**Issue 3 Proposal**

Working Group One

R.17-07-007

*DRAFT FOR DISCUSSION PURPOSES ONLY*

*Issue 3: How should the Commission clarify the definition of a “material modification” to a project and what should be the procedures for processing these modifications?*

1. **Proposal Summary**

The Commission should:

The “Working Group Proposals” section discusses the variations on the proposals and the different party support for each.

1. **Background**

A **Material Modification** is currently defined within the Rule 21 tariff as:

*Those modifications that have a material impact on cost or timing of any Interconnection Request with a later queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility. (Section C, page 25)[[1]](#footnote-1)*

Modifications are from time to time necessary to accommodate changing business conditions and the current Rule 21 Tariff facilitates some modifications to be made without the need for an applicant to withdraw the interconnection request and reapply. Language specifically addressing modification types and the timing of these requests are located within section F.3.c (Independent Study Process (ISP)) and F.3.d (Distribution Group Study Process (DGSP)) in Rule 21. Under the Rule 21 “Fast Track” study Process, the Rule 21 Tariff currently states that “No changes may be made to the planned Point of Interconnection or Generating Facility size included in the Interconnection Request during the Fast Track Process, unless such changes are agreed to by Distribution Provider.” The Fast Track Process, which is utilized for majority of the IOU’s DER interconnections (in particular, those processed under Net Energy Metering programs), was designed to allow for an expedited review of projects not expedited to create a significant impact to the electrical grid.

**Issue Presented:**

As highlighted above, existing Fast Track modification language includes the provision “unless such changes are agreed to by Distribution Provider.”[[2]](#footnote-2) Thus, the IOUs are allowed to consider modification requests within the Fast Track process for revisions to a planned Point of Interconnection or Generating Facility size under reasonable discretion. Stakeholders raised concerns with the current language in that it (a) its unnecessarily restrictive and (b) the IOUs utilize discretion in different ways to allow modifications within the fast track. From the stakeholders perspective, maintaining their place in the interconnection queue and not requiring the submission of a new interconnection request is important for time and cost certainty where changes have no adverse consequences.

Stakeholders also raised legitimate concerns that some circumstances are outside of their control therefore necessitating the need to make modification requests. Stakeholder provided examples include the following:

* Equipment Availability: The equipment that was designed for a particular project may not be available when it comes time to installing the system necessitating a swap of equipment.
* Un-Forecasted Upgrades: A project that is similar in size and nature to many other project submitted to the IOU but in a location that have more constraints than others resulting in a transformer upgrade or secondary line upgrade. The cost of the mitigations make the project uneconomic necessitating a downsize request to avoid upgrades.

Stakeholders also raised concerns whether modification requests have been treated consistently across the IOUs. The current treatment of modifications made within the Rule 21 Fast Track process was discussed within correspondence sent from Heather Sanders, Special Advisor at the CPUC, attached at Appendix D.

The IOUs are supportive of evaluating modifications within the Fast Track Process but highlight that the original design of the process did not consider modifications.

* **Timelines:** Timelines exist for when modification requests can be made in the ISP and DGSP and timelines to review them. Those timelines and tariff language does not exist in the Fast Track Process
* **Financial Security:** Financial Security is provided within the ISP and DGSP as projects progress to ensure that although modifications are made, that they are serious projects. This is important because modification of project sizes can impact other projects and financial securities help minimize such impacts. These provisions do not exist in the Fast Track Process.
* **Costs:** Fast Track Process costs are covered by fees collected. These fees were set based on historic costs of processing and engineering time to complete the Initial Review and Supplemental Review. These costs do not include costs of re-performing reviews based on modified interconnection requests. In contrast, ISP and DGSP are structured with deposits and actual costs to be billed once completed.

In addition to the structure of the process, it is important to emphasize that modification requests are reviewed for potential impact to other projects in the queue. A DER project utilizes capacity on the transmission or distribution system, and if the DER adjusts its capacity, that can impact the available capacity or lack thereof for another project. This becomes problematic when the IOU has completed studies or reviews for a DER project but because of a modification made by another project, the results must be modified to reflect that change. This causes a material impact to another interconnection party and must not be allowed to ensure fair and equitable treatment to all customers. In addition, projects processed under programs such as Net Energy Metering, represent significant volumes to each IOU and generally have been able to be processed under very expedited timelines that are much lower than what is allowed under the interconnection tariff due to the nature of these projects. Another consideration to allowing modifications and to what extent, is to not compromise the current timelines that these projects benefit from.

