



# Rule 21 Working Group 3

MARCH 27, 2019 IN-PERSON MEETING

[HTTPS://WWW.UBERCONFERENCE.COM/GRIDWORKS](https://www.uberconference.com/gridworks)

# Agenda

10:00-10:15 Regulatory updates, final report schedule

10:15-11:30 Issue 23

- Report of sub-group
- Final discussion of proposals #3 and #4 on mobile inverter standards
- Final discussion of proposal #5 on mobile inverter pilots
- Portal improvements for EVSEs for tracking and other purposes; lessons learned
- Plan for issue write-up and commenting

11:30-12:15 Issue 24

- Issue brief and presentation by CALSSA
- Discussion

12:15-1:15 Lunch

# Agenda

## 1:15-2:00 Issue 20

- Review and discussion of IOU submissions on “exit ramp”
- Party comments on revised (3/20) CESA proposal
- Next steps

## 2:00-3:00 Issue 22

- Discussion of priority portal improvements
- Portal improvement roadmap/plan
- Final discussion

# Regulatory Updates

# Final report schedule

Issue	Final discussion	Final proponent proposal (+5 BD)	v1 issued (+5-7 BD)	Comments on v1 due (+10 BD)	v2 issued (+5-7 BD)	Comments on v2 due (+7 BD)	v3 issued (+1-5 BD)	Final report meeting
12 & D	2/13	---	2/25	3/11	3/25	4/3	4/10	5/8
15	2/13	---	2/25	3/11	3/25	4/3	4/10	5/8
16	2/13	---	2/25	3/11	3/25	4/3	4/10	5/8
A & B	3/6	4/3	4/11	4/25	5/2	5/13	5/20	5/8 #
22	3/27	4/3	4/11	4/25	5/2	5/13	5/20	5/29
23	3/27	4/3	4/11	4/25	5/2	5/13	5/20	5/29
20	4/17	4/24	4/30	5/14	5/17 *	5/24 *	5/27 *	5/29
24	4/17	4/24	4/30	5/14	5/17 *	5/24 *	5/27 *	5/29
27 & 28	4/17	4/24	4/30	5/14	5/17 *	5/24 *	5/27 *	5/29

# Final report process

Step	Description
1. Final issue discussion in WG meeting	Final understandings, agreements, proposals, and consensus/non-consensus reached and documented.
2. Proponent writes up “final proponent proposal”, which gets posted to Gridworks site but not issued for comments	Based on existing briefs, and taking into account discussions, IOU counter-proposals, and resolutions reached (consensus, etc.) during the final issue discussion. Contains nothing new that was not already discussed. To the extent possible, reflects and includes IOU positions and counter-proposals, and/or explains how the current final proposal came out of discussions about and understandings of IOU positions.
3. Gridworks issues “v1” initial report write-up	Gridworks summarizes proposal, represents all IOU and other party positions and comments, explains understandings reached in final issue discussion, provides consensus/non-consensus.
4. Parties comment on “v1”	Parties provide comments, clarifications, corrections.
5. Gridworks issues “v2” revised report write-up	Gridworks incorporates all comments.
6. Parties comment on “v2”	Parties comment on misrepresentations or errors.
7. Gridworks issues “v3” final report write-up	No comments solicited, any remaining comments handled during discussion of final report

# Issue 23

Should the Commission consider issues related to the interconnection of electric vehicles and related charging infrastructure and devices and, if so, how?

Sub-issues:

- a) Applicability of Rule 21 to V1G?
- b) V2G-capable with V2G de-activated:
  - How to test, certify, verify? Requires a technical working group?
  - Should Rule 21 still apply?
- c) Does V2G-DC require Rule 21 language changes, or just interconnection portal upgrades?
- d) How to develop V2G-AC standards? By what process? What are the key elements/questions of that process?
- e) V2G-AC pilots:
  - Should the process for granting interconnection approvals to pilots projects involving AC-coupled EVs be streamlined?
  - Should specific eligibility criteria for such a streamlined process be developed?

