to be discussed were: Topic F (implementing more than 12 LGP values per year), Topic E (implementation of LGP using current smart inverter functions), Topic B.2 (use of gross nameplate rating), and Topic C (overview of proposals in Advice Letters [PG&E Advice Letter 6141-E, SCE Advice Letter 4455-E, and SDG&E Advice Letter 3721-E filed on March 30, 2021]). On February 13, 2023, the IOUs provided Energy Division draft presentations for LGP Workshop #1. On February 14, 2023, Energy Division provided the IOUs its comments on the IOUs' draft LGP Workshop #2 presentation. On February 17, 2023, the IOUs provided Energy Division final presentations for the LGP Workshop #2 which addressed feedback from Energy Division. On February 18, 2023, Energy Division emailed the IOUs' final presentations for LGP Workshop #2 to the distribution list of participants. On February 21, 2023, LGP Workshop #2 was held from 9am to 4pm and the IOUs fully engaged and participated in the workshop. The agenda, presentations, and a transcript from LGP Workshop #2 are provided at [Limited Generation Profiles \(ca.gov\)](#).

SIWG Meeting (March 2, 2023)

The March 2, 2023, SIWG meeting was held to discuss the scope of the analysis on LGP values greater than 12 to support the objective of achieving stakeholder consensus on the number of values used for LGP profiles. The IOUs developed a presentation for the SIWG meeting and provided it to Energy Division on March 2, 2023, prior to the 1pm start of the SIWG meeting. On March 2, 2023, the IOUs fully engaged and participated in the SIWG meeting. The IOU presentation was attached to the SIWG meeting notice.

LGP Workshop #3 – March 14, 2023 (9a-4p)

For LGP Workshop #3, the topics to be discussed were: Topic B.1 (quarterly reporting), Topic B.2 (use of gross nameplate), Topic C (overview of proposals in advice letters [PG&E Advice Letter 6141-E, SCE Advice Letter 4455-E, and SDG&E Advice Letter 3721-E filed on March 30, 2021]), Topic E (implementation of LGP using current smart inverter functions), and Topic F (implementing more than 12 LGP values per year – definition of monthly profiles and 288-hour requirement). On March 7, 2023, the IOUs provided Energy Division draft presentations for LGP Workshop #3. On March 8, 2023, Energy Division provided the IOUs its comments on the IOUs' draft LGP Workshop #3 presentation. On March 10, 2023, the IOUs provided Energy Division final presentations for the LGP Workshop #3 which addressed feedback from Energy Division. On March 11, 2023, Energy Division attached the IOUs' final presentations for LGP Workshop #3 to the meeting notice. On March 14, 2023, LGP Workshop #3 was held from 9am to 4pm and the IOUs fully engaged and participated in the workshop. The agenda, presentations, and a transcript from LGP Workshop #3 are provided at [Limited Generation Profiles \(ca.gov\)](#).

SIWG Meeting (March 16, 2023)

The March 16, 2023 SIWG meeting was held to provide a review and status recap of Topic E from LGP Workshop 3 (IOUs lead the discussion), discuss testing and certification criteria (IOUs lead the discussion), and provide an update on alternative option with relay (industry representatives lead the discussion). The IOUs developed a presentation for the SIWG meeting and provided it to Energy Division on March 15, 2023. On March 16, 2023, the IOUs fully engaged and participated in the SIWG meeting. The agenda and IOU presentations are provided at [Limited Generation Profiles \(ca.gov\)](#).

SIWG Meeting (March 30, 2023)

The March 30, 2023, SIWG meeting was held to discuss proposed tariff language for Topic B.2, clarifications regarding Topic C, and updates on Topic E. The IOUs developed a presentation for the SIWG meeting and provided it to Energy Division on March 30, 2023, prior to the 1pm start time. On March 30, 2023, the IOUs fully engaged and participated in the SIWG meeting. The agenda and IOU presentations are anticipated to be posted at [Limited Generation Profiles \(ca.gov\)](#).⁵

LGP Workshop #4 – April 7, 2023 (8a-2p)

For LGP Workshop #4, the topics to be discussed were: Topic F (implementing more than 12 LGP values per year – definition of monthly profiles and 288-hour requirement), Topic E (implementation of LGP profiles using current smart inverter functions), Topic B.1 (quarterly reporting), Topic B.2 (use of gross nameplate), and Topic C (overview of proposals in advice letters [PG&E Advice Letter 6141-E, SCE Advice Letter 4455-E, and SDG&E Advice Letter 3721-E filed on March 30, 2021]).⁶ On March 31, 2023, the IOUs provided Energy Division draft presentations for LGP Workshop #4. On April 3, 2023, Energy Division provided the IOUs its comments on the IOUs' draft LGP Workshop #4 presentation. On April 5, 2023, the IOUs provided Energy Division final presentations for the LGP Workshop #4 which addressed feedback from Energy Division. On April 6, 2023, Energy Division attached the IOUs' final presentations for LGP Workshop #4 to the meeting notice. On April 7, 2023, LGP Workshop #4 was held from 8am to 2pm and the IOUs fully engaged and participated in the workshop. The agenda, presentations, and a transcript from LGP Workshop #4 are anticipated to be posted at [Limited Generation Profiles \(ca.gov\)](#).⁷

SIWG Meeting (April 13, 2023)

⁵ As of the date of this Advice Letter filing, the meeting materials for the March 30, 2023 SIWG meeting have not been posted on [Limited Generation Profiles \(ca.gov\)](#).

⁶ In addition to the Large IOUs, representatives from IREC, ASE System, and Cal Advocates presented.

⁷ As of the date of this Advice Letter filing, the meeting materials for the April 7, 2023 LGP Workshop #4 have not been posted on [Limited Generation Profiles \(ca.gov\)](#).

The April 13, 2023 SIWG meeting was utilized to provide further discussion on the allowable configurations for a Real-time Automation Controller with a relay and attendant technical requirements. The IOUs did not develop any additional presentations for this SIWG meeting. On April 13, 2023, the IOUs fully engaged and participated in the SIWG meeting. The agenda and presentation by IREC is anticipated to be posted at [Limited Generation Profiles \(ca.gov\)](https://www.ca.gov).⁸

B. Topic B, Issue 1 (B.1) – Quarterly Reporting

Status – Consensus

The Resolution found that quarterly reporting is not required and directed the IOUs to finalize details and tariff language implementing the alternative process discussed in Workshop #2 per Resolution E-5211. Workshop #2 was held on November 29, 2022.

Topic B.1 was discussed in LGP Workshops #3 and #4. The IOUs and participating stakeholders agreed on the following:

- C.** For LGP projects with nameplate under 1 MW, AMI data will be utilized where available. If AMI is not available, telemetry will be required to monitor export at the Point of Common Coupling (PCC).
- D.** For LGP projects with nameplate greater than or equal to 1 MW, telemetry is required. If telemetry is monitoring only the generation output, utilities may also leverage AMI data, where available, to monitor export at the PCC.

The IOUs propose to add the following language to Section J.5 of Rule 21:

For Generating Facilities with a Limited Generation Profile attached to their Generator Interconnection Agreement, if AMI is not available, or Customer opts out, telemetry at the point of common coupling will be required at the Producer's expense.

Absent protest or Commission-directed changes to this proposed language, this language will be included in a subsequent Advice Letter that identifies all tariff modifications that need to be made regarding LGP.

⁸ As of the date of this Advice Letter filing, the meeting materials for the April 13, 2023 SIWG meeting have been posted on [Limited Generation Profiles \(ca.gov\)](https://www.ca.gov) under the header "April 14, 2023: Smart Inverter Working Group"

E. Topic B, Issue 2 (B.2) – Use of Gross Nameplate Rating

Status – Partial Consensus (Non-consensus items are application of Screen N and criteria to qualify as an LGP Project)

Resolution E-5230 found that further discussions are needed to justify the use of gross nameplate for Rule 21 screens. The Resolution specified that should the IOUs continue to propose the use of gross nameplate for screens D, I, J, and K, the IOUs were to discuss the proposal at workshops and in this Advice Letter.

Resolution E-5230 Section B Issue 2 (p. 16) states:

We direct the Large IOUs to discuss tariff language modifications during the workshops and to provide more information on which aspects of Screen P will be studied using the LGP value and which will not, if this is the case. In the November 10, 2022 SIWG meeting, the Large IOUs also state that Screens F, G, and H will be evaluated on nameplate rating. The Large IOUs note that ‘Screens A-E are also not included in ICA calculation. The evaluation is not based on nameplate rating but will depend on aspects of each screen.’ As it is still unclear how screens D, I, J, and K will be studied, discussions regarding these screens should continue within the workshop discussions. We find a mere statement ‘Given that ICASG values do not account for screens D, J, and K, then it is appropriate to evaluate screen D using gross nameplate rating’ without proper justification and details unconvincing. Accordingly, the Large IOUs are directed to fully justify their arguments.”

