



Rule 21 Working Group Four
Working Group Call Notes, 3/25/2020

Agenda

Time	Duration	Item
1:30-1:40	10 min	Introductions, agenda, regulatory updates, revised schedule
1:40-2:00	20 min	Issue 18 <ul style="list-style-type: none"> ● presentation and discussion of PG&E review of differences in IOU practices ● status update and any remaining questions related to proposal development
2:00-3:00	60 min	Issue 19 <ul style="list-style-type: none"> ● review of party comments on CALSSA, GPI, and Clean Coalition proposals ● presentation by SDG&E of counterproposal ● next steps and timeline for finalizing Issue 19
3:00-3:30	30 min	Issue F <ul style="list-style-type: none"> ● recap of scope discussion from 3/11 meeting ● presentation by CALSSA of preliminary proposal and discussion

Action Items

Issue 18	<p>4/10: Proponents (CALSSA/SunStreet/SunPower and possibly GPI) to provide issue proposals</p> <p>4/10: Tim McDuffie (Smarter Grid Solutions) to work with CALSSA, IREC, XUtility and PG&E to incorporate proposed ideas into CALSSA proposal as appropriate, and/or to develop an alternative proposal, including indications of consensus or non-consensus of different aspects as possible</p>
Issue 19	<p>4/03: All parties comment on SDG&E counter-proposal</p> <p>4/03: CALSSA and SDG&E to have an offline discussion and examine/propose how SDG&E counter-proposal and CALSSA proposal may be blended together</p> <p>4/03: CALSSA to have further discussions as needed with IOUs on points #3 and #4 of its proposal and re-work or respond to comments voiced on 3/25 call and written in IOU comments</p> <p>4/03: CPUC (Sophie Meyer) will look at the Issue 19 scope and share any further guidance with participants based upon Working Group discussions on Issue 19 from 3/25 call</p> <p>4/03: IOUs to provide updates on what they are currently doing and what they plan to do in the future in relation to automatic functionalities for ZNE interconnection. SCE will just highlight particular items from the R21 Working Group Three report.</p>



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	<p>4/03: GPI (Tam Hunt) to respond to comments on its proposal and suggest specific topics or issues within its proposal that bear further discussion on the 4/8 call</p> <p>4/03: GPI (Tam Hunt) to work with others and create chart showing overlaps across proceedings (ZNE, NEM, Microgrids)</p> <p>4/03: Clean Coalition (Sahm White) to identify points for focused discussion and clarification of key aspects of its proposal, taking into account written comments and discussion on 3/25 call. These points would be intended for discussion on the 4/8 call. In particular, to distinguish between SLDs that may be part of the Microgrid proceeding and SLDs that may be unique to Issue 19, and to clarify priorities for developing SLDs.</p> <p>4/03: Clean Coalition (Sahm White) and SCE (Roger Salas) to discuss SLD templates</p>
Issue F	<p>4/10: All parties to provide comments on the CALSSA preliminary proposal reviewed during the 3/25 call</p> <p>4/10: IOUs to provide descriptions of what they are doing in relation to DERMS</p> <p>4/10: Jason Bobruk (SolarEdge) and Annie Cwiklinski (Tesla) to develop and share the experience by other jurisdictions in terms of DERMS, specifically for operational flexibility</p>

Call Notes

1:30-1:40	Introductions, agenda, regulatory updates, revised schedule
<p>Tesla (Andy Schwartz)– Recent letter from Executive Director Stebbins in the context of microgrid proceedings and the development of SLDs may impact the discussions here.</p> <p>CPUC (Sophie Meyer): Another recent letter by Stebbins about the deadline extension of Rule 21 smart inverter communication requirements (Phase 2 communication requirements and Phase 3 Functions 1, 2,3 and 8) has been extended for three months until June 22, 2020 in response to a request by Fronius LLC USA and Ginlong Solis USA.</p> <p>CALSSA (Brad Heavner): Getting a lot of questions from project developers about interconnection activities during the current self-isolation order, inquired If there are any regulatory concerns/obstacles that should be addressed to keep the things rolling better or if there are none and they are trying to maintain the capacity as much as possible?</p> <p>SCE (Roger Salas and Kathryn Enright): One particular area is the commissioning test, which requires location visits – we continue to meet the timeline and ensure safety for everyone in the process. SCE had internal checks last week about processing and application intake. SCE uses remote opportunities for commissioning tests, we have an emergency operational team for specific exceptions, like relays, but for the majority of interconnection processes, we have no processing delays right now , we will update stakeholders in case of any change.</p>	