# Issue 23 Scoping Thoughts

- Stakeholders requested more procedural clarity
- ED staff met to discuss which elements of the initial discussions on Issue 23 should be handled in WG3
- Based on both procedural and practical considerations, the following three items were identified:
  1. Rule 21 process streamlining for DC-coupled EVs
  2. Process for pilot projects involving AC-coupled EVs
  3. Standards for AC-coupled inverters

**Staff thoughts only—not an official stance  
of the CPUC**

# Issue 23 Report of Sub-Group



# Issue 23 (for reference from past mtgs)

CESA-Nuvve-Honda Proposal (Jan 24)	IOU Comments (Feb 5; SDG&E added Feb 10)
<p>Proposal #3. Broaden the definition of “smart inverter” to include a system of components and allow certification to IEEE 1547 standards to enable V2G AC interconnections</p> <p>Proposal #4. Direct a sub-group in this proceeding to consider SAE J3072 applicability or changes needed for certain V2G AC systems to meet smart inverter requirements</p>	<p>PG&amp;E: V2G AC on-board inverter must be certified Rule 21 compliant. May be UL-1741 SA or a new SAE standard compliant with 1547.1. Need certification by a NRTL, could update Rule 21 to accept an equivalent SAE standard once reviewed and accepted by California IOUs.</p> <p>SCE and SDG&amp;E: need a working group for <u>all</u> V2G (technical) issues; WG3 should (only) discuss venue and scoping</p>

CPUC: Should CPUC encourage the development of standards for inverters for AC-coupled EVs that will facilitate their interconnection in the future? If so, how?

- Would a workshop be an appropriate discussion venue for this topic?
- Does J3072 test all functionality that is important for grid safety and reliability? If not, can it be updated to do so?
- Do other standards or standards-making bodies better meet the needs of consumers and of the CA grid?
- Is there a stakeholder who is familiar with both UL 1741SA and with J3072 who would be willing to present a comparison?

*staff thoughts only, not an official stance of the CPUC*

<https://gridworks.org/initiatives/rule-21-working-group-3/>

# Issue 23 (for reference from past mtgs)

## Honda Proposal on V2G-AC (added Feb 12)

The system would conform to IEEE 1547.1, provided that the point of interconnection (or EVSE) is UL-listed. This would clarify that there is always a UL-listed 'gatekeeper' for the system somewhere between the system and the grid.

The wording is flexible, but the key concepts are that (a) the system would conform to IEEE 1547.1, and (b) UL has certified that it is safe to allow a connection between the system and the grid.

# Issue 23 Proposal #3

## SCE Counter-Proposal (Feb 12)

- 1) SCE does not see necessary to update definition of “Smart Inverter” as that definition does not require that it be a “box”. However SCE would be acceptable to add “or inverter system” to the definition if stakeholders deem it would necessary for market clarification.
- 2) SCE agrees that once the updated to IEEE1547.1 is updated for increased inverter functionality (smart inverters) then Rule 21 will be updated to required certification of all inverters and inverter systems (stationary and onboard) to be certified under by an OSHA approve NRTL as currently implemented. Simply testing against the standard is not sufficient but consistent with all other inverters, NRTL certification will be required.
- 3) SAE J3072 does address certification of the inverter. SAE J3072 is only for information exchange between the EVSE and the onboard inverter system for purposes of configuring the onboard inverter systems. J3072 does not test the inverter for compliance with any IEEE standards. Instead, J3072 4.7 and 4.8 reference the IEEE1547 2003 for testing. Therefore, onboard inverter systems should be required to be certified and tested an OSHA approved NRTL consistent with all inverters connected to the grid.
- 4) Certification should only account when PEVs are connected to the grid (equivalent to stationary storage) not when inverter are not connected to the grid.
- 5) SCE is not in agreement to make any modifications to certification requirement under Rule 21 until all other standards have been approved and Rule 21 has been updated to conform to new updated IEEE1547 standards.

# Issue 23 Proposal #4

## SCE Counter-Proposal (Feb 12)

- 1) SCE does not support the interconnection of V2G AC until the standards, testing and certification processes have been clarified. Doing so, can lead to long review of interconnection requests and potential safety issues. For safety requirements, SCE heavily relies on the certification processes as outlined in question #1. SCE will not deviate from these requirements which complies with interconnection safety requirements for interconnection.
- 2) For these systems to be eligible for NEM paired storage, V2G systems would have to comply with the requirements of PUC decision R14-07-002 – Decision Granting Petition for modification of decision 14-05-003.
- 3) SCE agrees with CESA that WG#3 does not provide the sufficient time to address the very complex issues related to standards, compliance testing, and certification processes that is required to allow V2G -AC systems to interconnect to the grid in an expedited process. These issues include: compliance with NEC codes, compliance requirement under the various standards, and Rule 21 modifications
- 4) While SIWG has been task with addressing a number of technical issues from resolution E-4898, SCE believes that the SIWG is largely completed with those tasks and thus would be available for working on these complex technical issues. However, SAE technical personal, must be added to the SIWG to insure that all technical issues are properly addressed.
- 5) Given the complexity of the many technical specification, SCE does not support adding this scope to future working groups (WG #4). Instead, SCE proposes [a dedicated working group].

