



# Rule 21 Working Group 3

IN-PERSON MEETING

MARCH 6, 2019

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

# Agenda

## 10:00-10:15 Working Group Items

- Regulatory updates
- Working group further process
- Timelines for issue write-ups
- Future status reports for judge

## 10:15-11:15 Issue 20

- Initial presentation of issue by CESA
- Discussion

## 11:15-12:15 Issue 22

- Initial presentation of issue by GPI
- Discussion

## 12:15-1:15 Lunch

# Agenda

## 1:15-2:15 Issue 23

- Proposal #1 (V1G and V2G disabled), final discussion
- Proposal #2 (V2G-DC), final discussion

## 2:15-3:00 Issues A & B

- Further questions/clarifications of CALSSA proposal
- Discussion of two further questions posed by CALSSA:
  1. What do IOUs actually do during supplemental review about inadvertent export?
  2. What performance data of inadvertent export (from inverters) exists? There is equipment operating today under these types of conditions, can we get that data?

# Regulatory Updates



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# Working Group Further Process

# Timelines for Issue Write-ups

## Issues 12, 15, 16, D

- Feb 25 – Gridworks initial write-up of issue (v1)
- Mar 11 -- Parties provide comments, clarifications, corrections
- Mar 20 – Gridworks revised write-up of issue (v2)
- Mar 29 -- Parties comment on misrepresentations or errors
- Apr 5 -- Gridworks final write-up of issue (v3)

## Issues A & B

- Mar 4 - CALSSA finishes revised proposal as issue write-up (v1)
- Mar 6 - CALSSA presents write-up (v1)
- Mar 25 - Party comments due on initial write-up (v1)
- Apr 1 - CALSSA issues revised write-up (v2) based on comments
- Apr 15 - Party comments due on revised write-up (v2)
- Apr 29 - CALSSA issues final write-up (v3)



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# Future Status Reports for Judge

