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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Modernize the Electric Grid for a High Distributed Energy Resources Future	Rulemaking 21-06-017 (Filed June 24, 2021)

COMMENTS OF THE INTERSTATE RENEWABLE ENERGY COUNCIL ON ASSIGNED COMMISSIONER'S PROPOSAL AND QUESTIONS IN SECTION 2 OF RULING

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I. Introduction

Pursuant to the July 7, 2026 Assigned Commissioner's and Administrative Law Judge's Ruling Requesting Comment on the Assigned Commissioner's Proposal on Flexible Service Connections ("Proposal"), and the July 10, 2026 Administrative Law Judge's ruling granting a deadline extension to July 27, 2026, the Interstate Renewable Energy Council, Inc. ("IREC") submits these opening comments. IREC thanks the Commission for advancing flexible service connection ("FSC")[1] solutions and for recognizing the value that flexible connections can provide to customers, ratepayers, and the grid. Flexible connections hold real promise: they can accelerate interconnection and energization, make fuller use of existing distribution infrastructure, and defer or avoid ratepayer- and customer-funded upgrades. IREC shares the Commission's interest in realizing that promise.

At the same time, the promise of flexible connections depends on getting a number of details right. These comments make several overarching points before responding to the

[1] IREC's comments primarily focus on flexible service connection to align with the Proposal's focus on the application of flexible connections for customer load instead of generation. The Proposal states that it focuses "primarily on service, deferring the generation work for consideration in the Interconnection Rulemaking." Proposal at 43; *see also id*. at 3 (referring to Flexible Service Connection definition).

Proposal's specific recommendations. In summary, IREC urges the Commission to recognize that for flexible connections to deliver benefits to ratepayers, flexible connection customers in non-bridging situations will need to be given some consideration to incent their participation. That consideration must overcome the costs and tradeoffs associated with flexible connections, including technological costs that are still not clearly established in the record. Flexible connection must also be an option that ultimately speeds energization, not a source of new delay in the energization process or an excuse not to timely complete upgrades customers require to obtain the level of service they need.

The Commission should also recognize that rushing past crucial cost and technical details toward program implementation risks ultimately slowing the actual adoption of flexible connection options. Below, IREC offers a number of procedural recommendations that would shift program development away from reliance on non-transparent advice letter processes and toward more structured engagement, including further docket work or collaborative forums like workshops. To be clear, IREC's recommendations on both substance and process do not reflect skepticism of the Commission's push toward flexible connections, which IREC strongly supports. Flexible connections should be a practical option for customers as soon as feasible. But developing a practical option requires deciding several key details that will determine adoption and establishing a set of processes that will lead in that direction. Meaningful engagement with stakeholders, including industry actors upon which the success of these offerings rely, will ensure that flexible connections grow from an exciting idea to a real-world tailwind toward clean electrification. IREC looks forward to further engagement on this topic and commends the Commission for recognizing the potential customer and ratepayer benefits presented by flexible connections.

II. Questions on Proposal

1. **Please provide feedback on the Proposal itself, identifying any concerns with and/or support for the direction and background. Comments on the Proposal shall be provided within the same structure as the Proposal where possible (e.g., discussion of Operating Envelopes should come in Section 4 of party comments).**

Before offering specific feedback on the Commission's individual recommendations, IREC raises key points that merit attention across the Proposal. Before proceeding to these points, it is worth drawing a distinction between two different approaches the Commission could take with flexible connections. The first approach presents flexible connections as a response to long, uncertain, and increasingly expensive distribution upgrade timelines. Under this approach, flexible connections are essentially a response to grid policy failures: rather than ensuring timely, cost-effective upgrades, IOUs and regulators simply force customers to either accept substandard service, self-supply necessary supplemental power, or wait far too long for energization. As voiced below, IREC is concerned that the Proposal reads like this is the approach the Commission is moving toward. While a flexible connection is certainly a better option in this scenario than no energization at all, it is ultimately a triage measure that masks deeper issues with utility operations and regulation. The message that this sends to customers in California is that the regulator expects utilities to offer new load customers incomplete service as the "default." Customers who accept the default are expected to bear the costs of providing the technology and supplemental power that may be needed to get the full service their operations need.

The second approach presents flexible connections as a positive-sum arrangement for ratepayers and customers enabled by enhanced grid technology. On a system level, a flexible connection that costs less to implement than the savings it provides is a net benefit, enabled by technology that increases utilization of existing distribution grid assets. This positive-sum

approach is a policy worth pursuing and does not send a message to customers that the duty to serve has diminished. We expect this is what the Commission actually intends to do here, but it is crucial to recognize that this approach is driven by practical considerations, including costs and benefits that are distributed across different actors and potential compensation that balances costs and benefits to incent adoption. As the Commission moves forward, IREC strongly urges the Commission to pursue this approach to flexible connections, which entails meaningful consideration of the practical choices that make flexible connections possible.

a. Flexible connections require a compact between ratepayers and customers, and the framework will only scale as well as that compact works.

Flexible connections are a sort of compact between ratepayers and customers. Ratepayers benefit when a customer accepts operating constraints in place of a ratepayer-funded upgrade: the upgrade is deferred or avoided, and the customer's load makes fuller use of infrastructure ratepayers have already funded.[2] The Proposal develops this ratepayer side of the compact. The load customer side, however, is underdeveloped. The flexible connection compact will not succeed, and the attendant ratepayer benefits will not accrue, if the customer does not receive real value in exchange for accepting constraints.

The two clearest benefits are speed to power and upgrade avoidance. Speed to power is a genuine benefit, but as discussed in further detail below, that benefit will depend on the amount of power actually available before an upgrade is complete and the level of flexibility in the

[2] *See* R.21-06-017, Flexible Service Connections: Advancing Affordable Electrification Through Efficient Distribution Grid Utilization, Assigned Commissioner's Proposal ("Proposal") at 6 (July 2026) (flexible service connections "can provide benefits to both the IOUs and the capacity constrained customer while having a lower cost impact on ratepayers compared to the standard practice of addressing capacity constraints by immediately replacing capital equipment with extensive expansion of infrastructure").

customer's operating profile.[3] The Proposal asserts that the impacts of operating limits are "often negligible or manageable" and that customers "can largely achieve their operations within grid constraints," but these statements are made without additional detail or citation to any support in the record.[4] PG&E's OpFlex report identifies numerous reasons customers declined Flex Connect, including insufficient grid capacity even with DERMS and the benefits not outweighing the costs for a customer.[5]

Avoiding customer-funded upgrades is also a clear customer benefit when applicable, but it is not obvious how often flexible connections would actually achieve that result for load customers, who do not bear the cost of the kind of distribution upgrades IREC expects a flexible energization option would defer or avoid.[6] So far, only one use case has been presented that demonstrates load customers can avoid upgrade costs for which they are responsible: residential customers with Level 2 EV chargers with 100-amp service who avoid a panel and service upgrade by agreeing to flex their EV load.[7] It is IREC's understanding that customers are largely

[3] *See also* PG&E OpFlex Pilot Report ("PG&E OpFlex Report") at 5 (February 28, 2025) (a customer may not be a good fit for flexible connection because "there may be processes or loads that cannot be flexible").

[4] Proposal at 10, 35.

[5] PG&E OpFlex Report at 5.

[6] Non-bridging arrangements additionally require some benefit beyond speed to power to be realistic and practical, because the customer accepts a permanent limitation. If flexible service connections do not ultimately result in significant customer upgrade-related savings, the Commission has not established any meaningful benefit that a non-bridging solution would confer on a customer above the speed benefit of a bridging solution.