With these principles in mind, the IOUs agree that not all modification requests are equal and that some modification requests should be considered given in cases that a system re-study is not required or that it does not have a material impact on another party.

1. **Working Group Proposal**

***Proposal 1: Modify Rule 21 to Allow Certain Modifications under Fast Track***

Status: Consensus on the core proposal.

Discussion: The IOUs presented Table 1 attached for the various modification types it could allow under the Fast Track Process broken out by NEM 2 1MW or less and all other Rule 21 Projects under Fast Track.

These modification types are allowed under Fast Track for All Projects:

* Change Equipment Like for Like[[3]](#footnote-3)Size or Capacity[[4]](#footnote-4) Reduction (10% max) – no upgrades or mitigations identified
* Size or Capacity Reduction (10% max)– upgrades or mitigations identified but customer willing to pay

These modification types are allowed under Fast Track for All Projects except NEM 2 >1MW:

* Size Reduction (10% max) to avoid upgrades – need to validate there is no impact to other DERs

These modifications are not allowed under Fast Track for All Projects:

* Size or Capacity Increase
* POI Change (minor changes such as location of meter can be managed in the design/construction phase of the project).
* Changing Operational Profile of Energy Storage – to be reviewed in later working group
* Adding Storage to an existing interconnection request or existing interconnected facility – to be discussed further in the retrofits portion of the working group.

The IOUs also discussed the following as it relates to these modification types:

* **Number of modifications**: 1 opportunity to make a modification total for a given interconnection request however that modification request can incorporate more than one modification type
* **Fee for modification**: No additional fee required for most modification types except Size Reduction to Avoid Upgrades. PG&E and SCE propose a $300 fee to conduct a re-study to validate that no other DERs shall be impacted due to this modification request.
* **Processing Time**: 10 BD for processing time and 20 BD for engineering time. Timelines were mirrored on existing timelines for modification requests under the Cost Envelope option. See Appendix G for tariff language.
* **Cost Responsibility**: If a project downsizes and the revised size has a different cost responsibility than the original, the cost responsibility of the interconnection request does not adjust and remains based on the original interconnection request.
* **Other Modifications:** The IOUs propose that additional changes outside of the modification types identified here shall not be accepted within the Fast Track. The Interconnection Customer will be required to withdraw and reapply to make such modifications.

As a part of this proposal, Rule 21 tariff language may will need to be updated. Tariff language shall be drafted and proposed 30 days after Commission Decision.

***Proposal 2: Retrofits to existing interconnected resources***

Status: to be discussed further as part of the extension request of Working Group 1.

Discussion:

Currently, a new interconnection request is required under the following definition of the current Rule 21 tariff:

*Interconnection Request: An Applicant’s request to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of an existing Generating Facility that is interconnected with Distribution Provider's Distribution or Transmission System. (page 17)[[5]](#footnote-5)*

With respect to this definition, the working group discussed that the rules for managing retrofits to an existing interconnected resource warrants further discussion. The IOUs clarified that existing Rule 21 Tariff and Interconnection Agreements require the applicant to submit a new application reflecting the modifications to an existing facility. Stakeholders raised that inverters and panels require maintenance and as part of that, may be swapped which does not create additional or new safety or reliability concerns. The IOUs do not disagree and believe that this topic given its impact to hundreds of thousands of systems warrants additional time to fully vet the concerns and potential rules to address them.

Ultimately, stakeholders don’t want to spend time and money filing new interconnection requests, nor burden utilities investing with potentially, very large volumes of maintenance driven, new interconnection requests, for no material benefit. This would not be in the interests of the market, utilities or ratepayers. Replacing equipment is part of regular maintenance and components available today may differ slightly from the originals. It is important a common-sense approach is taken to balance the potentially significant burden and cost with the benefit gained.

It is important that the definition for a material modification to an existing system (retrofitting) is reviewed, to offer guidance to the market as to when a new interconnection request must be submitted. There may also be an option to notify the utility of non-material modifications to allow their records to be updated but avoid the submission of new interconnection request.

**Appendix A: Relevant Sections of Rule 21**

C. Definitions

**Material Modification:** Those modifications that have a material impact on cost or timing of any Interconnection Request with a later queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility.

