



Rule 21 Working Group Four

IN-PERSON MEETING #2

MARCH 11, 2020

[HTTPS://ZOOM.US/J/8569536132](https://zoom.us/j/8569536132)

Agenda

10:00-10:15 Introductions, agenda, regulatory updates

10:15-11:30 Issue 18

- Questions and answers for IOUs
- Problem statements
- Proponents and proposal development

11:30-12:00 Issue 19

- Proponent presentations
 - CALSSA-SunStreet-SunPower
 - GPI
 - Clean Coalition

12:00-1:00 Lunch

Agenda

1:00-2:20 Issue 19 (continued)

- Comments on scope by Clean Coalition and CALSSA
- Problem statements
- Discussion on proposals, scope, and further steps

2:20-2:30 Break

2:30-3:30 Issue F

- Gridworks issue brief/framing
- Comments from participants on scope, positions, and background
- Proponents and proposals development

3:30-3:45 Action items, next call & in-person meeting



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Introductions



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Regulatory Updates

Issue 18

Should the Commission adopt changes to anti-islanding screen parameters to reflect research on islanding risks when using UL 1741-certified inverters in order to avoid unnecessary mitigations? If yes, what should those changes entail?

Issue 18 – Q & A for IOUs

- First round to 2/26 call
- Follow-up round to 3/11 meeting
- See spreadsheet summarizing Q&A
- Separate table provided by SDG&E in response to XUtility Question #4

Issue 18 – Problem Statement by IREC

As a result of the cost and timing impact that the screening and mitigation has on DER development, there is a desire to ensure that:

- (1) the risk of islanding is being assessed appropriately
- (2) the methods for screening for that risk are reflective of the latest and most credible research on island formation
- (3) the mitigations implemented (if necessary) are both effective and cost conscious
- (4) the costs of the mitigations are assessed on the appropriate party(ies).

Within each of these categories there are a set of questions that need to be explored and policy choices that the Commission may want to make to ensure appropriate treatment of islanding risk under Rule 21 and underlying utility guidance.

Issue 18 – Problem Statements Based on 2/12 Meeting Discussion

1. We don't have agreement on the level of risk. In the extreme, devices can work against each other and go on indefinitely, but we don't understand very well that extreme situation.
2. Unnecessary mitigations are being required but we don't know the extent to which researched solutions exist that would reduce unnecessary mitigations.
3. Existing anti-islanding screens do not accurately enough reflect the risks relative to specific interconnection proposals.
4. We don't have agreement on whether and how the Commission should formalize the anti-islanding screens in Rule 21.

Issue 18 – Proponents and Proposals Development

CALSSA preliminary proposal:

1. Perform analysis on reactive power matching
2. Calculate the generation-to-load ratio based on hourly and monthly values
3. Allow a site-specific risk-of-islanding study if a project fails the screens

Role of Issue Proponents

- Preparing an issue brief and/or presentation for circulation at least one week prior to in-person meeting.
 - framing,
 - key questions,
 - considerations,
 - background knowledge,
 - initial proposals, and
 - identification of points for resolution.
- leading an “offline” approach, and/or ad-hoc phone discussions during the interval between initial discussion and issue finalization

Issue 19

Should the Commission adopt streamlined interconnection procedures (e.g. standard configurations eligible for expedited review) to facilitate implementation of California Zero Net Energy building codes and, if so, what should those procedures entail?

Issue 19 – CALSSA-SunStreet-SunPower Proposal

1. The builder should be able to submit an interconnection application in their name based on a street address. (Because SDGE has already built out their system using account IDs with a reasonable way get account IDs, CALSSA may support this as an exception.) If a customer sets up service before PTO, this should not impact the application that was signed by the builder before the transfer of ownership.
2. The meter number should not be required for an interconnection application for new construction.
3. Builders of developments with five or more units should be able to submit a single application for all of the units. Consistent with current material modification rules, the proposed system size can later be reduced for any of the units. A small increase should also be allowed for applications with new home construction.
4. Utilities should make an application programming interface (API) available for applicants to submit applications without entering data into a form.

Issue 19 proposal

Green Power Institute

Tam Hunt and Rebecca Davis

Consulting attorneys

Issue 19

- Scoping Memo:
 - “Should the Commission adopt streamlined interconnection procedures (e.g. standard configurations eligible for expedited review) to facilitate implementation of California Zero Net Energy building codes and, if so, what should those procedures entail?”

