

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations.

R.11-10-023
Filed October 20, 2011

**COMMENTS OF THE
CALIFORNIA ENERGY STORAGE ALLIANCE ON PROPOSED DECISION
ADOPTING LONG-TERM PROCUREMENT OBLIGATIONS FOR 2013 AND
FURTHER REFINING THE RESOURCE ADEQUACY PROGRAM**

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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations.

R.11-10-023
Filed September 22, 2011

**COMMENTS OF THE
CALIFORNIA ENERGY STORAGE ALLIANCE ON PROPOSED DECISION
ADOPTING LONG-TERM PROCUREMENT OBLIGATIONS FOR 2013 AND
FURTHER REFINING THE RESOURCE ADEQUACY PROGRAM**

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”)¹ submits these comments on the *Proposed Decision Adopting Long-Term Procurement Obligations for 2013 and Further Refining the Resource Adequacy Program* (“Proposed Decision”).

I. INTRODUCTION.

CESA applauds the diligent and creative efforts of the Energy Division Staff and the staff of the California Independent System Operator (“CAISO”) in putting forward thoughtful proposals for stakeholder consideration that will squarely address the increasing need for

¹ The California Energy Storage Alliance consists of A123 Systems, Bright Energy Storage Technologies, CALMAC, Chevron Energy Solutions, Deeya Energy, East Penn Manufacturing Co., EnerVault, Fluidic Energy, GE Energy Storage, Green Charge Networks, Greensmith Energy Management Systems, Growing Energy Labs, HDR Engineering, Ice Energy, Kelvin Storage Technologies, LG Chem, LightSail Energy, Primus Power, Prudent Energy, RedFlow Technologies, RES Americas, Saft America, Samsung SDI, SANYO Energy, Seeo, Sharp Labs of America, Silent Power, Stem, Sumitomo Electric, Sumitomo Corporation of America, SunEdison, SunVerge, TAS Energy, and Xtreme Power. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. <http://storagealliance.org>

flexibility in resource adequacy (“RA”) and long-term procurement planning (“LTPP”) in this proceeding. CESA supports the Energy Division Staff’s proposal to create a new maximum cumulative capacity (“MMC”) category for demand response (“DR”). With regard to issues identified in this proceeding, CESA also urges the Commission to: (a) coordinate Phase 2 with the energy storage rulemaking, R.10-12-007 (“ Energy Storage OIR”).² (b) address multi-year contracting for RA capacity provided by energy storage, and (c) also address deliverability of distributed generation (“DG”) and energy storage.

II. THE COMMISSION SHOULD ADOPT THE ENERGY DIVISION’S PROPOSAL TO CREATE A NEW MAXIMUM CUMULATIVE CAPACITY CATEGORY FOR DEMAND RESPONSE THAT SPECIFICALLY INCLUDES ENERGY STORAGE.

CESA strongly supports the statement in the Proposed Decision that “[we] look to the Energy Division’s back-up proposal to update MCC buckets and implement a new demand response MCC bucket at this time. This proposal is non-controversial, and responsive to previous Commission decisions. We will adopt the Energy Division proposal to update the percentages used for the MCC buckets to reflect more current load shapes, and to add a bucket specifically for Demand Response resources.” (Proposed Decision, p. 22). The Energy Division’s *Staff Report for the Resource Adequacy Workshop held on January 26-27-2012* (“Staff Report”)³ would have included energy storage in a “refined” Bucket 2, with the following description: “This bucket would include resources like peaker plants, dispatchable Demand Response, and energy storage used as a stand-alone.” (Staff Report, p. 7). As the Proposed Decision notes (Proposed Decision, p.14, at footnote 2), the Energy Division Staff had previously made the

² *Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems*, R.10-12-007, filed December 16, 2010 (“Energy Storage OIR”).

³ Attachment A to *Administrative Law Judge’s Ruling Seeking Comments*, issued March 23, 2012.

proposal in a presentation slide titled “Redesign/update of the MCC Buckets”.⁴ The Proposed Decision correctly observes that both the revised Category 2 and the “back-up” approaches are consistent with the Commission’s guidance on further accelerating and enhancing the role of DR in the RA program.⁵ Of course, what the Proposed Decision also refers to as the “default proposal” (Proposed Decision, p. 14) can, and should, provide greater clarity in expressing the Commission’s policy determination to advance the role of DR that underlies both the “refined Bucket 2” and the additional new category (back-up, or default) approach.⁶