The IOUs presented at various LGP workshops on how they intend to apply Rule 21 screens to LGP projects. The Proposal is as follows:

1. Utilize the Generating Facility’s Gross Nameplate Rating for screens F, F1, G, and H.
2. Is the maximum steady state value greater than 1% of the PCS controlled nameplate (as provided in the NRTL testing reports)? If so:
 - a. Screens D, J, K: Use the maximum LGP value plus the maximum steady state value of the PCS multiplied by the PCS controlled nameplate
 - b. Screen M: Use the requested LGP values plus the maximum steady state value of the PCS multiplied by the PCS controlled nameplate
 - c. Screen N: For LGP projects, Screen N (section G.2.a.i.) is considered a PASS if Screen M PASSED.
 - d. Screen O: Use the maximum LGP value plus the maximum steady state value of the PCS multiplied by the PCS controlled nameplate
 - e. Screen P: Use the Generating Facility’s Gross Nameplate Rating for evaluations that use fault current calculations. For other evaluations under

Screen P, use the maximum LGP value plus the maximum steady state value of the PCS multiplied by the PCS controlled nameplate

3. Is the maximum steady state value less than or equal to 1% of the PCS controlled nameplate (as provided in the NRTL testing reports)? If so:
 - a. Screens D, J, K: Use the maximum LGP value
 - b. Screen M: Use the requested LGP values
 - c. Screen N: For LGP projects, Screen N (section G.2.a.i.) is considered a PASS if Screen M PASSED.
 - d. Screen O: Use the requested LGP values
 - e. Screen P: Use the Generating Facility's Gross Nameplate Rating for evaluations that use fault current calculations. For other evaluations under Screen P, use the maximum LGP value.

The IOUs proposed edits to the tariff that would add a 12th option for Screen I to provide better clarity and minimize the number of required tariff revisions. The proposed 12th option is as follows:

Mm5: OPTION 12: Limited Export with Limited Generation Profile Utilizing Certified Power Control Systems

Applicability:

The following are minimum requirements for limited export systems that use certified power control systems (PCS) with an open loop response time (OLRT) no more than two seconds to maintain a level of export that is lower than the generator nameplate rating. It should be noted that other factors relevant to the Interconnection Study process may necessitate additional technical requirements that are not explicitly noted here.

1. Use a PCS that passes the requirements of the 2019 Underwriters Laboratories (UL) Power Control Systems Certification Requirements Decision (CRD) test protocol. Limited export systems may use a PCS that passes later published revisions to the CRD test protocol or may use a PCS that is certified to the UL 1741 certification standard, if UL incorporates the test protocol for PCS into UL 1741 in the future. The Nationally Recognized Testing Lab (NRTL) evaluation must have determined that the PCS conforms to the export limiting functionality in accordance with the relevant CRD or UL published Standard.
2. Use a PCS that is certified with an OLRT of two seconds or less as provided in the PCS's specification data sheets.
3. The PCS must reduce export to the approved export limit, or less, within two seconds of exceeding the approved export limit. A PCS that is certified with an OLRT of two seconds or less, and a time to reach steady state of ten seconds or less, meets this requirement.

4. Set the PCS to not exceed the maximum allowed level of export specified in the LGP attached to the generator's interconnection agreement.
5. Use only UL 1741-listed grid-support non-Islanding inverters as approved by this tariff.
6. Maintain voltage fluctuations at the limits specified in Electric Rule 2.

If the Initial Review fails due to the LGP values requested by the Customer in its interconnection application exceeding 90% of ICA SG Profile for any hour, the project will fail Screen M /Initial Review. The Customer will be notified of Initial Review failure and offered an Optional Results Meeting. If modifications that can mitigate the Initial Review failure are identified during the Optional Results Meeting as per section F.2.b. of Rule 21, the Customer must provide updated LGP values within 5 business days:

- Reduction at each hour of the updated LGP values must comply with Rule 21 Table F.1. Each hour may not be reduced by more than 20% of the original request.⁹
- If IOU determines that the ICA results are outdated and the project would fail Screen M based on the updated ICA results, the Customer will be allowed to update their proposed LGP values with no restrictions on the amount of reduction.
- Where reduction of LGP impacts other failed screens (such screen D), the cost and time for the restudy will be based on Rule 21 Table F.1.
- Increases in generator size, i.e., increases in generator nameplate or LGP values, are not allowed under Fast Track.

Updated LGP values must be provided 5 business days after Optional Initial Review Results Meeting. If the IOU's do not receive the updated LGP within 5 business days, and the project proceeds to Supplemental Review as per Rule 21, section F.2.c., the project would be studied using the generator nameplate capability for Screen N and applicable portions of Screens O and P.

Basis for Lack of Consensus

During the LGP workshops, IOUs initially proposed that if the LGP values requested by the Customer in its interconnection application exceed 90% of ICA SG Profile for any hour, the application would be deemed withdrawn if the Interconnection Customer did not provide an updated LGP within 5 business days after the Optional Initial Review Results Meeting. Based on workshop discussions, IOUs made a change and offered that these projects could proceed to supplemental review but would be studied using the generator nameplate capability.

⁹ The 20% was adopted in the decision D.19-03-013 section 3.3.2 based on Working Group 1 Final Report.

As discussed during the various workshops, a requirement of the LGP option is that the LGP profile is at or below 90% of ICA SG profile. This is intended to provide a safety margin that allows projects that qualify for LGP to go through a streamlined interconnection study process and well as requiring little or no system upgrades. Allowing projects that have an LGP that exceeds 90% of ICA SG profile is counter to the intent of LGP. Eroding the safety margin means projects will require a much more comprehensive load flow analysis based on a PCC export profile. The requirement for such analysis could compromise the IOU's ability to meet interconnection process tariff timelines.

Alternative Proposals

IREC discussed an alternative proposal in Workshop's #3 and #4. If a Customer's proposed LGP profile contains one or more LGP values that exceed 90% of the most up-to-date ICA-SG profile, the IOUs should perform a load flow analysis for the hours that exceeded the 90% ICA-SG.

F. Topic B, Issue 3 (B.3): Reductions to Limited Generation Profiles

Per Resolution E-5230, this topic was addressed in Resolution E-5211 which was adopted by the Commission on October 6, 2022 and issued on October 10, 2022.

G. Topic B, Issue 4 (B.4): Use of Non-Certified Devices to use LGP by Mutual Agreement

Status – Consensus

Resolution E-5230 found that the use of non-certified devices for LGP is optional, not mandatory.

As part of workshop discussions, within the context of Topic E, the IOUs and stakeholders agreed to include an option for use of approved relays with real time automation controllers where the LGP project is using a non-certified Power Control System (PCS). As part of these discussions, the following tariff language was proposed:

For sites using a PCS that has not been certified to UL 1741 Supplement SE, a Real-time Automation Controller may be used in combination with a relay with directional overcurrent, power elements, and automation logic functions, as approved by the Utility. For LGP projects, the applicant shall demonstrate the capability of the Real-time Automation Controller and relay to follow the agreed upon LGP schedule.

During the workshops, stakeholders raised concerns of large generating facilities getting UL CRD PCS certification and sought alternatives to the PCS for these facilities. One proposed solution was using non-export relays since IOU's already utilize such relays for other Screen I options. Stakeholders further proposed Real-time Automation Controllers as a resolution to the scheduling function issue that was raised by the IOUs. Stakeholders were tasked with investigating this proposal to make sure it is viable.

IREC, ASE Systems, and Enphase presented at the workshops as well as at SIWG meetings on this topic. After many discussions, the following four Options were presented (see **Error! Reference source not found.**):

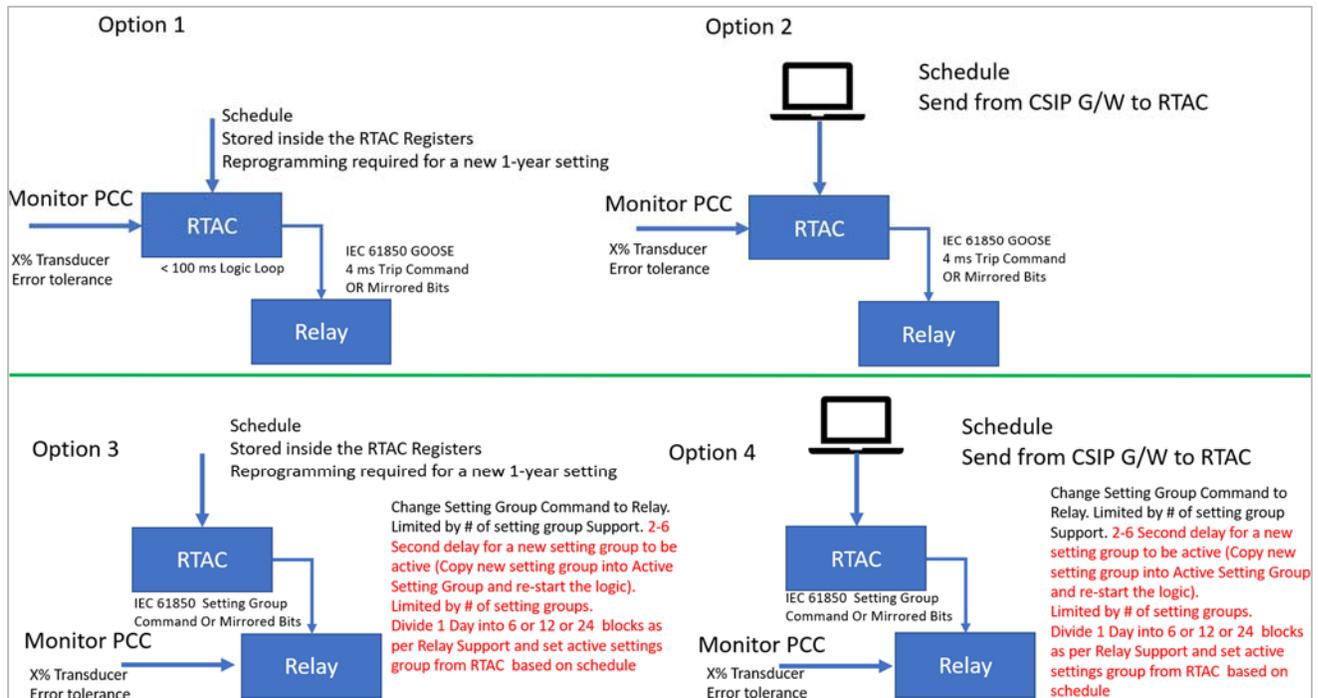


Figure 1

The IOUs stated during the workshops that Option 1 was most promising but Option 3 could be used as well. Upon further research, the IOUs found out that Option 3 is not a viable solution because it involves making changes to a relay's non-volatile memory. From the Schweitzer Engineering Laboratories-351 ("SEL-351") relay's instruction manual, for example, there is a note on the relay's non-volatile memory having a finite number of writes. Exceeding this number would result in a relay failure and the instruction manual's information indicates a total number of writes at $365 \times 25 = 9125$ before exceeding the designed service life of the memory. During workshop #4 discussions, stakeholders agreed that Option 3 is not a viable option.