SCE’s Definition:

**Material Modification:** Those modifications that have a material impact on cost or timing of any Interconnection Request with the same or a later queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility.

D.5. Design Reviews and Inspections

Distribution Provider may require a Producer to make modifications as necessary to comply with the requirements of this Rule.

Fast Track Process

F.2.a Initial Review

No changes may be made to the planned Point of Interconnection or Generating Facility size included in the Interconnection Request during the Fast Track Process, unless such changes are agreed to by Distribution Provider. Where agreement has not been reached, Applicants choosing to change the Point of Interconnection or Generating Facility size must reapply and submit a new Interconnection Request.

F.2.b Optional Initial Review Meeting

If modifications that obviate the need for Supplemental Review are identified, and Applicant and Distribution Provider agree to such modifications, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of the Initial Review results meeting if no Interconnection Facilities or Distribution Upgrades are required. If Interconnection Facilities or Distribution Upgrades are required, Distribution Provider shall provide Applicant with a non-binding cost estimate of any Interconnection Facilities or Distribution Upgrades within fifteen (15) Business Days of the Initial Review results meeting.

F.2.d Optional Supplemental Review Meeting

If modifications that obviate the need for Detailed Study are identified and Applicant and Distribution Provider agree to such modifications, Distribution Provider shall provide Applicant with a Generator Interconnection Agreement within fifteen (15) Business Days of the Supplemental Review results meeting if no Interconnection Facilities or Distribution Upgrades are required. If Interconnection Facilities or Distribution Upgrades are required, Distribution Provider shall provide Applicant with a non-binding cost estimate of any Interconnection Facilities or Distribution Upgrades within fifteen (15) Business Days of the Supplemental Review results meeting.

Independent Study Process

F.3.b.v Independent Study Process

At any time during the course of the Interconnection Studies, Applicant, Distribution Provider, or the CAISO, as applicable, may identify changes to the planned Interconnection that may improve the costs and benefits (including reliability) of the Interconnection, and the ability of the proposed change to accommodate the Interconnection Request. To the extent the identified changes are acceptable to Distribution Provider, the CAISO, as applicable, and Applicant, such acceptance not to be unreasonably withheld, Distribution Provider shall modify the Point of Interconnection and/or configuration in accordance with such changes without altering the Interconnection Request’s eligibility for participating in Interconnection Studies.

Modifications permitted under this Section F.3.b.v shall include specifically:

(a) a decrease in the electrical output (MW) of the proposed Generating Facility;

(b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; and

(c) modifying the interconnection configuration.

For any modifications other than those permitted above, Distribution Provider, in coordination with CAISO, if applicable, will evaluate whether the proposed modification to the Interconnection Request constitutes a Material Modification.

Distribution Provider will inform Applicant in writing whether the modifications would constitute a Material Modification within ten (10) Business Days of receipt of the proposed request for modification. Any change to the Point of Interconnection, except for that specified by Distribution Provider in an Interconnection Study or otherwise allowed under this Section F.3.d.v, shall constitute a Material Modification.

If the proposed modification is determined to be a Material Modification, Applicant may either withdraw the proposed modification or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification determination results.

Proposed modifications determined not to be Material Modifications may still necessitate the need to re-evaluate the System Impact Study to determine modifications to the Interconnection Facilities and Distribution Upgrades. Distribution Provider will provide Applicant an estimate of time to complete the re-evaluation and the associated incremental cost required to complete the re-evaluation. Applicant may either accept the additional time and cost to complete the re-evaluation, withdraw the proposed modification request, or proceed with a new Interconnection Request for such modification. Applicant shall make such determination within ten (10) Business Days after being provided the Material Modification results.