[7] PG&E's EPIC 4.02 pilot is testing a Grid Edge flexible connection solution for residential customers with Level 2 EV chargers with 100-amp service. Traditionally, these customers need to install and pay for a 200-amp panel and service upgrades to accommodate a Level 2 EV charger but could instead avoid it with PG&E's Grid Edge Dynamic Operating Envelopes. R.21-06-017, Track 3 All-Party Workshop Report ("Workshop Report") at 65 (March 20, 2026) (PG&E ChargeBoost & PanelBoost).

only responsible for the costs of upgrades that directly serve their facility[8] and it is not clear how often those upgrades will be avoided via flexible service connections since many customers will need full service during at least some of those hours. Flexible service connections are more likely to avoid upgrades on shared equipment than on facilities serving a single customer.[9] Overall, IREC agrees that flexible connections can provide benefit to customers, but the Proposal does not contain many of the details necessary to gauge the expected benefit of the options the Commission is proposing.

Cost is a major element of a customer's desire for a flexible connection. The benefits described above will be compared primarily against the customer's technology cost—UL 3141 devices, controls, communications, integration, software, and, for larger customers, likely self-supplied energy storage and possible supplemental generation. The certified PCS costs and non-pilot implementation costs are not yet established on the record,[10] but they will be central to every customer's consideration of flexible connection options. For solar plus storage interconnection customers, the UL 3141 costs may already be embedded in the product, but the

[8] *See, e.g.,* Pacific Gas & Electric, Elec. Rule No. 15(C) (providing an "allowance for Distribution Line Extensions, Service Extensions, or a combination thereof, for Permanent Residential Service is $3,255 per meter or residential dwelling unit" and stating the formula for non-residential customers), Elec. Rule No. 16(E).

[9] Facilities serving a single customer require that the EVs can flex with a site's other behind-the-meter load. It is possible some behind-the-meter loads will be too small compared to the EV load to flex (e.g., a charging depot) or that the behind-the-meter loads have limited flexibility (e.g., 24/7 energy-intensive industrial manufacturing). On the other hand, shared secondary and primary infrastructure has higher load diversity available for EVs to flex with. The infrastructure is also larger relative to dedicated infrastructure, so there may be more room for the customers to optimize their EV operations behind the meter to remain below the larger infrastructure's capacity.

[10] PG&E's OpFlex report found communications and control scheme costs to be between $20,000 to over $50,000 during their pilot, but this was without the UL 3141 PCS certification requirement. *See* PG&E OpFlex Report at 4.

same is not true for load energization customers who do not necessarily have a reason to install power control devices or supplemental solar or storage absent power restrictions.

To be clear, IREC strongly supports the Proposal's intent to usher in a future in which both generation and load behave flexibly on the grid to lower distribution costs and help achieve carbon reductions. But the Commission should be wary of moving to implement flexible connections without ensuring that the solutions pursued achieve actual customer value. If the Commission is not disciplined about the *conditions* under which limitations are acceptable or even appealing to customers, it risks building a framework on assumptions about customer flexibility that may not prove true. Greater detail on the key benefits and costs would ensure that the many solutions discussed by the Commission will result in customers opting to pursue flexible connections. The only way that ratepayers benefit is through customer uptake.

As one key example, the medium- and heavy-duty electric vehicle ("MHDEV") market is just gaining momentum in California. Persuading commercial fleets to electrify is far more difficult if customers lack the charging certainty they need. That certainty can be delivered via timely upgrades and/or potentially through flexible connections, and IREC is optimistic that, over time, customers will grow more willing to adopt flexible approaches as those approaches become better understood. The comments from EV stakeholders on Flexible Service Connections in R.24-01-018 demonstrated substantial hesitation about flexible connections, particularly the more dynamic offerings.[11] Customer willingness will depend on the actual value

[11] *See, e.g.*, R.24-01-018, Reply Comments of CALSTART, Inc. on Proposed Decision Establishing a Standard Offer for Flexible Service Connections at 4 (Jan. 23, 2026) ("As documented in this proceeding, CALSTART members have expressed concern about potential utility movement toward telemetry- and DERMS-based control frameworks: shared charging sites have business models that depend on guaranteeing charging to the customer, and therefore cannot agree to utility-controlled DERMS"); R.24-01-018, Reply Comments of CALSTART,

proposition: the speed of a flexible connection, the cost to implement, the amount of firm and non-firm capacity available, and more. Because there is little in the record documenting customer needs, IREC is concerned that the Commission could be pursuing programs that will not be taken up by customers. IREC urges the Commission to ensure that flexible connection programs offer real benefits to MHDEV customers, among others, even if that entails some offset of customer costs. IREC does not expect the Commission to establish the specific funding mechanism in this docket, but requiring the development of non-bridging solutions without any record to demonstrate that customers would be willing to pursue those solutions could lead to wasted time and effort. If the record shows that customers will need to be compensated to pursue bridging or non-bridging flexible connections, then the Commission should identify how and when that compensation mechanism will be created.

b. The Commission must ensure that standardizing flexible connection options does not become, in effect, a permanent downgrade in expectations for utility service and grid access.

A corollary from the discussion above is that flexible connections must remain *options* that customers may choose. The Commission should ensure that growing flexible connections

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Inc. on Administrative Law Judge's Ruling Clarifying Next Steps for Flexible Service Connections, Modifying Phase 2 Schedule, and Requesting Party Comments at 3 (Mar. 27, 2025) (stating that non-firm FSCs "cannot typically be utilized by shared charging station developers to advance energization timelines. Shared charging stations have business models that rely on guaranteeing that fleets with strict duty cycles are reliably charged on-schedule, and thus require the operational certainty provided by firm FSCs"); R.24-01-018, Opening Comments of Powering America's Commercial Transportation on Administrative Law Judge's Ruling Clarifying Next Steps for Flexible Service Connections, Modifying Phase 2 Schedule, and Requesting Party Comments, at 4 (Mar. 13, 2025) ("Utility-controlled FSCs, such as day-ahead agreements, pose challenges in the near-term. Customers are often priced out of these agreements because they require significant infrastructure investments and steep third-party software costs. Additionally, the uncertainty introduced by day-ahead utility controls is unacceptable for M/HD commercial fleets. Long-term predictability in power availability is essential").

does not create a new normal in which customers are, by default, expected to settle for less than the service they requested.

The Proposal uses the term "default" repeatedly, and the Commission should ensure a "default" is an option provided to a customer and not a wholesale replacement for normal service expectations.[12] A default that energizes customers quickly while preserving a credible path to full service (or that delivers real benefit in exchange for accepted limits) serves customer and ratepayer interests alike. A default that signals that desired upgrades may never come, such that the customer's next best option is limited service, runs contrary to the duty to serve.[13] The Commission must ensure that any "default" option preserves customer choice and realizes genuine customer benefits when selected.

c. The Proposal does not specify what the flexible connection limitations actually are for each model, which is essential to the customer's side of the cost-benefit analysis.

As discussed above, the value of a flexible connection to a customer cannot be assessed without knowing what limitations the customer will accept. The Proposal describes several models (Limited Power, Static, Variable, and Dynamic Operating Envelopes) but provides little detail about the operating limitations each entails in practice: how much capacity is firm, how often and how significantly a customer may be curtailed, and under what conditions.[14] That detail drives the cost side of the customer's cost-benefit analysis.

[12] *See* Proposal at 13, 47, 49.

[13] See Pub. Util. Code § 451.

[14] *See* Proposal at Section 4 (describing the various tiers of capacity control).

For example, in 2024, PG&E provided an example of potential customer benefits from its Flex Connect program for a 3.8 MW EV charging station.[15] Under existing planning limits, the charging station would receive 20 percent of requested load from April to October and 71 percent for the rest of the year. Under its Flex Connect program, the charging station would receive 100 percent of requested load at all times except 3 pm - 12 am from July to the end of September, during which the customer would receive 56-100 percent of requested load depending on the hour and month.[16] Less sophisticated (and likely less expensive) flexible options would presumably result in margins somewhere between the Flex Connect DERMS option and the utility's typical planning limits. These data are essential to understanding the value proposition behind each option.