# Issue 23 (for reference from past mtgs)

## CESA-Nuvve-Honda Proposal (Jan 24)

Proposal #5. Clarify a pathway for parties to interconnect V2G AC systems on a timely basis for experimental and/or temporary use until the appropriate rules are updated in the future, consistent with any recommendations resulting from R.18-12-006, the VGI Roadmap, or other transportation electrification proceedings

## IOU Comments (Feb 5; SDG&E Feb 10 added)

PG&E: no specific comments

SCE: same comment as for #4

SDG&E: V2G systems should not deviate from Rule 21 requirements even on a temporary or pilot basis.

### CPUC:

- Should the process for granting interconnection approvals to pilots projects involving AC-coupled EVs be streamlined?
- What existing pilots are seeking this type of interconnection and what is their current status?
- Should specific eligibility criteria for such a streamlined process be developed?
- Should the Commission establish a target number of pilots or a limit on how many pilots may qualify for the streamlined process? Should only pilots be eligible for this streamlined process?

*staff thoughts only, not an official stance of the CPUC*

# Issue 23 Proposal #5

## SCE Counter-Proposal (Feb 12)

1) The main issue that SCE has observed with V2G systems is the lack of compliance with certification requirements. For interconnection safety requirements, SCE relies heavily on the certification requirements that have been approved by various standard committees (IEEE, UL). It is compliance with these standards why SCE has been able to interconnect large amount of DERs in grid in a safe and reliable manner.

To this end, SCE will not support any type of temporary or experimental interconnection which has not been deemed to be safe by approved certification entities. Doing so would be against SCE's principle of "safety first". Thus to the extent that certification compliance to the applicable standard is part of the temporary/experimental process, then SCE can work with interested stakeholder on that process that can allow temporary interconnection. However, SCE will not provide deviation to certification requirement under Rule 21

2) SCE would be acceptable to temporarily exempt V2G systems from smart inverter requirements. However, NRTL certification as required under section L for inverters using section H will be required. This exemption would only until the revision of IEEE1547.1 is updated and adopted under Rule 21.

# Issue 22 – Portal improvements for EVSE (DC/stationary) interconnection

CESA Issue 23 Proposal #2: Authorize V2G DC interconnections and make the appropriate modifications to the Rule 21 tariff and portal

CPUC questions from Issue 23 discussions:

- Would updates to interconnection paperwork and portals be beneficial?
- What updates?
- An option to select EVs as the interconnecting resource has been mentioned.
- How does this topic tie into Issue 22?
- Are tariff changes required?

*staff thoughts only, not an official stance of the CPUC*



# Issue 23 Portal improvements for EVSEs for tracking and other purposes; lessons learned



# Issue 23 Plan for issue write-up and commenting

## Issue 24

Should the Commission modify the formula for calculating the Cost-of- Ownership charge and, if so, how?

## Issue 24:

*Should the Commission modify the formula for calculating the Cost-of-Ownership charge and, if so, how?*

- What the rate level is (5.76%/yr): *out of scope?*
- What the rate applies to: *in scope*

### Background

#### **Cost of Ownership: Replacement and Recovery Charges**

- The cost-of-ownership charge covers a utility's on-going costs to operate and maintain upgraded facilities that are required to support an interconnection request.
- The charge currently includes the same types of costs the company incurs with its own existing facilities, such as depreciation, maintenance, property taxes, and cost of capital—despite the fact that these facilities are paid for in full by the interconnection customer.

## Background

### **Cost of Ownership: Replacement and Recovery Charges**

- Rates are set in General Rate Cases
  - The basis of the cost of ownership *rate* may be beyond the scope of this proceeding
- The formula for where this charge applies for interconnection customers should be addressed in this proceeding
  - In principle, the applicant should be responsible for, *and only for*, costs that the utility and ratepayers would not have otherwise incurred

### Questions to resolve #1

- To what extent should full GRC COO be applicable to equipment paid for in full by the applicant?
  - If the only utility cost is O&M, what portion of the COO is O&M?
- **Proposal 1:** That COO be applied only to the O&M portion

### Questions to resolve #2

- To what extent does replacement cost factor into charges?
  - If the service life of the equipment exceeds the term of the GIA, is it appropriate to assess replacement costs?
- **Proposal 2:** That COO replacement costs not apply to equipment paid for by the applicant with a service life equal to or exceeding the term of the GIA.

### Questions to resolve #3

- Should COO assessments avoid cost shifting between parties, and maintain ratepayer indifference?
- **Proposal 3a:** Cost of ownership should not apply where replacing existing facilities for which the utility would otherwise already have a cost of ownership, such as reconductoring or upgrading existing equipment.
- **Proposal 3b:** In the alternative, the applicant should be credited for the avoided utility cost of ownership of the equipment replaced.