To memorialize this option in the tariff, the IOU's will propose, in a future Advice Letter, tariff language for Rule 21 Mm6 - Option 13 to be added in Screen I.

H. Topic B, Issue 5 (B.5): Alignment of the timeline for implementation of OPs 15 (Issue 9) and 51 (Proposal A-B 3) and Publication of Technical Requirement

Per Resolution E-5230, this issue is resolved:

[t]imelines for the implementation of OP 15 and OP 51 are aligned. The Large IOUs are not required to publish technical requirements of Power Control Systems at this moment.¹⁰

I. Topic C: Proposals submitted in PG&E AL 6141-E, SCE AL 4455-E, and SDG&E AL 3721-E

This section will summarize the workshop discussions on Topic C. The proposals in Appendix A incorporate revisions that have been developed through the LGP workshops and SIWG meetings subsequent to the submittal of the IOUs' initial advice letters.¹¹ Consensus and non-consensus items are discussed in other sections of this Advice Letter.

As directed by the Resolution, the IOUs discussed the interconnection process proposals step-by-step over the course of the four LGP workshops and multiple SIWG meetings. The IOUs addressed questions stakeholders had as to whether each step is appropriate and complete.¹² Figure 2 reflects an updated LGP process flow diagram as presented in LGP Workshop #4. The discussions are documented in accordance with the "phases" shown in the small boxes on following diagram (Figure 2).

¹⁰ Resolution p.21

¹¹ On January 9, 2023, the Large IOUs jointly filed Advice 4941-E (SCE), 6816-E (PG&E), and 4138-E (SDGE) in response to Resolution E-5211.

¹² Resolution p.24

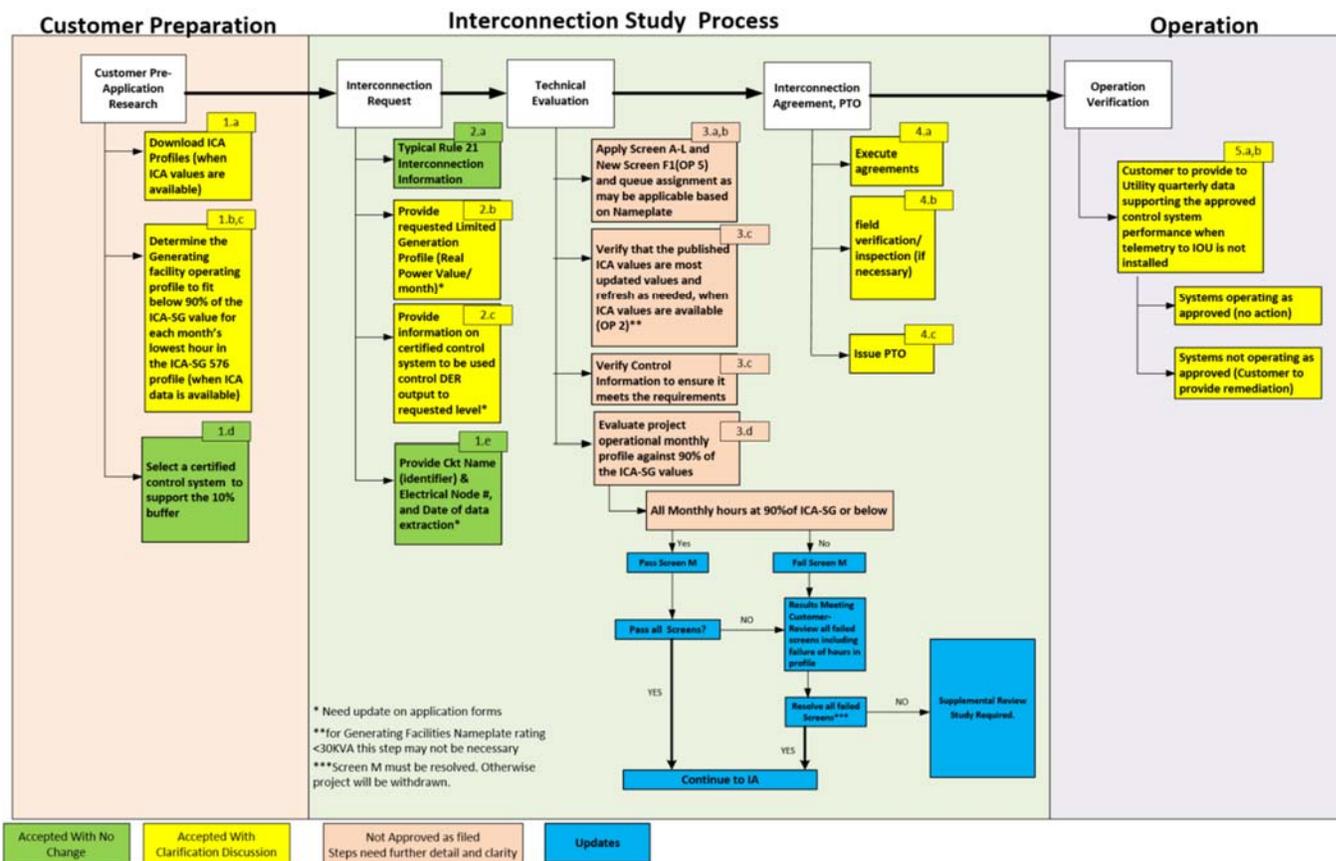


Figure 2

The Resolution also directed the IOUs to differentiate between “export power” and “output power” and make clear that the LGP option is intended to manage the amount of export power to the electric grid and not the portion of the generator’s output that may be consumed on-site.¹³ At LGP Workshop #2, the IOUs clarified that the LGP option is intended to manage the amount of export power to the electric grid at the Point of Common Coupling (PCC).

Phase 1 – Customer Preparation

The IOUs addressed the modification to Step 1.b in LGP Workshop #1.

Monthly is defined as a profile containing 24 values per month (where all hourly values for a given month are the same) for each of the 12 months, totaling 288 data points (such that there would be 12 *unique* data points across the year). Joint Advice 4941-E explains how the IOUs propose to address LGP updates.¹⁴

The IOUs addressed the modification to Step 1.a in LGP Workshop #2.

¹³ Resolution p.24

¹⁴ As of the date of the instant Advice Letter filing, Joint Advice 4941-E remains pending Energy Division disposition.

In Step 1.a, three-phase electrical nodes are electrical points in the grid used for monitoring, control, or connection of three-phase electric services (for load or generation). These are typically for commercial loads and any co-located Behind-The-Meter (BTM) generation, industrial loads and any co-located BTM generation, and large In-Front-of-the-Meter (IFM) generating facilities (typically >50 kVA). Residential load and co-located BTM generation are mostly connected at single-phase nodes. Consistent with D.17-09-026, the IOUs currently perform ICA and publish ICA results for those nodes on the distribution system that have three-phase electric current/voltage. There are no planned changes to expand ICA to single-phase nodes. In the IOUs' ICA maps, single phase nodes inherit the ICA results of the electrically-closest three-phase node. Customers would identify the ICA node electrically-closest to their proposed interconnection site and review the ICA results for that node.

Phase 2 – Interconnection Request

The IOUs addressed the modifications from the Resolution in LGP Workshop #2.

For Step 2.b, the IOUs agreed to make the terminology change to "Limited Generation Profile values". Additionally, the IOUs proposed a common scheduling format at LGP Workshop #1 in the form of .csv files. If the IOUs' interconnection portals are unable to accept Customer-uploaded .csv files at the time of LGP implementation, the IOUs will accept emailed .csv files from the Customer as the "alternative method".

For Step 2.c.i, SCE and SDG&E confirmed alignment with PG&E's methodology of listing certified UL PCS that Customers can select during the interconnection request process. The IOUs also proposed leveraging the CEC listing when available. Given the usage of the certified UL PCS listing, SCE and SDG&E agreed to remove the statement that "additional requirements for control information will be determined and provided".

Phase 3 – Technical Evaluation

Decision D.20-09-035 OP 15 required that IOUs discuss with SIWG the implementation of LGP per the IOUs' counter-proposal outlined in Rulemaking 17-07-007 Working Group Two Final Report. During LGP Workshops 1-3 and SIWG discussions directed by Resolution 5230 and Energy Division, IOUs and stakeholders had robust conversation on the process.

As discussed at LGP Workshop #3, the IOUs identified that section F.2.b. of Rule 21 allows modifications that obviate the need for Supplemental Review. To be fair to all other Rule 21 projects (including those electing the LGP option), the IOUs propose failing Screen M in Initial review whenever the LGP does not comply with 90% ICA-SG profile. Based on LGP Workshop #3 feedback, the IOUs added a special condition for projects failing Screen M when the ICA values used by the Customer to develop its requested LGP, are outdated. During LGP Workshop #4, the IOUs presented a change to previous proposals where the LGP project will be considered withdrawn if it fails Screen M and does not modify the LGP within the prescribed timeframe. These projects now can proceed to Supplemental Review.

