BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own motion to improve distribution level interconnection rules and regulations for certain classes or electric generators and electric storage resources.	Rulemaking 11-09-011 (Filed September 22, 2011)

CLEAN COALITION OPENING COMMENTS ON STAFF PROPOSALS FOR COST CERTAINTY & RESPONSE TO QUESTIONS REGARDING ISSUES, PRIORITIES AND RECOMMENDATIONS FOR ENERGY STORAGE INTERCONNECTION

Kenneth Sahm White
Clean Coalition
16 Palm Ct
Menlo Park, CA 94025
(805) 705-1352

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On July 29, 2014, Administrative Law Judge Bushey issued a Ruling Setting Schedule for Comments on Staff Reports and Scheduling a Prehearing Conference in this docket. The Ruling appended two attached staff reports: Cost Certainty for the Interconnection Process: Staff Proposal; and Issues, Priorities and Recommendations for Energy Storage Interconnection: Staff Proposal. The Clean Coalition offers comments on both reports and responses to specific questions requested by staff regarding Energy Storage Interconnection.

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement, interconnection, and realizing the full potential of integrated distributed energy resources, such as distributed generation, advanced inverters, demand response, and energy storage. The Clean Coalition also works with utilities to develop Community Microgrid projects that demonstrate that local renewables can provide at least 25% of the total electric energy consumed within the distribution grid, while maintaining or improving grid reliability. The Clean Coalition participates in numerous proceedings in California agencies and before other state and Federal agencies throughout the United States.

Our comments are summarized as follows:

Cost Certainty -

- The Clean Coalition broadly supports the approach and reasoning of the ED staff proposal while noting that some areas require further development. We offer recommendations to address those matters.
- We note that the goal of cost certainty is greatly enhanced by early cost predictability, and offer recommendations to strengthen these benefits, including publication of Unit Cost Guides to provide greater insight into likely costs before an application is submitted.
- We agree with the staff's conclusion that additional data will support further options that will improve the interconnection process and offer greater benefits to applicants and ratepayers, and offer both data and recommendations regarding it's application to offer improved predictability and earlier cost certainty.
- We note the major unintended incentive of the cost certainty proposals to increase estimated costs, due to potential penalties for shareholders, and the need to address this issue.
- We recommend that competitive practices allowed under the existing tariff can provide improved contract certainty related to both cost and construction schedules while also substantially reducing total costs.
- Last, we highlight opportunities for coordination with the new Distribution Resource Planning (DRP) process (R.14-08-013) to further enhance certainty and reduce costs while promoting optimal Distributed Energy Resource (DER) deployment and cost effective infrastructure investment.

Storage Interconnection –

- We note that the ISO staff and Storage Interconnection Stakeholder Group have (pending final stakeholder comments) determined that their existing generator interconnection tariff can be applied without significant modification for use

with energy storage facilities, and anticipates similar applicability to WDAT tariffs.

- Although little if any interconnection tariff modification may be necessary for existing rules and processes to be immediately applied also to energy storage, significant refinements can and should be made to better accommodate storage facilities, both individually and especially when collocated with generation. We recommend interim use of existing rules simply treating storage as generation while further refinements are pursued without delay.

- Safety Planning – We support addressing this issue but do not agree that the interconnection tariff is the appropriate document for this purpose

- Pre-Interconnection Consultation Process – We support the approach with the understanding that consultation should be optional, although recommended for novel configurations.

- Current Fast Track screens are sufficient to safely allow energy storage, but should be adjusted to reflect operational and export restrictions, and to avoid exaggerated accounting of capacity. Recommendations are discussed.

- We support the use of standardized study data and profiles and related measures advancing the efficiency, accessibility, and predictability of increasingly algorithmic study practices. Recommendations are discussed.

- Recommendation are offered to update the Interconnection Application and Agreement to accommodate storage attributes

I. Discussion

Cost certainty proposal

The Clean Coalition greatly appreciates staff's Proposal and effective efforts to build upon the thoughtful prior contributions of Parties. We share the staff's expressed expectation[1] that the proposal does offer significant improvements toward achieving the goals of this Proceeding, and support the Proposal as a strong foundation for further discussion and refinement to address possible unintended consequences and a few points that require clarification.

We note further that the staff report does acknowledge the merits of increased cost predictability and the limited application of the Standardized Pricing approach previously proposed by the Clean Coalition, while also noting that this is dependent upon data which has not yet been made available to staff.[2] We wish to address this matter in part by submitting into the record the results of the Interconnection Cost Data Requests fulfilled by the three major utilities. See Attachment 1 for a list of the data available from numerous rounds of discovery requests in 2011 and 2012 from the Clean Coalition and other intervenors. As discussed below, the Clean Coalition submitted a motion in 2013 to enter this data into the record but our motion was denied by the previous ALJ with no explanation. If the Commission is at this time interested in entering this data into the record, we will in reply comments supply the actual data, or look to the Commission for further direction on how best to otherwise enter this data into the record.

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[1] "Under the proposals presented herein, staff expects that there will be improved cost certainty that can help level the playing field between utilities and prospective project applicants and mirror the frictionless interconnection process enjoyed by NEM program eligible applicants." (Staff Proposal, p. 5)

[2] "If utilities can provide historical data on interconnection costs, it may be possible to further refine this Clean Coalition proposal and to implement it via this proceeding.
Applicants and utilities would benefit from a simple, straight forward approach to assessment and payment of interconnection costs." (Staff Proposal, p. 11)

In addition, results from the proposed "Fixed Cost" project estimates will further support the opportunity for standardized pricing for common configurations, and we discuss this and other opportunities below.

The Clean Coalition applauds the Commission staff for offering a broad cost certainty proposal reflecting the prior recommendations of IREC[3] and the Clean Coalition[4]. As the Clean Coalition pointed out[5] in the March 5th 2013 Workshop, the IOUs' proposal would have addressed only 3.5-7% of all wholesale interconnection applications to date, applying only to those projects successfully interconnecting under Fast Track while failing to address in any way the projects requiring detailed studies.

Figure 1 shows updated Clean Coalition-compiled data for the reformed Rule 21 process, from September 2012 through the first quarter of 2014, showing improved but still very low Fast Track success rates: 11% passing SCE's Fast Track and 15% passing PG&E's.[6]

Figure 1. *Reformed Rule 21 Fast Track data 2013-2014 (source: IOU quarterly reports).*

	Number of PARs requested	Number of PARs completed	Number of exporting FT requests	Number passing IR	Number failing IR	Most commonly failed IR screens	Number passing SR	Number receiving GIA	Number signing GIAs	% passing FT	Most commonly failed SR screens
SCE	96	94	92	15	42	M, N, F	11	11	10	11%	M, N
PG&E	95	93	109	0	88	I, J, M	39	34	16	15%	N, P
SDG&E	14	14	9	0	9	I, J, M	1	5	5	56%	N, O

[3] Comments of the Interstate Renewable Energy Council, Inc. on Amended Scoping Memo and Ruling Requesting Comments, October 25, 2012, p. 7.