Distribution Group Study Process

F.3.c.vii Distribution Group Study Process – Similar Language to the Independent Study Process

**Appendix B: Scoping Memo Dated 11/27/17**

**Working Group 1 - Issue 3**

**Please note that this is a preliminary draft. Not all Stakeholders have had a chance to add input. Many key stakeholders are unavailable due to the Thanksgiving Holidays. However, this captures the theme of Issue 3 whilst some detail will still be added. In an effort to progress the working group’s activities and manage the time pressures created due to the Thanksgiving holidays as best possible, this draft serves to provide clarity on the theme and stimulate discussion but is not a finalized scope for Issue 3 Working Group 1.**

**Question:**

*How should the Commission clarify the definition of a “material modification” to a project and what should be the procedures for processing these modifications?*

**Overview by CESA:**

A “material modification” is:

*Those modifications that have a material impact on cost or timing of any Interconnection Request with a later queue priority date or a change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility. (Section C, page 25)**[[6]](#footnote-6)*

A “material modification” triggers a new interconnection review process, which in some cases can be unnecessary and cause additional time and cost. In other cases, developers may not wish to pursue a project if exposed to a new interconnection assessment. Finally, today there is a perceived inconsistency in what constitutes a “material modification’ and how these rules are being applied across the IOUs.

We seek to clarify “material modification” in order to provide a clear and consistent pathway for modifying DER installations. The definition should be reflective of the impact to the grid and ensure triggering a new interconnection assessment is only carried out when appropriate. A framework with appropriate thresholds can inform the market to both facilitate non‑material modifications with reduced burden, time and cost impacts and provide certainty and consistency for undertaking material modifications.

**The problem**

The current definition of what a Material Modification does not offer the market enough information to pursue non-material modifications or understand the process for material modifications, nor does it appear to be applied consistently across IOUs. The definition that is being applied may also cause new interconnection reviews to be conducted when unnecessary, adding cost and time to projects.

**Additional Information**

Some relevant definitions from Rule 21 are:

***Interconnection Request:*** *An Applicant’s request to interconnect a new Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Generating Facility that is interconnected with Distribution Provider’s Distribution or Transmission System.*

*Modifications permitted under this Section F.3.b.v shall include specifically: (a) a decrease in the electrical output (MW) of the proposed Generating Facility; (b) modifying the technical parameters associated with the Generating Facility technology or the Generating Facility step-up transformer impedance characteristics; and (c) modifying the interconnection configuration. For any modifications other than those permitted above, Distribution Provider, in coordination with CAISO, if applicable, will evaluate whether the proposed modification to the Interconnection Request constitutes a Material Modification.*

*If the proposed modification is determined to be a Material Modification, Applicant may either withdraw the proposed modification or proceed with a new Interconnection Request for such modification.*

The purpose of a behind‑the‑meter storage in most cases is to reduce demand charges, increase self‑generation and other customer bill benefits. Therefore, retrofitting energy storage to a PV installation typically does not add to the site’s peak load, such as defined as Operational Mode 2 in the Rule 21 definitions. [[7]](#footnote-7) In addition, by charging energy storage from local generation reduces export to the grid which generally increases hosting capacity. Therefore, the operating profile rather than additive nameplate ratings are important when considering a material modification. The buffering of the draw and export from and to the grid by energy storage is favorable compared to a previous solar PV only configuration. Therefore, to block, add cost or slow down a modification that can assist the grid is not desirable to get the best outcome for all ratepayers.

**Questions that may assist progress**

What is the cost threshold used in determining Material Modification?

What is the time threshold used in determining Material Modification?

Is operating profile considered or is additive nameplate considered when assessing size?

Some specific Scenarios:

* Does retrofitting a 10kW energy storage system to an existing 10kW PV system constitute a material modification?
* Does retrofitting a 10kW energy storage system, that adheres to operation mode 27, to an existing 10kW PV system constitute a material modification?
* Does increasing the amount/capacity of solar panels behind an existing inverter constitute a material modification?
* Does a NEM 1 solar system transition to NEM 2 if a non-material modification is made?
* Does a NEM 1 solar system transition to NEM 2 if a material modification is made?

**Goal**

* Develop a standard definition for material modification that includes appropriate thresholds (time, cost and/or change in capacity) to offer guidance to the market and allow consistency. These should be appropriate with respect to potential grid impacts.
* Clarify the operating profile is considered rather than an just additive nameplate capacity approach which is likely inappropriate.
* Clarify or establish that retrofitting existing PV facilities with energy storage does not constitute a material modification unless it changes the impact on the grid beyond a defined threshold. i.e. increases export or peak by more than (x) %.
* In addition to a general definition, defining if some common examples are a material modification would be useful for the market.