# Rule 21 WG #3 Issue #20

Rule 21 & WDAT Transitions

March 6, 2019



## Agenda

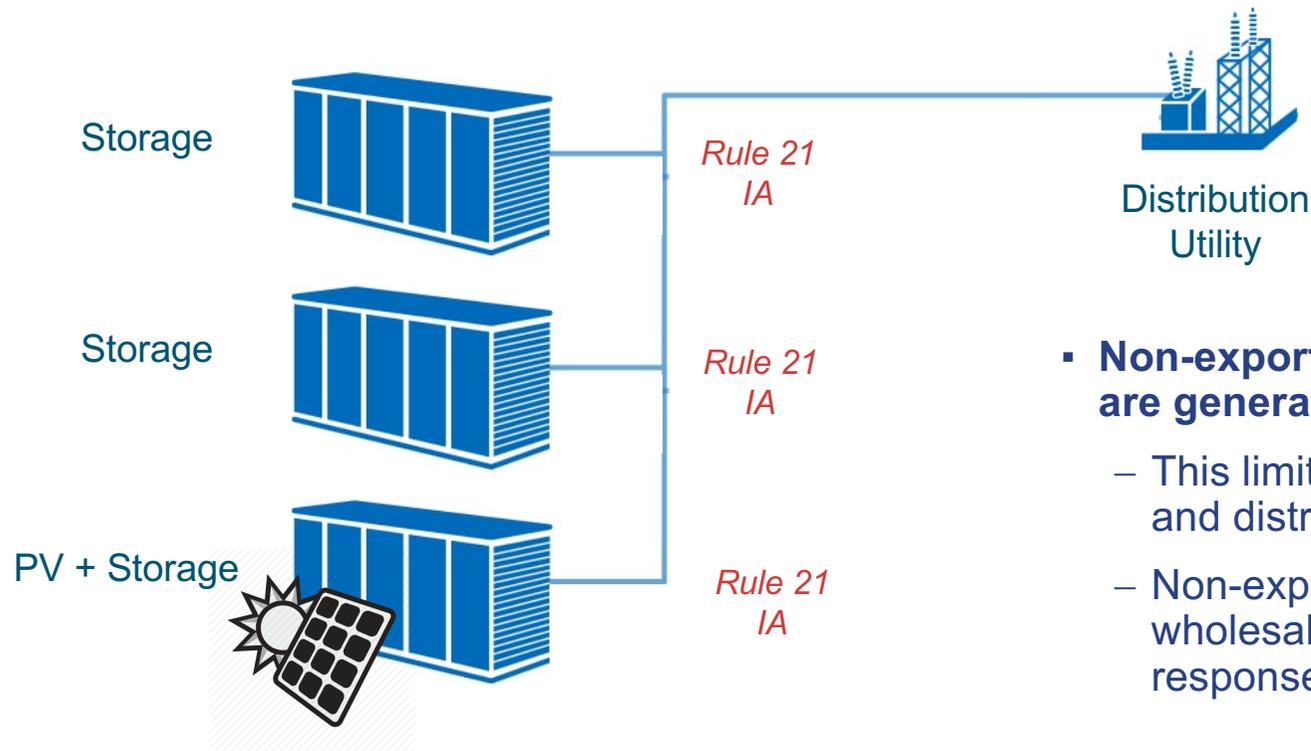
- **Introduction & Level Setting:**

- Why this is important
- Understand status quo process for managing Rule 21 and WDAT transitions

- **Proposal Concepts:**

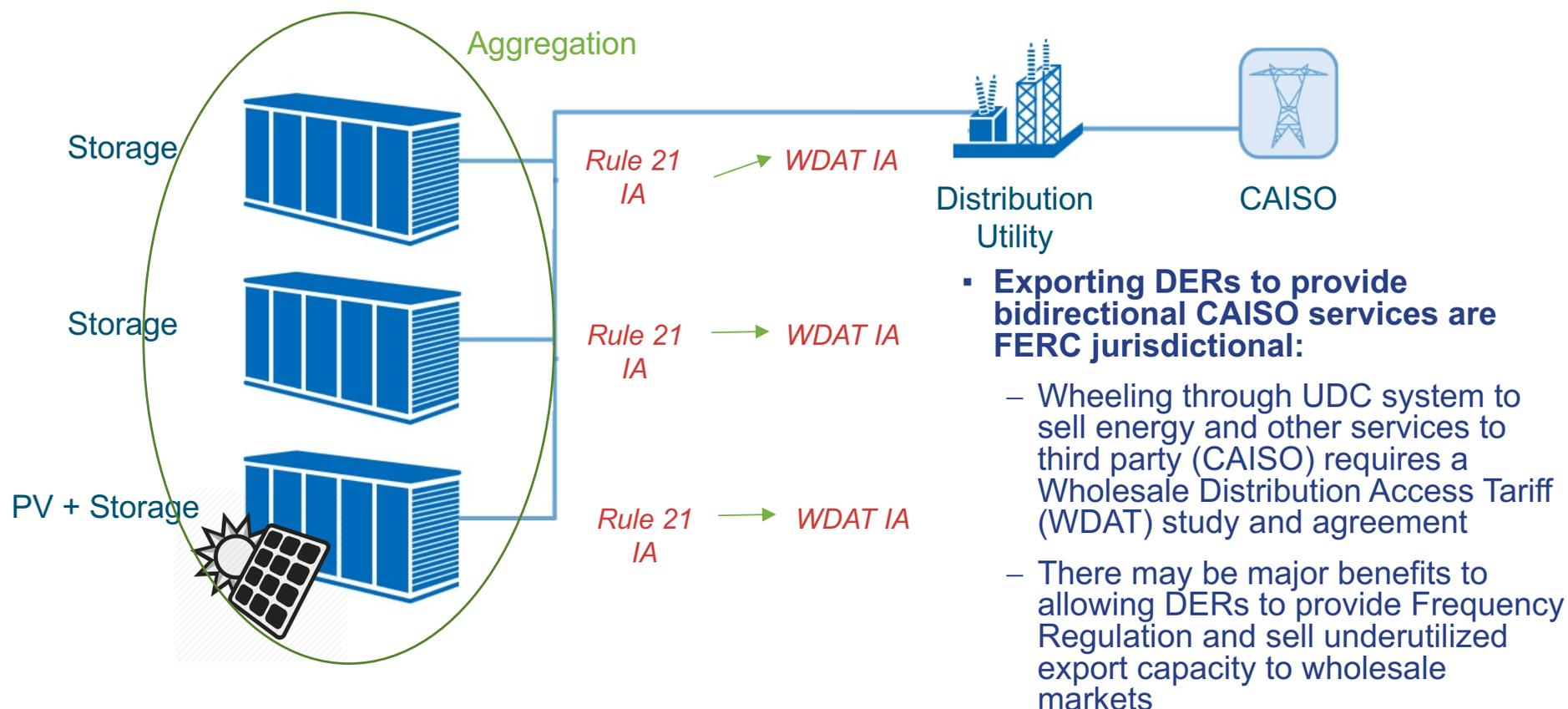
- Establish applicability of Rule 21 only when bi-directional capabilities are activated and utilized
- Authorize V2G DC interconnections and make the appropriate modifications to the Rule 21 tariff and portal
- Direct a sub-group within Working Group #4 in this proceeding (R.17-07-007) to more deeply address V2G AC interconnection issues
- Clarify a pathway for parties to interconnect V2G AC systems on a timely basis for experimental and/or temporary use