## Issue 24 IOU Response

- Rates are calculated as established in Electric Rule 2 tariff as Special Facilities charges.
- Special Facilities can include: power quality conditioning equipment, peaking equipment, customer connection costs, installation and/or maintenance of facilities downstream of the meter.
- Revenues from Special Facilities reflect charges billed to customers for the installation, use, and/or maintenance of facilities by the utility at the customer's request.
- Cost of Ownership charge is assessed to the customer making the request so that the costs associated are not socialized to ratepayers.
- The IOUs do not believe that the Commission should modify the formula for calculating the Cost of Ownership charge at this time.

# Issue 24 Discussion



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# Lunch

## Issue 20

How should the Commission coordinate Commission-jurisdictional and Federal Energy Regulatory Commission- jurisdictional interconnection rules for behind-the-meter distributed energy resources, including modification of queuing rules for Rule 21 and Wholesale Distribution Access Tariff (WDAT) projects seeking to interconnect at the same location, clarification of the rules for projects wanting to transfer between the Rule 21 and WDAT queues, and streamlining of the transfer process?

## Issue 20 – Next Steps

Next steps for March 27 meeting:

- IOUs providing views by 3/22 on workable options for providing clarification to parties on how an “exit ramp” works for Rule 21 transition to WDAT (presuming there is no change in operational characteristics).

(What type and level of clarity do parties want for an “exit ramp” from Rule 21?)

- Are Rule 21 language changes required?

# Issue 20 Review and Discussion of Rule 21 to WDAT “Exit Ramp”

- IOUs believe that existing WDAT and Rule 21 tariffs are adequate to enable the transfer of interconnection projects between Rule 21 and WDAT.
- Possibilities on how to clarify process (PG&E):
  - Add reference language to Rule 21 (e.g. “to transition to WDT, refer to PG&E WDT GIP, currently Section 6.8.1.1 as such procedures may be modified from time to time”)
  - Apply current CPUC to FERC contract conversion procedures
- A detailed list of the transfer process (by each IOU) has been posted to OneDrive

# Issue 20 Review and Discussion of Rule 21 to WDAT “Exit Ramp”

SCE "here are a few rules, caveats and exclusions to mention in regards to SCE’s practice in implementing of this type of transfer request”:

1. The request by a Rule 21 IR to transfer to a WDAT GIA must be made to SCE in writing.
2. SCE will evaluate the request for eligibility.
3. SCE will alert the IC in writing of eligibility for this transfer, which will outline the next steps.
4. SCE will assign a new WDAT ID number to the IR, and timelines of the WDAT will govern the process going forward
5. The IC must be willing to abide by all of the terms and conditions in the WDAT GIA, some of which may be different than those in the standard R21 Interconnection Agreement.
6. SCE will also allow transfers in the opposite direction (e.g., a WDAT IR that requests a R21 Interconnection Agreement).
7. If for some reason the new GIA doesn’t work for the IC, the IC can go back to the initial tariff GIA. However, only one "U-turn" would be considered reasonable.



# Issue 20 Party Comments on Revised (3/19) CESA Proposal

Updated (March 19, 2019)