[4] R.11-09-011 Interconnection & Cost Certainty Proposals Workshop, March 5th 2013, Clean Coalition Presentation, Revised Cost Sharing Proposal, slide 12:

All projects fall into one of three options for cost certainty:

1. Project's Distribution Grid Upgrade Plan-compliant costs are rate-based ➠ cost certainty
2. Projects eligible for interconnection Standard Prices ➠ cost certainty
3. Projects requiring studies for customized cost determination would benefit from **interconnection cost estimate caps** (125%) ➠ cost certainty

[5] ibid, slide 10

[6] SDG&E shows 56% success but SDG&E's report seems to have a discrepancy in that it shows all 9 applications failing initial review and only 1 of 9 passing supplemental review, but still 5 signing GIAs. It's not clear at this point which figure is accurate.

By contrast, the Staff's Proposal to broadly apply a 10% cost envelope would potentially[7] offer an individualized cost cap to all applicants, thereby extending some benefits of cost certainty far more broadly and to greater effect.

Staff proposal

The Staff Proposal presents two main components for cost certainty improvements:

> 1) A proposal for Fast Track-eligible projects that is similar to the IOU proposal in which, to receive the fixed distribution upgrade cost estimate, the applicant must complete three steps: 1) choose to receive a fixed price for their Fast Track project in their interconnection application, 2) provide utility engineers additional site and project information, and (3) pay a fixed fee allowing the utilities to determine the fixed distribution grid upgrade cost for the project.
>
> 2) A proposal for non-Fast Track-eligible projects that is similar to the Massachusetts model, also described as the Cost Envelope model.

Part A: Fast Track projects

Italicized language in the following sections is from the Staff Proposals. Per the Commission's directions, we provide comments on each section as appropriate.

a. *Rule 21 Tariffs should be modified to have harmonized definitions, terms and conditions as they pertain to this proposal. For example, the definition of "low impact area" should be the same across all IOU service territories. The additional information required to receive a fixed cost should also be standardized across all utilities.*

The Clean Coalition supports harmonized definitions, terms and conditions in support of consistency and simplicity throughout Commission jurisdiction and to avoid delays,

[7] The Staff Proposal requires clarification regarding its applicability to Fast Track projects that may not be defined by a utility as interconnecting in preferred area.

errors, or disputes arising from inconsistencies when working with interconnection customers.

The proposal for Fast Track projects mirrors the IOUs' proposal while omitting the requirement put forth by PG&E and SDG&E but not SCE, in terms of requiring eligible projects to be in "low impact areas." We support offering the fixed cost option to all Fast Track-eligible applications and ask that this be further clarified, particularly in light of the reference to establishing a common definition of "low impact area", which is only relevant if this is intended as a qualifying criterion.

PG&E and SDG&E suggested additional criteria in defining "low impact area"[8]:

- Distance from the substation
- Circuit loading during peak and off-peak times
- Circuit characteristics

The IOUs provided limited additional detail[9] in terms of numbers for these criteria, so parties have no way to judge the degree to which these additional criteria would limit cost certainty eligibility for PG&E and SDG&E. Parties will need to learn more about PG&E and SDG&E's proposed criteria, with numbers, before we can judge the reasonableness of these criteria. We are not opposed to differentiation between preferred and non-preferred areas, or areas or configurations that have proven unusually difficult to estimate. However, if the fixed cost option is limited to preferred applications, we strongly recommend that and alternative cost certainty option be available to Fast Track projects in all remaining areas. We have requested a workshop to delve into this and other issues.

Preferably, PG&E and SDG&E would simply adopt SCE's definition of "low impact areas" as synonymous with passing Fast Track (*id.*). PG&E and SDG&E should be required to demonstrate compelling reasons why their approach to "low impact areas"

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[8] R.11-09-011 Interconnection & Cost Certainty Proposals Workshop, March 5th 2013. Joint Cost Certainty Proposal, slide 4:

[9] SDG&E suggested in the March 5, 2013, workshop that two miles was the key criterion for definition "low impact area."

must differ from SCE's. We agree with the Staff Proposal that the definition of "low impact areas" must be harmonized across utilities and we suggest in this case that SCE's definition be the harmonized definition.

While we fully support the option of a fixed cost contract for Fast Track projects, we are concerned that this option presents Fast Track applicants with the alternatives of either a delay of 30-70 days for a fixed price (greatly extending the time required for the "Fast" Track) or being subject to a non-binding "order of magnitude" estimate that may be exceeded by an unlimited amount, even if this eventuality has proven quite unlikely.

To address this concern we recommend offering Fast Track projects a similar provision proposed for non-Fast Track projects: an assurance that final costs will not exceed the estimated costs by more than 10%. We anticipate that many applicants will happily trade the 100% certainty of a fixed cost agreement for a moderate 10% cost risk in exchange for receiving and Interconnection Agreement 30-70 days earlier, and invite comments from effected parties.

b. Rule 21 cost estimates and actual costs should be reported by the utilities in their reporting to the CPUC. Utilities should institute a reporting mechanism that documents cost estimates, estimate changes, and actual costs incurred in the interconnection process. These reports should be included in the Interconnection Quarterly Report that is submitted to the Commission. Cost estimates and final costs presented to applicants for payment should include a breakdown of major cost categories.

The Clean Coalition supports comprehensive reporting of cost estimates and actual costs. This data will be key for various initiatives.

We strongly support efforts to achieve reasonable accuracy in the estimates provided. However, the basis upon which accuracy is determined is crucial to the effectiveness of this effort, and raises important issues addressed elsewhere in these comments. There are a number of concerns related to the accuracy and reasonableness of these estimates,

and the need for measures to address the unintended incentive this proposal creates for utility staff to both increase their estimated costs and to match reported actual costs to such estimates.

c. *Applicants should select the option for a Fixed Price for a Fast Track Interconnection as part of interconnection application. This price will not change throughout the interconnection process.*

While we support this option it may be preferable to allow applicants the opportunity to select a cost certainty option after initial review rather than only at the time of application. This would allow applicants to make the decision with a much better understanding of their likelihood of otherwise immediately being offered an interconnection agreement or whether Supplemental Review or modifications are warranted.

It is not evident why the option should only be available at the time of application, and further explanation would be appreciated.

d. *The fee to receive a fixed cost estimate should be set at $0. It is not clear that there needs to be a fee.*

We support the Staff Proposal recommendation that there be no additional fee for the Fixed Cost Option. While a brief site visit may be required earlier in the process, accurate cost information is still necessary and will support more efficient processes with fewer disputes throughout the rest of the process.

We also recommend, if the Commission adopts and implements the Staff Proposal in a manner that eliminates eligibility for projects outside of "low impact areas" as described in the Utility Joint Proposal, that IOUs must allow any Fast Track applicants outside of low impact areas to qualify for the Cost Envelope (modified Massachusetts Model) option, which by omission doesn't seem to be allowed under the current Staff Proposal. This would allow these Fast Track projects outside of Low Impact Areas to

still enjoy some benefits of an improved process; they may have no opportunity otherwise.