## Status Quo

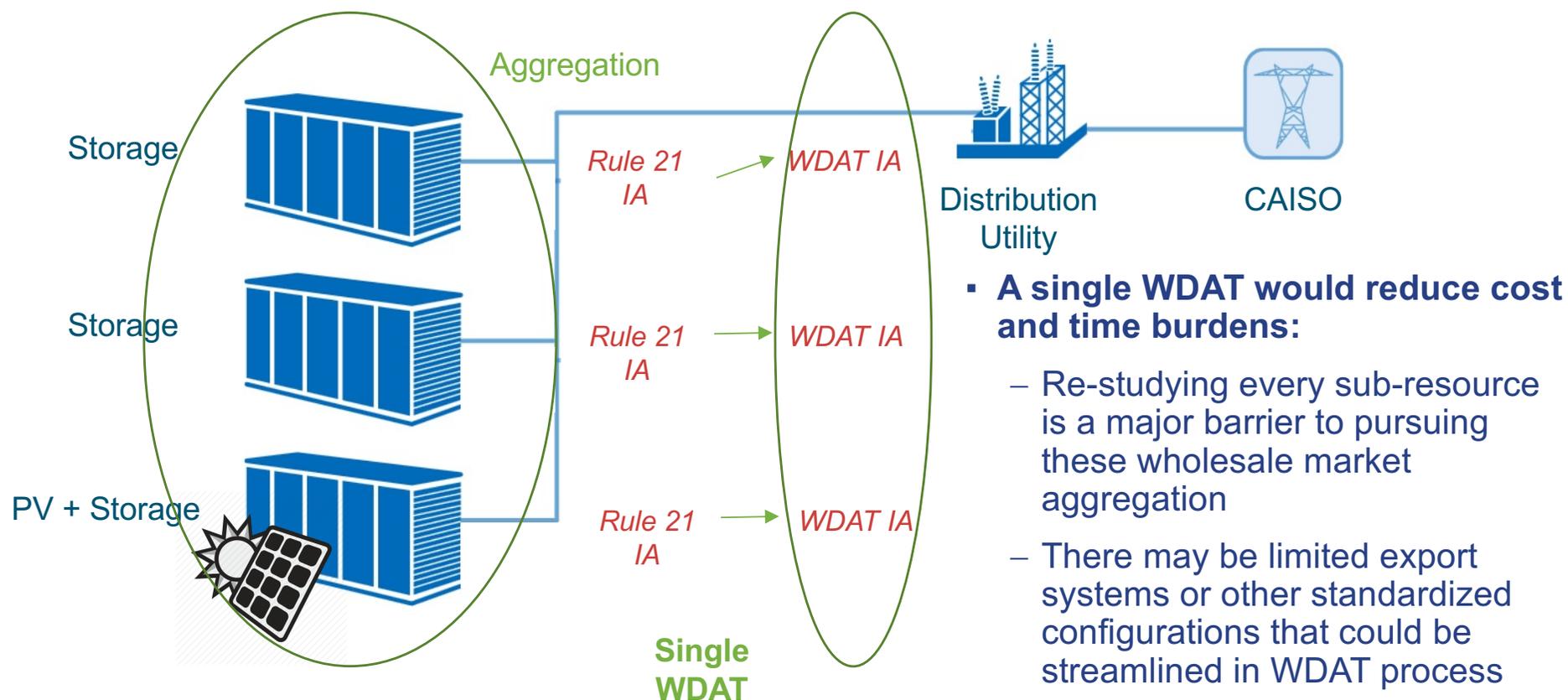


- **Non-exporting and exporting DERs are generally Rule 21 jurisdictional:**
  - This limits DERs to customer-sited and distribution services
  - Non-exporting DERs can access wholesale markets as demand response

## Enabling Aggregations & Wholesale Participation



## Streamlining Rule 21 to WDAT Transitions



## 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?

## Proposal Concepts

- **Establish WDAT Lite process with fast-track threshold and criteria for such multiple-site DER aggregations**
- **Explore whether there may be some standard configurations of limited export that may support the streamlining of WDAT review processes**
- **Identify key forum to have follow-up discussions to address technical details on creating a WDAT Lite process, including key actions to take to FERC**
- **Direct the utilities to map out Rule 21 to WDAT transitions**

## Thank You

### **Jin Noh**

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# Issue 20 Discussion

# Issue 22 Discussion: Interconnection portal improvements

Tam Hunt and Rebecca Davis, Green Power Institute

## Issue 22

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

# Subgroup activities

- GPI convened two subgroup calls to:
  1. discuss a number of survey questions posed by GPI in the preliminary issue brief and;
  2. brainstorm and vet portal improvement options
  3. In order to have a foundation for full working group discussions

# Survey responses

- Received responses from:
  - SCE
  - SDG&E
  - Nuvve
  - Tesla
  - CALSSA
  - JKB Energy

# Discussion questions

- 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?

# Portal recommendations offered (JKB Energy, Nuvve, CESA, CALSSA)

- Include an option for transmission or distribution interconnection in the online application (JKB Energy)
- 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)
- Include interconnection of EVSE inverters in online portals (Nuvve)
- Add DC V2G (vehicle to grid) interconnection options to portal (CESA)
- Chat box for real-time conversations about issues that arise (proposed by CALSSA)

# Portal recommendations offered (GPI)

- Add automated PAR option to portals
  - This would allow applicants to apply for, pay for, and receive PAR reports almost instantaneously if they deem the ICA map information to be insufficient, outdated (because of the 30-day refresh rate), or unreliable for any reason
- Automate the “deemed complete” process for standardized or template-based single-line diagram projects
  - An application must be processed by the utility within 10 Business Days (BDs), applicant notified of receipt, and if the Interconnection Request is deemed complete or not (Rule 21 E.5)
  - If deemed complete, applicant is notified automatically by email that Initial Review will be completed within 15 BDs (E.5.a, F.2.a)

# Portal recommendations offered (GPI)

- (cont.)
  - If not deemed complete, applicant is notified automatically of the deficiencies and that it will have 10 BDs (per the tariff) to cure (E.5.b). Deficiencies will often result in multiple rounds of corrections, with each round requiring 10 BDs by the IOU. With an automated application portal, the need for corrections should be significantly diminished and the turnaround time for notifying applicants of deficiencies may also be significantly diminished.
  - If the online portal application is populated correctly, the deemed completed process is automatable in two different ways:
- Provide template single-line diagrams (SLDs), that can be modified as required, for simpler projects. SDG&E's DIIS system has largely automated this process for NEM projects, including an automated SLD process template that applies to many straightforward projects by allowing the customer to select a generic generator configuration from the DIIS tool instead of supplying a project-specific SLD, and that generic configuration then serves as the SLD
- Larger behind-the-meter and front-of-meter projects require more complex SLDs and, for this type of project, dialogue windows should specify the needed information in order to safely interconnect such projects without requiring individualized SLD review