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SDG&E (Jim Spurgeon) – We have a daily conference call with interconnection team every morning and we do not see any delays, everybody is working together to make this work, process wise we made changes with regards to in person meetings, mostly communicating remotely, pretty much business is usual and we do not see any significant delays

PG&E (Max Earnst) – from the application processing standpoint for grid interconnection teams, we are working remotely and there shouldn't be any major impacts to that. As far as any on-site commissioning and inspection, we are considering some virtual options so we can limit the amount of in person contacts, overall, we are still performing interconnections. Some items, such as solar disconnects and reconnects and some IT work, have been paused or impacted slightly.

CALSSA (Brad Heavner): We are actively working with local building departments throughout the state on who is up and running and who could use help. We are working to publish the list of all 500 jurisdictions throughout the state and their current status and will share a [link](#) on our website. It requires some communication to ensure that the local building departments will be able to look at the inspections. Parties can email Brad Heavner if they have any information to add or correct.

GPI (Tam Hunt): Has CPUC been impacted due to the CoronaVirus?

CPUC (Sophie Meyer): Energy division is working remotely as much as possible, don't see any large impact, probably some small delays.

1:40-2:00

Issue 18

- 1. presentation and discussion of PG&E review of differences in IOU practices**
- 2. Status update and any remaining questions related to proposal development**

Gridworks (Eric Martinot): Deadline for proposals is 4/10 and proposals will be discussed with all parties during the next full day meeting on 4/14.

PG&E (Mike Jensen) reviewed the document [Issue18 Comparison of IOU Requirements](#) that PG&E prepared together with SCE and SDG&E, for IOU generation configuration and mitigation requirements. Parties then had questions on the comparisons:

IREC (Brian Lydic) – The difference in substation arrangement or breaker arrangement at the transmission level, is it over-voltage risk or anti-islanding concern that you are trying to mitigate?

PG&E (Mike Jensen): It's both, the over-voltage concern is for ungrounded transformers, probably 200 transformers in our territory. (Further technical details were explained.)



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IREC (Brian Lydic): Is there any difference between Delta and Wye connection in terms of the effective grounding of the system?

Sky: Why do SDG&E and SCE have more robust protection and not PG&E, is it the cost allocation or any other specific philosophy difference?

PG&E (Mike Jensen): When the system was designed, it was adequate for needs at the time. Back then, we didn't envision having these major generating sources coming in. It would take considerable time and money to change now. (Further technical details provided.)

GPI (Tam Hunt): The IOUs comparison from PG&E is useful for our proposal development. As per early discussions with PG&E (Mike Jensen) and SCE (Roger Salas) we talked about how it seems that differences in screening primarily reflect differences in protection philosophy rather than differences in grid design, is it grid design or protection philosophy or a mix of both?

PG&E (Mike Jensen): It's a mix of both. If we had the same configuration as SDG&E & SCE, it would be a lot easier, but our risk is greater.

Gridworks (Eric Martinot): Is the IOU comparisons and answers to all proponent questions now sufficient for proponents to develop their proposals by 4/10?

All: no objections.

Smarter Grid Solutions (Tim McDuffie): We had a discussion on Monday (03/23), we have some ideas/agreements/non consensus, and are working on changes to the proposal, we should have some idea on where we might be able to agree with PG&E and other IOUs in the next few weeks.

