



# GRIDWORKS

## Rule 21 Working Group Five: Meeting Notes, 5/5/2020

### Agenda

| Time        | Duration | Item   |
|-------------|----------|--|
| 10:00-10:15 | 15 min   | Introductions, agenda, regulatory update   |
| 10:15-12:15 | 115 min  | Issue F DERMs (with 5-min break) <ul style="list-style-type: none"> <li>● CALSSA revised proposal present and discuss</li> <li>● PAO proposal present and discuss</li> <li>● IOU answers to PAO and SBUA questions</li> <li>● IOU roadmaps any further discussion</li> <li>● SolarEdge answers to party questions</li> <li>● Schedule and scope for final discussion and write-up</li> </ul> |
| 12:15-1:30  | 75 min   | Lunch Break  |
| 1:30-2:25   | 55 min   | Issue 18 Anti-Islanding <ul style="list-style-type: none"> <li>● Review and discuss party comments on CALSSA, IREC, BAC, and PG&amp;E proposals</li> <li>● Submission of final proposals by proponents</li> </ul>  |
| 2:30-3:45   | 75 min   | Issue 29 Forum on Safety Standards <ul style="list-style-type: none"> <li>● Derek Pearson proposal present and discuss</li> <li>● Survey of the Working Group on Issue 29 -- approach and questions to ask</li> <li>● Schedule and scope for completing discussion of Issue 29</li> </ul>  |

### Action Items

|                 |   |
|-----------------|---|
| <b>Issue F</b>  | 5/15 All parties to comment on the CALSSA and PAO proposals<br>5/15 CALSSA to discuss with PAO the alignment of the two proposals<br>5/15 PUC to provide any further guidance on Issue F scope regarding rules vs. technology development   |
| <b>Issue 19</b> | 5/14: All parties to provide comments on Gridworks first issue writeup v1   |
| <b>Issue 18</b> | 5/15 CALSSA, IREC, PG&E, and BAC to incorporate 5/5 meeting discussions, add clarifications, conduct offline consultations with each other or other parties as needed, and revise and resubmit their proposals<br>5/15 Proposal proponents consider incorporating BAC questions into their proposals "what EPIC funding (for anti-islanding) are IOUs using now?" |
| <b>Issue 29</b> | 5/12 All parties to consider the suggested survey approach and provide any comments<br>5/15 CALSSA and Clean Coalition to develop a proposal  |



## Meeting Notes

|   |  |
|---|--|
| <b>10:00-10:15</b>  | Introductions, agenda, regulatory updates  |
| <p>Eric Martinot (Gridworks) introduced the <a href="#">meeting agenda</a> covering issue 18, F and 29.</p> <p>CPUC (Sophie Meyer): comments on R1909009 Microgrids proceeding (interconnection issues are raised in that PD ) are due by 19<sup>th</sup> May (suggested to double check the date). You have to be a party in the microgrid proceeding in order to comment.</p> <p>GPI (Tam Hunt): How the microgrid PD effect R21 proposal, standardized SOPs etc. When the PD from WG2 and WG3 come down?</p> <p>CPUC (Sophie Meyer): Microgrid Proceedings will give little more certainty and better understanding on R21 work, so we don't reconsider it. Not clarity about WG2 and WG3 PD at the moment.</p> <p>Gridworks (Eric Martinot): Issue 19 write up has been shared with all parties by Gridworks on 5/30 and parties are open to share comments on the first draft proposal within 2 weeks. Suggest to take into account the microgrid PD if you wish.</p>  |  |
| <b>10:15-12:15</b>  | <p>Issue F DERMS</p> <ul style="list-style-type: none"> <li>● CALSSA revised proposal present and discuss</li> <li>● PAO proposal present and discuss</li> <li>● IOU answers to PAO and SBUA questions</li> <li>● IOU roadmaps any further discussion</li> <li>● SolarEdge answers to party questions</li> </ul> |
| <p>A <a href="#">PAO proposal on Issue F</a> was presented by Tom Roberts:</p> <p>PAO (Tom Roberts) clarified a few discussion points, SCE comments start with, layout specific function by specific dates, that's a road map. While don't have the level of detail from PG&amp;E and SDG&amp;E on when they expect to depute certain functionality related to DERMS with certain dates.</p> <p>PG&amp;E (Alex Portilla): PG&amp;E referenced a couple of dates which are expect to have a telemetry for 1MW and above DERs by early 2021, and will be deploying non-wires alternative controls in consent with the deployment of non-wired alternative projects which are expected to come online on 2021.</p> <p>PAO (Tom Roberts): Specific functionalities are required to enable certain smart inverter functions. We are looking to find the technology side of IOU investment to enable smart inverters and implementation dates and instructions for rules and tools to activate those features.</p> <p>SBUA (Ted Howard): SBUA is satisfied with the answers given by IOUs, thus no further questions.</p> |  |