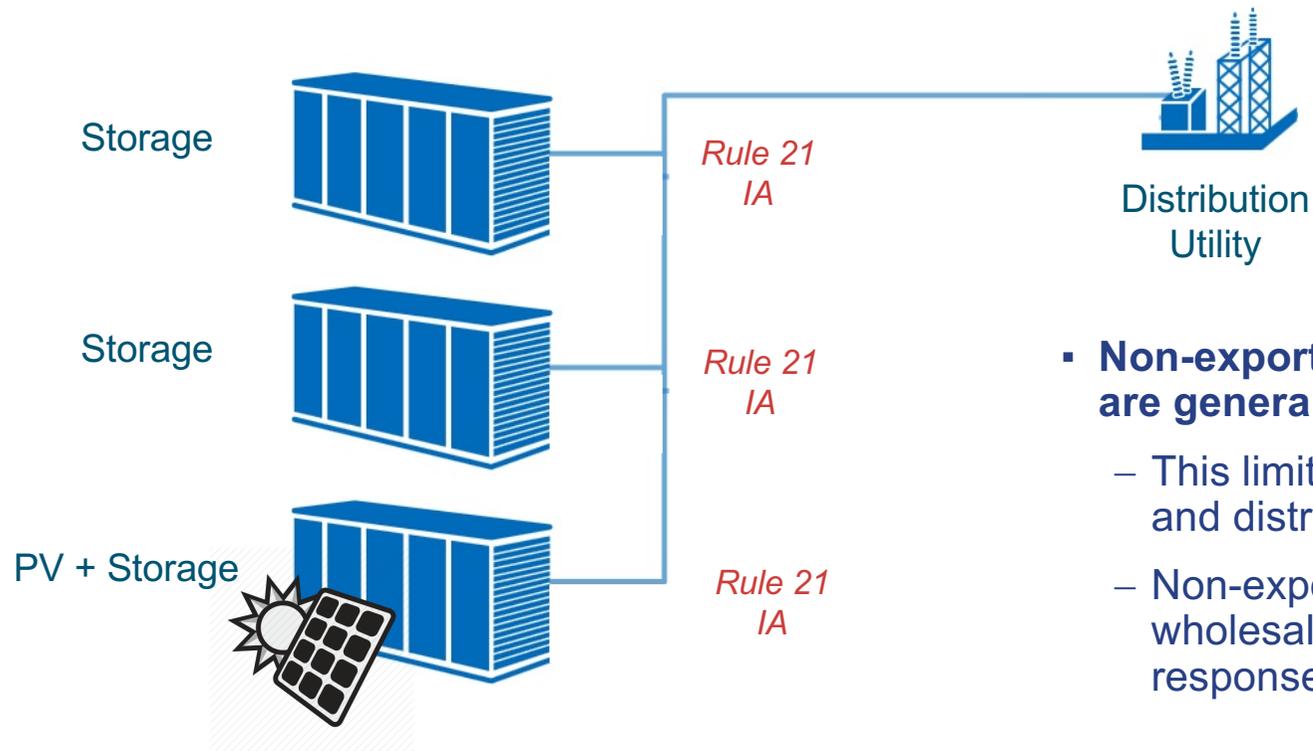
## Proposal Concepts

- Clarify transfer processes for projects in the Rule 21 interconnection queue to the WDAT interconnection queue
- Allow Rule 21 interconnection agreements to remain applicable until a project begins new resource implementation (NRI)
- Authorize limited export configurations previously interconnected under Rule 21 to avoid the cluster study process
- Direct further working group discussions on studying DER aggregations in Rule 21 to support streamlining when moving to WDAT processes, among other things

## Key Questions to Address

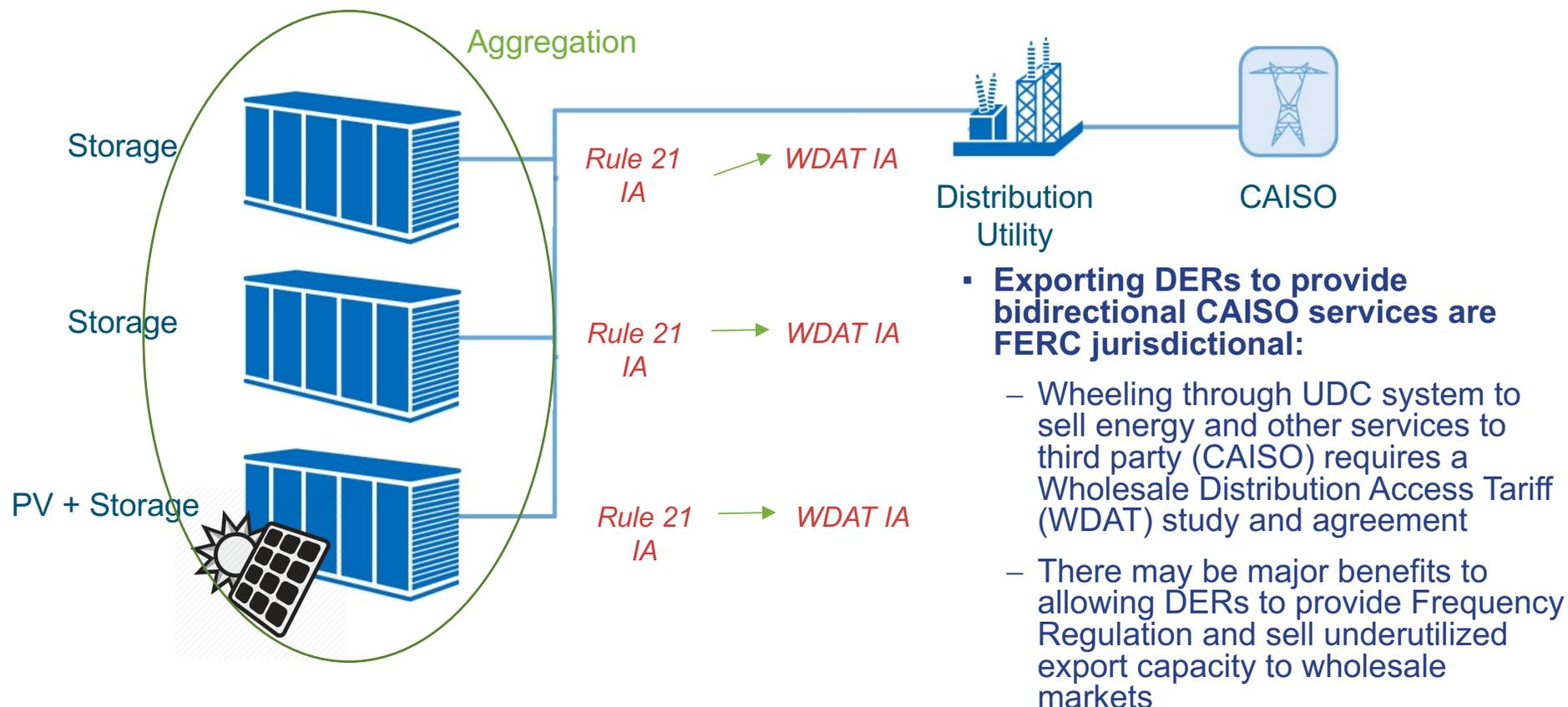
- **Working group discussions should focus on the following:**
  - Is the WDAT interconnection process required to re-study resources already studied under the Rule 21 processes?
  - If so, what are the key differences (e.g., reliability criteria) that must be re-studied?
  - How have the investor-owned utilities (IOUs) managed Rule 21 and WDAT transitions in the past, if there are any such examples?
  - Is the WDAT interconnection process required for assessing or establishing Resource Adequacy (RA) deliverability or for assessing deliverability impacts to other generators in the queue?
  - Are the deliverability impacts minimal to the degree that screens and pre-determined criteria for automatically exempting resources from the WDAT process?