This concern is most acute for larger customers, whose operations, investment decisions, and financing depend on a reasonably certain understanding of available capacity. As the Commission moves forward, it should recognize the importance of defining the nature and expected magnitude of the operating limitations a participating customer would face under various flexible connection options.

d. The Proposal is heavily reliant on certified PCS being available and cost-effective for customers, and the Commission should ensure those assumptions are realities.

Many recommendations in the Proposal presume that a customer can obtain, install, and integrate a certified PCS at a cost that makes the flexible arrangement worth taking.[17] Yet the

[15] *See* R.23-12-008, Vehicle-Grid Integration Forum Workshop Report Filed by Southern California Edison Company, San Diego Gas & Electric Company, and Pacific Gas and Electric Company, PG&E Flexible Service Connection Presentation at 3 (May 21, 2024) (found at full filing page 64).

[16] *Id*.

[17] Proposal at 23-24 (Limited Power), 26 (Variable Operating Envelope), 29 (Dynamic Operating Envelope), 43–56 (Section 9 recommendations).

record is essentially silent on what certified PCS actually costs customers. For example, the Proposal states that a Limited Power limit can be "easily accomplished" with a UL 3141 certified PCS.[18] That may be true for some use cases from a technical standpoint (see next section), but "easily" and "affordably" are not interchangeable for a customer deciding whether to participate. The certified-device market is also nascent: SPAN received the first-ever smart-panel UL 3141 certifications in October 2025, with additional product lines certified as recently as June 2026, so cost and availability data are still maturing.[19] While certification of the PCS can streamline processes, PG&E's OpFlex report noted that UL 3141 certification could be cost prohibitive for customers with non-standard systems due to the nature of the UL 3141 standard.[20] The PG&E pilot sites referred to in the report did not use UL 3141 certified PCS.[21]

For many of the Proposal's solutions, PCS cost is one of the key variables that determines whether any flexible connection bargain exists at all. If a certified PCS does not pencil for a customer, arrangements like the Load Limit pathway are simply not viable. For customers who can afford one, the device cost offsets the value of speed to power in bridging contexts and consumes some amount of whatever value proposition (possibly customer upgrade savings or incentives) exists in non-bridging contexts. Which way the analysis comes out depends on the ultimate cost figure.

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[18] Proposal at 24.

[19] See SPAN, SPAN Smart Electrical Panels Earn First-in-Class UL 3141 Power Control Systems (PCS) Certification for Safety (October 1, 2025), https://www.span.io/blog/span-smart-electrical-panels-earn-first-in-class-ul-3141-power-control-systems-pcs-certification-for-safety.

[20] PG&E OpFlex Report at 4, 23.

[21] PG&E OpFlex Report at 4 ("[f]or the initial deployment there were no available standards to certify equipment involved in these systems").

The Commission should therefore treat certified PCS cost as a threshold question rather than an implementation detail. First, the Commission should direct that actual customer certified PCS costs, including device, installation, integration, and any recurring costs, be gathered and reported, disaggregated by customer type and offering. Second, the Commission should evaluate whether lower-cost alternatives can satisfy fixed-limit applications. Third, where the Commission expects ratepayer savings from customer-deployed technology, it should consider offsetting customer costs where those costs are less than the avoided upgrade, which would also help grow a robust, certified PCS market on which these solutions depend.

e. The Proposal is heavily reliant on using certified PCS but there are gaps in UL 3141 certified PCS for some flexible connection use cases.

The Proposal recommends the adoption of UL 3141 certified PCS for all flexible connection use cases, including Variable and Dynamic Operating Envelopes.[22] The adoption of UL 3141 certified PCS fully covers use cases where the schedule does not change.[23] However, for schedules that do change, such as for Variable and Dynamic Operating Envelopes, the communications necessary between the DERMS and customer site are out of UL 3141's scope. UL 3141 does allow for these communications, but it does not specify communication protocols or methods for transmitting these schedules or limits and does not include a type test that confirms the ability of communications to reliably manage the limits in a standardized fashion.[24] The Commission should ensure that any flexible connection option that is reliant on certified PCS is implemented considering that the standard needs to be updated with the appropriate

[22] Proposal at 23-24 (Limited Power), 26 (Variable Operating Envelope), 29 (Dynamic Operating Envelope).

[23] UL 3141 Standard for Power Control Systems at 4 clause 6 (Proposal May 8, 2026).

[24] *Id*.

communications-based certification pathways. Interim testing or commissioning steps may need to be applied to safely deploy PCS for these use cases in the meantime and should be considered for development as part of this proceeding.

f. The Proposal lacks discussion of the critical role of customer-provided supplemental power.

As illustrated by the example above of a Flex Connect customer that would receive only 56-100 percent of requested load from 3 pm - 12 am during July to September, it is very likely that commercial and industrial customers will have to install supplemental power in order to make flexible connections work for either bridging or non-bridging pathways.[25] The Proposal does not contain direct consideration of the additional costs that customers would incur for that power, or address how to ensure that the installation of supplemental power can be accomplished quickly with an efficient interconnection process.

IREC recommends the Commission provide an opportunity for more record development on how customers will make flexible connections work operationally. By better understanding customer needs, the Commission can then ensure that the economics of flexible connections are attractive to customers and that the interconnection process for supplemental power is well coordinated with the service connection process.

g. Energization is already too slow; flexible connections must speed energization, not slow it with additional process.

Utility energization processes are already inadequately slow and are an existing barrier to electrification. The Proposal plans to add specific new IOU-controlled steps, such as the Section

[25] *See* R.23-12-008, Vehicle-Grid Integration Forum Workshop Report Filed by Southern California Edison Company, San Diego Gas & Electric Company, and Pacific Gas and Electric Company, PG&E Flexible Service Connection Presentation at 3 (May 21, 2024) (found at full filing page 64).

3 pre-upgrade evaluation requirement, and will likely result in additional customer-utility interaction throughout the energization process. New IOU-controlled steps will benefit from defined timing, guardrails, and accountability to ensure the Proposal accelerates rather than delays service. The Legislature and the Commission have already determined that speed to power is an important policy priority, and the Commission must ensure that new flexible connection processes serve speedy energization rather than becoming a new and unmeasured source of delay.[26]

h. The Proposal lacks clarity regarding which recommendations apply to flexible generation and leaves enormous opportunity for better grid utilization on the table as a result.

Throughout Track 3 of this proceeding, the parties have participated in the working group and comment processes with the understanding that flexible solutions were being considered for both load and generation.[27] The Proposal abruptly changes course, however, by stating in Section 9 of the Proposal that it is primarily focused on flexible service and is "deferring the generation work for consideration in the Interconnection Rulemaking."[28] While the Proposal acknowledges there is value in flexible generation solutions, it provides no explanation as to why it is deferring the flexible interconnection pathway. The March 3, 2026 Assigned Commissioner's Scoping

[26] *See* R.24-01-018, Opening Comments of the Interstate Renewable Energy Council on the Assigned Commissioner's Amended Phase 2 Scoping Memo and Ruling at 1 (Apr. 30, 2026) (discussing bills and Commission decisions aimed at minimizing energization delays and adopting target energization timelines); R.24-01-018, D.24-09-020, Decision Establishing Target Energization Time Periods and Procedure for Customers to Report Energization Delays at 4-9 (Sep. 17, 2024).

[27] *See, e.g.,* R.21-06-017, Assigned Commissioner's and Administrative Law Judge's Ruling Seeking Additional Information From Parties, Setting Forth Further Direction, and Modifying Schedule For Track 3, at 3 (Feb. 7, 2025) ("Commission staff intend to prepare a proposal that operationalizes the flexible grid connection use cases that potentially involve non-firm import and export limits, granular and dynamic schedules, and communicating DERMs technology").

[28] Proposal at 43.