Part B: Non-Fast Track projects

The Staff Proposal suggests a slightly modified Massachusetts Model, described as the Cost Envelope option, for non-Fast Track-eligible projects. First, again, we recommend that Fast Track projects outside of "low impact areas" also be eligible for the Cost Envelope option. Otherwise these projects are orphaned and it is likely that a substantial portion or even a majority of Fast Track projects will fall into this category if, for example, SDG&E's definition of "low impact area" (including only two miles radius from substation) is included in the final rule.

The Cost Envelope option provides applicants the certainty that their costs won't rise any more than 10% above the initial cost estimate. Any overage must be borne by shareholders, not ratepayers, so IOUs are highly incentivized to avoid underestimating costs, as we discuss in detail elsewhere in these comments.

We support the simplicity of the Cost Envelope option, which is similar to our previously recommended 25% cost exceedance default option for all projects not qualifying for any other cost certainty approach, and we do see it as a potentially major improvement. There are a number of concerns, however, as discussed below, related to the accuracy and reasonableness of these estimates, and the need for measures to address the unintended incentive this proposal creates for utility staff to both increase their estimated costs and to match reported actual costs to such estimates. We look forward to discussing proposals to address this issue further in a workshop and further comments.

If penalties are incurred when final costs deviate significantly from the estimate, this creates an incentive to build, report, and charge costs that match the estimate, even if it was inaccurate, and undermines opportunities to lower costs.

While inflated cost estimates would still provide cost certainty, as intended, if cost estimates are highly inflated interconnection applicants may face as many or more problems from such over-estimates as they do currently from the lack of cost certainty. In other words, it appears that this unintended incentive is a major problem with the Staff Proposal.

The proposed cost exceedance cap protects customers from unanticipated costs created by inaccurately low estimates, but does not protect customers from unreasonably high estimates, but unintentionally encourages them. This unintended incentive is not addressed by the Staff Proposal and requires attention.

As noted in our prior comments and reflected in the staff proposal[10], a primary public benefit of increased certainty is to reduce the costs associated with interconnection. This can only be accomplished, however, if the estimates reflect efficient interconnection processes, including in particular the construction and installation of facilities.

As a potential solution for this incentive to overestimate interconnection costs, the Commission could appoint an Independent Evaluator or Ombudsman to review the relevant data and provide a second opinion on the reasonableness of IOU cost estimates, at least for the first year or two of the program as the IOUs and the Commission gain confidence. This task could, alternatively, be part of the duties of the Advanced Interconnection Consultation process that the Staff Proposal recommends.

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[10] At page 3: "Cost estimate changes and time delay uncertainties create uncertainty in an applicant's ability to plan a business. Moving through a complex process without being able to communicate cost certainty to collaborating parties increases project costs all around. These increased project costs potentially are negatively impacting ratepayers who, as off takers in a PPA, may end up paying higher energy costs resulting from this uncertainty."

As an additional source of cost certainty before interconnection applications are made, we also recommend publication of a Unit Cost Guide (UCC) for distribution interconnections, mirroring the existing CAISO publication of per unit costs reported by each utility for transmission interconnection. This would promote consistency in price estimates between individual staff and departments. It is understood that local conditions vary and may require deviation from the UCC where costs cannot be averaged or standardized, but the UCC would still provide a common reference from which appropriate deviations should be explained.

Competitive bidding is well established as the most common and effective approach to determining actual fair market cost of construction and is widely employed by both public and investor owned utilities in their own contracting. We note that independent contractors already routinely provide cost certainty through fixed price bids, and guaranteed schedules that ensure the work will be performed in line with critical power delivery deadlines, in addition to lower costs. Competition is also widely regarded as the most effective means of increasing efficiency and spurring innovation. Applicants already successfully employ competitive bidding against utility estimates for work performed on their own side of the point of common coupling (PCC), resulting in very substantial reductions in interconnection costs reportedly in the range of 40% below utility estimates. The Clean Coalition strongly recommends employing this approach in determining the reasonableness of single source utility cost estimates, or preferably to allow applicants to utilize a competitive bid process when seeking to have the required interconnection work and upgrades performed.

We wish to point out that the current Rule 21 tariff explicitly allows the use of competing bids in Section I.2 ('Third Party Installations') that states: [11]

> "Subject to the approval of Distribution Provider, a Producer may, at its option, employ a qualified contractor to provide and install Interconnection Facilities or

[11]ELECTRIC RULE NO. 21, PG&E 32002-E (2014)
I.2 - THIRD-PARTY INSTALLATIONS

Distribution Upgrades, to be owned and operated by Distribution Provider, on Distribution Provider's side of the PCC. Such Interconnection Facilities and Distribution Upgrades shall be installed in accordance with Distribution Provider's design and specifications."

As discussed further below under 'Additional Issues and Omissions' public utilities in California such as SMUD and IID have employed this approach successfully with interconnection customers. However, California's IOUs failed or refused to approve any third party contractor to perform interconnection work for their customers, resulting in no competition for interconnection bids and resulting in substantially higher interconnection costs.

As shown in Attachment 2, IID Standard Generator Interconnection Agreement Sec. 5.3.4, this can be effectively addressed by interpreting or modifying the existing language in Rule 21 section H.2 such that approval of qualified independent contractors shall not be unreasonably withheld, and preferably requiring each IOU to publish a list of approved contractors.

This single action will not only assure that cost estimates and associated reports of actual costs are reasonable and making the cost certainty proposal effective, but appears to be the among the largest and easiest opportunities for reducing interconnection costs.

i. *Allowing the utilities an ability to request a waiver of the non-Fast Track Project cost limitation in cases where both it and the applicant can agree on a revised cost estimate for necessary upgrades for novel projects or technologies that exceed the 10 percent buffer, after the initial estimate has been incorporated into the agreement. This request, in writing to the Director of Energy Division must be received within 20 calendar days of discovering this cost issue. The waiver request should detail and describe the challenges and proposed solutions associated with interconnecting the new technology. Utilities*

should only be allowed to petition for the removal of the limitation due to a new technology up to three times.

The Clean Coalition supports the intention of this provision and recommends that Parties propose implementation measures to address the categorization of a project or technology as "novel". It is clearly important to avoid over applying this determination, while also avoiding either exposing parties to undue financial risk or limiting the opportunity for such projects or technologies to apply for interconnection.