# Portal recommendations offered (GPI)

- Online signature option for all required interconnection application and related signatures such as Generator Interconnection Agreements (GIAs).
  - However, it is also important to ensure that the developer always has visibility into whatever materials related to a project are being submitted to and signed by the customer (if there is a customer involved who is not the developer). Accordingly, if the developer and the signatory are different parties (as in the case of most behind-the-meter projects), the developer should always be notified with the signatory of the online signature option.
- 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
  - This will begin a process of directly linking the ICA data to the interconnection portal

# Portal recommendations offered to date (Tesla)

- Eliminate manual data entry as much as possible by integrating with applicant databases or allowing batch uploads
  - Installers currently manually type data points into the online portals. This data is often stored in internal databases, which could be accessed using software tools, or exported into a file. The installer could export a data file from their system in a specific format (where all meter numbers are in the first column, and all account numbers are in the second column, etc.) and upload it to the utility's portal. The portal could then automatically input the relevant data into the utility's portal. Alternatively, the installer database and the utility's systems could be integrated to eliminate all manual touch points.
- Eliminate requirement to provide existing system info when applying for additional interconnection capacity (either solar or storage)
  - If this requirement is retained, then this information should automatically populate in the online portal after entering identifying customer information. For example, in SCE, if a customer is adding a battery to an existing solar system and does not have the existing system specifications, they must endure a month-long process to access this information. First, they must sign an authorization form to allow the installer to request the information on their behalf. Next, that form is submitted to the interconnection department at SCE. That team then sends a request to another SCE department to access the customer's existing system information. This information is then sent back to the interconnection team, who then sends it to the installer. Finally, the installer uses this information to fill out the interconnection application for the utility to review.

# Portal recommendations offered to date (Tesla)

- 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 have a relationship with the customer. For example, after the installer inputs the meter number and account number, the customer's information would automatically populate in the system (i.e., name and service address). PG&E – the applicant enters the customer's meter number and account number, after which the customer's name and service address auto-populate in the portal. If either piece of data is incorrect, the portal red flags this and does not allow the applicant to proceed. SDG&E – the applicant enters the customer's meter number, account number, name and service address. If one of the pieces of data does not match SDG&E's system, the portal red flags the incorrect field, and will not permit the applicant to proceed. None of the information auto-populates. SCE – the applicant enters the customer's service ID, and types in the customer's name and address. This data is not validated unless additional information is entered. The applicant may type in the customer's service ID and account number in order for the customer's name and address to auto-populate and to validate the service ID.
- Notification-only process for standard residential interconnections
  - Implement a “notification only” process for certain configurations of pre-defined “standard” residential systems under a certain size. If a project meets certain criteria, the installer would alert the utility of the installation, and would be able to proceed with turning the system on immediately upon passing the final building inspection without a formal PTO notification from the utility. Installers could be certified or have to maintain a specific success rate to participate in the notification-only process. For example, in NYSERDA's rebate program, installers are required to meet certain quality standards related to passed rebate inspections and complete application success rates. If the installer is not able to meet the standards, they are at risk of suspension from the rebate program. The Energy Trust of Oregon (ETO) rebate program issues an installer “report card” (example attached) which rates installers on a 3 star system in 3 categories. Higher ratings can qualify installers for additional program offerings.

# Portal recommendations offered to date (Tesla)

- 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. Precedent has been set by Sacramento Municipal Utility District (SMUD), which does not require customers to engage in the interconnection process.
- 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. Such a process could be implemented such that a developer is notified simultaneous with submission of inspection approval to the utility that the project can be turned on – providing the option for an automatic PTO if that is desired by developer. Is there potentially a role for the commission or the utilities as part of the working group process to do some outreach to priority AHJs? SDG&E only accepts inspection results from the AHJs directly. SDG&E has implemented an app to streamline receipt of notification that the AHJ inspection has passed. The AHJ inspector is able to look up a site address or meter number using an app on their phone, and search for the relevant utility application. The inspector clicks the relevant application, and is able to submit a notification of passed inspection directly to the utility. While there has been some adoption of this process, not all AHJs participate. When AHJs manually send inspection notices to the utility, there are issues with permits not being received or having to be re-sent multiple times. PG&E accepted inspection results from either AHJs or applicants, but are planning to remove the feature whereby AHJs can submit inspection results from their online portal. The portal prompts the applicant to enter the initial permit date, inspection date, permit number and then searches to check if the AHJ has submitted inspection results. If the AHJ has not sent the results but the applicant has a copy, the applicant is able to upload a copy. SCE does not accept the inspection certificate from the AHJ directly. The applicant uploads a copy of the inspection certificate.