Action Item: 04/14 - Tim McDuffie (Smarter Grid Solutions) to work with CALSSA, IREC, XUtility and PG&E to incorporate proposed ideas into CALSSA proposal as appropriate, and/or to develop an alternative proposal, including indications of consensus or non-consensus of different aspects as possible.

CALSSA (Brad Heavner): 2 weeks from now this is on the agenda again, and then the next in-person meeting is the time for proposals. So, maybe we should try to share the informal proposal in the next two weeks, ahead of that call. We can talk offline and later discuss with all parties to give an opportunity for everyone to participate.

CALSSA's proposal still includes 3 elements, reactive power matching, hourly and seasonal load to generation ratio and the risk of islanding study, we want to refine those in collaboration with PG&E.



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Gridworks (Eric Martinot) - Next call on Issue 19 will be devoted to Issue 19. Discussions related to issue 18 should be coordinated among those developing proposals and then Issue 18 will be discussed with all parties during our next all-day meeting on 3/14.

XUtility (Mazyar) intended to collaborate with those developing proposals.

Action Item: Gridworks will share contact info among those working on Issue 18 proposals.

IREC (Sky), GPI (Tam Hunt) have enough information at this point, and they will follow up with PG&E in case of any follow up questions.

2:00-3:00

Issue 19

- 1. review of party comments on CALSSA, GPI, and Clean Coalition proposals**
- 2. presentation by SDG&E of counterproposal**
- 3. next steps and timeline for finalizing Issue 1**

Gridworks (Eric Martinot): Next call on 4/08 will be devoted to issue 19 and we intend to finalize the issue in our next all-day meeting on 4/14. We have three proposals from CALSSA, GPI, and Clean Coalition, and 4 sets of comments on the proposals, from PG&E, SCE, SDG&E, and Tesla.

1. Review of party comments on the [CALSSA Proposal](#)

Lee Trevino presented [PG&E’s reponse](#): PG&E agrees with the proposal items #1, #2 and #3 and we also see the value for PG&E to allow the customer to submit interconnection applications for new residential projects using the property address. We might also consider other aspects like tracking numbers, but further capital investments would be required to update PG&E’s IT system. For item #2, meter numbers won’t be required, similar to allowing an application with address and tracking number. For item #3, it does make sense that the customer should be able to submit one application for multiple projects, but we recommend not to limit to 5, instead just more than one unit. For item #4, more information and understanding is required on how this proposal would potentially benefit interconnection customers.

Kathryn Enright presented [SCE’s response](#): Stakeholders have been complimentary on what SCE is doing regarding item #1 and #2 as SCE has already adopted this process. For item #3, SCE would like to understand more as it has not been previously discussed. For item #4: SCE has previously discussed this option with stakeholders and views this proposal as a potential future option.

Jim Spurgeon presented [SDG&E’s response](#): With regard to item #1, SDG&E shared what it is doing at one of the previous WG meetings, and SDG&E’s process is already working effectively. With regard to PTO, once an application is submitted, the process is not affected and continues if there



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is a change in customer record. For item #2, SDG&E's existing process requires only an account number. A meter number is not required to submit an interconnection application. For item #3, SDG&E does not anticipate that ZNE building codes will have a significant impact on the volume of interconnection requests and has been able to effectively deal with the ups and downs over years. For item #4 – SDG&E is looking for additional information to make an assessment on this proposal and better understand who would benefit from this

Andy Schwartz, presented [Tesla's response](#): Tesla supports the proposal overall – item #1 and item #3 are particularly helpful. On item # 1, (Tesla recognizes) challenges that can occur in the transfer of an interconnection agreement from the developer to the building occupant without the timeline being reset or rescheduled. On item #3, Tesla does think some type of batch submission and processing would be a significant step forward.

CALSSA (Brad Heavner): There seems to be a general consensus on item #1 and item #2. There is a mix on item #3, we can work on that and discuss. On item #4, we will come back with more information before the next meeting. I also recognize that one item from Clean Coalition's proposal on template-based design should become part of our proposal or a joint proposal.