## Status Quo

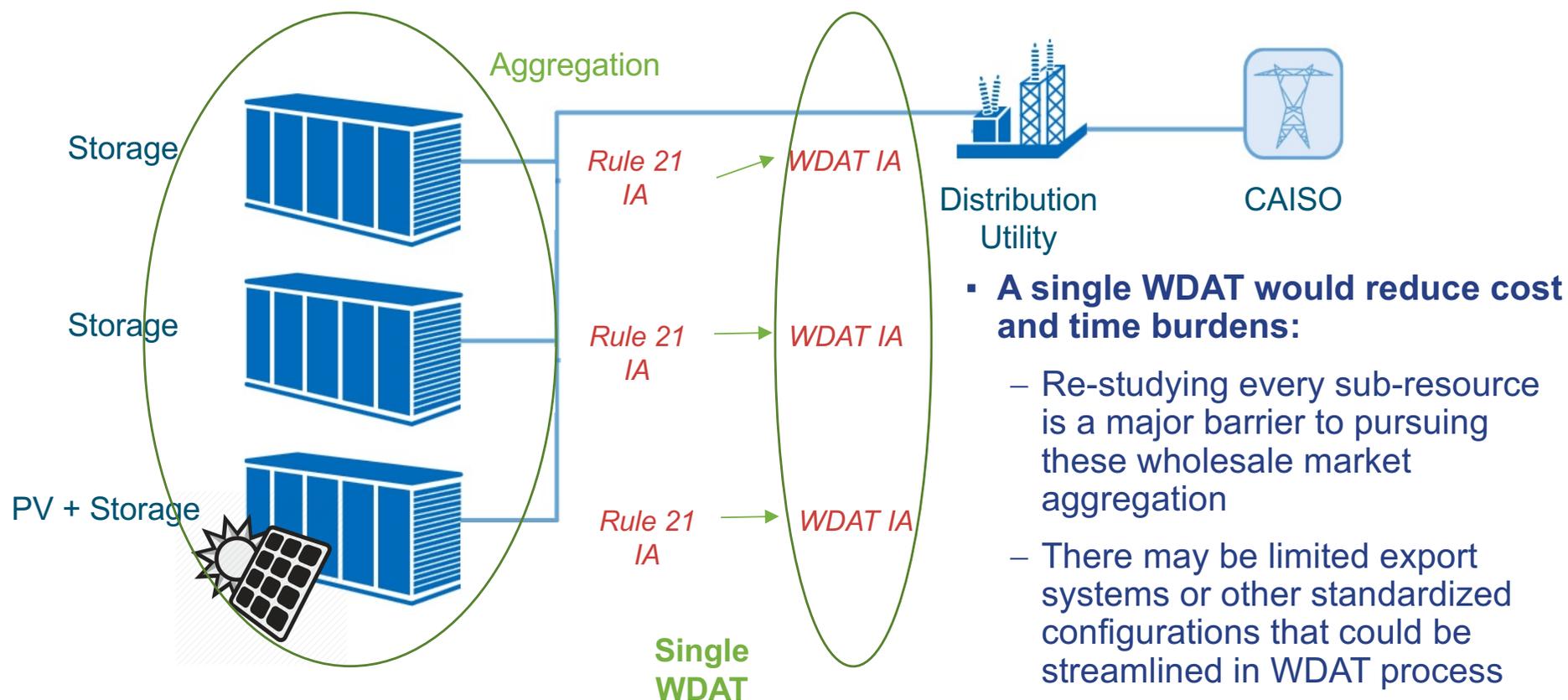


- **Non-exporting and exporting DERs are generally Rule 21 jurisdictional:**
  - This limits DERs to customer-sited and distribution services
  - Non-exporting DERs can access wholesale markets as demand response

## Enabling Aggregations & Wholesale Participation



## Streamlining Rule 21 to WDAT Transitions



## Issue 22

Should the Commission require the Utilities to make improvements to their interconnection application portals? If yes, what should those improvements be?

# Issue 22 Discussion: Interconnection portal improvements

Tam Hunt and Rebecca Davis, Green Power Institute

# Gridworks new survey responses

## Received responses from:

- SDG&E
  - “Many of these suggestions have already been included within the SDG&E interconnection portal and processes. SDG&E needs to hear what customers are looking for within our system specifically so that we can evaluate the ability to incorporate them within our existing portal. We want to make sure it is cost effective for the customers.”[\*]
- PG&E
  - “There was not an option for already have the functionality or already implementing functionality, so some answers represent what it did take to implement those features.
  - Additionally, our answers may be skewed towards longer term due to the high volume of work on the application portals already mandated this year. There are NEM Consumer Protection decision requirements, Working Group 1 requirements, potential Working Group 2 requirements, Smart Inverter requirements, and upcoming Zero Net Energy requirements. Additionally, we have our own initiatives underway improving the application portals for NEM Paired Storage and Enterprise Login functionality currently in-flight.”
- Nuvve
- LG Chem
- GPI
- SCE

# 1. Chat box for real-time conversations about issues that arise (proposed by CALSSA)

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Not needed	Long-term	Moderate
Nuvve			
GPI	Needed	Short-term	Low
LG Chem	Needed	Medium-term	Moderate
SCE	Not needed	Long-term	High

## 2. Include an option for transmission or distribution interconnection in the online application (JKB Energy)

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Needed	Medium-term	Low
Nuvve	Not needed		
GPI	Needed	Short-term	Low
LG Chem	Must-have	Short-term	Low
SCE	Needed	Long-term	Moderate

3. Provide an Application Programming Interface (API), harmonized across utilities, to the online portals as this will be helpful when interconnecting large numbers of DERs like EVs (Nuvve)