**Comments on IOU roadmaps (links of IOU Roadmap on DERMs is given below):**

[R21 IssueF PG&E DERMs roadmap 4.10](#)

[R21 IssueF SCE DERMs roadmap 4.10](#)

[R21 IssueF SDG&E DERMs initiative 4.09](#)

No comments on DERMs IOUs' roadmaps by parties.

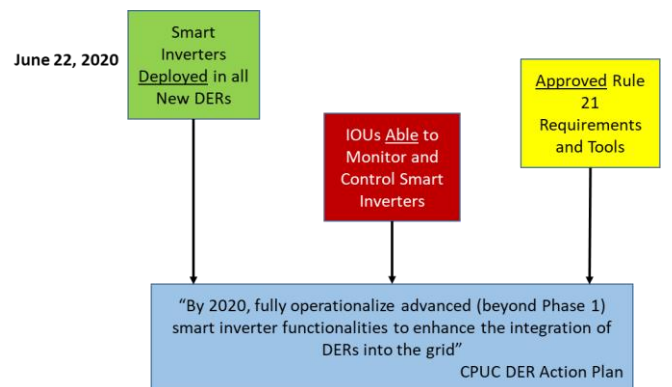
[SolarEdge presentation's follow up question's response](#) is posted on the One folder and posted on Gridworks Website as well.

**Presentation by Tom Roberts (PAO) on Issue F:**

4 proposal elements and next steps of the plan are presented. PAO plans to align with CALSSA and Public Advocate's Office proposals as much as possible.

Operationalization Requires three things:

1. Fully operationalize smart inverters functionality beyond phase 1. Currently by June 22<sup>nd</sup>, smart inverters will be deployed with all phase 3 functionalities except for functions 7 and 4.
2. Yellow box has requirements and tools, requirements are specific language that we adopt in rule 21, enable the use of smart inverters and tools are contracts and agreements between IOUs and aggregators (CALSSA mentioned this in its Issue F proposal, item #2.)
3. PAO proposal is focused on the red box. To be able to address the outflux issue, utility equipment should be able to sense signals and receive data from the smart inverters.



**"Operationalize" means used by Grid Operators to Mange the Grid**

Operationalization cannot happen if all three of these functions happen. What CALSSA has suggested and what we propose, our proposal is on the technology side and CALSSA is focused on the yellow box.



### Comments by All parties:

SCE (Roger Salas): Make sure to stay within the scope, it's talking about DERMS that are available to address operational flexibility and what rules are needed.

SCE (Gary Holdsworth): For any large program development, it's better to move step by step. Also spending more time and money that really works better for everyone is a better approach.

Clean Coalition (Sahm White): Tom had done a clear and great job with a different level of monitor and control of DERMS. System should have a forward-looking approach instead of something that is quickly outdated, but it doesn't mean to wait for a fully integrated system, there are some features that can be integrated to different degrees. This includes working with aggregators with existing available capable systems, and may not be direct control on every small DERs.