The suggested Advanced Interconnection Consultation process or similar may be an appropriate arbiter of this issue.

ii. *Utilities face monetary penalties for failure to proactively resolve interconnection issues proactively and in a timely manner.*

The Clean Coalition supports this proposal in principle but without more detail it is not clear how it will be implemented. We look forward to staff providing more detail.

iii. *Establish an Advanced Interconnection Consultation process for all non-Fast Track projects which, will allow for a consultation with utility specialists who can work with applicants to derive solutions for novel interconnection problems. The fundamental principle should be that the utilities and applicants work together to develop a plan to ensure grid interconnection in a timely fashion, and that lessons learned from each new interaction be applied to subsequent applications.*

The Clean Coalition supports this proposal as a resource to establish solutions which can be cooperatively developed and widely communicated and applied.

iv. *Require tracking and reporting on all Interconnection Costs.*

We continue to strongly support requirements for reporting actual costs and related data to allow improved predictability in cost estimation, and applaud the reporting

requirements and affirmation of authority to request data included in the Commission's April 16th Decision in this Proceeding which will help address the issue.

v. *All interconnection related documentation and forms should be received via an internet-based submission channel. All application materials should be received digitally to ensure the integrity of data and maximum interconnection process efficiency. All interconnection status information should be able to be checked by applicants electronically. The Interconnection Application and a corresponding process diagram should be posted prominently on the interconnection websites of the three utilities. The internet portal should be easily accessible and intuitive.*

The Clean Coalition strongly supports the Staff Proposal's recommendation to create a single "internet-based submission channel," or web portal, for each utility (Staff Proposal, Attachment A, p. 14).

vi. *Make distribution grid data transparent and accessible so that third parties can assist in the distribution grid study and optimization process.*

The Clean Coalition fully supports maximum transparency and accessibility of grid data. We greatly appreciate the cooperation and support of PG&E in our Hunter's Point substation grid modeling and optimization demonstration, and related efforts by each of the utilities to increase understanding of grid capacity and optimization.

Additional Issues or Omissions

Clean Coalition proposals

We are obligated to note that the issue of cost certainty would be largely obviated if customers had the opportunity to seek competing bids from approved independent third party contractors to perform the work required by the controlling utility and defined in the applicable Interconnection Agreement. While the utility may prefer not to be bound by a firm contract price or schedule, independent Engineering,

Procurement and Construction (EPC) contractors are generally ready and willing to offer firm and highly competitive bids. These firms currently perform the same work under contract to utilities, and for the interconnection customers where such work is required on the customer's premises and/or the customer side of the point of common coupling (PCC).

The Imperial Irrigation District, as a Public Utility, explicitly allows this arrangement in its transmission interconnection tariff[12], and has approved five major interconnections this year in which the customer utilized this option, including circuit and substation upgrades.[13]

The Clean Coalition agrees that the Staff Proposal would likely represent significant improvements in the interconnection process for those projects that qualify. As discussed above, however, we are concerned about how broadly projects will be eligible, as well as the unintended potential for both interconnection estimates and actual costs to be inordinately high as a result of the incentive to avoid shareholder liability, as well as the lack of price competition or other cost control mechanisms.

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[12] IID Standard Generator Interconnection Agreement Article 5. Interconnection Facilities Engineering, Procurement, and Construction.
5.1. Facilities and Cost Estimate. The Interconnection Facilities, Network Upgrades, and Distribution Upgrades (including Common Upgrades) required to interconnect the Generating Facility to the Transmission Provider's Transmission System shall be set forth in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades). The Transmission Provider's estimate of the costs of Transmission Provider's Interconnection Facilities, Network Upgrades and Distribution Upgrades (including Common Upgrades) also shall be set forth in Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades). *Where the Parties have agreed, pursuant to the negotiation process in Section 11.2 of the Transmission Provider's GIP, that the Interconnection Customer shall be responsible for the design, procurement and construction of Transmission Provider's Interconnection Facilities and Stand-Alone Network Upgrades, Appendix A (Interconnection Facilities, Network Upgrades and Distribution Upgrades) shall identify the Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades which Interconnection Customer is obligated to design, procure and construct at Interconnection Customer's expense,* subject to Interconnection Customer's right to receive transmission rate credits in accordance with Article 11.5 of this GIA. [Emphasis added]
For further detail see Sec. 5.3.4 – 'General Conditions Applicable to Interconnection Customer's Responsibility to Build' included as Attachment 2

[13] IVSC2 Sun Peak Solar GIA-0414-25, Regenerate Seville Solar GIA-0414-26, Green Light Energy Sonora 080911 GIA-0811-18, Green Light Energy Alhambra 040312 GIA-0811-17, & Green Light Energy Arkansas 040312 GIA-0412-20.

The Clean Coalition proposed as an alternative to the Joint IOU Proposal a Standardized Pricing alternative in early 2013. Our approach, as the Staff Proposal describes, relies on averaging the previous interconnection cost of similarly situated projects, in a number of defined categories ("buckets"). The Staff Proposal does not, however, take into account our revised approach from early 2013. We have provided an overview of our revised 2013 Standardized Pricing approach in Attachment 1.

Our recommended approach incorporates key features of both the Utility Fixed Cost proposal and the Massachusetts model while offering greater predictability and consistency. We recognize that our approach is, at least in its setup, more complex than the Staff Proposal, but the benefits outweigh the additional complexity. In particular, under our Standardized Pricing approach interconnection applicants will know very early in the process what their costs will be, whereas the Fixed Cost and Cost Envelope approaches still require applicants to wait for potentially many months before obtaining their cost estimates.

Another major benefit of our proposal is that it explicitly ties in to the required AB 327 Distribution Resource Plans (DRPs), due by July 1, 2015 (R.14-08-013). Further development of this approach may allow the Commission to ensure optimal coordination between the new DRP requirements and the proposed new cost certainty options.

The Staff Proposal notes (p. 11) that IOUs have not produced data necessary to implement the Clean Coalition's proposal. However, the Clean Coalition, along with a number of other parties who joined in our discovery requests in late 2012 and early 2013, have received such data from the IOUs. The data required to pursue elements of the Clean Coalition's proposal is available and could be readily updated with the data now being reported in the 1.5 years since the IOUs provided this data in response to the joint party discovery requests.

For these reasons we recommend further consideration of elements of our 2013 proposal where appropriate as Parties bring related cost certainty options forward toward a Proposed Decision.

Energy storage interconnection proposal

Preface

We note that the ISO staff and Storage Interconnection Stakeholder Group have (pending final stakeholder comments) determined that their existing generator interconnection tariff can be applied without significant modification for use with energy storage facilities, and anticipates similar applicability to WDAT tariffs. The Commission has sought to harmonize Rule 21 and WDAT to the extent practical in this proceeding, while looking to CPUC jurisdictional opportunities to improve the processes. The Clean Coalition supports this approach of interaction between the distribution tariffs for incremental harmonization as advances are made in each.

Although little if any interconnection tariff modification may be necessary for existing rules and processes to be immediately applied also to energy storage, significant refinements can and should be made to better accommodate storage facilities, both individually and especially when collocated with generation. We recommend interim use of existing rules simply treating storage as generation while further refinements are pursued without delay.

Responses to Commission Questions

1. Safety Planning

Please provide comments on this proposed safety scheme meant to ensure safety for the people and environment of the State of California in a changing electrical environment. What elements should be part of the safety plan?