III. THE COMMISSION SHOULD COORDINATE PHASE 2 OF THIS PROCEEDING WITH THE ENERGY STORAGE RULEMAKING.

CESA urges the Commission to clearly state, and spell out in some detail, a specific process and timeline for coordinating this proceeding with the Energy Storage OIR, An “Energy Staff Framework Proposal”⁷ was published informally to the Energy Storage Rulemaking Service List on April 3, 2012 that included the following recommendation to the Commission: “CPUC Staff expects to coordinate with other on-going efforts in Resource Adequacy, Long-Term Procurement, and activities at the CAISO to ensure that energy storage is being considered in those efforts.” (Staff Proposal Cover Letter, p. 3). Given the direct parallel between the analytical processes outlined in the Proposed Decision and the Energy Storage OIR it is critical to explain in detail the way in which this proceeding and the Energy Storage OIR will be coordinated in real time and on an ongoing basis. The Proposed Decision states:

⁴ See, *R.11-10-023 2013 Phase 1 Resource Adequacy Workshop Presentation-Day 1, January 26 and 27, 2012*, Slide 7.

⁵ Ordering Paragraph 1(b) of D.11-10-003 stated: “A new Maximum Cumulative Capacity bucket is created for demand response resources, subject to the parameters of the bucket to be determined by the Commission for the 2013 Resource Adequacy year,” (cited at Proposed Decision, p. 14).

⁶ The linkage between demand response (“DR”) should be self-evident, but the Commission should expressly clarify the relationship at the first opportunity. This fact is most obvious today by classification of permanent load shifting as demand response [Note: add more]

⁷ *Energy Division Staff Storage Framework Proposal*, published April 3, 2012.

“With the goal of ensuring reliability without undue complexity in mind, parties should work towards clearly defining flexibility in terms of specific operational characteristics of generators that the Commission should consider when authorizing new generation. Specifically, parties should consider:

whether flexibility should be defined variably in intervals or if a consistent definition is more appropriate;

whether flexibility should be based on essential key characteristics or if a broad definition better serves the purpose; and

whether flexibility should be defined as a choice between operational characteristics such as magnitude of need, speed of response and contractual availability.” (Proposed Decision, p. 21).

Phase 2 of the Energy Storage OIR could, for example, address flexibility definitions and issues as they specifically pertain to energy storage in parallel with this proceeding for inclusion in the next refinements to the RA framework expected this fall. For example, there are dimensions to flexibility that energy storage provides that require a different approach to cost-effectiveness and benefit evaluation such as:

- ffi *Locational flexibility* – energy storage can be sited in modular, scalable increments ranging from a few kW to multiple megawatts. Small systems can be aggregated to serve as utility-scale. For ever greater flexibility, some energy storage technologies can be designed for mobility – in other words, they can be moved from location to location depending on need. In contrast, fossil fueled-peakers are generally installed in increments of at least 50 MW.
- ffi *Timing flexibility* – energy storage can be deployed within a year vs. 3-4 years (or more) for most fossil fuel generation. Such short-time-to-market provides benefits to the system in terms of providing solutions for more accurate near term planning.

ffi *Resource flexibility* – energy storage can provide an alternate source of RA – such portfolio flexibility makes the system more robust overall and less dependent on any particular resource type. Within the category of energy storage, there are many different technology sub-classes that can perform RA-eligible DR and other services, further diversifying the total portfolio of resources available to manage the grid.

IV. **THE COMMISSION SHOULD ADDRESS MULTI-YEAR CONTRACTING FOR RA-ELIGIBLE RESOURCE ADEQUACY CAPACITY PROVIDED BY ENERGY STORAGE IN PHASE 2 OF THIS PROCEEDING.**

CESA strongly urges the Commission to address, multi-year or long-term (*i.e.*, 10 years or greater) contracting for RA capacity enabled by energy storage.⁸ The Proposed Decision states:

‘The LTPP Scoping Memo also foresees an LTPP decision at or near the end of 2012 that may authorize or require Commission-jurisdictional Investor-Owned Utilities and/or other LSEs to contract for multi-year local reliability needs to the extent that the Commission finds there is such a need. Therefore, in this proceeding, we will focus on defining which flexible attributes can or should be included for RA resources one year out. These flexible attributes may also be appropriate for any multi-year local capacity procurement that may be authorized in the LTPP proceeding.’ (p. 13).

CESA strongly supports such a multi-year approach and urges the Commission to include energy storage in it, including addressing multi-year contracting for storage (and potentially other) RA resources.

⁸ In addition to adding net qualifying capacity for RA purposes, introduction of more emphasis on forward capacity can also enhance other electricity products, such as regulation service and firming and shaping for generation competing in renewables portfolio standard-eligible and all-source procurement.