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Not needed	Long-term	High
Nuvve	Needed	Long-term	Moderate
GPI	Needed	Medium-term	Moderate
LG Chem	Not needed	Long-term	High
SCE	Needed	Long-term	Moderate

## 4. Include interconnection of EVSE inverters in online portals (Nuvve)

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Needed	Medium-term	Moderate
Nuvve	Must-have	Short-term	Moderate
GPI	Must-have	Short-term	Low
LG Chem	Not needed	Medium-term	Low
SCE	Needed	Medium-term	Moderate

## 5. Add DC V2G (vehicle to grid) interconnection options to portal (CESA)

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Needed	Medium-term	Moderate
Nuvve	Must-have	Short-term	Moderate
GPI	Must-have	Short-term	Low
LG Chem	Not needed	Medium-term	Low
SCE	Must-have	Long-term	Moderate

6. Add automated PAR option to portals. This would allow applicants to apply for, pay for, and receive PAR reports almost instantaneously.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Not needed	Medium-term	High
Nuvve			
GPI	Needed	Short-term	Moderate
LG Chem	Needed	Short-term	Low
SCE	Needed	Long-term	High

## 7. Automate the “deemed complete” process for standardized or template-based single-line diagram projects

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve			
GPI	Needed	Medium-term	Moderate
LG Chem	Must-have	Short-term	Low
SCE	Needed	Long-term	High

8. Online signature option for all required interconnection application and related signatures such as Generator Interconnection Agreements.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve	Must-have	Short-term	Low
GPI	Needed	Short-term	Low
LG Chem	Must-have	Short-term	Low
SCE	Must-have	Medium-term	Moderate

9. Add link in ICA maps that allows applicant to jump from the ICA map to the online interconnection portal, with location-specific information automatically populated

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		High
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve			
GPI	Needed	Medium-term	Low
LG Chem	Not needed	Long-term	Low
SCE	Needed	Medium-term	Moderate

10. Eliminate manual data entry as much as possible by integrating with applicant databases or allowing batch uploads

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve	Not needed		
GPI	Needed	Short-term	Moderate
LG Chem	Not needed	Medium-term	Moderate
SCE	Needed	Medium-term	Moderate

11. Eliminate requirement to provide existing system info when applying for additional interconnection capacity (either solar or storage).