**Appendix C: Utility Discussion on Material Modification**

**Utility Discussion Summary for Rule 21 Material Modification Allowances**

**Draft for Discussion Purposes Only and Subject to Additional Review and Management Approval**

**November 27, 2017**

1. **Material Modification Tariff Overview**

In accordance with Section C of Rule 21 (Definitions), a “Material Modification” is defined as "***[a modification] or modifications that have a material impact on cost or timing of an Interconnection Request with the same or later queue priority date or change in Point of Interconnection. A Material Modification does not include a change in ownership of a Generating Facility."***

In addition, R21 Section 3.b.v (“Modifications” under the Independent Study Process) and Section 3.c.vii (“Modifications” under the Distribution Group Study Process) state *“[a]ny change to the Point of Interconnection, except for that specified by Distribution Provider in an Interconnection Study or otherwise allowed under this Section F.3.b.v [or Section F.3.c.vii, respectively], shall constitute a Material Modification.”*

1. **Working Group Issue Presented**

***How should the Commission clarify the definition of a “material modification” to a project and what should be the procedures for processing these modifications?)***

**A*.* Pre-Interconnection Agreement Execution Project Modifications**

R21 Section F.3.b.v. and Section F.3.c.vii recognize that "[a]t any time during the course of Interconnection Studies, Applicant, Distribution Provider, or the CAISO, as applicable, may identify changes to the planned Interconnection that may improve the costs and benefits (including reliability) of the Interconnection, and the ability of the proposed change to accommodate the Interconnection Request." Both Sections of R21 further highlight that "project modifications including project decreases, modification to technical parameters or interconnection figurations, are reviewed pursuant to the governing Material Modification definition of ***whether the proposed modification of the interconnection request has a material impact on the cost or timing of other projects either sharing or later within the interconnection queue***.

By way of further example, R21 Section F.3.b.v. and Section F.3.c.vii do allow for certain modifications which include decrease of electrical output, changes on technical parameters or changes to the project’s configuration. However, any of these permitted changes, although not “*material*”, may require a review of the technical studies that have been performed for the project prior to the modification request. This review requires consent from the interconnection customer (following the utility’s proposed cost and schedule of the review) and commonly impacts the timing of the final interconnection agreement for the project to allow for utility review of the proposed change. If the project’s project modification does rise to the level of a Material Modification, the Interconnection Customer is given an opportunity to decide whether to proceed with the project without the proposed modification or withdraw the interconnection request from the utility’s interconnection queue and submit a new interconnection request with the desired changes.

The concept of impact to another “later queued party” whether in cost or time has been utilized as a best practice in viewing whether a proposed project change can be accommodated within an Interconnection Applicant's existing application or whether a new application is warranted.

Based on review of CESA's initial comments, stakeholders are requesting illustrative examples to support transparency regarding how modifications are addressed within the interconnection process, including how the IOU application of the material modification standard discussed above. The IOUs look forward to working through these items with stakeholders and determine what, if any, R21 revisions may be appropriate as compared to additional stakeholder guidance.

**B. Post Interconnection Agreement Project Modifications**

The IOUs recognize that interconnection applicants may also need to propose project modifications after interconnection agreement due to equipment availability, final design arrangements and other factors. In particular, no R21 procedures exist directly governing how project modifications are addressed after an Interconnection Agreement is executed.

At the Wholesale Distribution Tariff level, existing procedures exist regarding how to address such changes and address critical questions such as cost responsibility, system reviews and transparency on process. As part of this Working Group discussion, it may be appropriate to discuss the issue of "post Interconnection Agreement" changes and whether existing procedures utilized at the wholesale level should be applied within R21.

**Appendix D: Downsizing Email per the Interconnection Discussion Forum**

**From:** Sanders, Heather [<mailto:Heather.Sanders@cpuc.ca.gov>]   
**Sent:** Monday, November 27, 2017 1:32 PM  
**To:** Evans, Mary Claire E.; Sanders, Heather  
**Subject:** IDF Update: Downsizing During Rule 21 Fast Track Review Process

Stakeholders,

One of our interconnection discussion forum objectives is to communicate understanding of how Rule 21 is being implemented in the case where there could be different interpretations of the Rule.

The following seeks to clarify how each IOU will treat reductions in size to solar systems after initial submission.  Note that all the scenarios relate to the customer being in the initial review fast track process.

        Both PG&E and SDG&E will not require application withdrawal and resubmittal when the system size is reduced and either no mitigations (upgrades) were required, or the customer accepts them.