The IOUs believe 5 Business Days is a reasonable period of time for the Customer to provide a revised LGP request considering the need to process all generator interconnection requests in a timely manner and without treating any request preferentially over another. This approach is consistent with how all other Rule 21 generator interconnection requests are handled. As discussed during the LGP workshop, the IOUs do not believe “inverter capabilities” are a concern if the required control capability is for a lower level of PCC exports than requested in the Customer’s initial Interconnection Request, as such the Customer is already well aware of the capabilities of the inverters at this stage.

PG&E clarified during LGP Workshop #2 that new tools will have to be developed to efficiently evaluate LGP projects. These tools are necessary to efficiently extract the most updated ICA-SG profile, import the Customer provided LGP profile, compare each hour of the profile, and determine if the project meets the criteria at each hour. IOUs also presented that that additional enhancements to planning tools and ICA process may be needed to enable efficient and automated integration of LGP into the interconnection process. In addition, distribution modeling enhancement would be necessary to reflect the LGP projects. Once an LGP project connects, a unique output profile must be stored, maintained, and referenced in system planning, interconnection, and ICA studies. IOUs believe this step does not require action from the LGP Customer, hence has removed the step in the revised Appendix A.

Detailed steps of this phase are further clarified in the Appendix A under “3 – Technical Evaluation”.

Phase 4 – Interconnection Agreement and Permission to Operate (PTO)

The IOUs addressed the modifications to Step 4.a.ii in Workshop #2.

In Step 4.a.ii, the IOUs clarified the actions that would be taken if operating specifications are not followed and proposed to add the following to the Interconnection Agreement:

- For conditions which do not immediately cause a safety and/or reliability concern, Customer would be notified by [IOU]. Customer would then be required to make the correction within 15 business days of notification. If corrections are not made within 15 business days from being notified, the PTO will be revoked. [IOU] reserves the right to confirm the generator has not reconnected.
- For conditions which impose an immediate safety and reliability concern, [IOU] will take immediate action to disconnect the project from the grid until the correction has been made. If corrections are not made within 15 business days from being notified (or being disconnected), the PTO will be revoked. [IOU] reserves the right to confirm the generator has not reconnected.
- [IOU] will not impose additional requirements for Customers who have their PTO revoked. As such, Customers can request interconnection under any CPUC approved procedures.

Additionally, the revocation of PTO will be in accordance with relevant terms and conditions of the executed Interconnection Agreement, which attaches the accepted LGP. If such LGP is not followed even after being notified, then IOUs have the right under the Interconnection Agreement to revoke PTO and terminate the agreement.

The modification to Step 4.a.iii was addressed in Topic B.1.

The IOUs addressed the modifications to Steps 4.b, 4.c, and 4.b.ii in LGP Workshops #2 and #3.

For Step 4.b, the IOUs clarified that the purpose of field performance verification / commissioning tests is to verify operational performance to ensure that the installed equipment has been set up to meet the intended need and is configured consistent with the Customer's proposed LGP values and the operational requirements of Rule 21. These tests differ from certification testing in that they are operational tests for equipment that has been installed in the field, as opposed to lab tests used by Nationally Recognized Testing Labs (NRTLs) to verify that the equipment being tested meets the requirement of the standard (such as IEEE1547.1-2020/UL1741SB). While the IOUs have the right to verify performance on any project prior to issuing PTO, in practice the IOUs will only perform field verification on projects which are using new methods or new equipment. Best practices dictate that operational performance and commissioning tests should always be performed, however once the IOUs become familiar with the methods and equipment, the IOUs may not require being a witness to the testing. Consistent with Rule 21 Section L.5.a, the IOUs conduct field performance verification/commission testing for LGP projects consistent with how it is conducted for non-LGP projects, including remote inspection if feasible.

For Step 4.c, the IOUs clarified that field performance verification / commissioning tests will ensure that the project is set up to comply with LGP requirements. Per Topic B.1, quarterly reporting is not required.

For Step 4.b.ii, SCE and SDG&E will adopt PGE's process language. Per Rule 21 Section L.5.a, the IOUs may require a written Commissioning test procedure to be provided by the Interconnection Customer 10 days in advance of the Commissioning test. The IOUs will coordinate with the Customer on the development of the commissioning test procedure.

Phase 5 – Operation Performance Phase

The modifications to this phase were addressed by Topic B.1.

J. Topic D: IOUs' Proposed Tariff and Process Proposal Language Alignment

The IOUs have agreed upon consistent language in the IOUs' tariff proposals and in the IOUs' process proposals. Appendix A reflects the proposals as modified by (i) the Resolution, (ii) the IOUs to address minor discrepancies, and (iii) consensus achieved via the workshops ordered by the Resolution and IOU participation in the SIWG meetings.

K. Topic E: Implementation of LGP Using Current Smart Inverter Functions

Status - Consensus

The Resolution directed the IOUs to discuss the possibility and challenges with implementing the LGP-option before standards are approved.

The Resolution specifies that:

To expedite the use of available hosting capacity it is prudent, therefore, for the Large IOUs to discuss any challenges to implement Issue 9 and Proposal A-B 3 using current smart inverter settings.

The Large IOUs shall elaborate on challenges and concerns as stated in the Working Group Reports and discuss and propose solutions.

The Large IOUs shall determine which functional elements are already present in commercially available inverters, and which are not, to establish LGP functionality prior to the approval of standards.

Should implementation of Issue 9 and Proposal A-B 3 be feasible before approval of standards, the Large IOUs shall outline a clear process and the requirements, including technical, to be considered in the implementation of the LGP option.

The Large IOUs shall also establish a mechanism for validating proposed profiles. If the implementation of this mechanism is not feasible, the Large IOUs shall clearly articulate the reasons.

We remind the Large IOUs that the subsequent ALs shall specify which items have reached consensus within the workshop participants and which items have not reached consensus. If an item has not reached consensus, the Large IOUs shall provide details as to the bases for lack of consensus and the alternative proposals, if any.

In LGP Workshop #1, the IOUs presented on the requirements to enable a LGP prior to the approval of standards for a generating facility with 1) on-site load, and 2) no on-site load. For a generating facility with on-site load, a certified Power Control System (PCS), or a certified equivalent, that monitors net export at the Point of Common Coupling (PCC) and sends a signal to the inverter (to limit inverter power output to achieve the LGP export limit at the PCC) is required, but currently not available.

For both a generating facility with on-site load and no on-site load, inverters with either 1) an integrated Common Smart Inverter Profile-certified ("CSIP-certified") gateway, or 2) the ability to function with an external CSIP-certified gateway, is available to enable LGP. It is the IOUs' understanding that the CSIP-certified gateway would store the schedule and would send hourly commands to the inverters which would then use their Limit Output Power Mode to limit output to the LGP values. The IOUs have not yet

tested this functionality and are not able to confirm that this method could be operationalized. The IOUs recommend imposing a requirement that this method for enabling the LGP option be certified, tested and validated.

In LGP Workshop #1, the IOUs also presented a mechanism for validating proposed LGPs. The steps below outline the process to validate an Interconnection Customer's proposed LGP.

1. Customer submits agreed-upon LGP Template with all required information.
2. IOUs will verify the information in the submitted LGP Template against the most current ICA results.
3. If the ICA results currently published are:
 - a. up to date, use the up to date results
 - b. not up to date, refresh ICA results (as allowed by Ordering Paragraph 2 of the Resolution)
4. Verify that the Customer-submitted LGP complies with the requirements of the decision to have a 10% buffer using the most current ICA results.
5. If compliant with the 10% buffer requirement, proceed with interconnection per Rule 21 requirements.
6. If not compliant with the 10% buffer requirement, IOU to inform Customer of the need to update its initially-requested LGP values.
 - a. If Customer responds with values that comply with the 10% buffer, that updated profile will be included as an attachment to the interconnection agreement.
 - b. If Customer does not respond, IOUs will process the Customer's interconnection request using nameplate (not as an LGP project).

NOTE: The IOUs will not process LGP projects that do not comply with the 10% buffer under supplemental review or detailed study. LGP projects must have the 10% buffer.

In LGP Workshop #2, the IOUs presented a summary of possible options to implement LGPs with currently available products prior to the development of PCS standards. The presentation material was assembled from information gathered during discussion with various industry members, both outside and during the February 16, 2023 Smart Inverter Working Group meeting. The IOUs' understanding of currently available equipment capabilities that provide options for implementing LGPs are summarized on the following table (**Error! Reference source not found.**).

Table 1

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) Gateway (From Source)	Gateway	Gateway	1) CSIP for Gateway 2) UL1741+SA or UL17415B, 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) Gateway (From Source)	Server	1) CSIP for Gateway 2) UL1741+SA or UL17415B, 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 2) UL1741+SA or UL17415B, 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) Gateway (From Source)	Gateway	Gateway	1) CSIP for Gateway 2) UL1741+SA or UL17415B, 3th Edition for inverters 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 2) UL1741+SA or UL17415B, 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) Gateway (From Source)	Server	1) CSIP for Gateway 2) UL1741+SA or UL17415B, 3th Edition for inverters 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 UL17415B, 3th Edition for inverters 3) UL PCS CRD for UL PCS Device	Standards being developed- Anticipated by Q2-2023

In LGP Workshop #3, the IOUs presented on the use of non-certified equipment. The IOUs recommend Operational Option 3, Method G: use of UL PCS with Integrated Schedule. The IOUs anticipate UL PCS Standards to be completed by the end of Q2 of 2023. The standards will be designed to apply to all systems regardless of the generating capacity. Further development and implementation of alternative approaches (e.g., testing procedures, testing, criteria, mitigation) would be duplicative and impose costs on parties considering the use of an alternative. Relying on existing efforts by 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 states “We deny IREC’s request on the use of non-certified devices. We affirm that the IOUs have the ability to allow non-certified devices by mutual agreement and nothing in our resolution of this issue impedes that ability.” The IOUs’ recommendation to use Operational Option 3 is consistent with the Commission’s response to IREC’s request.