The Clean Coalition disagrees with this recommendation. It is not clear why all energy storage projects should have to provide a custom "Safety Plan," as the staff proposal recommends, when we consider that no such requirement applies to any other

technology seeking interconnection to the grid. It is each IOU's responsibility to ensure grid safety with interconnection of facilities, and this is already part of the Rule 21 requirements. New technologies, not previously considered by the distribution service provider, might have novel operational capacities with the potential to uniquely impact the electrical grid, and this should be considered with initial applications for new technologies. The possibility of novel risk to the electrical grid appears remote, however, and any additional requirements for electrical safety devices should be proportionate to the risk. Fire, chemical, and other physical safety factors pertaining to operation of customer facilities are outside the proper purview of distribution system operators and engineers; these factors are properly addressed by applicable safety rules from the local, state or federal governments.

The Clean Coalition agrees that public safety in the operation of facilities is an overarching concern, but we question the appropriateness of the interconnection process for addressing concerns not related to interconnection. We recommend that the Commission flesh out its rationale for why storage facilities should be subject to new rules that don't apply to any other technology.

The Clean Coalition does strongly support statewide coordination of permitting standards, and believes this is the more appropriate venue for addressing safety standards that are not otherwise directly associated with grid safety and reliability.

2. Pre-Interconnection Consultation Process

In comments, please delineate the expected services to be provided by this consultation process, the timeframe and format for the delivery of results, and any other recommendations on this collaborative process.

The Staff Proposal recommends an Advanced Interconnection Consultation Process to be created by the IOUs. We aren't convinced that this process is necessary and we fear that it may even be counter-productive by creating an additional process and

concomitant delays. As is, the following are available to applicants interested in interconnecting to the distribution grid: 1) online maps showing preliminary preferred or not preferred zones and substation data (SCE), and showing relevant circuit data (PG&E and SDG&E); 2) a pre-application report process for a $300 fee that provides another level of information to interested applicants; 3) the ability to call IOU engineers and query them directly about specific locations. The Clean Coalition was integral in the creation of the first two options and we are generally happy with ongoing IOU implementation of these requirements. We recommend below, however, a number of improvements to these two options. With respect to this Commission question, we feel that these three options should and could apply equally well to energy storage applications.

Additionally, pre-application meetings have proven useful for applicants and generally efficient for utilities, streamlining the review process. Clear guidance on the existing rules in advance of such consultation will help to identify gaps in the existing rules, and utility experience in both informal and formal consultation meetings, pre- or post-application, will create productive opportunities to capture ideas for improvement to be collected by utility personnel and reviewed by interested parties.

All parties may benefit from recommendations to reduce costs, simplify interconnection, or improve the value of projects in the planning stage. However, parties will not benefit from unnecessarily repetitive meetings related to common and previously vetted project designs; guidance related to established configurations should be published with application materials. As such, consultation should be optional, although recommended for novel configurations.

As the Staff Proposal notes, energy storage isn't the same as pure generation because energy storage takes power from the grid while charging. As such, energy storage charging load service and applicable contract rates will differ and require consideration. Clear information regarding these factors should be provided to applicants along with

application materials, and should be developed or refined as needed. This is not a fundamentally new analysis, however, because the energy-charging component is similar to other load service including interconnection analysis for electric vehicles, for which the utilities already have significant experience.

3. Define Storage Interconnection Terms and Concepts in the Definitions Section of Rule 21

In comments, please list the terms or concepts that require definition to be added to the Rule 21 Definitions section. Please also attempt to provide a working definition of the term or concept.

The Clean Coalition has no response at this time.

4. (a) Identify the Fast Track Threshold for Storage Projects and the Fast Track Study Screens for Storage Projects

Please comment on the threshold parameters for a storage facility to access the Fast Track Process. Please also discuss the aspects of the storage facility that should be studied in a standardized way for Fast Track Study Screen development.

The Clean Coalition feels that the current Fast Track screens are sufficient for energy storage.

Based upon the framework being developed for accommodating energy storage by the CAISO under existing GIDAP to date, the rules for interconnecting energy storage appear to require no modification to the existing tariff, pending final comments by stakeholders. We see no evidence to suggest that storage cannot be successfully interconnected through Rule 21 utilizing the same standards and tests developed for generation. Load service is not provided under Rule 21 and should continue to be addressed separately in accordance with existing procedures. Neither load nor energy export capacity incurs any unique risk or burden due to the participation of storage devices on customer premises. On the contrary, the flexibility and responsiveness of storage can offer attributes to reduce the impacts that may otherwise occur with interconnection and offer additional services in support of grid operation.

While no procedural changes to the tariff appear currently necessary to accommodate most storage interconnections at this time, some refinement in the study processes and Fast Track eligibility should be considered as soon as practical to ensure full and non-discriminatory access of all storage configurations. In particular, this includes identifying the Fast Track size threshold for combined storage and generation configurations, and the appropriate Fast Track study screens for associated alternative interconnection protection schemes.

The total facility output capacity to the grid system must be considered when determining grid impact and Fast Track review eligibility. However, the application of devices and operational settings limiting the maximum total export to the grid should be allowed when determining Fast Track review eligibility and in grid impact studies. This should include the use of advanced inverter functionality and the application[14] currently being developed separately in this same Rule 21 proceeding (R. 11-09-011), and specifically the related May 13, 2014 Scoping Memo and Ruling issued by Comm. Picker, and subsequent Advice Letters currently before the Commission[15].

Ultimately, it is the maximum impact of the total facility as measured at the point of common coupling (PCC) with the grid system that should be considered, rather than the additive impact of each component of the facility individually. For example, if generation and storage are co-located at a single PCC, with or without onsite load, but controlled by equipment settings that limit the maximum export from the aggregated facilities, it is this limited export capacity that should be utilized in determining study requirements, Fast Track review eligibility, and system impact. Facility export limitations may include both absolute limits such as physical protection devices and/or

[14] CEC/CPUC Candidate DER Capabilities: Recommendations for Updating Technical Requirements in Rule 21, dated January 2014

[15] Joint Motion of Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company dated July 18, 2014, regarding interconnection tariff modifications for the implementation of smart inverter functionalities.

variable limits established by programed schedule (time of day), by remote signaling from the ISO, or by autonomous monitoring of grid conditions.

We also urge the Commission to indicate that any megawatt limit (not technically a screen under the current Rule 21 process, but an independent preliminary filter) should be applied with discretion in order to avoid additional studies and delays where determined unnecessary by utility engineers. PG&E currently applies their 3 MW limit for Fast Track to generation projects as a rule of thumb. This means that if a given project would otherwise pass the screens PG&E engineers have the discretion to let the project through Fast Track even if it is over the rule of thumb limit. The screens themselves are the key safety and technical filters, mooting the megawatt limit as a general matter.