        SDG&E will not require application withdrawal and resubmission in the case the system size has reduced and mitigations were required and the customer doesn’t accept them, while PG&E currently does but is open to discuss the treatment on a case by case basis.

        SCE evaluates the request applying a Material Modification standard.

        All three IOUs require application withdrawal and resubmission if the size has increased.

See below for the scenarios and individual utility responses.  Please respond with any clarifying questions.

Thanks,

Heather

**Heather Sanders**

Special Advisor, Energy Division  
 (916) 327–6786 | cell (916) 224–4479

**From:** Plummer, Matthew [<mailto:M3Pu@pge.com>]   
**Sent:** Thursday, November 16, 2017 3:55 PM  
**To:** Sanders, Heather <[Heather.Sanders@cpuc.ca.gov](mailto:Heather.Sanders@cpuc.ca.gov)>  
**Cc:** Evans, Mary Claire E. <[MaryClaire.Evans@cpuc.ca.gov](mailto:MaryClaire.Evans@cpuc.ca.gov)>; Charipar, Kristin <[KDCI@pge.com](mailto:KDCI@pge.com)>; Diana Genasci ([diana.s.genasci@sce.com](mailto:diana.s.genasci@sce.com)) <[diana.s.genasci@sce.com](mailto:diana.s.genasci@sce.com)>; Kathryn Enright <[Kathryn.Enright@sce.com](mailto:Kathryn.Enright@sce.com)>; joe mccawley <[JMcCawley@semprautilities.com](mailto:JMcCawley@semprautilities.com)>  
**Subject:** Update: Downsizing During Rule 21 Fast Track Review Process

Heather,

You contacted each utility to ask that they explain how they interpret and apply relevant Rule 21 tariff provisions to address four scenarios.  We understand these four scenarios to be as follows:

**Scenario Overviews:**

        Scenario 1: Customer is currently being reviewed under the Fast Track Initial Review process.  During this process, no mitigation was identified.  The customer then requests to decrease the inverter nameplate of their proposed generating facility.

        Scenario 2: Customer is currently being reviewed under the Fast Track process.  During this process, a mitigation(s) was identified.  The customer then requests to decrease the inverter nameplate. The customer accepts the mitigation.

        Scenario 3: Customer is currently being reviewed under the Fast Track process.  During this process, a mitigation(s) that was identified.  The customer then requests to decrease the inverter nameplate. The customer does not accept the mitigation.

        Scenario 4: Customer is currently being reviewed under the Fast Track process.  During this process, no mitigation was identified.  The customer then requests to increase the inverter nameplate of their proposed generating facility.  The change may or may not trigger mitigation.

**Utilities Responses**

For each scenario, a utility evaluates requests to change inverter nameplate pursuant to Rule 21, including Sections F.2.a, F.2.b and/or F.2.d.

        PG&E:  For Scenarios 1 and 2, PG&E will not require withdrawal and a new application.  For Scenario 3, PG&E will require withdrawal and a new application, but is open to more discussion. For Scenario 4, PG&E will require a new application as the change may trigger mitigation.

        SCE:  For customer requests to decrease nameplate (Scenarios 1, 2 & 3), SCE evaluates the request applying a Material Modification standard to determine whether a new application is required.

        SDG&E: For Scenarios 1, 2, and 3, SDG&E will not require withdrawal and a new application.  For Scenario 4, SDG&E requires a new application as the change may trigger mitigation.

Best,

Matthew Plummer

Regulatory Relations

Pacific Gas and Electric Company

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San Francisco, CA 94105

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**Appendix E: Material for Nov 30 WG Meeting**

**Rule 21 Reform**

**Material Modification Definition**

How should the CPUC clarify the definition of “material modification” for purposes of requiring a customer to resubmit the interconnection application?

**Types of Changes**

1. Reductions in system size

A. No mitigation or customer pays mitigation – all three IOUs are okay on this now

B. Changes to avoid mitigation – when should this be allowed without losing queue position?

2. Minor increases in system size

Should increases up to X% be allowed?

Does this need go away if we always judge system size by nameplate rating?

3. Changing equipment that is electrically similar or equivalent

A. Always cut and dry looking at changes to nameplate rating and short circuit duty? How much variation should be allowed?

B. What about storage? What are the specs that need to be looked at?

4. Changing the operational profile of a smart inverter or a charge controller

5. Minor design changes

Is this only about changing the point of interconnection?