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Medium-term	Moderate
Nuvve	Needed	Medium-term	Moderate
GPI	Needed	Short-term	Low
LG Chem	Needed	Short-term	Low
SCE	Not needed		

12. Automated data validation check when submitting application. Automatically perform a data validation check (on a minimal number of data points) to prevent the application from being submitted if the customer's data is not accurate. Auto-populate data from utility systems after the installer enters data to validate that they are have a relationship with the customer.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve	Needed	Medium-term	Moderate
GPI	Needed	Short-term	Moderate
LG Chem	Must-have	Medium-term	Moderate
SCE	Must-have	Medium-term	Moderate

13. Notification-only process for standard residential interconnections (certain configurations of pre-defined “standard” residential systems under a certain size).

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Not needed	Long-term	High
Nuvve	Needed	Medium-term	Low
GPI	Needed	Short-term	Moderate
LG Chem	Must-have	Short-term	Low
SCE	Not needed		

14. Remove customer interaction requirements in favor of customer notifications only. Implement a process in which the customer is not required to sign any documents or be involved in the interconnection process.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Not needed	Medium-term	Moderate
Nuvve	Needed	Short-term	Low
GPI	Needed	Short-term	Moderate
LG Chem	Not needed	Long-term	Low
SCE	Not needed		

15. Create one-click Authority Having Jurisdiction (AHJ) approval process, possibly app-based or web-based. The utility should create a means by which the AHJ can automatically submit inspection approval to the utility using an automated “one click” process.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve	Not needed		
GPI	Needed	Medium-term	Moderate
LG Chem	Needed	Medium-term	High
SCE	Not needed		

16. Allow applicants to access updated project status at any time, make edits at any time, and add search and filter functions based on contractor, customer, etc.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Medium-term	High
Nuvve	Needed	Medium-term	Low
GPI	Needed	Short-term	Low
LG Chem	Must-have	Short-term	Low
SCE	Needed	Medium-term	Moderate

17. Online payments for all payments, including standard payments such as NGOMs for residential storage systems or meter socket adapters.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	High
Nuvve	Needed	Medium-term	Moderate
GPI	Needed	Short-term	Low
LG Chem	Not needed	Short-term	Low
SCE	Must-have	Long-term	Moderate

# 18. Allow contractors to generate forms for standard agreements like IFFOA, NGOM, etc.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Needed	Long-term	Moderate
Nuvve	Not needed		
GPI	Needed	Short-term	Low
LG Chem	Needed	Medium-term	Moderate
SCE	Needed	Medium-term	Moderate

19. Have one state-wide portal for consistency. Or, if the portals remain separate, there should be consistency in project status names, visibility on whether the application is in the utility's hands or the installer's hands, and due date tracking.

	Priority	Timeframe	Difficulty/cost
San Diego Gas & Electric	Not needed		
Pacific Gas and Electric Company	Not needed	Long-term	High
Nuvve	Needed	Medium-term	Moderate
GPI	Needed	Medium-term	Moderate
LG Chem	Must-have	Short-term	Low
SCE	Not needed		

# Issue 22 – GPI discussion questions from March 6 meeting

- What are IOUs currently doing to improve their portals?
- What plans are pending for improving the portals?
- What types of automation may help improve the portals and the application process more generally (tying into Issue 8 automation discussions)
- What types of automation are already planned for improved portals?
- What other tools or process improvements could be relevant?
- What kinds of costs are implicated for improvements to the portals (automation-related or otherwise)?
- What potential funding mechanisms are available?
- To what degree should application portals be harmonized across IOUs?
- In light of all of these questions, should the Commission require IOUs to make improvements?
- What should those improvements be?

# Issue 22 – Next Steps

# Working Group Schedule

Date	Meeting	Initial discussion	Final discussion	Location
Mar 27	In person	24	22 & 23 (proposals #3, #4, #5)	CPUC – Courtyard Room
Apr 10	Call			
Apr 17	In person		20 & 24; 27 & 28	CPUC – Courtyard Room
May 1	Call			
May 8	In person	Final report		CPUC – Golden Gate Room
May 22	Call			
May 29	In person		Final report	CPUC – Courtyard Room
Jun 12	Call			
Jun 24	Report due			