The total facility output capacity to the grid system must be considered when determining grid impact and Fast Track review eligibility. However, the application of devices and operational settings limiting the maximum total export to the grid should be allowed when determining Fast Track review eligibility and in grid impact studies. This should include the use of advanced inverter functionality and the application[16] currently being developed separately in this same Rule 21 proceeding (R. 11-09-011), and specifically the related May 13, 2014 Scoping Memo and Ruling issued by Comm. Picker, and subsequent Advice Letters currently before the Commission[17].

Ultimately, it is the maximum impact of the total facility as measured at the point of common coupling (PCC) with the grid system that should be considered, rather than the additive impact of each component of the facility individually. For example, if generation and storage are co-located at a single PCC, with or without onsite load, but controlled by equipment settings that limit the maximum export from the aggregated

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facilities, it is this limited export capacity that should be utilized in determining study requirements, Fast Track review eligibility, and system impact. Facility export limitations may include both absolute limits such as physical protection devices and/or variable limits established by programed schedule (time of day), by remote signaling from the ISO, or by autonomous monitoring of grid conditions.

4 (b) *Please comment on the special case of "non-exporting" storage: What parameters and requirements should be considered to determine whether or not a storage device is "non-exporting"? What type of proof should be available to prove "non-exporting"? Should non-exporting storage devices be allowed to bypass the interconnection process entirely? Should some other process be required? If so, what?*

Rule 21 already has provisions for non-exporting generation that appear fully applicable to storage. Non-exporting storage devices should be allowed to utilize these provisions.

The storage device should be deemed non-exporting if either the interconnection includes protective devices preventing export, the storage device produces 100% or less of minimum onsite load at full discharge, or is otherwise contractually programed or restricted to serving onsite load. We suggest that the non-exporting generation Fast Track process be adapted as needed for these non-exporting storage configurations to allow for expedited interconnection of these devices. The special Fast Track process should be limited to just a few screens and cost commensurately less. We leave the details of these screens to IOU and third party engineers.

Additionally, the simplified application for small systems (<11kVa) should be adopted for automatic approval of conforming small storage systems, including those contractually programed to limit their maximum total system output to <11kVa even if the total capacity of the system components would otherwise be capable of exceeding this limit.

4 (c) *Please comment on the practicalities of reducing interconnection study times by standardizing study data and system characteristic into algorithms made accessible through a visual platform. Please describe the potential benefits and expected costs of instituting such technology advancement in utility interconnection departments.*

The Clean Coalition has advocated an "Interconnection 3.0" approach for some time that would automate interconnection studies as much as possible.

As each utility develops and implements its Distribution Resource Plans to optimize grid investment and cost effective application of storage and other Distributed Energy Resources (DERs) per AB 327, utilities will develop increased understanding of the distribution system's capacity to both accommodate and utilize DERs. This distribution resource planning information should prove valuable in supporting rapid and accurate interconnection review and study results.

In support of both of these goals, we recommend utilizing today's advanced grid modeling techniques to maximize use of detailed system design, load and performance information available to utilities, including data from installed Advanced Metering Devices or proprietary data from third party aggregators and inverter manufactures. While detailed modeling of the entire distribution system may be impractical, at least until relevant information can be efficiently and compatibly digitized, studies supported by the CEC and utilities have demonstrated that many circuits conform to common physical and load configurations, and this substantial subset at least may be identified and mapped for accurate automated project screening utilizing the initial Interconnection Review Screens and even some Supplemental Review.

As data availability and modeling [18]is further developed, such as the Clean Coalition is demonstrating in cooperation with PG&E at the Hunter's Point substation[19], the results

[18] For example, CEC Navigant Distributed Generation Integration Study, 2013, available at: http://www.energy.ca.gov/2013publications/CEC-200-2013-007/CEC-200-2013-007.pdf
[19] http://www.clean-coalition.org/our-work/community-microgrids/

of such studies can be applied to improve the accuracy of earlier, simpler, and necessarily more conservative algorithmic models. Initial models may aim to be best understood as automated "rules of thumb", while capturing and automating the time-tested efficiencies of 'rule of thumb'.

Study automation has the potential to allow applicants to run design alternatives through online review and optimize siting and configuration prior to consulting with staff, requesting reports, or submitting their application for interconnection. Once submitted for review, adopted standards reduce the need for engineering judgment in interconnection studies, avoiding sources of dispute and allowing a very fast automated response to interconnection applications. This process should begin with the "easy cases" that utility engineers feel comfortable delegating to computer analysis and decision making, with an engineering check at the end of the process to ensure that the process is working as desired. This is a substantial change from how interconnection studies are currently conducted and the Clean Coalition recommends a workshop and comment round focused on issues specific to this new paradigm of interconnection studies.

5. (a) Update the Interconnection Agreement to Account for Storage Attributes
Please comment on how might the utility and applicant best consult to determine the optimal storage facility settings and prevent an extended Interconnection Agreement negotiation phase when a variety of distribution grid upgrades and storage facility working parameters are discussed as possibilities.

This potentially common scenario would ideally be addressed by the modeling options discussed above, including the ability for applicants to run design alternatives through online review and optimize siting and configuration prior to consulting with staff, requesting reports, or submitting their application for interconnection.

Until such time as tools are developed and made available for applicants, making information available to the applicant that defines the operational limits that trigger upgrades, and the cost of such upgrades, is most helpful. Some of this information is

available through the Pre-Application Report (PAR) process[20], and we recommend publication of "Unit Cost Guides" associated with distribution upgrades in the same manner that the utilities currently do with CAISO for transmission costs in their respective service territories. This information will help applicant evaluate the cost and value of alternate facility settings and working parameters. At the simplest level this applies to the opportunity to contractually curtail generator or storage output to avoid triggering an interconnection upgrade necessary to accommodate full output during a limited number of peak congestion or minimum coincident load hours per year, however the flexibility of storage offers a much wider range of options.

While this PAR and cost information will be helpful in both narrowing and evaluating the options an applicant may wish to consider, until expert consultation and/or some studies are engaged it is generally not possible to determine the precise cost triggers. In these instances it may be appropriate for an applicant to schedule and engage utility personnel on a limited hourly consulting basis for advice prior to pursuing further review or formal study of a specific configuration, and for subsequent review or studies to seek to specifically identify marginal operational or configuration thresholds that trigger significant interconnection cost differences. It is properly the responsibility of the applicant to understand the value of their operational parameters and communicate their range of flexibility, and the responsibility of the utility to understand the relevant operational limits they are able to accommodate and communicate the associated costs to the customer.

As noted previously, screening and studies should be based upon the operational characteristics of the facility as defined by the applicant and codified in the interconnection agreement, not the maximum parameters the equipment would otherwise be capable of.

[20] We note that PG&E has been identified anecdotally by some applicants as providing relatively complete and useful information in their PARs, and we encourage the utilities and Commission to consult, identify and emulate best practices.