# Portal recommendations offered to date (Tesla)

- 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.
  - Installers should have access to project statuses in the portals, including visibility on a projects age in status or “due date” to move into the next step. The portal should grant the ability to search and filter for projects based on contractor, customer and status (e.g., ability to search for all incomplete applications, or all projects currently undergoing engineering review, etc.). It should also include the ability to “self-serve” by allowing installers to edit applications after submission or cancel applications. It should also include a simple notes log to allow notes back and forth to replace manual emails.
- Online payments for all payments
  - Online payment is accepted for NEM systems but not for other standard payments such as NGOMs for residential storage systems or meter socket adapters. Online payment should be accepted for all payments.

# Portal recommendations offered to date (Tesla)

- Allow contractors to generate forms for standard agreements like IFFOA, NGOM, etc.
- Tesla argues that there should be one state-wide portal for consistency. 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. For example, PG&E does not provide any status updates in their portal, while SDG&E provides 3 general statuses (in progress, incomplete, and PTO), and SCE provides ~10 distinct project statuses.

# Issue 22 Discussion



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# Lunch

# 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





# Issue 23 (for reference from past mtgs)

CESA-Nuvve-Honda Proposal (Jan 24)	IOU Comments (Feb 5; SDG&E Feb 10 added)
<p>Proposal #1. Establish applicability of Rule 21 only when bi-directional capabilities are activated and utilized</p>	<p>PG&amp;E and SDG&amp;E: V1G must comply w/Rules 2, 15, 16. SCE: clarify that Rule 21 does not apply to V1G.</p> <p>PG&amp;E: V2G-capable with V2G turned off; (a) need to verify and guarantee turned off; (b) safeguards to avoid unapproved activation; (c) customer awareness--submit interconnection request and obtain approval prior to V2G use</p> <p>SCE: V2G-capable with V2G turned off; (a) Rule 21 should still apply (b) agree to streamlined interconnection process equivalent to section N &amp; O (c) need certification to ensure V2G not enabled</p> <p>SDG&amp;E: V2G-capable with V2G turned off; (a) Rule 21 should still apply (b) Need assurance against accidental discharge (c) Technical discussions needed and should take place outside of WG3</p> <p><a href="https://gridworks.org/initiatives/rule-21-working-group-3/">https://gridworks.org/initiatives/rule-21-working-group-3/</a></p>

# Issue 23 Proposal #1

## SCE Counter-Proposal (Feb 12)

SCE proposes redline to include Vehicle-to-Grid Load:

### 4. Interaction with Other Tariffs for Stationary or Mobile Storage Charging Load Treatment

For retail customers interconnecting stationary or mobile energy storage devices pursuant to this Rule, the load aspects of the storage devices will be treated pursuant to Rules 2, 3, 15, and 16 just like other load, using the incremental net load for non-residential customers, if any, of the storage devices.

Rationale for redline: This section in the rule is simply stating that increase load from charging will not be considered as part of Rule 21. It does not matter if it stationary storage or mobile storage in vehicle, its load portion is part of other rules (15/16) and thus no need increase the complexity of this language. In reality, the original language is good enough but capture the stakeholder's comments more explicitly, the minor red-lines could be added to Rule 21 Section B.4

Consideration for definitions on Vehicle-to-Grid Device and Activate; activation. SCE proposed definitions:

**Vehicle-to-Grid Device:** Electric Vehicle with an onboard storage device that is capable of bi-directional electrical energy with the use of a stationary onsite electrical vehicle supply equipment (EVSE) for interface with the customer load and utility electric power system