Streamlining and automation options for ZNE buildings

- We list promising near-term options below and explain how they may be applicable to ZNE interconnection
 - We define “near-term” as implementable in the next two years
 - This list of options was the end result of a review by GPI and the Clean Coalition, with consulting help from Smarter Grid Solutions, and discussed a number of times by Working Group 2
 - The full list and descriptions, plus background, are contained in the Issue 8 Appendix in the [Working Group 2 Final Report](#)
 - **We suggest in bold for each item how it may apply to ZNE**

Application portal and deemed complete processes

- Utilities must under current rules inform the applicant whether the application is deemed complete, or must be corrected, within 10 business days (BDs) after receipt of the Interconnection Request (Rule 21 sec. E.5.a).
- In practice, this step can take two months or longer if multiple corrections are required (as is common for larger or more complex projects).
- Automation of the interconnection portal and application processing could reduce this step to 1-3 business days (BD) for those projects that don't need corrections, as well as dramatically reduce the time required for each round of corrections, and can build upon existing on-line application portals for net-metered projects, which already significantly reduce application processing times through partial automation.
- All IOUs have already at least partially automated these steps but much work can be done toward further automation and reducing, in particular, the time required for completeness review.
- **This recommendation for streamlining applies equally to ZNE as to any other interconnection application.**

Automating (at least partially) Initial Review

- Initial Review must be delivered within 15 BDs of the application being deemed complete (Rule 21 F.2.a). If applicable screens can be cleared automatically through use of data from the online application inputs and available ICA (Integration Capacity Analysis maps) data, it may be feasible to reduce the Initial Review also to 1-3 BD.
- The WG2 report identifies feasible ways for achieving this level of automation. As with completeness review and the application process, Initial Review is already partially automated by all IOUs, but additional automation may still be achieved.
- **Most residential and commercial ZNE applications will pass IR without difficulty, so this is a step that is particularly ripe for automation. If it can be fully automated it could reduce review time from 15 BDs to just 1-3 BD, for eligible projects. Since most ZNE applications will be uncontroversial this improvement should apply to most ZNE applications.**

Automating (at least partially) Supplemental Review

- Applications failing IR must go through Supplemental Review, which is another set of screens that provide more flexibility to the IOU to pass a project. Supplemental Review must be completed within 20 BDs (Rule 21 F.2.c).
- Parts of SR are already automated with the existing Integration Capacity Analysis (ICA) (screens N and O are already automated with the current ICA). Under the currently-defined SR screens, this leaves only screen P, a “catch all” safety and reliability screen, to be completed in SR.
- To date, stakeholders have generally agreed that SR can be automated in most cases but debates have occurred with respect to the cost/benefit analysis of doing so.
- **Since ZNE is a major new California policy initiative, made more important still due to the growing Public Safety Power Shutoff (PSPS) events that began with severity in 2019 and may be even worse in 2020, it seems clear that the cost/benefit ratio of completing such automation improvements has swung heavily toward taking action in the near-term.**

Frontloading Supplemental Review screens N and O into Initial Review

- Projects that are less than or equal to the displayed ICA value, or otherwise expected to interconnect without need for Supplemental Review, may be susceptible to mostly automated review. Frontloading screens N and O into IR will allow an easier automation of Initial Review because screen N makes screen M redundant and screen O may render some IR screens at least partially redundant.
- Given the automation of Screen N and Screen O as part of the ICA tool and the ability to apply this functionality to meet the analysis requirements for a specific project, minimal effort would be required to assess the Fast Track potential for a given application that passes all IR screens.
- Moving all automatable screens to the IR would provide as much information as possible up front to the customer with minimal additional effort.
- A single review from the utility engineer and reduced communication requirements to the customer would provide significant reductions in processing time and fee.
- **This improvement would apply to ZNE as well as other Rule 21 projects.**

Combining Initial Review and Supplemental Review

- This would only apply to projects that select this option (once offered), which will generally be 500 kW and larger behind-the-meter and front-of-meter projects of any size.
- Combined review could either be a serial study process, skipping the IR results meeting, or a concurrent study process. Revised timelines and fees for the combined IR/SR will need to be determined as part of the working group process.
- **This option will apply to larger and more complex ZNE applications.**

Frontloading and automating the Generator Interconnection Agreement (GIA) generation and offer process

- A standard Generator Interconnection Agreement (GIA) must be offered within 15 BDs of passing Initial Review (Rule 21 F.2.a), or 15 BDs from applicant's request after passing Supp. Review (F.2.e)
- 90 Calendar Days are allowed for negotiation and signing of the GIA (F.2.e)
- Utilities could instead “frontload” a partially populated draft GIA offer immediately after the application is deemed complete, allowing the agreement to be reviewed by the applicant before IR and SR are complete
- Or utilities could offer the option to generate this document auto-filled from the application portals, as is currently available with the SCE Power Clerk portal.
- Once Fast Track Review is completed, the draft GIA will be fully populated with the relevant results and this second draft will be sent automatically to the applicant, within one BD
- **This option will apply to more complex and larger ZNE applications that aren't NEM-eligible.**