5 (b) *How best can the utility provide information to the applicant, and what type of information would be required at the conclusion of the study phase that would be most helpful to all parties in order to move smoothly into the Interconnection Agreement signing phase? Should study results reflect the possible high, mid and low level distribution upgrade costs and corresponding storage use restrictions or some other method?*

Yes, as discussed above, it would be preferable for study results to indicate the operational restrictions necessary to avoid triggering distribution system and interconnection facility upgrades. While this does imply high, mid, and low interconnection cost options, if applicable, the range of costs and restrictions worth considering should be defined by the applicant to avoid developing and offering scenarios that are unlikely to be of interest. Applicants may then determine the cost/benefit of these options and elect the most cost-effective option.

We emphasize again that it is preferable to identify potential cost triggers earlier in the process to the extend practical, to avoid unnecessary study of more complex higher impact scenarios, or even the submission of applications that would be withdrawn after completing studies, as is common.

Any adopted Cost Certainty opportunities should equally apply to energy storage interconnection as to generation. Though the Clean Coalition has concerns about the staff Cost Certainty proposal, described above, we do believe the proposal in its current form would provide a major improvement for many interconnection applicants.

5 (c) *What type of penalties might accrue for operations outside of agreed-to use restrictions?*

The Clean Coalition agrees that penalties are appropriate and should generally be proportionate to any cost causation incurred by the utility as a result of the operator's actions such that neither ratepayers no the utility shareholders are harmed. However,

consideration should be given to mitigating liability for accidental incidents that would otherwise create such risk for the operator as to inhibit development of distributed energy resources or add costs that would ultimate create a relative net increase in rates compared to ratepayer absorption of some risk.

6. Update the Interconnection Application to Accommodate Storage Attributes

Please comment on the potential for utilizing the internet as the only submission channel for interconnection information, detail what information should be delivered to a utility on an interconnection request for a storage facility, provide any other recommendations for utilizing the interconnection application to maximizing the efficiency of the interconnection process. Should there be a single standard application?

The Clean Coalition strongly supports a purely web-based application process. We were the primary advocate of developing a "web portal" for the interconnection application process as part of the Rule 21 settlement agreement in early 2012 and approved by the Commission in September, 2012 (D.12-09-018) and we are happy to see the Commission make this recommendation here. Digital submission of applications supports efficient access and management of application data, including opportunities for automated categorization and review or integration with Distribution Resource Plans or modeling.

We support a single standard application across utilities, in alignment with maintaining compatible data management and common review or automated analysis processes. A standard format also reduces the likelihood of applicant errors when working with more than one utility. While commonality is to be encouraged, this need not prevent any utility from requesting limited additional information of special relevance to that utility while maintaining uniformity on other matters.

7. Utility Consideration of Alternative Interconnection Metering and Protection Schemes

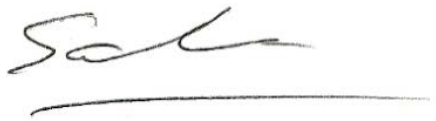
Please discuss how an Applicant might trigger a "New Technology/ New Schema" Testing Process, what that process should be, the information that should be submitted to it, and how

we might involve standard writing bodies to respond to changing needs in the energy industry. How can utility test labs be leveraged? Discuss how Applicants should present proof-of-concept evidence, including what type of evidence is necessary, when making a request that any party consider altering best practices.

The Clean Coalition has no comment on this question at this time.

Respectfully submitted,

Sahm White



Clean Coalition
2 Palo Alto Square
3000 El Camino Real, Suite 500
Palo Alto, CA 94306
(805) 705-1352

Dated: September 12, 2014

Attachment 1

List of Clean Coalition and joint parties' data requests and responses from IOUs

The Clean Coalition and a number of other parties (Vote Solar, IREC, Sustainable Conservation, Sierra Club and Absolutely Solar) submitted discovery requests to each of the IOUs in November of 2012. We submitted follow up requests in January and April of 2013, as follows:

- Joint Party discovery requests to SCE, PG&E and SDG&E (individually), November 14, 2012
- Joint Party follow up discovery requests to SCE and PG&E, Jan. 7, 2013
- Clean Coalition follow up discovery request to SCE and PG&E, April 24, 2013

The IOUs have submitted a number of responses to our requests, with a number of "meet and confers" interspersed throughout, as follows:

- PG&E response to Nov. 14, 2012, discovery request on Dec. 14, 2012
- SDG&E response to Nov. 14, 2012, discovery request on Dec. 14, 2012
- SCE response to Nov. 14, 2012, discovery request on Dec. 17, 2012
- SCE follow up response (after Jan. 4, 2013, meet and confer) on Jan. 21, 2013
- PG&E follow up response (after Jan. 4, 2013, meet and confer) on Jan. 22, 2013
- SCE follow up response with detailed data on 10 projects, Feb. 1, 2013
- PG&E follow up response, with detailed data on 40 projects, Feb. 28, 2013
- SCE follow up response, with detailed data on 30 projects, March 12, 2013

Attachment 2

IID Standard Generator Interconnection Agreement

Article 5. Interconnection Facilities Engineering, Procurement, and Construction

Sec. 5.3.4 – General Conditions Applicable to Interconnection Customer's Responsibility to Build [emphasis added]

If Interconnection Customer assumes responsibility for the design, procurement and construction of Transmission Provider's Interconnection Facilities and/or Stand Alone Network Upgrades:

(a) *Interconnection Customer shall engineer, procure equipment, and construct Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by Transmission Provider, including Transmission Provider's Technical Standards;*

(b) Interconnection Customer's engineering, procurement and construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades shall comply with all Applicable Laws and Regulations and Applicable Reliability Standards to which Transmission Provider would be subject in the engineering, procurement or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(c) *Interconnection Customer shall use only equipment, engineering, and construction contractors and subcontractors which are acceptable to Transmission Provider, such acceptance not to be unreasonably withheld.*

(d) Transmission Provider shall review, make any changes it deems necessary, and approve the engineering design, equipment procurement, equipment acceptance tests, and the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(e) Prior to commencement of construction, Interconnection Customer shall provide to Transmission Provider a schedule for construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, and shall promptly respond to requests for information from Transmission Provider both prior to and during construction;

(f) At Interconnection Customer's expense, Transmission Provider may require that an onsite construction inspector selected by Transmission Provider be present during the construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(g) At any time during construction, Transmission Provider shall have the right to gain unrestricted access to Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades and to conduct inspections of the same;

(h) At any time during construction, should any phase of the engineering, equipment procurement, or construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades not meet the standards and specifications provided by Transmission Provider, including Transmission Provider's Technical Standards, Applicable Laws and Regulations, Applicable Reliability Standards, or Good Utility Practice, Interconnection Customer shall be obligated to remedy deficiencies, at Interconnection Customer's expense, in that portion of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades;

(i) Interconnection Customer shall indemnify Transmission Provider for claims arising from Interconnection Customer's construction of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades under the terms and procedures applicable to Article 18.1 Indemnity;

(j) Interconnection Customer shall transfer control of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to Transmission Provider;

(k) Unless the Parties otherwise agree, Interconnection Customer shall transfer ownership of Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades, including but not limited to all rights related to the land upon

which Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades are located, to Transmission Provider and, upon the effective date of such transfer of ownership, Interconnection Customer shall have the right to obtain transmission rate credits for the costs it paid to design, procure and construct the Stand Alone Network Upgrades in accordance with Article 11.5;

(l) Transmission Provider shall approve and accept for operation and maintenance Transmission Provider's Interconnection Facilities and Stand Alone Network Upgrades to the extent engineered, procured, and constructed by Interconnection Customer in accordance with this Article 5; and

(m) Interconnection Customer shall deliver to Transmission Provider "as-built" drawings, information, and any other documents that are reasonably required by Transmission Provider to assure that the Interconnection Facilities and Stand Alone Network Upgrades are built to the standards and specifications required by Transmission Provider.