**Activate; activation -** SCE does not see it necessary to define these broadly used terms.



# Issue 23 (for reference from past mtgs)

CESA-Nuvve-Honda Proposal (Jan 24)	IOU Comments (Feb 5)
<p>Proposal #2. Authorize V2G DC interconnections and make the appropriate modifications to the Rule 21 tariff and portal</p>	<p>PG&amp;E: V2G DC with off-board EVSE certified Rule 21 compliant acceptable for interconnection. Still need to be reviewed &amp; approved for local facility impact, voltage, loading, similar to any other interconnection.</p> <p>SCE: V2G DC with off-board EVSE should follow existing Rule 21 and UL1741/SA certification process, and may use section N.</p> <p>SCE: “does not support determining the technical requirements, implementation mechanisms, and specific changes to tariff language within this proceeding”; consider other venues such as IC Discussion Forum</p>

CPUC: 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 Proposal #2

## SCE Counter-Proposal (Feb 12)

Additional areas of testing and certification need to be addressed and clarified in order to allow V2G-DC systems to be approved under Rule 21 in an expedited process.

- 1) For interconnection purposes under Rule 21, the EVSE which contains the stationary inverter must be treated consistent with all other inverter in the tariff
- 2) Testing and certification of the controls which prevent bi-directional power flow are necessary. These test should be consistent with PUC approved Non-export AC/DC converter definition requirements.
- 3) Operational configuration selection testing and certification. There is currently no testing and certification for the selection of specific EVSE configuration. Testing and certification should test the logic and controls of EVSEs to test that a configuration parameters limit the operation of the EVSE
- 4) No need to update interconnection portal exclusively to EVSE's as these will be treated as all other inverters connected at the PCC as provided by the customer
- 5) SCE does not see the need to adopt Sec. N for interconnection of EVSE used for V2G-DC.
- 6) SCE counter proposal to CESA's proposal of establishing NEM equivalent process for EVSEs (V2G-DC PVEs). SCE highlights that the NEM expedited process is based on meeting rule 21 A-H and being below 11KVA. To the extent that EVSE's can meet the same requirement with certifications, size limit, and simplicity of interconnection, then SCE believes that these EVSE interconnection can meet the same requirement.



# 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 23 (for reference from past mtgs)

CESA-Nuvve-Honda Proposal (Jan 24)

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

OTHER GENERAL COMMENTS

PG&E: coordinate with CEC VGI Roadmap Update, CPUC TE, other inter-agency efforts

PG&E: WG3 findings should be consistent with joint IOU SI white paper and approaches

PG&E: address aggregation and sub-metering in other venues and coordinate w/Rule 21, because scope extends beyond interconnection

SCE: concerned about other aspects of V2G in this proceeding not directly related to interconnection, take on in other proceedings

SDG&E: Detailed technical discussions whether and how Rule 21 should be revised to support the integration of electric vehicles should be done by a technical work group such as the SIWG.

# Issues A & B

Issue A: What changes are needed to clarify the parameters for approval of system design to achieve non-export and limited export?

Issue B: How should utilities treat generating capacity for behind the meter paired solar and storage systems that are not certified non-export?

Some questions or sub-issues:

- a) Timing of our process: wait for CRD standard, or not, before developing WG3 proposal?
- b) Scope of CRD: will CRD Phase 1 address NEM, non-export, and inadvertent export? Does Issue B require CRD Phase 2?
- c) End-to-end process: what is it, can we specify during WG3?
- d) Dependency on WG2: do Issues A & B depend on resolution of WG2 Issues 8 and 9?

## Issues A & B

- Further questions/clarifications of CALSSA proposal
- Discussion of two further questions posed by CALSSA:
  1. What do IOUs actually do during supplemental review about inadvertent export?
  2. What performance data of inadvertent export (from inverters) exists? There is equipment operating today under these types of conditions, can we get that data?

# Revised Schedule

Date	Meeting	Initial discussion	Final discussion	Location
Mar 6	In person	20 & 22	A & B & 23 (proposals #1, #2)	CPUC–Golden Gate Room
Mar 20	Call			
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			