V. **THE COMMISSION SHOULD ADDRESS DELIVERABILITY OF DISTRIBUTED GENERATION AND ENERGY STORAGE IN PHASE 2 OF THIS PROCEEDING.**

CESA strongly supports greater emphasis by the Commission on deliverability of DG and energy storage, which should be a key beneficiary of the Commission's focus on the important role of energy storage in this proceeding.⁹ CESA specifically supports the CAISO's statement, in the record of this proceeding, in the CAISO's *2013 Flexible Capacity Procurement Requirement, Supplemental Information to Proposal*, March 2, 2012 " If a demand response resource or storage device is dispatchable in the ISO market, and is capable of providing one or more of the flexible capacity requirements, then, subject to the rules of the CPUC and other local regulatory authorities, as applicable, these resources would be eligible to provide flexible capacity." (Supplemental Information, p. 22).¹⁰¹¹

Deliverability of DG and storage is indirectly part of another active Commission proceeding, R.11-09-011 on Distribution Level Interconnection.¹² In comments filed in that proceeding, the CAISO has stated, "The revisions to Rule 21 are meant to improve the Commission-jurisdictional interconnection process so as to better facilitate the interconnection of

⁹ It is also important to note that energy storage can be sited at the location of conventional or renewable generation, or sited with distributed generation (distribution-located or on the customer side of the meter). As an example, thermal energy storage installed at natural gas-fired plants (both simple cycle and combined cycle) can utilize power generated at off-peak hours stored in the form of cold water to significantly improve the electrical output of those plants when they operate on peak by cooling their air intake. Thermal energy storage and many types of chemical storage technologies can also be installed on the customer side of the meter to effectively shift peak demand to off-peak periods.

¹⁰ Attachment to *California Independent System Operator Corporation Submission of Supplemental Information to Proposal*, March 2, 2012.

¹¹ *Comments Of The California Independent System Operator Corporation On The Motion For Approval Of Settlement Agreement Revising Distribution Level Interconnection Rules And Regulations*, filed April 16, 2012.

¹² *Order Instituting Rulemaking on the Commission's Own Motion to Improve Distribution Level Interconnection Rules and Regulations For Certain Classes of Electric Generators and Electric Storage Resources*, R.11-09-011, filed September 27, 2011.

exporting generating facilities and storage technologies.¹³ The CAISO also states in its comments:

“The ISO notes with approval the language in the revised Rule 21 clarifying that the Rule 21 interconnection process is not a vehicle for an applicant to obtain a deliverability assessment, 2 and that customers that wish to obtain a deliverability assessment must do so pursuant to the IOUs’ FERC-jurisdictional wholesale interconnection tariffs or the ISO’s interconnection process. However, in order to enhance the ability of smaller resources to contribute to California’s renewable resource goals, the ISO is currently engaged in a stakeholder process regarding deliverability for distributed generation projects that is intended to facilitate the ability of certain resources interconnecting under the Rule 21 process to obtain deliverability status under the ISO’s tariff.” (CAISO Comments, p. 2).

While the CAISO is doing what it can, the point is that only in *this* proceeding can the Commission squarely address the conundrum of the inability of distributed generation and energy storage to obtain deliverability status for RA purposes in California’s existing regulatory regime.

At the workshop held in January of this year the subject of “Deliverability for DG” was on the agenda, but it was not discussed at all. Although it was not discussed in any detail at that time, the topic was the subject of a presentation that was introduced as part of the record in this proceeding (Attachment A), and addressed in the Staff Report (Staff Report, p. 18). It was also specifically identified for discussion in the ALJ’s Ruling Seeking Comments, and included on the agenda included as part of the presentation at the workshop held in March of this year, but was not covered in any slide and (again) not discussed in any detail. The Proposed Decision makes no mention of deliverability for DG at all.

¹³ Id. p. 1.

VI. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the PD, and looks forward to working with the Commission and other stakeholders in the next phase of this proceeding.

Respectfully submitted,

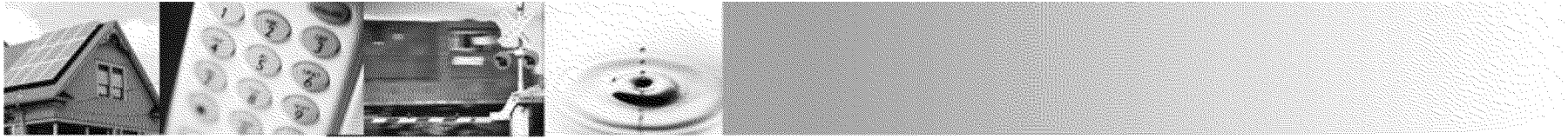


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Date: June 11, 2012

ATTACHMENT “A”