In LGP Workshop #4, the IOUs presented a recommendation to resolve Topic E with the addition of “Mm6 – Option 13”.

L. Topic F: Scheduling and Implementing More Than 12 LGP Values per Year

Status – Partial Consensus (Non-consensus on the unique number of LGP Values per year)

The Resolution specifies that:

The Large IOUs are therefore directed to discuss the 288-hour format and how it may allow for more than one value per month. Given that the Working Group Two Report was filed October 31, 2018, four years from the current date, we expect there is now more information and experience available to the Large IOUs

to allow this. The Large IOUs shall discuss their learnings and best practices in the workshops and propose how implementation of more than one value per month may be accomplished to better take advantage of the available capacity on a circuit to accomplish the goals of Issue 9.

During LGP Workshop #1, the IOUs presented an initial proposal for the format of LGP values to be submitted by Customers along with their Interconnection Request, which selects the LGP option. The headers of the IOUs' proposed format for Customer submittal of LGP values are listed in Table 2 and Table 3 below and reflect revisions to streamline the format accounting for differences across the IOUs. Regardless of the maximum number of unique LGP values adopted by the Commission, the format for Customer-submittal of LGP values would contain a header information section and 288 rows to represent the Customer's proposed LGP. To the extent that IOU terminology differs, the IOUs intend to implement a format that reflects their respective terminology and units of published ICA results. This approach is intended to minimize confusion and reduce the number of steps the Customer must take to develop their proposed LGP values.

Table 3

Circuit Name/Feeder ID
Node ID/Line Section ID
Download Date

Table 4

Month	Hour (0-23)	Monthly Minimum Uniform Generation ICA Static Grid (kW/MW)	90% of Monthly Minimum Uniform Generation ICA Static Grid (kW/MW)	Customer Determined LGP (Maximum Export at Point of Common Coupling) (kW/MW)
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1. **Circuit Name/Feeder ID:** Unique identifier of the circuit
2. **Node ID/Line Section ID:** Unique identifier of the node or line section electrically closest to the Customer's proposed Point of Interconnection
3. **Download Date:** Date on which the ICA results were downloaded from the IOU interconnection map
4. **Month:** January through December
5. **Hour (0-23):** Hour 0 through 23
6. **Monthly Minimum Uniform Generation ICA Static Grid (kW/MW):** The minimum of the 24 hourly Uniform Generation ICA Static Grid results for each month. The same value will be repeated 24 times for each month.
7. **90% of Monthly Minimum Uniform Generation ICA Static Grid (kW/MW):** 0.90 multiplied by the values in #6.

8. Customer Determined LGP (Maximum Export at Point of Common Coupling) (kW/MW): The Customer's proposed hourly export at the Point of Common Coupling. Note that these values must be less than or equal to the values in #7 for every hour.

Over the course of the workshops and Smart Inverter Working Group meetings, the IOUs presented analysis of circuit load profiles and ICA Static Grid (ICA-SG) results, which support the IOUs' position to adopt 12 unique LGP values per year, one unique value for each month. This recommendation is also consistent with the IOUs' interpretation of Resolution E-5230.¹⁵

During LGP Workshop #1, the IOUs asserted that there is an increased risk of safety and reliability issues when LGP values are allowed to include up to 288 unique values per year as compared to one unique value for each month. Generation ICA uses 12 months of historical loading information as an input, which is not an accurate predictor of real-time grid conditions at a granular level 100% of the time. The IOUs highlighted that the lowest ICA Static Grid value will be closely correlated with the lowest circuit load. Therefore, if the real-time load on the circuit is less than it was assumed to be when ICA was performed, for any given hour, the circuit could be exposed to a criteria violation.

In LGP Workshop #1, the IOUs presented a three-phase proposal for potentially transitioning to a number of unique annual LGP values greater than 12. In phase 1, the IOUs proposed to use up to 12 unique LGP values per year, each repeated 24 times per month, with a resulting 288 hours/year LGP profile. Phase 2, targeted in 2026, would evaluate the learnings from phase 1 and would recommend adjustments to the allowable number of LGP values if warranted, i.e., if no safety or reliability challenges occurred and the Customer's equipment adhered to the performance requirements. Phase 3, with timing contingent on implementation of a Distributed Energy Resource Management System (DERMS), communication, and cybersecurity requirements, would allow up to 288 unique LGP values per year. A regulatory framework that requires DERs to respond to DERMS commands must also be in place for the third and final phase to be effective.

While the IOUs had prepared to present analysis at LGP Workshop #1 demonstrating that an increase in the number of unique LGP values allowed each year inevitably results in increased safety and/or reliability risks (compared to 12 unique values), the agenda did not offer sufficient time to commence discussion on this topic. Therefore, the IOUs commenced a discussion on the results of their initial analysis during LGP Workshop #2.

During LGP Workshop #2, SCE presented a comparison of the circuit load profile for the Abacus 12 kV circuit over two time periods: Time period 1 (September 2020 to August

¹⁵ Resolution at p. 34: "The adopted 288-hour format includes 24 values per each of the 12 months of the year. Essentially this amounts to customers submitting the same value 24 times a month, on a monthly basis for a year when one value would suffice."

2021) and Time Period 2 (September 2021 to August 2022). The analysis showed that the circuit load in Time Period 2 was less than that of Time Period 1 for 227 out of 288 hours (79%), which is an indicator that if a generator were to have interconnected to this circuit based on the ICA results produced for Time Period 1, it could cause a criteria violation because the output of the generator coupled with the lower loads for Time Period 2 would result in circuit performance that violates thermal, steady state voltage or voltage variation criteria. In the case of the Abacus circuit, for the time period analyzed, a coincident maximum load decrease of over 100 Amps was identified (40% difference year to year for hour 232 of the 288 profile).¹⁶ During LGP Workshop #2, SCE also presented a territory-wide circuit load profile comparison, which identified that approximately 37% of SCE's distribution circuits analyzed experienced a decrease in coincident circuit load of 10% or more, further justification that allowing 288 unique LGP values is expected to expose more criteria violations on the system than allowing 12 unique LGP values.

During LGP Workshop #2, SCE also presented a comparison of the ICA-SG results for TERM_55483493_ABACUS, a 3-phase node on the Abacus 12 kV circuit, for two time periods: Time Period 1 (January 2022 to October 2022), and Time Period 2 (January 2021 to October 2021). The ICA-SG results for this node were presented in both a 288 LGP value profile, and a 12 LGP value profile. For the 288 LGP value profile, the coincident ICA-SG results were less in time period 2 than in time period 1 for 173 out of 288 hours (72%). The range of differences (severity or consequence) was found to be 16.9 kW to 3,979.5 kW. For the 12 LGP value profile, the coincident ICA-SG results were less in time period 2 than in time period 1 for 144 out of 288 hours (60%). The range of differences was found to be 22.4 kW to 1,144.7 kW. SCE asserted that while this analysis was only performed for a single, randomly selected node, it is indicative that the frequency (number of hours) and severity or consequence (maximum difference in kW) of the 288 LGP value profile were higher than those of the 12 LGP value profile. This analysis supports the IOUs' recommendation that until the IOUs have actual operating experience that indicates 12 unique LGP values per year is manageable and does not create safety and/or reliability risks, the CPUC adopt no more than 12 unique LGP values per year.

In LGP Workshop #2, PG&E presented its preliminary studies on a random node in its distribution network. Two ICA profiles have been compared from Period 1 (2021) to Period 2 (2022). The Period 1's 288-hour LGP was multiplied by 0.9 to account for the Rule 21 interconnection safety margin (buffer). The Period 2's 288-hour LGP and the 12 single-value monthly LGP have been also presented to compare the violations that could happen in Period 2, due to either reduction of load or addition of DERs. It was observed that using a 288-hour profile (rather than a single profile value for each month) could create a condition where Period 2 hosting capacity falls below Period 1 hosting capacity for multiple hours. This drop in hosting capacity in Period 2 could result in grid impacts that were not considered during the interconnection application review. In

¹⁶ Coincidence is defined in this context as comparing each hour from time period 2 with the same hour from time period 1. For example, hour 277 from time period 2 compared to hour 277 from time period 1.

comparison, for this example, no violations were observed in Period 2, using the 12 single-value monthly LGP.

In LGP Workshop #2, PG&E also presented a system-wide analysis of load changes. Feeder level load information was collected for all of PG&E's feeders for 8760 hours for the following intervals: 10/01/2020 to 09/30/2021 and 10/01/2021 to 09/30/2022. A histogram was presented in the workshop that shows the percentage of the hourly load changes from the first year to the second year. This graph highlights the possibility of load reduction in PG&E's territory that may lead to more thermal or voltage violations when using a more granular LGP profile.

During LGP Workshop #2, SDG&E presented a comparison of the circuit load profile for one randomly selected circuit over two time periods: Time Period 1 (January 2021 through December 2021) and Time Period 2 (January 2022 through December 2022). The analysis showed that if the circuit load was compared in hourly basis, the loading in Time Period 2 was less than that of Time Period 1 for 63% of the 288 hours, which is an indicator that if a generator were to have interconnected to this circuit based on the ICA results produced for Time Period 1, it could cause a criteria violation because the output of the generator coupled with the lower loads for Time Period 2, would result in circuit performance that violates thermal, steady state voltage or voltage variation criteria. In comparison, when the loading comparison was done between Time Period 1 monthly minimum loading and Time Period 2 hourly loading, the circuit loading is less for only 9% of the 288 hours.