Gridworks (Eric Martinot): It would be helpful if proponents could have off-line discussions about these comments and share responses to the comments by 4/3 for discussion on the 4/8 Working Group call.

2. Review of party comments on the [GPI Proposal](#)

[PG&E's reponse](#): This is an important topic and has appeared in many previous working groups but has been overlooked. Significant efforts are already underway for ZNE projects. PG&E would like to ask for more specificity and clarity in the proposal; right now it is confusing.

[SCE's Response](#): These issues have been highlighted previously in Rule 21 Working Groups Two and Three.

[SDG&E's Response](#): We are continuously looking at our process and making adjustments to speed things up and improve approval timelines, we don't see any of these proposal add any effectiveness to our process, we are concerned that if we try to change our existing process, it could slow down the faster process,

[Tesla's response](#): Seems like a repetition with Rule 21 Working Group Two and the microgrid proceeding.



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GPI (Tam Hunt) We agree and need to coordinate fully across proceedings and it's more a question for CPUC on what kind of coordination takes place. For more information GPI referred to a discussion on issue 8 in the Working Group Two Final Report (page 85). The text for Issue 8 was only a starting point and was not discussed in much detail. The further details were left for later proceedings.

Action Item: GPI (Tam Hunt) will work with others and create a chart showing overlaps across proceedings, such as ZNE, NEM, and Microgrids.

CPUC (Sophie Meyer): previously, we didn't have specific goals, thus no specific actionable recommendation. More discussion and specific proposals would be helpful from this Working Group Four.

Action Item: CPUC will look at the Issue 19 scope and share any further guidance with participants based upon Working Group discussions on Issue 19 from the 3/25 call

3. Review of party comments on the [Clean Coalition Proposal](#):

[PG&E Reponses](#): PG&E is open to considering but we are concerned that an overabundance of different Single-Line Drawings (SLDs) may lead to more confusion among applicants, rather than simplification.

[SCE Response](#) – Edison supports development of SLD templates with a focus on immediate processing benefits. SLD templates are already under development at SCE. The SLDs should address 90% or more of applications. For the remaining 10%, these are complex project and SLDs are not productive. We need to be careful to not have too many SLDs to avoid confusion. Clean Coalition needs to clarify the scope of the proposal.

[SDG&E Response](#) – We have standardized SLDs and over 98% of projects take advantage of that. We would be happy to look at SLDs that can help us with the remaining 2% of projects. It would have to be pretty detailed and explained well to avoid confusion to customers.

GPI (Tam Hunt)– SDG&E already has a largely standardized SLD process in place. Is that for most projects but not all?

SDG&E (Jim Spurgeon): for systems < 30 kW we have standardized SLDs, that constitute 98% of our projects. If it makes sense to develop standard SLDs that would benefit the remaining 2% , we are open to look at that.



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Andy Schwartz discussed [Tesla response](#): Tesla strongly supports the proposal but wants to understand how does the proposal relate to other efforts underway, particularly in the microgrid proceeding.

Clean Coalition (Sahm White) responses: We all agree that we don't want to duplicate efforts with other proceedings. About the confusion of multiple templates, creating a checklist would be helpful for the applicant. Developing a SLD is not a big effort for a utility but is a significant effort for applicants. Using a template is a key part of automating the system and avoiding manual review. We believe that SLDs can be very useful to streamline the process.

PG&E (Jim): a SLD is required for a permit to be issued. It sounds like we would be asking customers to create something they otherwise have. They just have to upload one they have already created.

Action Items:

4/03: Clean Coalition (Sahm White) to identify points for focused discussion and clarification of key aspects of its proposal, taking into account written comments and discussion on 3/25 call. These points would be intended for discussion on the 4/8 call. In particular, to distinguish between SLDs that may be part of the Microgrid proceeding and SLDs that may be unique to Issue 19, and to clarify priorities for developing SLDs.