Issue 19 Clean Coalition Standard Templates Proposal



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Lunch

Issue 19 Clean Coalition Comments on Scope

1. At the very least, it seems we should also look at providing/establishing additional standard configurations for PV and PV+ storage for single family, multi-family, (and commercial) applications.
2. The WG should also keep in mind whether/how the pending NEM 2.0 revision may impact interconnections, as well as ZNE that is not NEM.
3. Construction timelines related to ZNE DER interconnection facilities or upgrades - these can result in significant delays in PTO for both NEM and non-NEM projects - will occupancy of ZNE projects be impacted by interconnection delays triggered by ZNE DER? If so, how can these delays be minimized?
4. How else might interconnection be streamlined? - WG 1-3 addressed a number of proposals - if time allows, we should consider this opportunity for the WG to consider refinements specifically applicable to ZNE, especially where earlier work was cut short.

Issue 19 CALSSA Comments on Scope

If a solar installation requires a transformer upgrade, that can take nine months (six if a previous working group proposal is adopted). For solar on an existing home, the solar installer wants to know an upgrade will be needed before installing the system and wait to install until around the time the transformer is upgraded.

If the solar is installed nine months before the transformer upgrade, the customer will have paid for a system they cannot use for a long time. This makes customers extremely upset. In new construction, you need to have the solar installed in order to get your final building permit and move into the house.

The Working Group needs to discuss potential solutions. This won't happen for new subdivisions because the transformers will be designed to handle solar, but for single homes in existing neighborhoods it will happen.

Issue 19 – Problem Statements Based on 2/12 Meeting Discussion

Current interconnection procedures do not allow for a sufficiently efficient and timely process of interconnection for new residential construction given the new solar mandate.

- Developers/builders need to be able to initiate interconnection earlier and be able to complete PTO before homeowner (customer) takes ownership. If PTO happens after change in ownership, need to minimize disruption and avoid resetting the process.
- Developers/builders need to be able to submit interconnection applications without a meter number and service account number.
- Developers/builders need to be able to submit applications for multiple units or entire subdivisions rather than house-by-house or unit-by-unit.
- How else might interconnection be streamlined or automated, such that it benefits all utilities and customers?



Issue 19 – Small-Group Discussion on Proposals, Scope, and Further Steps

1. What is in scope and out of scope?
2. What is still missing from our proposals or thinking on Issue 19?
3. Does anyone have counter-proposals?
4. How long will it take us to complete Issue 19?
(further calls and meetings)

Issue F

What interconnection rules should the Commission adopt to account for the ability of DERMS and aggregator commands to address operational flexibility need.

Issue F Scope

From preliminary briefing note:

1. What should be the scope of Issue F?
2. Beyond Issue 27, do other issues from Working Group Two or Working Group Three overlap with Issue F?
3. How do we account for the fact that Issue 27 proposals have not yet been ruled upon?
4. Are there specific use cases that we should concentrate on in relation to DERMs, that can provide the highest value in the short-term or medium-term?
5. Within which current or future market frameworks do we interpret “aggregator commands” and “operational flexibility need”?

Working Group Proposed Schedule



Date	Meeting	Issue Discuss	Issue Finalize	Notes
2/12	In person	18 & 19		Briefing notes presented
2/26	Call	18 & 19 & F		
3/11	In person	18 & 19 & F		Proposals presented for 19 Briefing note presented for F
3/25	Call	18 & 19 & F		
4/8	Call	18 & 19 & F		
4/14	In person	18 & 19 & F	19	Proposals presented for 18 & F
4/21	Call	29		Briefing note presented for 29
5/5	In person	18 & 29 & F	18	Proposals presented for 29
5/19	Call	29 & F		
6/2	In person	29 & F	F	
6/16	Call	29	29	
6/30	In person	Final Report		First review draft available 6/19
7/14	Call	Final Report		Second review draft available 7/12
7/28	In person	Final report		Third review draft available 7/26
8/10	Final Report Submitted			

Approaches and Timelines for Commenting and Submissions

- Proponent proposals: 17 BD after issue opened (i.e., Friday before next in-person meeting)
- Comments on proposals: 9 BD after proposals presented (i.e., Tuesday before call 2 weeks later)
- Counter proposals (of a substantially new nature): 15 BD after proposals presented (i.e., Wednesday the week before next in-person meeting)
- Comments on Issue Reports (provided by Gridworks after final discussion of each issue): 10 BD for v1, 5 BD for v2, 3 BD for v3
- Comments on Final Report: 10 BD for v1, 5 BD for v2, 5 BD for v3



Action Items, Next Call, Next Meeting

- Issue 18
- Issue 19
- Issue F
- Next call: 3/25, 1:30-3:30pm
- Next meeting: 4/14 (or 4/15-4/17?)