During LGP Workshop #3, the IOUs presented a proposed framework for further LGP analysis to address stakeholder and Commission staff comments that the analysis presented in LGP Workshop #2 was based on an insufficient sample size that would make it challenging to draw universal conclusions. In LGP Workshop #3, SCE and PG&E proposed to expand the scope of LGP analysis to compare various LGP profiles over two time periods for at least one node on five different circuits. The IOUs proposed the following interpretation of the results from the expanded analysis: If the number of LGP values increased, and the frequency **or** maximum magnitude of violations increased, the IOUs would maintain their position to implement the LGP option using no more than 12 unique LGP values per year.

During LGP Workshop #4, SCE presented the results of their expanded LGP analysis. The results support the IOUs' recommendation to implement the LGP option using 12 unique values, repeated 24 times per month, to produce a 288-hour annual profile. A summary of the analysis and findings is included below. SCE's detailed presentation slides are posted at [Limited Generation Profiles \(ca.gov\)](https://www.cpuc.ca.gov/limited-generation-profiles).¹⁷ The analysis included the following LGP Profiles for 5 nodes:

- a. **288** unique LGP values: Takes the lowest ICA-SG value for each hour, multiply the profile by 90%

¹⁷ As of the date of this Advice Letter filing, the meeting materials for the April 7, 2023 LGP Workshop #4 have not been posted on [Limited Generation Profiles \(ca.gov\)](https://www.cpuc.ca.gov/limited-generation-profiles).

- b. **144** unique LGP values: Takes the minimum of profile a. over every 2-hour window
- c. **96** unique LGP values: Takes the minimum of profile a. over every 3-hour window
- d. **72** unique LGP values: Takes the minimum of profile a. over every 4-hour window
- e. **48** unique LGP values: Takes the minimum of profile a. over every 6-hour window
- f. **36** unique LGP values: Takes the minimum of profile a. over every 8-hour window
- g. **24** unique LGP values: Takes the minimum of profile a. over every 12-hour window (12am-11am, 12pm-11pm)
- h. **12** unique LGP values: Takes the monthly minimums of profile a.
- i. **84** unique LGP values: Uses 90% ICA-SG for 4pm-9pm (profile a.); uses the monthly minimum 90% ICA-SG for other 18 hours each month (profile h.)

Four out of the five nodes analyzed saw a higher risk of causing a criteria violation for all profiles with more than 12 LGP values. One node out of the five analyzed had a slightly lower risk associated with the 84-point profile; however, this was likely due to increases in the minimum circuit load in time period 2. In all cases, the severity of violations increased as the number of LGP values increased. When considering nodes with one or more zero values in their ICA results, the analysis showed over 25 times increase in consequence when comparing 12 to 288 unique LGP values. When excluding nodes with one or more zero values in their ICA results, the analysis showed over two times increase in consequence when comparing 12 to 288 unique LGP values. From a benefit standpoint, the maximum instantaneous power and cumulative energy delivered over the entire LGP profile increased as the number of LGP values increased. The limiting criteria varied by node and number of LGP values, however, Voltage Variation and Thermal were the most common limiting criteria.

In LGP Workshop #4, PG&E presented the results of its analysis of risk and benefits; i.e., the LGP granularity that maximizes the energy delivered to the grid as well as the LGP granularity that minimizes the risk of operation. This analysis supports PG&E's initial recommendation to utilize 12 unique values, repeated 24 times per month, to produce a 288-hour annual profile.

The analysis included a system-wide statistical analysis performed on around 10% of PG&E's circuits (339 circuits). These circuits include 155,000 line-sections, which equates to about 44 million section-hours per year (155,000 sections x 288 hours/year). A detailed analysis was also presented for five random nodes from five main regions in PG&E's distribution service territory. Overall, 16 LGP scenarios have been assessed, comparing ICA profiles from Period 1 (January 2022) and Period 2 (January 2023). Common circuits and line-sections in the two datasets were selected for the analysis. The benefits are calculated as energy (kWh) delivered over the course of the year for each of the LGP scenarios. The risks (violations) are calculated with two parameters: 1) the number of hours among the 288 unique LGP values of period 2 that were less than 90% of the LGP scenario of Period 1, and 2) the magnitude of the difference between 288 unique LGP values of Period 2 and 90% of the LGP scenario of Period 1. The limiting criterion for each scenario is also provided. The results are ranked based on the risk of

violations in Table 5, Figure 3, and Figure 4 to highlight the risk and benefits associated with each case for stakeholders' review.

- a. 288LGP (ICA-SG) profile: Takes the lowest ICA-SG values for each hour.
- b. Every2H profile: Takes minimum of profile a, over every 2-hour window.
- c. Every3H profile: Takes minimum of profile a, over every 3-hour window.
- d. Every4H profile: Takes minimum of profile a, over every 4-hour window.
- e. Every6H profile: Takes minimum of profile a, over every 6-hour window.
- f. Evry8H profile: Takes minimum of profile a, over every 8-hour window.
- g. Every12H profile: Takes minimum of profile a, over every 12-hour window.
- h. 3_Intvl profile: Uses minimum of ICA-SG for 12AM-7AM for these hours, uses minimum of ICA-SG for 8AM-5PM for these hours, uses minimum of ICA-SG for 6PM-11PM for these hours.
- i. 16_23hourly profile: Uses ICA-SG for 4PM-11PM, uses minimum of ICA-SG for 12AM-3PM for these hours.
- j. 16_21hourly profile: Uses ICA-SG for 4PM-9PM, uses minimum of ICA-SG for 10PM-3PM for these hours.
- k. 18_23hourly profile: Uses ICA-SG for 6PM-11PM, uses minimum of ICA-SG for 12AM-5PM for these hours.
- l. 16_23fixed profile: Uses minimum of ICA-SG for 4PM-11PM for these hours, uses minimum of ICA-SG for 12AM-3PM for these hours.
- m. 16_21fixed profile: Uses minimum of ICA-SG for 4PM-9PM for these hours, uses minimum of ICA-SG for 10PM-3PM for these hours.
- n. 18_23fixed profile: Uses minimum of ICA-SG for 6PM-11PM for these hours, uses minimum of ICA-SG for 12AM-5PM for these hours.
- o. 12Month_fixed (12LGP) profile: Takes the monthly minimum of profile a.
- p. 24Hour_fixed profile: Takes the minimum ICA-SG values for each hour across the 12 months for each hour.

Table 5. Percent of increase in energy export and violations considering the "12Month_fixed (12LGP)" scenario a the baseline (ranked based on violation)

Scenarios	Granularity	Energy	Violation
288LGP	288	9.4%	40.0%
Every2H	144	8.5%	32.5%
Every3H	96	7.8%	27.6%
Every4H	72	7.0%	23.8%
Every6H	48	6.0%	18.7%
16_23hourly	108	4.5%	17.0%
Every8H	36	5.1%	15.3%
3_Intvl	36	5.3%	15.0%
16_21hourly	84	3.4%	13.8%
18_23hourly	84	3.4%	11.8%

Every12H	24	2.6%	8.2%
16_23fixed	24	2.5%	8.1%
16_21fixed	24	2.2%	7.4%
18_23fixed	24	2.5%	7.4%
12Month_fixed (12LGP)	12	0.0%	0.0%
24Hour_fixed	24	0.5%	-2.7%



Figure 3. Number of violation hours comparing different scenarios.

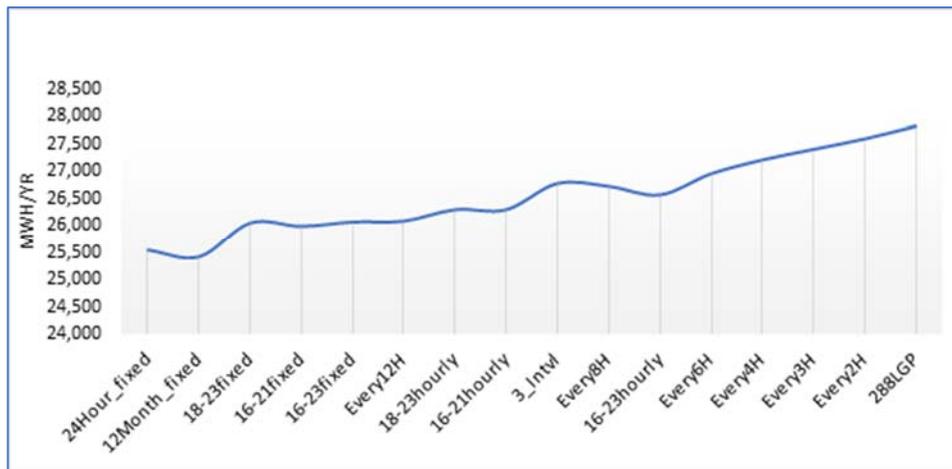


Figure 4. Energy production per year comparing different scenarios

Data shows that with a more granular LGP profile, risk increases. From the 16 scenarios, the “24Hour_fixed” has the lowest risk. The 12LGP profile is ranked second in terms of risk mitigation. The next scenarios are the two-interval fixed LGP profiles, named “18_23fixed”, “16_21 fixed”, “16_23fixed”, and “Every 12H”. With these scenarios, the energy production could increase by around 2.5% compared to the base case, but the number of violations would also increase by around 7.5%. From these two-interval fixed

LGP profiles, the “18_23fixed” and “16_21fixed” have the least risk increase. Also, the “18_23fixed” scenario produces slightly higher energy than “16_21fixed.” Therefore, the “18_23_fixed” and “24Hour_fixed” were selected for further comparison with 12LGP and 288LGP profiles, as shown in Figure 5 and Figure 6.



Figure 5. Number of section hours per limiting constraint (system-wide analysis).