4/03: Clean Coalition (Sahm White) and SCE (Roger Salas) to discuss SLD templates

CPUC (Sophie Meyer) suggested to avoid duplicating efforts. The microgrid proceeding covers standalone solar, along with NEM, solar-paired storage, and standalone storage projects. For PG&E, 98% of interconnection applications they receive are covered. We should be focusing on where this additional work (Clean Coalition) goes beyond the 98%.

SDG&E presented a [counter proposal on Issue 19](#):

SDG&E (Danielle Weizman): We are proposing a more performance-based approach. We believe that we have a streamlined and simple process. We believe our proposal is complementary to the CALSSA/SunStreet proposal and could potentially be incorporated together. The SDG&E counter-proposal does not address automation or SLDs.

Action Item: 4/03: All parties comment on SDG&E counter-proposal, SCE supported SDG&E's counter proposal and they will work together on it. Also, CALSSA (Brad Heavner) to discuss offline with SDG&E

3:00-3:30

1. recap of scope discussion from 3/11 meeting
2. presentation by CALSSA of preliminary proposal and discussion



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CALSSA (Brad Heavner) Heavner presented [CALSSA's preliminary Issue F Proposal](#):

In terms of the actual proposal, it is not all that controversial. There can be mutual agreement if there is a way to get around operational flexibility using smart inverter controls. The heart of the issue is that if there is something in the interconnection agreement saying here is how we are getting around operational flexibility constraints, it should contain terms like maximum number and extent of curtailments, notifications, and consequences for violations. Those are the three things that we highlighted. I am interested in hearing from utilities about the events (types of risks) which happen frequently, and how often the controls are activated to deal with operational flexibility. Aggregator agreement is also a necessary component.

Action Item: by 4/10: All parties to provide comments on the CALSSA preliminary proposal reviewed during the 3/25 call

Meeting total Participants: 60+ participants

Adeel Ahmad, CEC	Jose Aliaga Caro, CPUC	Priya PalanichamyKala, Bloom Energy
Andy Schwartz, Tesla	Jose Gerbar, Nuvve	Rainier Solanzo, Bloom Energy
Annie Cwiklinski, Tesla	Julia Levin, Bioenergy Association of California	Rebecca Davis, Lozeau /Dury LLP
Brad Heavner, CALSSA	Kathryn Enright, SCE	Rehana Aziz, Gridworks
Brian Lydic, IREC	Katie Wu, Gridworks	Roger Salas, SCE
Danielle Weizman, SDG&E	Lee Trevino, PG&E	Rustom Dessai, PG&E
Derek Pearson, Artwel-Electric	Marc Hutton, Public Advocates Office	Sahm White, Clean Coalition
Eric Martinot, Gridworks	Mary Brown, SCE	Sky Stanfield, IREC
Erin McDonough, Tesla	Matt Gonzales, PG&E	Sophie Meyer, CPUC
Greg Morris, GPI	Max Ernst, PG&E	Steve Sherr, Foundation Windpower
Harold Hirsch, PG&E	Mazyar Zeinali, XUtility	Steven Rymsha, Sunrun
Jacqueline Piero, Nuvve	Melissa Reed, SDG&E	Tam Hunt, GPI
Jason Bobruk, SolarEdge	Michelle Pham, Center Point Energy	Ted Howard, Small Business Utility Advocate
Jeff Healy, SDG&E	Mike Jensen PG&E	Tim McDuffie, Smart Grid Solutions
Jennifer Kamphuis, SDE	Mike Turner, SDG&E	Todd Farhat, SunStreet
Jim Spurgeon, SDG&E	Nick Lenssen, Bear Peak Energy Consulting	Trenton Jean, Tesla
Jin Noh, CESA	Patrick Saxton, CPUC	Wilfredo Guevara, SDG&E
John Berdner, Enphase Energy	Peter Klauer, California Independent System Operator	