Changing the location of inverters or other balance of systems equipment is not material

**Other Issues**

1. Fees for restudy – Billed for actual costs after the initial study if restudy is required

2. Best practices at results meeting

When to offer information on ways to avoid mitigation

**Discussion Draft of Proposal**

These items are offered for the purpose of facilitating discussion. They have not been approved by solar and storage providers or any other stakeholders.

1. Decreases in system size should be allowed if no mitigation is required or if the customer agrees to pay for mitigation.
2. Decreases in system size should be allowed without losing queue position if the initial study finds that the decrease would avoid the need for mitigation.
3. Decreases in system size may be allowed that remove the need for mitigation without losing queue position if only minor restudy is required to confirm the decrease will remove the need for mitigation, at the discretion of the utility.
4. System size should be determined by nameplate capacity.
5. If operational settings for the inverter or storage device are proposed for purposes of staying within hosting capacity, the applicant may make changes to those settings that remove the need for mitigation without losing queue position, at the discretion of the utility.
6. Inverters can be changed if they do not increase system size or fault current more than 10%.
7. Storage devices can be changed if the charge or discharge capacity does not increase more than 10%.
8. Other equipment can be changed if it is reasonably equivalent.
9. The point of interconnection can be changed if it is within the same distribution system node. Changing the point of interconnection to a different node may be allowed without losing queue position at the discretion of the utility.

# **Appendix F: Notes for Nov 30 WG Meeting**

# Notes from Afternoon Session (Mary Claire Evans, CPUC and Will Chung, PG&E)

DRAFT – Represents technical discussion only. Other considerations such as NEM eligibility, interconnection processing, costs and time to manage modifications, and forms/contracts were not taking into consideration when developing this draft.

**Fast Track applicants who make the following modifications will likely maintain their queue position:**

* Reducing System size so long as no mitigations were originally required or the customer agrees to pay for mitigation
* Increasing equipment size so long as the size of the “limiting factor” equipment does not increase. The “limiting factor” is defined as Inverter Nameplate for Inverter technology or
  + PG&E & SDG&E: in the case of a PV system, the lessor of the Inverter Nameplate or the Aggregate CEC AC Rating of the PV Panels.
  + SCE: in the case of a PV system, Inverter Nameplate.
* Replacing equipment with “equivalent” models. (Note that certain changes such as connection type (e.g. delta, wye) may require restudy)
  + For inverters, equivalency is defined as being certified and having the same or lower nameplate rating and fault current.
  + For batteries, equivalency is defined having the same or lower kWh rating, and same operating profile.
  + For transformers, equivalency is defined as same connection type, same or higher impedance and same or lower capacity.

**Fast Track applicants who make the following modifications will likely lose their queue position:**

* Changing the Point of Interconnection (POI)
  + POI changes within the interconnection request’s parcel (i.e. moving it from one side of the building to another area within the building) are often resolved in the design/construction phase, in which case they would be evaluated to determine if a restudy is required.
* Adding a new battery is considered an increase in capacity of an existing Generating Facility and would require a new application.
* Making any change in connection types (e.g. delta to wye).
* Reducing system size to avoid mitigations (potential impact to later-queued projects).
* Increasing the size of the “limiting factor”. As described above the “limiting factor” could be the Inverter Nameplate or in the case of a PV system, the lessor of the Aggregate CEC AC Rating of the panels or the Inverter Nameplate for PG&E and SDG&E.

**Other notes from discussion:**

* Regarding making modifications to the operational profile of a smart inverter or charge controller, IOUs consider operational profiles in limited cases at this time. It is mainly evaluated for storage projects which would require a new application. This topic will be addressed further in a later R.17-07-007 working group.
* The working group needs to address making modifications to existing facilities (e.g. replacing inverters at end of life, retrofitting with storage) separately from making modifications to pending applications