Memo and Ruling issued in the Rule 21 proceeding does not include flexible interconnection in its scope, and it is unclear from the Proposal when or how these options will be developed.[29]

While IREC is strongly supportive of the development of flexible service options for both load and generation, it seems that doing one without the other leaves enormous opportunity for distribution system asset optimization on the table. It is also likely that generation interconnection customers are better situated to participate in flexible solutions in the near term due to their responsibility for interconnection upgrade costs. If the Commission is focused primarily on ratepayer savings from grid upgrades and on accelerating energization, it is unwise to ignore the role that flexible distributed generation can play in ensuring there is capacity on the distribution system for new loads. IREC urges the Commission to define an immediate and clear pathway for flexible interconnection solutions of all types (limited, static, variable, dynamic, and Grid Edge Dynamic).

i. The Commission should not pursue Variable Operating Envelopes to Address Secondary Constraints.

Section 4 of the Proposal expresses interest in expanding Variable Operating Envelope offerings to the secondary system but does not further expand on this interest in Section 9.[30] IREC is concerned by the Proposal's reasoning that offering Variable Operating Envelopes for Lateral primary or secondary constraints is less computationally intensive because it addresses a larger number of customers.[31] IREC does not understand the intent of this statement or the

[29] *See* R.25-08-004, Assigned Commissioner's Scoping Memo and Ruling at 3-6 (March 3, 2026).

[30] Proposal at 28.

[31] *Id.* ("Offering Variable Operating Envelopes as a mitigation for Lateral primary or secondary constraints, though, addresses a larger number of customers than offering them to address Mainline primary constraints and thus will require a less computationally intensive method for generating the firm and non-firm schedule of values as compared to the Mainline").

ramifications. In general, IREC does not support further investigation into this option at this time because there is likely not enough liquidity of resources behind a single secondary constraint to support accurate enough forecasting needed for effective implementation of Variable Operating Envelopes.[32]

2. **Section 9 of the Proposal includes a summary of the recommendations for Commission action. Please provide feedback on the recommendations, being as specific as possible regarding the pros and cons of the proposed recommendations, and on the feasibility of implementation.**

a. Section 3 Recommendation 1: Extension of Standard Offer to SDG&E customers.

The Commission proposes to extend the Standard Offer to SDG&E customers.[33] IREC supports requiring SDG&E to establish a Standard Offer, consistent with IREC's comments on the FSC Proposed Decision and the requirements the Commission directed for PG&E and SCE in D.26-02-025.[34] As part of this requirement, IREC strongly urges the Commission to resolve an existing issue, which is the use of emergency ratings across IOU Standard Offers.[35] PG&E and SCE have not complied with the Commission's order to provide normal and emergency rating standards, which are essential for non-PCS Standard Offers. IREC has information indicating

[32] Workshop Report at 69 (March 20, 2026) ("PG&E Exploration of Existing AMI for Secondary Distribution Operating Envelopes (Section 5)").

[33] Proposal at 44.

[34] R.24-01-018, Opening Comments of the Interstate Renewable Energy Council on the Proposed Decision Establishing a Standard Offer for Flexible Service Connections at 10-11 (Jan. 16, 2026).

[35] *See* Interstate Renewable Energy Council Protest of Southern California Edison Advice Letter 5790-E and Pacific Gas & Electric Company's Advice Letter 7868-E at 1-3 (May 4, 2026). Customers without PCS on limited load profiles can only access unused capacity by determining the difference between normal and emergency ratings. An excessively conservative emergency rating prevents access to meaningful capacity. Despite a Commission order to include normal and emergency rating standards for relevant equipment, PG&E and SCE did not include those ratings in their Advice Letters. *See id*. at 2.

that SDG&E does not deploy emergency ratings whatsoever, which would effectively require use of a PCS for an SDG&E Standard Offer. If the Commission does not address this issue, customers who cannot afford to deploy a certified PCS will have no path to a Load Limit arrangement.

b. Section 3 Recommendation 2: Large IOUs to record and provide values helpful to dedicated infrastructure customers independently implementing Operating Limits.

IREC supports, with minor modifications, the Commissioner's Proposal for large IOUs to record computed demand values and electrical infrastructure capacities during the Engineering and Design energization step and to provide these values to dedicated infrastructure customers independently implementing Operating Limits.[36] This enables these customers to use this information during energization or in the future to create a singular operating limit for controllable load without large IOU involvement.

IREC recommends making the following modifications to this part of the Proposal:

- The Proposal does not define "demand load values" and neither does Rule 2, even though Rule 2 does define "controlled load."[37] IREC seeks clarification on whether IOUs update demand load values once a customer site load is operating based on metering data and whether this impacts the definition and use of this value. IREC recommends defining "demand load values" in Rule 2 for customer clarity when using it to create an Operating Limit. IREC's comments on Proposal Section 5 (see II.2.j below) on Cybersecurity discuss size thresholds, further emphasizing the importance of defining these key terms for load.

[36] Proposal at 44-45.

[37] *See* Pacific Gas & Electric, Elec. Rule No. 2(H)(7).

- The Commissioner's Proposal directs the recording of service conductor capacity.[38] IREC recommends recording the dedicated service transformer capacity as well and providing it to dedicated infrastructure customers implementing Operating Limits. This step will provide the customer with useful information when the transformer is the lower of the two rated assets creating the binding constraint.
- If the IOU does not have recorded values for a site, the Commissioner's Proposal directs IOUs to simply inform the customers.[39] IREC recommends that in addition to informing the customer, the IOU should recalculate the demand load value or derive it from metering data and manually determine the service conductor and transformer capacities. Without this information, a customer would be unable to determine their ability to add Controlled Load. If the information is not readily available, the IOUs shall provide recorded values for that site.[40]

c. Section 3 Recommendation 3: Rule 2—Updating definition of Controlled Load and aligning language between Large IOUs.

IREC supports, with minor modifications, the Commissioner's Proposal to update the controllable load definition.[41] This recommendation aligns well with the operational concerns IREC raised in response to D.26-02-025.[42] The present Rule 2 definition states that the controlled

[38] Proposal at 45.

[39] *Id*.

[40] *Id*. ("[t]hese values, or confirmation that the IOU does not have recorded values for that site, shall be given within 30 days of customer request")

[41] *Id*. at 45-46.

[42] *See* R.24-01-018, Reply Comments of the Interstate Renewable Energy Council on the Proposed Decision Establishing a Standard Offer for Flexible Service Connections at 2-3 (Jan. 23, 2026).

load PCS power import limit will not exceed the connected load.[43] The Proposal recommends changing the controlled load PCS power limit to be the "lesser of connected load, demand load, or secondary conductor rating."[44] IOUs typically design dedicated service equipment ratings based on the demand load, which is either equal to or less than the connected load, and plan shared infrastructure based on demand load. The Proposal's definition change mitigates the risk of secondary conductor and shared infrastructure overload caused by an Operating Limit that is too high. IREC also offers additional recommendations that will improve the definition.

The demand load informs both the dedicated secondary conductor rating and the dedicated secondary transformer rating. IREC recommends modifying the Proposal's Rule 2 Section H.7 controllable load definition to state "continuous secondary equipment ratings" in place of the Proposal's recommended "secondary conductor rating."[45] Using "equipment" ratings instead of only the "conductor" rating will ensure secondary transformer overloads are also mitigated when the transformer is the lower of the two rated assets creating the binding constraint. Adding the word "continuous" in front of equipment ratings and in place of the Proposal's recommended "rating" is also necessary for safe connections.[46] In some scenarios, demand load could be greater than the dedicated secondary equipment continuous ratings if the demand peak is short-term. This is acceptable through typical energization because the IOU estimates the length of the demand peak and builds infrastructure for it. However, for customers adding additional load behind the meter with Operating Limits independent of the IOU, the

[43] *See* Pacific Gas & Electric, Elec. Rule No. 2(H)(7).

[44] *See* Proposal at 45.

[45] *Id*. (referring to the proposal to "direct the large IOUs to modify their Rule 2 Section H.7 to reflect that the PCS limit for controlled load shall be the lesser of connected load, demand load, or secondary conductor rating.")