Attachment 3

Clean Coalition Standardized Pricing proposal outline (March 2013)

- The Clean Coalition has revised its cost certainty proposal by adopting some aspects of the joint utility cost certainty proposal.
- The Clean Coalition supports the IOU proposal as a subset of our previously proposed default 125% cost cap proposal. In particular, we support the suggestion that General Rate Case true-up is an appropriate mechanism for resolving any interconnection cost imbalances. We recommend, however, that a balancing account is a better mechanism than rate-base true-up because the primary beneficiaries of the new cost certainty options will be developers
- Under the cost certainty balancing account, any amount below 100% of the interconnection cost estimate will, rather than being refunded to developers, go into the balancing account. Any amount above the cost cap estimates will, conversely, be paid for from the balancing account. Because interconnection cost estimates have on average, based on available data, been 6-18% below the actual interconnection costs, we feel that it is unlikely that there will be substantial sums that are required to be paid from the balancing account. An annual review of the operation of the balancing account should be required, and any necessary adjustments may be made at that time
- The Clean Coalition also recommends, rather than a fixed cost option as the IOUs have recommended, that all Fast Track-eligible projects be offered a 110% cost cap option, which will allow the IOUs to be off in their estimates by up to 10% without incurring any balancing account liability
- By expanding the fixed cost option to a 110% cost cap option, this option can be offered to nearly all Fast Track-eligible projects, rather than those under the

additional limitations proposed by the IOUs; we allow for the possibility of some screening criteria that may identify and exclude less predictable FT projects. We recommend below that non-Fast Track-eligible projects be offered a more expansive 125% cost cap option, in recognition of the fact that these projects are likely to see more variability between the estimated and actual interconnection costs

- The 110% cost cap option is appropriate for projects under the conditions specified by the IOUs for the fixed price option, and by allowing a 10% overage we feel that a sufficiently accurate estimate can be developed with less delay. The proposed 70 Business Days represents an excessive delay for this Fast Track option and we recommend instead 30 calendar days, subject to extension under excessive workload provisions (similar to that recommended for the DGSP by the IOUs).
- [The idea is to create firm pricing, ending with GIA contract commitments defining the work required and the cost to perform, with no future liability on either party for revisions.] [Two competing factors are in the interest of all parties – speed and accuracy; all parties are served by improvements in either. The MA approach balances this appropriately by exchanging one for the other. A higher % cost cap increases risk to the applicant, which increases costs passed on, and it is appropriate to allow each applicant to choose the trade off that fits best, based on the time required to provide accuracy, and the risk and size of the project (individual accuracy is less important the larger the number of comparable applicants due to the value of averaging] More generally, we propose a three-category approach to cost certainty, with the first category (rate-base eligibility) to be developed later in this proceeding. The following three categories are arranged according to the degree of cost certainty, from most certain to least certain: 1) Utilities should be required to create a Distribution Grid Upgrade Plan (DGUP) every two years, must incorporate their proportionate share of the Governor's 12,000 MW Distributed Generation goal into the plan, and interconnections that meet the criteria of the DGUP will be ratebaseable; 2) all

Fast Track projects that aren't ratebaseable should be automatically eligible for the 110% cost cap approach (applicants should be able to select the cost cap option or a traditional interconnection option); 3) all other projects (not ratebaseable and not Fast Track) will be screened for eligibility for a 125% cost cap option, as described below.

- The 125% cost cap option means that applicants will not have to pay any more than 125% of the interconnection cost estimate. This involves a 25% leeway for IOUs to be off in their interconnection cost estimates without incurring any balancing account liability. This 25% leeway allows for significantly expanded eligibility for the 125% cost cap option. The Clean Coalition feels, based on available data, that on average it is highly unlikely that there will be any liability over the 125% cost cap, because the large majority of projects see their actual interconnection costs come in lower than the estimated amounts, not higher
- In order to reduce the potential for a small number of participants to disproportionately impact the applicant pool, the Clean Coalition recommends initially limiting eligibility For projects to be eligible for the 125% cost cap option the project: 1) must not exceed 100% of the minimum load on the substation at issue; 2) must not be electrically dependent on other projects on the distribution grid (Screen R); 3) be likely to have interconnection costs of less than $500k/MW, based on historical data analysis, and any other specific factors that help to mitigate the risk of higher than estimates costs
- However, we also strongly urge the Commission to require objective criteria for determining electrical interdependence, which is currently not the case under existing Rule 21 screens. We have recommended changes to these screens in our comments on the DGSP proposals
- There may also be potential to expand the ~~125%~~ cost cap option to circumstances involving a single queued-ahead project, allowing some electrically interdependent projects to also benefit from the cost cap option
- The IOU will provide a "Capped Interconnection Cost Estimate" (CICE) report

for those applicants requesting either the 110% or the 125% cost cap option, and who are found to be eligible for these options. IOUs should complete the CICE in no more than an additional 30 calendar days beyond the normal study deadlines. To select the increased cost certainty option, all interconnection applicants will "check the box" on their interconnection application, indicating their desire for cost certainty, and the IOU will determine during the course of its initial review if the project is eligible. If applications are ineligible for the cost certainty options described above they will go through normal Rule 21 interconnection procedures (Fast Track, Independent Study Process or Group Study) without the cost certainty option

- We also recommend that the Pre-Application Report (PAR) option be modified to include an additional line item for cost certainty option eligibility. As with existing PAR line items, if the data for determining cost certainty option eligibility is readily available, the IOU will include its preliminary and non-binding determination re cost certainty eligibility in the PAR
- We also recommend that a "per configuration cost guide" be developed for distribution grid interconnection, similar to the per unit cost guide for transmission interconnection. This guide will allow developers to gain a better idea, even before an application is submitted, of what their interconnection costs may be.
- The combination of IOU interconnection maps, online interconnection queues, and the PAR option, plus a per configuration cost guide, will provide developers good information regarding their likely interconnection costs without having to submit an expensive application, and go through a lengthy process, only to find that interconnection costs are economically infeasible
- The Clean Coalition also urges the Commission to require the IOUs to collect additional specific project data, such as penetration level and distance from substation, on a prospective (rolling) basis such that this data (from Rule 21 and WDT/WDAT projects) can be used to fine-tune the screening criteria for the 125% cost cap option.