Appendix A: Matrix on Common Modifications - FAST TRACK ONLY

|  |  |  |
| --- | --- | --- |
| **Modification Category** | **Requires low level of review; allowed without losing queue position** | **Requires high level of review; will likely lose queue position** |
| Size reduction  [Max 10%?] | * No mitigations are required or the customer agrees to pay for mitigations * Change of equipment must meet equivalency requirements except size |  |
| Minor size increase in “limiting factor” | * None * Note that so long as the “limiting factor” doesn’t increase in size, other equipment may increase in size without losing queue position (i.e. if inverter nameplate is the limiting factor on a PV system, the project could increase the number of DC panels or replace the panel such that the rating of the panels increase without triggering material modification) |  |
| Equivalent equipment replacements  [Define equivalency ] | * Inverters: equivalent means certified, same nameplate or smaller, same fault current or smaller * Batteries: equivalent means same kWh rating, and same operating profile, * Transformers: same connection type, same or smaller impedance and capacity | * Any change in connection types (e.g. delta, wye) |
| Changing the point of interconnection | * None. * Minor changes within the project’s parcel (i.e. location of meter within facility) are often resolved in the design/construction phase, in which case it would be evaluated whether engineering re-review is required. |  |
| ~~Minor design changes (i.e. changing the location of the inverter)~~ |  |  |
| Changing the operational profile of a smart inverter or charge controller | * IOUs consider operational profiles in limited cases at this time. This topic will be addressed in a later R.17-07-007 working group. |  |
| Adding storage to a pending application | * None | * Requires new application |
| Adding storage to an existing, interconnected facility | * Requires new application | * Requires new application |

**Appendix G: Rule 21 Tariff Language on Modifications under Cost Envelope Option**

F. REVIEW PROCESS FOR INTERCONNECTION REQUESTS (Cont’d.)

7. COST ENVELOPE OPTION (Cont’d.)

f. Modifications

Under the Fast Track Process, modifications are not permitted to the

Generating Facility, related equipment, Point of Interconnection or other

interconnection parameters that would require a re-evaluation of the

Initial Review or Supplemental Review. However, notwithstanding these

restrictions, an Applicant may identify and suggest minor changes to the

Interconnection Facilities (e.g., minor adjustments to physical location of

switchgear or other equipment, adjustments to routing of conductor from

the Point of Common Coupling to the Point of Interconnection, etc.)

upon or near completion of Applicant’s final design of its Interconnection

Facilities. If an Applicant identifies such changes, Applicant shall notify

Distribution Provider of the requested changes and if, in the reasonable

judgement of Distribution Provider, a re-evaluation of the costs under

the Cost Envelope Option is required, Distribution Provider will provide

Applicant within ten (10) Business Days of receipt of Applicant’s notice

an estimate of the time required to re-evaluate the costs under the Cost

Envelope Option and the estimated cost of such re-evaluation.

Applicant may either (i) accept the additional time and cost to complete

the re-evaluation, (ii) withdraw the proposed changes, or (iii) proceed

with a new Interconnection Request for such changes. Applicant shall

provide Distribution Provider written notice of its election within ten (10)

Business Days following Applicant’s receipt of Distribution Provider’s

estimated additional time and cost required for the re-evaluation. If

Applicant elects to proceed with the re-evaluation of the costs under the

Cost Envelope Option, Distribution Provider shall complete the

reevaluation within twenty (20) Business Days from receipt of all

required technical data related to the proposed changes and payment of

the estimated cost of the reevaluation. Should Applicant fail to so notify

Distribution Provider within such ten (10) Business Day period,

Applicant’s request to make the proposed changes shall be deemed

withdrawn.

1. <https://www.pge.com/tariffs/tm2/pdf/ELEC_RULES_21.pdf> [↑](#footnote-ref-1)
2. After the conclusion of the Fast Track Initial Review process, the existing Rule 21 tariff does allow discussion of modifications in accordance with Section F.2.b (Optional Initial Review Results Meeting). [↑](#footnote-ref-2)
3. Like for Like means for example: Replace 5kW inverter from manufacturer ***A*** with 5kW inverter from manufacturer ***B*** provided short circuit rating is equal or less. [↑](#footnote-ref-3)
4. Size means the limiting capacity factor used to perform the study such as the inverter nameplate capacity. If the injection, absorption and short circuit contribution of a DER doesn’t increase, this should be an allowable modification. [↑](#footnote-ref-4)
5. https://www.sce.com/nr/sc3/tm2/pdf/rule21\_1.pdf [↑](#footnote-ref-5)
6. <https://www.pge.com/tariffs/tm2/pdf/ELEC_RULES_21.pdf> [↑](#footnote-ref-6)
7. (Page 6) <https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/interconnection-renewables/GuidetoEnergyStorageChargingIssues.pdf> [↑](#footnote-ref-7)