Smart Grid Solutions (Tim McDuffie): Smart Grid Solutions is doing DERM deployments in Canada and UK, Technology is just not in California. The technical side will continue to develop, so we need to develop some framework of rules. By implementing a fraction amount of control, the hosting capabilities can be expanded 2, 3 folds. There is a technical and regulatory side bith. Now is the opportunity to change the narrative and provide some framework till the tech can catch up, it's not there.

SDG&E (Danielle Weizman): it's a huge investment so clarity is better on how long the technology is good for.

GPI (Tam Hunt): recommend to use the Walk, Jog and Run model developed by Gridworks (More than Smart). start with basic functionality and lay the foundation on it for the complex functionalities.

[CALSSA comments on PAO Proposal](#) by Brad Heavner: The issue is about how to stage the implantation using the smart inverter functionality. Already spent years talking about capabilities, but there is a difference between capability and using the functionality.

PAO (Tom Robert): Still figuring out the degree of alignment with CALSSA Proposal. Working through the control function is important, also what is required to achieve functionality and set a deadline to achieve that functionality for actual operationalization.

[CALSSA revised proposal on issue F](#) presented by Brad Heavner:

Tom Robert shared the comments on [CALSSA Proposal by PAO](#)

### Action Items:

**5/15 All parties to comment on the CALSSA and PAO proposals**

**5/15 CALSSA to discuss with PAO the alignment of the two proposals**



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5/15 PUC to provide any further guidance on Issue F scope regarding rules vs. technology development

1:30 – 2:25

Issue 18 Anti-Islanding

- Review and discuss party comments on CALSSA, IREC, BAC, and PG&E proposal

[R21 Issue18 comments table 5.04](#) presented by Gridworks (Eric Martinot).

**Review and discuss comments on CALSSA Proposal Issue 18:**

[R21 Issue18 SBUA comments on all proposals](#) by Ted Howard

Eric Martinot (Gridworks) suggested to have an offline discussion if required. They seem to be progressive and mitigations will be helpful for ratepayers.

Ted Howard presented [SBUA comments on CALSSA Proposal](#)

Very productive and progressive recommendations in terms of policy perspective, particular interest is small ratepayer get fair and equitable rate.

Brian Lydic and Sara Walingga Presented [TESLA comments on CALSSA Proposal](#)

Tesla is supportive of investigating how a screen that captures reactive power matching can be incorporated into the risk-of-islanding screening process.

[PG&E comments on CALSSA proposal](#)

Fault detection equipment is always required, all machines are required to install necessary protection, voltage, frequency devices, but not necessarily DTT due to load conditions at the time of installation. Putting DTT ahead of time under certain circumstances when it is not needed, is unfair and a burden to the installer. We can come up with less costly and transparent anti-islanding equipment to support proactive installation. **Proposal 2**-Load calculation is burdened to try modifying ICA, because we are talking about load and generation variation at the same time, since minimum hourly load is not easily obtained at a transformer, station, or transmission line section. Additionally, the minimum load may also coincide with minimum PV output, leading to the same result.

[SCE comments on CALSSA proposal](#)

SCE opposes CALSSA's Proposal #1 as it is currently unclear whether CALSSA's Proposal as currently written intends to modify the existing Rule 21 Section H requirements for non-inverter-based generation (machine generation) or if CALSSA proposes additional requirements beyond what Rule 21 Section H currently requires. Proposal #2, SCE opposes CALSSA's Proposal Two as the details supporting the proposal are unclear to SCE. SCE opposes Proposal #3 as there are no current industry standards, processes or techniques that support Risk of Islanding studies (Islanding Study). We need to understand the risks.



### [SDG&E Comments on CALSSA proposal](#)

Proposal # 1: Doesn't apply to SDG&E as it is already implemented. SDG&E supports proposal #2. We oppose number 3 and 4 as #3 we don't see a clear guidance for testing of independent party for the risk of anti islanding and #4 is not a clear proposal.