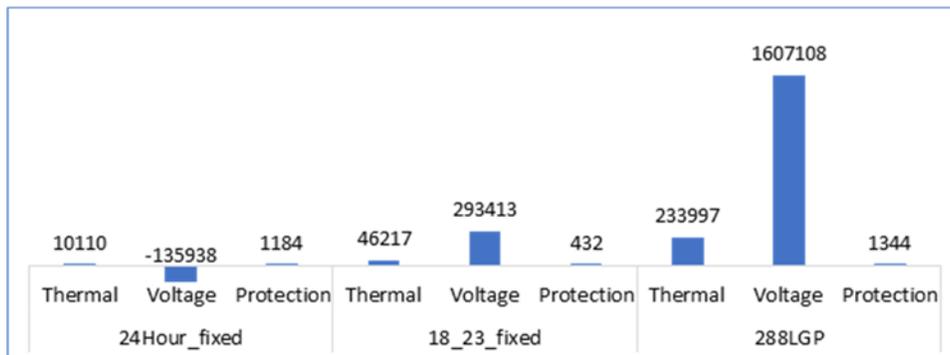


Figure 6. Number of new violations considering 12LGP as the baseline.

The results show that, with more granular LGP profiles, more energy could be exported to the grid. It was found that on a system-wide basis, approximately 10% more energy could be exported with 288LGP compared to 12LGP. Also, the risk of violating a power system safety design criteria (voltage and thermal) is increased using more granular LGPs. Overall, approximately 40% more violations are observed with 288 LGP compared to 12LGP. Moreover, about 30% increase is observed in average magnitude of violations for 288 LGP compared to 12LGP. Generally, the limiting criteria varies by node and granularity of LGP profile, however, the most common causes of violations are voltage and thermal, respectively. It should be noted that, as presented in Figure 5, the 12LGP profile also results in voltage and thermal violations, and so it carries risk for distribution system operations. Higher LGP granularity adds more risk, and therefore, it is not recommended by PG&E.

Basis for Lack of Consensus

Some stakeholders contend that allowing a maximum of 12 unique LGP values per year, one per month, will not provide benefits to the interconnecting generators that are

large enough to justify selection of the LGP option. These stakeholders believe that increasing the number of unique LGP values allowed each year will result in greater energy exports at the PCC and thereby provide (i) anticipated benefits to interconnecting generators that are large enough to cause the interconnecting generators to select the LGP option, and (ii) accompanying benefits to ratepayers.

Some stakeholders suggested that there is a “sweet spot” whereby the maximum number of allowed unique LGP values per year could be increased to a number larger than 12 based on the extent to which safety and/or reliability risks increased. Different options were suggested for increasing the number of unique values. For example, an LGP could be created that allows four unique LGP values during each month, for example one value for hours-ending 1 through 17 and 21 through 24, and three values for the peak hours of 18 through 20 (a total of 48 unique values each year). Stakeholders did not propose any specific mechanism by which such a “sweet spot” would be identified.

Fundamentally, the IOUs are unwilling to accept the increased risk to safety and reliability that will inevitably result if the maximum number of allowed unique LGP values per year is increased above 12. Because the IOUs are responsible for the safe and reliable operation of the distribution system, it is prudent to gain operational experience with 12 unique LGP values per year, before considering an increase in the maximum allowed number of unique values. Hence, the IOUs have proposed a phased approach under which an increase would be considered.

The IOUs question whether developers will actually choose not to select the LGP option if the maximum number of unique annual LGP values is limited to 12, one value for each month. Twelve unique values per year is a significant increase from one unique value each year and will provide commercial benefits to interconnecting generators selecting the LGP option. The IOUs suspect that the contention by some stakeholders that developers will not select the LGP option if a maximum of 12 unique values per year is allowed, is commercially motivated posturing. Naturally, profit-motivated developers have an incentive to take positions that they believe may lead to adoption of a larger number of unique LGP values each year.

The IOUs note that stakeholders have not provided any concrete evidence as to the magnitude of the benefits that ratepayers are expected to receive as a result of increasing the maximum allowed unique LGP values each year to a number greater than 12. Other than demonstrating that more energy could be exported, no evidence was provided to show that the economic value of these increased exports would accrue to ratepayers rather than to the developers.

Finally, while the IOUs understand the intuitive appeal of finding a “sweet spot,” the reality is that such a “sweet spot” necessarily means increased safety and reliability risk,

something the IOUs are unwilling to accept.¹⁸ Moreover, stakeholders have offered no objective proposal by which an acceptable tradeoff between increased safety/reliability risk and increased LGP exports would be found.

Alternative Proposals

During the January 19, 2023 SIWG Meeting, the Public Advocates Office presented analysis based on 288 unique LGP values. During LGP Workshop #4, IREC presented a blocked profile which utilizes the following methodology: “Divide the year into blocks of 3 months and each day into blocks of 4 hours, and take the minimum value for each block.”

¹⁸ As discussed above, the Large IOUs have performed a variety of analyses for a handful of circuits and nodes demonstrating that reliability risks increase as the number of unique LGP values each year increases above 12. While it is clear that reliability risks increase for any number above 12, it is not possible to quantify the magnitude of such increases with any statistical certainty given that there are many millions of nodes across the Large IOUs’ distribution systems. The Large IOUs believe that the computer and staff resources required to perform analysis on a statistically valid number of nodes, would be burdensome and would not change the Large IOUs’ position that any increase in safety and/or reliability risks is unacceptable.

APPENDIX A: Revised IOU Proposal

1. Customer Preparation Phase:
 - a. In this phase, a Customer who intends to use this operational method downloads the Integration Capacity Analysis (ICA) profiles from Utility ICA maps (when ICA values are available) for the three-phase electrical node that will be used for the interconnection request. If the interconnection request is for a single-phase electrical connection, the Customer should use the electrically-closest three-phase electrical node.
 - b. The Customer should examine the downloaded ICA-SG profile to identify the monthly minimum ICA-SG values from the ICA-SG profile.
 - c. The Customer shall determine the monthly Limited Generation Profile values to not exceed 90% of the monthly minimum ICA-SG values as determined in (b). The format for submitting the monthly Limited Generation Profile values requires populating a profile that contains 24 values per month (where all hourly values for a given month are the same) for each of the 12 months, totaling 288 data points (12 unique data points across the year). During operation of the Customer's generator, each month's Limited Generation Profile value will apply to all hours of that month.
 - d. The Customer shall select a certified control system from an IOU-provided list of Underwriters Laboratories (UL)-certified Power Control Systems (PCS) that can control the exports at the PCC to not exceed the values determined in (c).
 - e. The Customer shall capture the name or ID of the Distribution Feeder (circuit), the three-phase electrical node identifier (For SCE and SDG&E, specify the "Node ID". For PG&E, specify the "Line Section ID"), and the date when the data extraction took place.¹⁹ The Customer will submit information consistent with the format below as part of the Interconnection Request.

Table 6

Circuit Name/Feeder ID
Node ID/Line Section ID
Download Date

¹⁹ See ICA map & user-guide to understand how the term CSV Line Section is used. User Guide:
<https://www.pge.com/eimp/?appname=GISMapping&resume=%2Fas%2FB7VUa%2Fresume%2Fas%2Fauthorization.ping&spentity=null> ICA Map:
<https://www.pge.com/eimp/?appname=GISMapping&resume=%2Fas%2FuKhwS%2Fresume%2Fas%2Fauthorization.ping&spentity=null>

Table 7

Month	Hour (0-23)	Monthly Minimum Uniform Generation ICA Static Grid (kW/MW)	90% of Monthly Minimum Uniform Generation ICA Static Grid (kW/MW)	Customer Determined LGP (Maximum Export at Point of Common Coupling) (kW/MW)
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2. Interconnection Request Phase:

- a. The Customer is to provide the information that is typical and general to all interconnection requests.
- b. The Customer is to provide the Limited Generation Profile Values as determined in 1(c) and the information for 1(e) within [IOU]’s Interconnection Portal.
 - i. In the event [IOU]’s Interconnection Portal is unable to accept the upload of a CSV file, the [IOU] will accept e-mailed CSV files as an alternative method to provide the Customer’s proposed Limited Generation Profile values.
- c. The Customer is to provide information on their certified control system within the [IOU]’s Customer Connect interconnection application portal.
 - i. The Underwriters Laboratories Power Control Systems (UL PCS) standard for this type of application may not have been approved at the time the Customer submits its interconnection request in which case there would be no certified control system information to provide. When certification information becomes available, [IOU] will maintain a list of UL-certified PCS that Customers can select from during the application process.

3. Technical Evaluation Phase:

- a. [IOU], consistent with applicable existing Rule 21 timelines, will apply all the applicable Initial Review Screens (A-L) based on the Nameplate capacity where applicable. Screen D, J, and K will use the maximum LGP value. Screen M will use the individual LGP values.
- b. The published interconnection queue will reflect the nameplate capacity for all projects, including LGP projects.
- c. [IOU] will verify that it has the most updated ICA-SG profile corresponding to the Customer provided three phase electrical node (Node ID/Line Section ID) from 1(e).
- d. [IOU] will evaluate the most updated ICA-SG profile and determine if the requested export values are at or below 90% of each month minimum ICA-SG value for each of the 12 months.
 - i. If the export request for each of the 12 months is at or below 90% of each month’s minimum ICA-SG value, then the project can continue with its evaluation.