[46] *Id.*

additional load could result in a new or existing demand peak that is too long for the existing secondary equipment's peak rating. The controlled load PCS power import limit for independently implemented Operating Limits is a singular, static limit that cannot be modified to account for short-term demand peaks, so it must be set to the continuous equipment ratings to ensure the additional load would not run for longer than the peak equipment ratings allow.

Additionally, the connected load is always equal to or greater than the demand load. IREC recommends modifying the Proposal's Rule 2 Section H.7 controllable load definition to remove "connected load" for clarity because it is unnecessary.[47]

Finally, the Proposal uses the terminology "service conductor capacity" in Recommendation 2 in Section 3 and "secondary conductor rating" for Recommendation 3 in Section 3.[48] IREC would appreciate clarification from the Commission that these two terms refer to the same equipment for dedicated infrastructure customers.

d. Section 3 Recommendation 4: Flexible connection evaluation requirements.

The Commission proposes requiring IOUs to evaluate whether a flexible connection can satisfy a customer's requested capacity before initiating a ratepayer-funded upgrade.[49] IREC supports that recommendation but urges the Commission to adopt meaningful requirements so that the resulting disclosure is both helpful and timely.

First, the Commission must recognize that this is a new IOU-controlled step in an already-slow energization process and may only be useful for a limited number of customers

[47] *See id*.

[48] *Id*. (referring to "service conductor capacity" for recording values recommendation and "secondary conductor rating" for Rule 2 updated definition of Controlled Load recommendation).

[49] *Id*. at 46.

with flexible demand and/or margins that justify the additional equipment and possible supplemental self-supplied power expense. The Commission should define how and when the evaluation occurs and how long it may take to ensure utilities complete this step in a timely manner. Second and relatedly, if and when this step is taken for flexible generation options, it should be incorporated into any Rule 21 enforcement regime as currently being weighed in the Rule 21 docket, and the Commission should ensure that the IOUs keep quality data on customer selections as part of its data collection and reporting.[50]

Third, the IOU should be required to provide information that actually facilitates customer decisions, like the likely upgrade schedule, expected curtailment as determined by a curtailment study, the equipment the customer would need, and basic time ranges. It must be clear what the schedule and costs for full upgrades would be so the customer can weigh options before being asked to decide. A bare list of options without cost, time, curtailment, or equipment information will have limited value and may itself delay energization. It should be clear that the customer, not the IOU, decides their path forward, while the IOU assesses safety and feasibility. Finally, the Commission should take care to adopt a consistent and supportable definition of what constitutes an "upgrade" triggering this evaluation, as distinct from a non-covered mitigation, so that IOUs are undertaking this standard evaluation for projects that may benefit from a flexible connection.[51]

[50] R.25-08-004, Opening Comments of the Interstate Renewable Energy Council on Assigned Commissioner's Scoping Memo and Ruling at 13-21 (Apr. 30, 2026).

[51] Proposal at 46.

e. Section 4 Recommendation 1: Large IOUs to provide Limited Power arrangements as the default mitigation for distribution transformer upgrades.

The Commission proposes requiring large IOUs to provide Limited Power arrangements as the "default mitigation" for distribution transformer upgrades.[52] IREC supports customers having the option to adopt a standard Limited Power arrangement when energization would otherwise be delayed by a transformer or secondary upgrade, but the Commission should be clear about the role such an arrangement should play and realistic about achieving meaningful customer benefits. First, as discussed above, the Commission should ensure that the adoption of a "default" mitigation is solely an option offered to a customer and does not interfere with a customer's ability to timely receive full service. Limited Power may present a promising opportunity for pre-upgrade operation, but there the record does not include evidence supporting Limited Power displacing the customer's underlying desire to receive the power requested.

Second, the Commission should ensure customers receive adequate value from Limited Power given its cost. The customer incurs at least some operational cost by accepting less power than requested. The customer also incurs technological cost by procuring, installing, and maintaining a UL 3141 certified PCS, which load customers may have no other independent reason to deploy at this stage. If the Commission wants this mitigation to meaningfully save ratepayer costs, customer technology and operational costs must at least be weighed as a potential barrier to adoption.

In sum, the Commission should work toward a Limited Power offering that is a cost-effective option offered to a customer. As currently drafted, the Proposal does not include enough implementation detail for IREC to clearly assess whether Limited Power is on that path.

[52] Proposal at 46-47.

IREC encourages the Commission to develop that detail, including how customer technology costs will be addressed, before relying on Limited Power as a "default" mitigation.

f. Section 4 Recommendation 2: SCE and SDG&E to implement Variable Operating Envelope bridging solutions modeled after PG&E's Flex Connect.

IREC generally supports the Commissioner's Proposal for SCE and SDG&E to implement Variable Operating Envelope bridging solutions modeled on PG&E's Flex Connect pilot. The Commission's recommendation aligns well with IREC's suggestion for SCE and SDG&E to implement a standard offer that may use PG&E's Flex Connect program as a model.[53] But IREC is concerned that moving from this high-level direction to an advice-letter adoption process risks missing a major opportunity for customer and ratepayer savings by pushing a highly detail-intensive development effort into the wrong process. IREC is similarly concerned about setting aside an opportunity for robust expansion of flexible generation options.

First, while IREC is supportive of SCE and SDG&E moving toward a Flex Connect-modeled program, simply gesturing at that PG&E pilot leaves major details and parameters undeveloped. IREC's workshop report comments provided a list of questions to weigh in developing a standard flexible connection offer, such as eligibility (i.e., secondary constraints), bridging/non-bridging solutions, constraint types and locations, technology requirements (e.g., PCS, gateway, and standards), capacity allocation for multiple customers behind the same constraint (planning and operations), metrics, scaling and roll-out, energization process modifications, data sharing with the customer, and tracking and reporting.[54] Additional items to weigh that were not included in IREC's workshop report comments include queue management,

[53] R.21-06-017, Comments of the Interstate Renewable Energy Council on Track 3 All-Party Workshop Report at 2-3 (April 3, 2026)

[54] *Id*. at 5-6.

curtailment studies, costs, timelines, cost responsibilities, DERMS capabilities, firm capacity guarantee and its granularity, and planning implications.

The Commission should also recognize that recent expansions to PG&E's Flex Connect are not necessary to mirror in SCE and SDG&E's first offerings. PG&E is working on expanding its initial offering, such as adding power flow capabilities to address line-section constraints.[55] Power flow is not necessary for SCE's and SDG&E's initial offering because many flexible connection constraints can be addressed without power flow.[56] A measurement-based system, similar to PG&E's initial offering, could be used to address constraints with SCADA measurements.[57] Requiring PG&E's power flow capability expansion could delay SCE and SDG&E's timelines unnecessarily, and later evaluation and cost-benefit analysis of PG&E's power flow experience should inform when/if SCE and SDG&E implement this.[58]

IREC also notes the need to further develop flexible interconnection options via robust, on-the-record process. As noted above, the Commission has apparently carved all flexible interconnection progress out of the Proposal.[59] The language in the Flex Connect section does not clearly state that the Commission solely intends to extend Flex Connect's load options given

[55] Workshop Report at 58 (referring to PG&E's statement that its initial DERMS does not support line-section constraints but is "on pace for delivery by end of 2026").

[56] PG&E OpFlex Report at 19 (P&GE states it uses a "measurement-based DERMS which relies on having SCADA measurements at the constraint location" which covers "many potential constraint locations at scale" but in order to cover other constraints PG&E will need power flow and state estimation capabilities.)

[57] *Id*.

[58] *Id*. at 18-19.