Gridworks (Eric Martinot): Items 4 is removed from CALSSA proposal

#### **Other Comments:**

CALSSA (Brad Heavner): Is there is a difference between transmission and distribution? It's hard to disaggregate load data on transmission side.

Smart Grid Solutions (Tim McDuffie): It wouldn't get to that step if there was a more accurate way to find generation to load ratio before even need to go to the transmission line. if it's not ever exceeding the generator ratio of 50%. No one is suggesting changing the ICA, but this is a decent path to take as opposed to what we have.

Foundation Windpower (Steven Sher): Generally, agree but inquired about items concerning the installation of protection in advance, clarification is needed if the recommendation is for new installations and not any currently installed generation equipment's?

CALSSA (Brad Heavner): Agreed that the recommendation is to Install the recloser with new machine generators when they come online. If a machine generator is installed without protective equipment because it's at a certain generator to load ratio but if a higher generation to load ratio is going to happen, then plan for it. That's the entire recommendation.

**Action Items: CALSSA (Brad Heavner): CALSSA can add further clarification and IOUs can do further comments. (Offline discussion with IOUs and comes up with something concrete by the next call)**

#### **Review and discuss comments on PG&E Proposal Issue 18:**

Brian Lydic presented [IREC comments on PG&E proposal](#)

Roger Salas presented [SCE comments on PG&E proposal](#)

"SFloresC" presented [SDG&E Comments on PG&E proposal](#)

#### **Discussion on comments by all parties:**

PG&E (Mike Jensen): SDG&E is the most robust system, SCE is close to SDG&E. PG&E system is different and has a broader geographical area that includes rural areas (with no infrastructure).

Smart Grid Solution (Tim McDuffie): Suggest find ways to keep up with times and develop along with standards like 1547, there is some openness to work on that and use right wording so that the regulatory cycle doesn't come back. Both parties (CALSSA and PG&E) work together on this.

PG&E (Mike Jensen): PG&E is pretty close with CALSSA proposal, we may have some disagreements with item 2 but we will discuss that.



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Tesla (Andy Schwartz): PG&E to consider what type of information and algorithm needed by inverters. How do they anticipate collecting that information and how the absence of this impacts the implementation?

**Review and discuss comments on IREC Proposal Issue 18:**

[SDG&E Comments on IREC proposal](#)

[SCE comments on IREC proposal](#)

[SCE comments on IREC proposal supporting slide](#)

IREC (Sky Stanfield): Need more clarification on SDG&E and SCE comments, discuss offline to sort this out.

**Review and discuss comments on BAC Proposal Issue 18:**

[PG&E comments on BAC proposal](#)

[SCE comments on BAC proposal](#)

[SDG&E Comments on BAC proposal](#)

PG&E (Mike Jensen) and BAC had a discussion last week and decided to come up with a guidebook. Julia Levin (BAC): Suggest SCE and SDG&E to include bioenergy proposals along with solar projects.

Eric Martinot (Gridworks): 5/15, offline discussion of proposal proponents, to be in a position to submit a final proposal after our call next week.

**Action Items:**

**5/15 CALSSA, IREC, PG&E, and BAC to incorporate 5/5 meeting discussions, add clarifications, conduct offline consultations with each other or other parties as needed, and revise and resubmit their proposals**

**5/15 Proposal proponents to consider incorporating BAC question into their proposals "what EPIC funding (for anti-islanding) are IOUs using now?"**

2:30-3:45

Issue 29 Forum on Safety Standards

- Derek Pearson proposal present and discuss
- Survey of the Working Group on Issue 29 -- approach and questions to ask

Schedule and scope for completing discussion of Issue 29



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Derek Pearson mentioned this is an ideal time to work on this issue, issue 29 is a great opportunity to move to a plug and play grid. The safety issues he pointed out are; **Cyber security issues, Islanding issues, power quality issues, concern for electromagnetic poles.**

Gridworks has received any proposal on issue 29 so Gridworks(Eric Martinot) presented a [summary of the last call discussions](#). Gridworks came up with an idea of conducting a [Survey of the Working Group on Issue 29](#) and open for all party comments on the survey.

