R.17-07-007

Working Group One

Issue 3 (Material Modifications)

**November 30 Meeting Notes**

# Table of Contents

1. Notes from morning session (Joe McCawley, SDG&E)
	1. Issue 2
	2. Issue 3
2. Notes from afternoon session (Mary Claire Evans, CPUC and Will Chung, PG&E) (p. 7)

# Notes from Morning Session (Joe McCawley, SDG&E)

## Issue 2

The WG overviewed some updates to Issue 2 follow-ups.

*Issue 2: Should the Commission clarify the definition of “complex metering solutions” for*

*storage facilities and, if so, how?*

*IOU follow-ups*: Each of the IOUs will:

* Prepare and post illustrative examples on costs et al
* Prepare and post illustrative examples of workable configurable for non-export systems
* Support development of DC standards via participation in a standards workshop

The illustrative examples will be posted in the respective IOU’s public web-site that contains other interconnection material/links.

* **SCE will draft language to include in the proposal capturing these follow-ups**.

A stakeholder requested SDGE make it easier for folks to find their Unit Cost Guide.

*Discussion on IOU review of developer’s proposed design with a non-export relay configuration*

PGE overviewed a handout that provides the definition of a non-export relay. The handout does not contain a 1-line example, and the IOUs believe individuals familiar with designing a DER system should be able to convert tariff language into a 1-line. Section 7a was referenced.

* The IOUs agreed to review designs proposed by developers that contain non-export relay configurations; however, *these reviews will occur outside and separate from the interconnection process*, i.e., an application is to only have non-export relay designs that have already been agreed to by the IOU. The IOUs stressed that the responsibility is on the developer to provide sufficient documentation to allow the IOU to perform an adequate review.
	+ **This agreement by the IOUs to perform this review will be included in the proposal**.
* The IOU agree to these reviews with the understanding that the developers will pursue using equipment within their designs that have been certified to IEEE standards. The IOU’s agreement to allow certain designs are temporary, are specific to that IOU, and are specific to the specific request; the IOUs are not certifiers of equipment and only equipment that has been certified towards an IEEE standard can be assured to be accepted.

*Outback Power* mentioned that some of their equipment was certified (by ETL or UL) to enable a control system design that allows PV power to be exported by not ES power. Because other parties were not familiar with this certification, **Outback Power will provide the working group information regarding where in the standards the applicable tests are referenced**.

Next steps: The handouts will be included in the meeting summary, and a schedule for feedback will also be included in the meeting summary.

## Issue 3

Summary of notes regarding *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?*

*Key points made by the IOUs*:

All discussions by the IOUs today are for illustrative purposes and to help more the process forward, and do not represent draft or final positions.

The IOUs stressed that a key concept regarding material modifications is that the question of materiality is not necessarily determined solely by the type of modification nor is the question answered solely considering the project requesting the modification; rather, materiality is based upon whether or not that modification has an impact on another DER project in a down-stream queue. If a proposed project’s modification impacts (negatively or positively doesn’t matter) a DER project in a down-steam queue, that modification is classified as material. Clear delineators, as are proposed in some other States, do not

Cost causation is an importance aspect of whether or not a modification to one project impacts another project. Cost causation, which means a project that causes an upgrade to be required pays for that upgrade, is an existing principal to determining if a modification is classified as material. A modification to a project that results in an otherwise identified upgrade no longer being triggered by that project, but triggered by a project lower in the queue, is not allowed per existing cost causation principles and is not a topic within the scope of this Issue.

When discussing the extent to which modifications can be made to projects in the Fast Track process, one needs to consider the sanctity of the intent and purpose of the Fast Track process, i.e., it was developed to allow projects, projects that did not expect to be making changes, to be approved in “fast” process. Allowing projects in the Fast Track to request modifications which require the IOUs to evaluate whether or not those modifications impact other projects and are therefore material modifications is contrary to the intent of the Fast Track process.

The IOUs overviewed a handout that was prepared purely for illustrative purposes. The IOUs had insufficient time from the first meeting (a call two days prior) to prepare individual or joint IOU positions. The handout had three columns (Category 1, 2, and 3), and was specific to the Detailed Study process. The idea was to initiate a discussion of the likelihood of the illustrative examples being classified as a material modification. Examples in Category A were highly likely, in Category B possibly likely, and in Category C minimally likely of being classified as material modifications.

*Discussion on timing regarding completion of engineering review*:

Q: Can a project ahead in the queue request a modification before the engineering review is completed for the projects behind in the queue?

A: In simple terms, no, not if the change impacts another project in the queue.

* The IOUs assume that no changes will be requested by projects, and may tell project 2 all is good and okay to get financing, and then if project 1 (ahead in the queue) requests a change, that could impact the financing for project 2.
* It is also problematic is the process is to start assuming, or allocating time for a modification. That defeats the intent of Fast Track.
* The process needs to be developed and maintained for the majority of projects, not the minority of projects. Projects that expect delays should apply in the Detailed Study process.
* As reflected in the other document, while technically still a material modification, a project can retain its queue position and implement the modification if the developer agrees to pay for any upgrades that were initially identified as required to interconnect that project, even if the modification resulted in that project no longer trigger that upgrade.

Q: If part of the reasoning is to defeat gaming the system, i.e., get an application in early before others and then start making modifications, does that really happen? Or at least does it still happen?

A: The queue process was developed after going thru various levels of reforms, and has been discussed since the 1990s. The sanctity of the queue is key, and so is retaining cost causation principles. Changing the queue protocols significantly affect the cost responsibly of projects behind.  It’s important to also remember that while this issue is specific to Rule 21, the Rule 21 queue also includes FERC jurisdictional WDAT projects, so discussions on changing queue protocols impact more than just Rule 21 projects, and those types of discussions are out of scope.