[59] Proposal at 43.

its references to Flex Connect's generation options,[60] but IREC assumes, given the broader language earlier in the Proposal pushing generation to another proceeding, that the Commission's intention is indeed only to expand load offerings pursuant to this Proposal recommendation. IREC reiterates its earlier point that delaying flexible generation offerings forgoes significant customer and ratepayer benefits.[61] But as illustrated by discussion above regarding the many policy choices associated with Flex Connect expansion, wherever the Commission develops a standard Variable Operating Envelope option for generation customers, a significant undertaking awaits that will benefit from a major stakeholder engagement and cost-benefit data collection effort.[62] IREC reiterates the importance of that process, which is likely best suited for development in an open docket, either here or the Rule 21 docket, to ensure the Commission can solicit comments on the record on outstanding elements of program design.

g. Section 4 Recommendation 3: Leveraging Enterprise DERMS based Variable Operating Envelope infrastructure for centralized Dynamic Operating Envelopes to address abnormal grid conditions.

IREC supports the Commissioner's Proposal to host a workshop on Dynamic Operating Envelopes for abnormal grid conditions and recommends expanding the topics of this workshop while maintaining the one-year time frame.[63]

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[60] *See* Proposal at 43 (generation deferral), 47 (discussing how Flex Connect provides non-bridging capacity to generation customers). Note that while the Proposal states Flex Connect provides non-bridging capacity to generation customers, PG&E's OpFlex report on the Flex Connect and program materials indicate a bridging-only solution for large controllable loads. *See id*. at 47; PG&E OpFlex Report at 2; PG&E Flex Connect Pilot Program, https://www.pge.com/assets/pge/docs/clean-energy/electric-vehicles/flexible-service-connection-pilot-overview.pdf.

[61] *See infra* Section II.1.h.

[62] R.21-06-017, Comments of the Interstate Renewable Energy Council on Track 3 All-Party Workshop Report at 2-6 (April 3, 2026).

[63] Proposal at 48.

Currently, PG&E's Flex Connect Variable Operating Envelope solution addresses abnormal conditions (i.e., switching scenarios) by reverting projects to their default planning limits once the DERMS identifies a topology switch in the Advanced Distribution Management System (ADMS).[64] Due to the day-ahead nature of the Variable Operating Envelope, it may take over 24 hours after the switching scenario is over to revert to normal operations.[65] The Proposal mentions Dynamic Operating Envelopes could enable sites to avoid going to their default planning limit during switching conditions.[66] Another benefit not explicitly mentioned in the Proposal is to circumvent the delay in returning to normal operations.[67] The final Proposal should explicitly request that the workshop weigh the anticipated energy losses due to switching and the delay in returning to normal operations to the costs of implementing this technology. Alternative solutions, such as manual recovery and scheduled, rather than singular, default planning limits, should also be considered.

There are additional tangential capabilities and use cases worth investigating during this workshop series, including considerations for Dynamic Operating Envelopes independent of abnormal grid conditions and vice versa. An example of an important use case to investigate is

[64] PG&E OpFlex Report at 18 (referring to ADMS integration with DERMS for the as-switched grid topology so the DERMS can use this interface to "identify abnormal switching that may affect Flex Connect assets and reverts those assets to their default planning limits"); *see id.* at 7 (defining the function of the ADMS in relation to the DERMS, specifying that the ADMS enables the DERMS to have knowledge of "real-time grid conditions including switching and monitoring information").

[65] *Id*. at 18 (referring to the statement that when reverting to normal operations after abnormal conditions are relieved, the "automated process to recover may take over 24 hours after the issue is resolved because of the nature of sending day-ahead forecasts").

[66] Proposal at 48 (referring to "the use case for Dynamic Operating Envelopes in the case of suddenly emergent grid conditions, in order to allow near real-time communications for customers to reply to signaled maximum import values" rather than the default planning limits).

[67] *Id*.

the suitability of Dynamic Operating Envelopes for different customer types (e.g., solar, storage, and load) during both normal and abnormal conditions. Following this, there should be an assessment of the technological capabilities and associated costs required to enable Dynamic Operating Envelopes compared to Variable Operating Envelopes. Additionally, this workshop should further investigate the value that state-estimation and load flow capabilities bring to forecasting abnormal topologies (for both Variable and Dynamic Operating Envelopes), which PG&E stated it is investigating.[68]

IREC recommends more substantial stakeholder engagement for this topic area. The Commissioner's Proposal recommends one IOU-hosted workshop with a report submitted within one year of a Track 3 decision. The Commission should require, rather than recommend, this workshop. Further, the first workshop should be hosted within four months, followed by a second workshop two months later, with workshop materials provided at least two weeks in advance. These workshops should result in a jointly created proposal with points of agreement and disagreement documented in the workshop report. The workshop content should also consider the development of an EPIC-funded program.

h. Section 4 Recommendation 4: SCE and SDG&E should implement Grid Edge DERMS for 100 A residential customers whose EV charging would normally require an upgrade.

The Proposal recommends SCE and SDG&E use a Grid Edge DERMS that monitors transformer loading and uses local controls to modulate EV charging like PG&E has been piloting.[69] First, PG&E is piloting two different Grid Edge DERMS EV charging modulation

[68] *Id*.

[69] *Id*. at 49.

methods through EPIC 4.02 and 4.04 to defer secondary upgrades for residential EV customers.[70] It is not necessary for both EPIC 4.02 and 4.04 to be implemented to develop secondary distribution operating envelopes for EV customers, though there could be some overlap.[71] The EPIC 4.02 relies on a communication and control strategy similar to Option 4 ("Decentralized Utility Managed Smart Meter Peer-to-Peer Comms") that IREC presented during the February 2026 workshop, and EPIC 4.04 relies on Option 3 ("Centralized Utility Controlled Grid-Edge DERMS" via an aggregator) from the same IREC workshop slide.[72] The Proposal appears to be expecting SCE and SDG&E to adopt a program similar to what PG&E is pursuing in EPIC 4.02 because the Commission refers to PG&E's ChargeBoost pilot,[73] and PG&E refers to ChargeBoost as a part of EPIC 4.02.[74] However, PG&E stipulated during the workshop that it is "premature" to select between EPIC 4.02 and 4.04, though the Commission seems to be doing just that.[75] While IREC finds PG&E's EPIC 4.02 and 4.04 pilots promising, IREC agrees with PG&E that neither pilot should scale at PG&E, SCE, or SDG&E until the pilots are completed and findings have been released to the public.[76] The Proposal should ensure the public reports provide useful information to help the Commission make a well-informed decision and stakeholders assess customer feasibility.

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[70] Workshop Report at 64-71 (PG&E's comparison of the EPIC 4.02 and EPIC 4.04 projects).

[71] *Id*. at 70 (referring to the fact that it is possible both EPIC 4.02 and 4.04 may both need AMI 2.0, although AMI 2.0 has been mostly the focus of only EPIC 4.02).

[72] *Id*. at 114.

[73] Proposal at 49.

[74] Workshop Report at 65.

[75] Proposal at 49 (referring to "SCE and SDG&E should describe in the Tier 2 Grid Edge DERMS AL how they plan to implement a ChargeBoost-like program of their own").

[76] PG&E will provide public reports on both EPIC 4.02 and EPIC 4.04 pilots at the conclusion of the projects. Workshop Report at 70.

The Commissioner's Proposal should require these pilots' public reports to provide the following information:

- **Technical Feasibility.** The technical feasibility, challenges, and lessons learned should be detailed in the report, covering any relevant metrics specified in the PG&E OpFlex report.[77]
- **Hardware Costs.** PG&E's objective for the EPIC 4.02 pilot was to make the hardware cost for participation less than $1,000 per site.[78] The report should state if this objective was met for customers, including the hardware equipment, installation, operations, and maintenance costs. This may include the AMI 2.0 smart meter and the expansion of the AMI 2.0 network. Hardware cost responsibilities between the customer and utility should be clear.
- **Management Software Costs.** PG&E estimated the cost of deploying the pilot program to be $6 million.[79] The CAPEX and operational costs for the software computing the site limits should be added to the report. Cost responsibilities between the customer and utility should be made clear, including the upfront capital expenditure cost (including integration) for the entire program deployment and OPEX per year.
- **Customer Savings.** PG&E estimated that customers would save $3-5K on their panel upgrades and $5-8K on the service upgrades.[80] The report should confirm these numbers

[77] PG&E OpFlex Report at 12-24.