- ii. If all Initial Review screens (A-L) are met including 3(e)(i) (all requested values are below 90% of each month's ICA values), then the project would pass Fast Track.
 - iii. If the export request for one or more of the 12 months is not at or below 90% of the specific month's minimum ICA-SG value, the project will fail Initial Review. [IOU] will inform the Customer via e-mail to the customer and offer an optional review results meeting. Customer will have **5 Business Days (BD)** after the notification, or after the optional result reviews meeting to update their proposed limited generation profile such that all monthly values are at or below 90% of the ICA-SG values.
 - iv. If the Customer responds with a conforming export request, the Customer's queue position will not change. The update to the LGP values should abide by the existing material modification criteria in section F.2.b of Rule 21, with the exception that when the project fails Screen M due to the [IOU] finding the ICA values are outdated then the LGP project is exempted from the 20% reduction limit.
 - v. If the Customer does not respond within **5 BD** of the notification or the Optional Initial Review Results Meeting, [IOU] will proceed to evaluate the project using full nameplate without monthly limits, and the Customer will be responsible for the costs of any distribution upgrades necessary to allow interconnection at the generator's full nameplate value. The Customer's queue position will not change.
4. Interconnection Agreement/PTO Phase:
- a. Execute Interconnection Agreements. The interconnection agreements should be updated to reflect the operational requirements of the Limited Generation Profile including:
 - i. Update Interconnection Agreements to ensure that the Generating Facility control systems meet the approved operating specification.
 - ii. Update Interconnection Agreement to (i) require prompt remedial action by the Customer if the Limited Generation Profile attached to the Customer's interconnection agreement is not followed, and (ii) clarify that if prompt remedial action is not taken or if multiple instances of not operating according to the Limited Generation Profile values occurs, [IOU] may terminate the interconnection agreement
 - For exports at the PCC which exceed the Limited Generation Profile values, but which do not immediately cause a safety and/or reliability concern, Customer will be notified by [IOU]. Customer will then be required to take remedial action within 15 business days of notification to conform to the Limited Generation Profile values. If remedial action is not taken within 15 business days from being notified, the Permission To Operate (PTO) will be revoked in accordance with the Customer's interconnection agreement and the generator must disconnect from the grid. [IOU] reserves the right to confirm that the generator has not reconnected.

- For exports at the PCC which exceed the Limited Generation Profile values, and which impose an immediate safety and reliability concern, [IOU] will take immediate action to disconnect the generator from the grid until remedial action is taken. If remedial actions are not taken within 15 business days from being notified (or being disconnected), the PTO will be revoked in accordance with the Customer's interconnection agreement. [IOU] reserves the right to confirm the generator has not reconnected.
 - [IOU] will not impose additional requirements on a Customer whose PTO is revoked as a result of failure to take remedial action. As such, the Customer can request interconnection of generation under any CPUC approved procedure.
 - iii. Update the Interconnection Agreement to require that a Customer without Automated Metering Infrastructure must provide telemetry to the distribution operations control center designated by [IOU], where the telemetry monitors power flows at the Customer's PCC.
 - b. Conduct field performance verification
 - i. Prior to issuing a PTO, [IOU] may, at its sole discretion, conduct or witness field performance verification to ensure that equipment installed by the Customer is configured and operating consistent with (i) the Limited Generation Profile values attached to the Customer's interconnection agreement, and (ii) the requirements of Rule 21. Where feasible, [IOU] may choose to conduct or witness field performance verification remotely.
 - ii. At the request of [IOU], Customer shall provide [IOU] with a written field performance verification procedure per Rule 21, Section L.5.a, 10 Business Days prior to the date of the field performance verification. [IOU] will coordinate the field performance verification procedure with the Customer.
 - c. PTO will be issued by [IOU] if (i) the field performance verification demonstrates compliance with the Limited Generation Profile values attached to the Customer's interconnection agreement, and (ii) all applicable agreements and documentation (such as a release from the Authority Having Jurisdiction (AHJ)) have been completed and copies provided to [IOU].
5. Operation Performance Phase:
- a. The [IOU] will monitor compliance with the Limited Generation Profile attached to the Customer's interconnection agreement as follows:
 - i. For a limited Generation Profile project with generator nameplate under 1 MW, Automated Metering Infrastructure (AMI) data will be used to monitor export at the PCC, if AMI is available. If AMI is not available, telemetry monitoring export at the PCC will be required. The interconnection agreements should be updated to include the requirement that telemetry at the PCC will be required, at Customer's expense, if AMI is not available.

- ii. For a Limited Generation Profile project with generator nameplate greater than or equal to 1 MW, telemetry is required. If telemetry is monitoring only the generator output, [IOU] has the ability to use AMI data, if available, to monitor export at the PCC. If AMI is not available, or Customer opts out, telemetry at the point of common coupling will be required at the Producer's expense.
- b. The earlier Advice Letters submitted by the IOUs, described the process and timelines that the IOUs propose to use in the event of unanticipated changes to grid conditions that temporarily or permanently limit PCC exports below the LGP attached to the Customer's interconnection agreement.²⁰ The IOUs' proposal addresses the timing issues associated with restoring the ability to operate up to the level of its LGP. As of the date of this Advice Letter submittal, the earlier Advice Letters are pending disposition by the Energy Division.

TIER DESIGNATION

Pursuant to Resolution E-5230, this advice letter is submitted with a Tier 3 designation.

EFFECTIVE DATE

This advice letter will become effective upon Commission approval.

²⁰ On January 9, 2023, the Large IOUs jointly filed Advice 4941-E (SCE), 6816-E (PG&E), and 4138-E (SDGE) in response to Resolution E-5211.

NOTICE

Anyone wishing to protest this advice letter may do so only electronically. Protests must be received no later than 20 days after the date of this advice letter. Protests should be submitted to the CPUC Energy Division at:

E-mail: EDTariffUnit@cpuc.ca.gov

In addition, protests and all other correspondence regarding this advice letter should also be sent electronically to the attention of:

Connor Flanigan
Managing Director, State Regulatory Operations
E-mail: AdviceTariffManager@sce.com

Tara S. Kaushik
Managing Director, Regulatory Relations
c/o Karyn Gansecki
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may submit a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this advice letter to the interested parties shown on the attached GO 96-B and R.17-07-007 service lists. Address change requests to the GO 96-B service list should be directed to AdviceTariffManager@sce.com or at (626) 302-4747. For changes to any other service list, please contact the Commission's Process Office at (415) 7032021 or at Process_Office@cpuc.ca.gov.

All questions concerning this advice letter should be directed to Barbara Cadena at (626) 633-3369 or by electronic mail at Barbara.Cadena@sce.com.

Southern California Edison Company

/s/ Connor Flanigan
Connor Flanigan

CF:bc:lp



ADVICE LETTER SUMMARY

ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Darrah Morgan
 Phone #: (626) 302-2086
 E-mail: AdviceTariffManager@sce.com
 E-mail Disposition Notice to: AdviceTariffManager@sce.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas WATER = Water
 PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 5025-E, 6929-E & 4215-E

Tier Designation: 3

Subject of AL: Joint Proposed Modifications to Implement Limited Generation Profiles Pursuant to Ordering Paragraph 3 of Resolution E-5230

Keywords (choose from CPUC listing): Compliance

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: Resolution E-5230

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? Yes No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? Yes No

Requested effective date:

No. of tariff sheets: -0-

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: None

Service affected and changes proposed¹:

Pending advice letters that revise the same tariff sheets: None

¹Discuss in AL if more space is needed.

Protests and correspondence regarding this AL are to be sent via email and are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

California Public Utilities Commission
Energy Division Tariff Unit Email:
EDTariffUnit@cpuc.ca.gov

Contact Name: Connor Flanigan
Title: Managing Director, State Regulatory Operations
Utility/Entity Name: Southern California Edison Company

Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email: AdviceTariffManager@sce.com

Contact Name: Tara S. Kaushik c/o Karyn Gansecki
Title: Managing Director, Regulatory Relations
Utility/Entity Name: Southern California Edison Company

Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email: karyn.gansecki@sce.com

CPUC
Energy Division Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Clear Form

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	

**PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV**

AT&T
Albion Power Company

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
Braun Blaising Smith Wynne, P.C.
California Cotton Ginners & Growers Assn
California Energy Commission

California Hub for Energy Efficiency
Financing

California Alternative Energy and
Advanced Transportation Financing
Authority
California Public Utilities Commission
Calpine

Cameron-Daniel, P.C.
Casner, Steve
Center for Biological Diversity

Chevron Pipeline and Power
City of Palo Alto

City of San Jose
Clean Power Research
Coast Economic Consulting
Commercial Energy
Crossborder Energy
Crown Road Energy, LLC
Davis Wright Tremaine LLP
Day Carter Murphy

Dept of General Services
Don Pickett & Associates, Inc.
Douglass & Liddell
Downey Brand LLP
Dish Wireless L.L.C.

East Bay Community Energy Ellison
Schneider & Harris LLP
Engineers and Scientists of California

GenOn Energy, Inc.
Green Power Institute
Hanna & Morton
ICF

iCommLaw
International Power Technology
Intertie

Intestate Gas Services, Inc.

Johnston, Kevin
Kelly Group
Ken Bohn Consulting
Keyes & Fox LLP
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated
Waste Management Task Force
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McClintock IP
McKenzie & Associates

Modesto Irrigation District
NLine Energy, Inc.
NRG Solar

OnGrid Solar
Pacific Gas and Electric Company
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

Redwood Coast Energy Authority
Regulatory & Cogeneration Service, Inc.

Resource Innovations

SCD Energy Solutions
San Diego Gas & Electric Company

SPURR
San Francisco Water Power and Sewer
Sempra Utilities

Sierra Telephone Company, Inc.
Southern California Edison Company
Southern California Gas Company
Spark Energy
Sun Light & Power
Sunshine Design
Stoel Rives LLP

Tecogen, Inc.
TerraVerde Renewable Partners
Tiger Natural Gas, Inc.

TransCanada
Utility Cost Management
Utility Power Solutions
Water and Energy Consulting Wellhead
Electric Company
Western Manufactured Housing
Communities Association (WMA)
Yep Energy