Q: Ex: If project is in queue but has a completed initial/supplemental review, could that project request a modification?

A: Those situations have been encountered, and the problem is that there is a grace period for review to be deemed complete.  One project developer may have more experienced designers and provide a more complete design, but that could create an opportunity to discriminate. The application time-stamp aspect of the queue protects developers with more experienced, aka faster engineers getting an advantage over another developer.  Similarly, protects against projects where a person may be unavailable (on vacation).

Q: But doesn’t the Tariff say the time-stamp is based upon when the Application is complete?

A: The official position of queue position is based upon when the application is deemed complete. However, timing is key. For example: The study for project 1 is completed and identifies mitigation is required. That project proposes a modification w/in 5 days, which is before the study begins for project 2 in the same queue. This might be okay, but I haven’t seen it.

Q: Maybe create a 2-3 window for a project to request a modification?

A: But then everyone needs to wait for that window to get their study started, and that defeats the intent of Fast Track.

Developer: The challenge today (vs. years past) is in part caused by the global supply chain. The availably of equipment ordered/delivered is different than the equipment specified in the design (9 months earlier). This is not gaming the system, this is reality. And this could happen at any time, i.e., before reviews are completed, and before construction mode.

IOU: Our approach is to work with the developer and allow these changes when reasonable, but the changes cannot affect developers down-stream. We understand situations occur and we’ve been flexible to consider changes. If a review is needed, we’ll ask if the developer is willing to do a technical assessment – which will take time to do, and this assessment may show that no other projects are impacted, then it’s okay. But again, it’s most important to protect other developers. The key is no upgrades. If no upgrades were initially needed, then it’s okay.

Q: Is it possible to develop a subset of modifications in the Fast Track process that would be minor enough to not be material?

A: A possible end-state goal, but need to remember the concept of fast track…if making changes then no longer a fast track.

A: A modification that does not impact mitigation could be okay in fast track.

A: If the purpose of a change in output is due to different equipment and not to avoid an identified upgrade, then the change is not material.  But if to avoid an identified upgrade, then material. If the initial requirements are retained, it doesn’t matter what equipment is installed. There are no cross-queue impacts.

Q: Are any modifications that result in higher capacity allow?

IOUs: No

Q: Could a project proactively leaving the queue impact down-stream projects?

A: Yes, but the IOUs cannot control that.

Q: If the initial review results indicate mitigation is needed, and the developer decreases the project size to not need mitigation, and that size decrease is requested before completing the study and before signing the interconnection agreement, is that okay?

IOU: Not in the Fast Track; but that is one of the good features allowed in the detailed study.

Q: Thought Detailed Study prevented this, i.e., if project 2 is behind project 1, and project 1 study results indicate an upgraded is needed. If the IOU makes project 1 reapply when submitting a modification, then the down-stream impact is still there.

A: Yes, that is the process and can occur.  The process isn’t perfect, but the risk and impact of delaying a project due to reapplying is on the developer.

Q: Why is the IOU concerned about a developer withdrawing?

A: Bogus applications is what caused the queues to stall, and the current process was established to prevent that.  The queue is both CPUC Rule 21 and FERC jurisdictional WDAT projects.

A: Similar to the IOU’s position on Issue 1, discussions on changes that would impact non-Rule 21 projects should not take place until those other developers have been invited to participate.

Concern: Don’t want the process to cause developers to lose deadlines.

IOU: Agree, and that is the purpose of the review process allowed in the Detailed Study process.

Q: is it possible for a Fast Track project to identify a modification and then move to a Detailed Study?

IOU: Yes

*Discussion on equipment with limiting factors:*

PGE and SDGE use the lower of the inverter nameplate capacity or the PV panels when performing the studies; SCE uses the inverter nameplate value.

When the modification involves a change to a higher value, the IOU needs to evaluate the impact.

Comments: It would be good for the IOUs to be consistent.

IOUs: There are pros/cons to the two approaches.

*Discussion on modifications after in-service:*

Developer: While the discussion today is specific to Rule 21, i.e., pre-in-service, the scope of this Issue includes major modifications associated with changing existing equipment, specifically, replacing equipment as part of maintenance or enhancing an existing system could trigger a new application.

IOU: Agree, not required if replacing with equivalent equipment, but need a study if replacing with different equipment.

Comment: Need to discuss how to define equivalence and if there should be consistency among the IOUs.

Developer: How does the IOU do their review? What information is needed from the developer?

IOU: That is a process, and maybe that does need to be in the tariff. It’s sounding like developers needs some additional transparency on that process.

Developer: Need clarity on what changes to existing system trigger need for a new application.

IOU: The Interconnection Agreement contains requirements that explain when a DER owner needs to notify the IOU of any modifications, even if like-for-like replacement.

Developer: The Tariff says a new application request is needed for all modifications.

IOU: The Interconnection Agreement states that a notification is required, the results of the notification are To-be-determined.

IOU: The Tariff requirements are different from the Interconnection Agreement requirements.

IOU: Believe creating a best practices manual is better to address this Issue vs. making changes to the Tariff. Of note regarding consistency, it looks like the fee for review (PGE: $145, SCE: $70) is even different, so there are examples of it being okay for differences between the IOUs. California is sufficiently different from the other States that what they are doing may not apply to us. Also, a guidance document may allow more flexibility than codifying in the Tariff.

Developer: Was hoping for a list of non-material modifications to bring back to my team to review. A guideline document not in the tariff will not meet our needs.

Comment: A combination of Tariff changes and a guidance document could work.

Developer: Agree both tariff and guidance document could work, but need clarity on what conditions allow the answer to be created.

Afternoon:

Discussion focused on filling-in a blank Fast Track process matrix of Category A, B, C type example modifications. Others took notes on that discussion.

# 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
 |