[78] Pacific Gas & Electric, EPIC 4 Public Workshop Slides at 27 (Jan. 16, 2024), https://www.pge.com/content/dam/pge/docs/about/corporate-responsibility-and-sustainability/EPIC-4-Workshop-Jan-2024.pdf.

[79] *Id*.

[80] *Id*.

based on the pilot, including providing clarity on the division of cost responsibility between the customer and utility.

- **Ratepayer Benefits.** PG&E estimated service transformers cost ratepayers over $10,000 per transformer, and other reports note that higher figures are also possible.[81] Assuming full-scale deployment of the program, ratepayers and customers combined are expected to save over one billion dollars.[82] The report should confirm or update these estimates based on the pilot.
- **Comparison.** The report should provide a clear comparison of the capabilities, technical feasibility, challenges, and costs between PG&E's EPIC 4.02 and 4.04 pilot solutions.

It is crucial this program is amenable for customers to advance residential electric vehicle adoption. IREC has the following recommendations to help achieve this goal:

- The Residential Flexible Service Connection solution should be viable for enough customers to justify the utility's programmatic costs. According to PG&E, the EPIC 4.02 pilot could save customers with 100-amp service at least $8,000 on panel and service upgrades.[83] While these are considerable savings, customer charging needs must be met. Sedan EVs have relatively small batteries, so may not have an issue. However, larger EVs, like full-size SUVs or home-charged work vehicles, may not be able to meet their

[81] *Id*.; Pacific Gas & Electric, EPIC 2024 Annual Report at 37 (Apr. 30, 2025) (providing a $34,000 estimate).

[82] Pacific Gas & Electric, EPIC 2024 Annual Report at 37 (Apr. 30, 2025).

[83] Pacific Gas & Electric, EPIC 4 Public Workshop Slides at 27 (Jan. 16, 2024), https://www.pge.com/content/dam/pge/docs/about/corporate-responsibility-and-sustainability/EPIC-4-Workshop-Jan-2024.pdf (referring to a minimum of $3,000 for residential panel upgrades and a minimum of $5,000 of residential service panel upgrades to get a minimum of $8,000 per customer).

battery energy needs with a 100-amp threshold shared with a house load overnight. There should be an investigation into the number of 100-amp customers this is likely viable for.

- The Residential Flexible Service Connection solution does not provide inherent cost savings to 200-amp customers, even though 100-amp customers save at least $8,000. It is possible ratepayers could benefit from 200-amp customer flexible service if secondary conductor and transformers are not replaced. This potential value should be further investigated.
- Since the Residential Flexible Service Connection solution will not be viable for all residential EV customers, it should not be required. Instead, residential EV customers should be given three options if upgrades are needed: 1) Customers sign up for Flexible Service Connection (which may or may not include incentives), 2) Customer pays for the panel and service upgrades and the ratepayers pay for the service transformer, or 3) Customers charge within their existing service/panel limitations (which may include use of a PCS or a lower charging rate).
- IREC is open to proposals regarding the appropriate mechanism by which the IOUs will provide customer education overall regarding EV charging, but recommends that the Commission ensure customers are provided with relevant information from the IOUs to inform their decision. To help residential EV customers select the best option for their situation, the IOUs should share a Flexible Service Connection load analysis report, service upgrade costs, and any incentives.
- Although the Commissioner's proposal explicitly calls out the ChargeBoost program, Flexible Service Connection residential EV customers should be able to choose between ChargeBoost (EV Charging management) and PanelBoost (full behind-the-meter

disaggregated load, storage, and generation). [84] Some residential customers with EVs may also be interested in electrifying other household load, which may be controllable, or be interested in adding/managing storage or generation. Equipping customers with the choice to have disaggregated control of more electric resources can better optimize their EV charging management and could potentially further reduce the need for and frequency of panel, service, and secondary system upgrades now and in the future.

- PG&E has not yet proposed a solution for capacity allocation amongst customers behind the same constraint, particularly secondary conductors and transformers that are sized to demand load instead of connected load. As more neighbors connect EVs, this can hinder the capacity available, triggering a future upgrade. More investigation and research are needed on this topic, which should result in a fair and transparent solution that balances customer EV needs and the IOUs' duty to serve with a reduction in grid upgrades.

i. Section 4 Recommendation 5: Establish a series of Energy Division-led workshops with reports to further develop Grid Edge DERMS solutions.

The Commission proposes establishing a series of Energy Division-led workshops to further develop Grid Edge DERMS solutions, which IREC supports.[85] The Commission should invite interconnection stakeholders and serve the Rule 21 docket, because avoiding transformer upgrades has implications for generation customers as well. IREC further recommends that the workshops address the cost and benefit of Grid Edge solutions relative to conventional upgrades, so that the record can support decisions about where these solutions are most valuable.

[84] Workshop Report at 66 (referring to EPIC 4.02's two options of ChargeBoost equipment that supports lower cost EV charging and PanelBoost equipment that can "connect anything" without an upgrade).

[85] Proposal at 49-50.

j. Section 5 Cybersecurity Considerations Recommendation: Direct IOUs to propose implementation of baseline cybersecurity considerations from the SIO-CS.

The Commission proposes and IREC supports applying the SIO-CS Phase 1 requirements to systems larger than 1 MW and conducting a proposed workshop structure for defining how IOUs will implement the recommendations.[86] However, the specification of what constitutes "1 MW" must be deliberate. For instance, the Commission should clarify whether this refers to the nameplate rating, connected load, or another value. Aligning with Rule 21 telemetry thresholds for nameplate rating may make sense for generation, but the metric must be defined for load.[87]

k. Section 6 Recommendation 1: Establish durable non-bridging solutions for new flexible connections.

The Commission proposes establishing durable non-bridging solutions for new flexible connections.[88] IREC strongly supports offering customers permanent, non-bridging solutions as an option. IREC is very concerned, however, that the Commission is dedicating work to non-bridging solutions without a record supporting their viability for customers, and without establishing a pathway to provide the incentives, compensation, and support that customers will need to adopt a non-bridging option.

As an example, consider an MHDEV charging hub weighing whether to accept non-bridging service. Under the Proposal, that non-bridging service comes with significant up-front costs and no commensurate benefit in exchange for accepting the longer-term limitation that is supposed to save ratepayers money. As compared to a bridging solution, the customer accepts longer limitations with no additional benefit. While a non-bridging solution would hypothetically

[86] Proposal at 50-51.

[87] *See* Pacific Gas & Electric, Elec. Rule No. 21(J)(5).

[88] Proposal at 51.

extend the period a customer could avoid customer-funded service upgrades, the Proposal provides no detail on the type of upgrades a customer would regularly avoid paying. Given these limitations, it is difficult to see why that charging hub, or most other new sources of load beyond residential EVs, would elect the non-bridging option. Any ratepayer savings the Proposal expects to garner via non-bridging solutions will not materialize if customers do not participate, and nothing in the record shows this offering is appealing to customers as designed.

Customers must also retain the right to request expanded service at a future date. IREC understands the benefit of a clear decision on a bridging or non-bridging solution, but any proposal that prevents a customer from electing full service will likely have little to no customer interest, particularly when the non-bridging offer currently provides no meaningful benefit above the bridging offer.

In sum, IREC supports the Commission developing a non-bridging offering for customers, but the Commission must define a clear path to customer value and compensation, and the IOUs should be required to identify real customer benefits—beyond speed to power, which is insufficient to establish non-bridging value—associated with the non-bridging offer.

l. Section 6 Recommendation 2: Clarification that current Static and Variable Operating Envelope customers can elect to transition from a bridging to a persistent non-bridging solution.