Comments:

SCE (Roger Salasr): Potential separation between safety vs environmental risk.

IREC (Sky Stanfield): What happens after getting the survey report, will Gridwork craft the proposal?

Gridworks (Eric Martinot): Gridworks writeup will just include the results of the proposal.

CALSSA (Brad Heavner): Broad safety standard towards plug and play grid. About survey question 1, CALSSA might go with "latet".

PG&E (Mike Jensen): Agree with Sky and Brad, No enough information so not sure how to answer the question.

Gridworks (Eric Martinot): What information is required and what we as a working group can generate?

PG&E (Mike Jensen): Clarity is required about environmental issues.

IREC (Sky Stanfield): We are talking about the security on the entire grid here. So we should be careful.

Tesla(Andy Schwartz): If no one comes up with a proposal that's the answer.

PG&E (Mike Turner): Same concern as Sky Stanfield and Mike raised. We need to give consideration whether interconnections can be covered by utility and industry that already exist. Those issues particularly be discussed that aren't covered in other issues.

Derek Pearson: This would be like a safety standard for easy and safe DER connections.

CALSSA (Brad Heavner): Suggest getting more time. It should come later, at some other point.

Clean Coalition (Sahm White): I have no objection to having a proposal or a survey to capture the opinion of the working group.





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CPUC (Sophie Meyer): Sky Stanfield and Brad Heavner concerns should be addressed in the survey. We do need to have some sort of response. Suggested Brad to write down a proposal.

Clean Coalition (Sahm White) agreed to help CALSSA on developing the proposal.

Derek Pearson: If somebody would be interested in reaching out, I can explain how it drives cost down and we develop a plug and play solution.

### Action Items:

**5/12 All parties to consider the suggested survey approach and provide any comments**

**5/15 CALSSA and Clean Coalition to develop a proposal**

### Meeting total participants: 60+ participants (only partial list below)

|   |  |   |
|---|--|---|
| Abtin Mehershahi, CEC                               | John Berdner, Enphase Energy                     | Rich Scholer, FCA US LLC                    |
| Andy Schwartz, Tesla                                | Jordan Smith, SCE                                | Roger Salas, SCE                            |
| Brad Heavner, CALSSA                                | Jose Aliaga Caro, CPUC                           | Sahm White, Clean Coalition                 |
| Brian Lydic, IREC                                   | Jose Gerbar, Nuvve                               | Sara Biyabani, GridComm startup             |
| Brian McCollough, CPUC                              | Julia Levin, Bioenergy Association of California | Sara Walingga, Tesla                        |
| Brittany Blair, USF                                 | Kathryn Enright, SCE                             | Sky Stanfield, IREC                         |
| Catarino Vargas, SDG&E                              | Katie Wu, Gridworks                              | Sophie Meyer, CPUC                          |
| Danielle Weizman, SDG&E                             | Marc Hutton, Public Advocates Office             | Steve Sherr, Foundation Windpower           |
| Derek Pearson, Artwel-Electric                      | Mary Brown, SCE                                  | Steven Rymsha, Sunrun                       |
| Dylan Savidge, PG&E                                 | Matt Gonzales, PG&E                              | Tam Hunt, GPI                               |
| Eric Martinot, Gridworks                            | Max Ernst, PG&E                                  | Ted Howard, Small Business Utility Advocate |
| Erin McDonough, Tesla                               | Mike Jensen PG&E                                 | Tim McDuffie, Smart Grid Solutions          |
| Gary Holdsworth, SCE                                | Mike Turner, SDG&E                               | Trenton Jean, Tesla                         |
| Gregory Stangl, Bioenergy Association of California | Mike Bourton, Kitu Systems                       | Rehana Aziz, Gridworks                      |
| Jin Noh, CESA                                       | Patrick Saxton, CPUC                             |   |