The Commission seeks to clarify that current Static and Variable Operating Envelope customers can elect to transition from a bridging to a non-bridging solution.[89] IREC agrees that customers should have that option. In general, this follows a principle IREC has raised above, which is the importance of maintaining optionality for customers pursuing a flexible connection. As IREC articulates above, however, the Commission should recognize that customers likely

[89] Proposal at 52-53.

will not undertake the transition this recommendation seeks to enable if the non-bridging solution provides no additional customer benefit.

m. Section 6 Recommendation 3: PG&E should formalize its Flex Connect offering and expand its non-bridging Flex Connect Generation option to load customers.

IREC supports the Commission's recommendation to formalize PG&E's Flex Connect program for customer transparency but encourages the Commission to solicit information from PG&E that enables stakeholder feedback on how Flex Connect should improve and exist in tariff.[90] IREC encourages the Commission to undertake this process in the same docket as it develops the SCE and SDG&E Flex Connect-style offerings. As discussed above, PG&E provides some Flex Connect information on their pilot flyer and additional resources,[91] but key items are missing, such as the eligibility of solar PV, behind-the meter sites, and smaller resources, and the applicability of constraint types and non-bridging solutions. PG&E's solution existing outside of tariff also undermines open and equal customer access to a now-demonstrated valuable offering. PG&E should develop a formal offering that reflects recent updates, adds key missing items, addresses lessons learned from the OpFlex report, and answers the questions IREC recommended SCE and SDG&E address for their standard offers.

The formal offering should also be coupled with a filing that justifies the costs and benefits of the high-level program parameters, along with the estimated load and generation capacity the program has the potential to unlock. There should be a formal comment period for stakeholders to provide input on the standard offer before filing for final commission approval. PG&E's standard offer and costs and benefits filing should be submitted within three months of

[90] Proposal at 53.

[91] PG&E Flex Connect Pilot, https://www.pge.com/assets/pge/docs/clean-energy/electric-vehicles/flexible-service-connection-pilot-overview.pdf.

the commission's decision. The expedited timeline will support SCE's and SDG&E's own implementation and is reasonable given PG&E's progress.

n. Section 7 Recommendation 1: Interoperability and Customer Choice Requirements.

The Commission proposes a workshop that includes technology providers, utilities, CEC staff, and CCA representatives to discuss reasonable guardrails to ensure interoperability, customer choice, and local control, which IREC supports.[92] While IREC supports the concept that customers with a flexible connection should retain their ability to participate in utility, CCA, aggregator or self-managed programs without being restricted by proprietary vendor arrangements, this consideration needs to be balanced with the communications pathway allowances of Rule 21, where applicable. Rule 21 Hh.5 requires IEEE 2030.5 CSIP-compliant communications between the Distribution Provider and the selected communication option, which includes direct to the DER site, through an aggregator, or through other mutually agreed upon means.[93] While any communications with the Distribution Provider must be through CSIP, all other communications may be through proprietary means. Since DER vendors are best positioned to explain the nuances of interoperability with their product, the Rule 21 service list should be noticed and the workshop report served to it in addition to the ones mentioned in the proposal.

The Commission should also ensure that a customer's participation in Flexible Service Connection does not hinder their vendor capabilities or participation in other programs. For example, vendors may rely on local DER communications interfaces to implement a virtual power plant. Commands from a dynamic flexible connection (i.e., a Variable or Dynamic

[92] Proposal at 54-55.

[93] *See* Pacific Gas & Electric, Elec. Rule No. 21(Hh)(5).

Operating Envelope) offering may need to be "layered" or nested with the VPP commands to ensure the correct DER response. This workshop should explore how this type of issue can be addressed in a process-efficient, cost-efficient, and safe manner. Topics to explore should include architecture design for a single CSIP headend for all asset communications versus multiple, and protocol translation approaches.

o. Section 8 Recommendation 1: Real-Time Pricing Rate Enrollment.

The Proposal recommends the large IOUs be required to default Variable and Dynamic Operating Envelope customers to a real-time pricing rate.[94] As the Commission notes, the recently opened Advanced Rate Design rulemaking intends to study the further application of time-of-use and real-time pricing rates.[95] That docket, however, is nascent, and neither the Proposal nor the record in this proceeding adequately demonstrates a benefit to defaulting customers who are already accepting a trade-off in flexible connection service onto real-time pricing rates.[96]

IREC recognizes the conceptual appeal of real-time pricing for customers who can shift load to lower-cost hours. IREC also notes, however, that there may be times when wholesale price signals and local capacity constraints are not identical, such that a price signal encourages consumption when operations should be restricted for local reasons. Further record development would show whether real-time pricing in this context actually serves customer and ratepayer interests, and whether any such misalignment can be resolved ahead of implementation.

[94] Proposal at 55.

[95] *Id*. at 41.

[96] *See* R.26-04-009, Order Instituting Rulemaking on California Advanced Electric Rate Design (April 9, 2026).

The Commission should also consider developing alternative value schemes for non-bridging load customers to motivate customer adoption. Metrics measuring the customer value of avoided ratepayer funded upgrades could be developed. This step could create compensation options that create genuine customer benefit, tied to the actual grid value the customer is providing.

3. **Section 9 of the proposal summarizes recommendations for Commission action based on the stated goal 2 of the proposal. Do parties find that any additional recommendations are warranted in support of this goal?**

4. **For the proposed Advice Letters what, if any, additional implementation or program design elements should be addressed in each Advice Letter. Do parties have recommendations on how to consolidate advice letters or make the process more efficient?**

As discussed in the opening paragraphs, IREC supports the direction of the Proposal, but is concerned about resolving so much of its substance through the advice letter process given how little detail exists at this stage. The advice letter process is significantly less transparent as the advice letters, protests or comments, and resolutions are not posted on a docket, nor are the protests or comments required to be sent to the service list. The advice letter process provides limited opportunity for the development of counterproposals and is best suited for implementation of tariff language after the Commission has already decided on the key program details. The Commission's experience in the Rule 21 docket is instructive: after the Commission ordered Limited Generation Profiles, it received a series of protested advice letters before shifting to a workshop process that allowed for proposals and counterproposals. When a program relies on customer adoption and the practical considerations that shape customer choices, procedural speed can slow uptake, not accelerate it.

IREC therefore recommends that the Commission develop the elements of its Proposal in an open docket with a public record. Elements of the Proposal require significantly more detail

and would benefit from structured dialogue, rather than delegating it to the advice letter process. Workshops and structured exchange of feedback will be needed for some items. Ministerial items with settled design may appropriately proceed by advice letter, but the contested or open design questions at the heart of the Proposal's recommendations should be resolved on a record.

5. **Many of the Proposal's recommendations are premised on the goal of affordability and ratepayer savings from greater capacity utilization, speed to power, and deferral or avoidance of upgrade capital expenditure. To realize these goals, quantification of ratepayer costs and benefits will be necessary. For each recommendation how should the IOUs measure, track and report key costs and benefit metrics?**

6. **How should IOUs ensure the existence of bridging solutions, non-bridging solutions, or the change from a bridging solution to a non-bridging solution are timely communicated with the California Energy Commission for forecasting purposes?**

7. **The proposal recommends the Commission direct SDG&E to stand up a static FSC offering that is aligned with the requirements directed in D.26-02-025 for PG&E and SCE.**

    a. **For SDG&E to implement this proposal, what, if any, modifications to the requirements directed in D.26-02-025 should the Commission consider?**

8. **What hardware, software, or data sharing safeguards may be needed to ensure that customers can obtain a flexible connection without being restricted by proprietary arrangements?**

9. **Are there any safety concerns that should be highlighted?**

IREC does not have responses to these remaining questions at this time beyond what is already outlined above.

III. CONCLUSION

IREC thanks the Commission for its consideration of these comments. IREC shares the Commission's vision of a future where flexible connections can be used to optimize grid utilization, but urges the Commission to not undermine the fundamental duty to serve that underlines the regulatory compact. The Commission should ensure that the needs of energization

customers are well understood so that their participation in flexible solutions can yield meaningful benefits for ratepayers as a whole.

DATED: July 27, 2026 By: */s/ Sky C. Stanfield*

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