Resource Adequacy for Distributed Generation

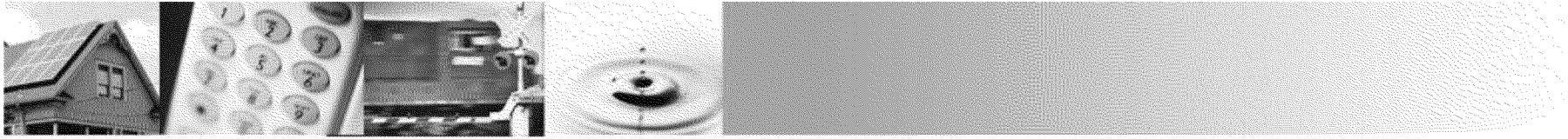
January 27, 2012

10:15 am to 12 noon

Energy Division staff discussion

Megha Lakhchaura

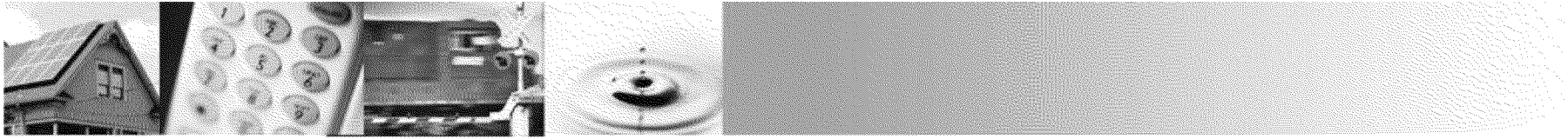




Distributed Generation at the CPUC

- These programs include the
 - Feed-in-tariff authorized under PU Code 399.20 (up to 1.5 MW)
 - Renewable auction mechanism (up to 20 MW)
 - CHP feed-in tariff under AB 1613 (up to 20 MW)
 - Investor-owned utility solar photovoltaic (PV) Programs (1-20 MW)
 - Other generating resources connected at the distribution level

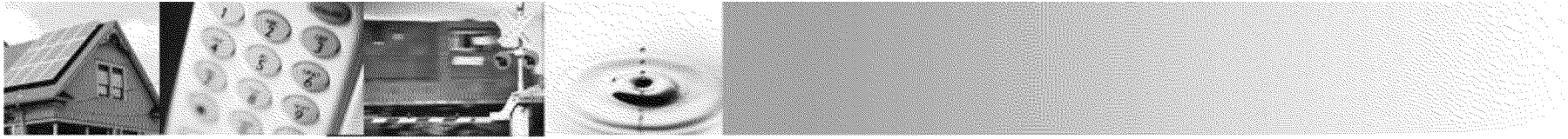




Defining Discussion

- Roadmap to assign RA to DG
- Not Immediate. Depends on CAISO's timeline for deliverability study
- Follows publication of CAISO study results and adoption of allocation method in CPUC proceeding
- Pro-active attempt to estimate the scope of the project before project goes too far
- Workshop today is not to discuss the technical aspects of the CAISO study but foresee potential issues after allocation

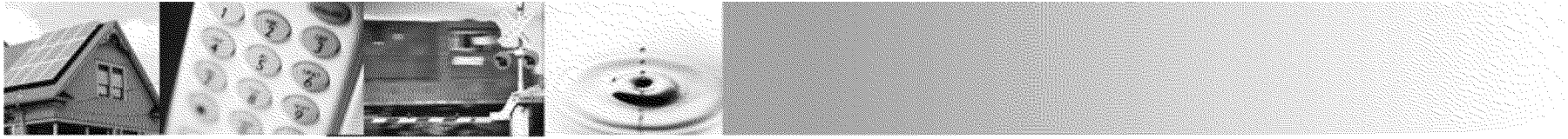




CAISO Straw Proposal

- New annual assessment methodology for determining and allocating RA deliverability for DG resources
- Deliverability for distribution interconnected generation available to LRA under a process similar to how RA import capacity is allocated.

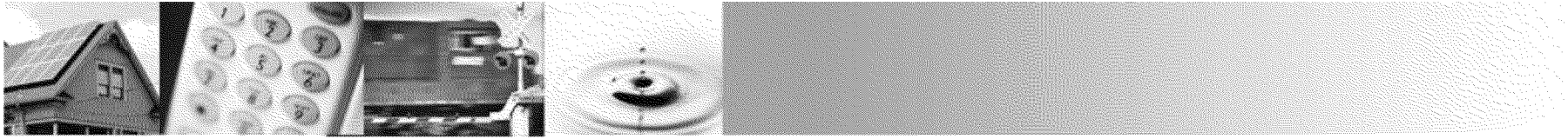




Allocation to LRAs

When the study is completed the ISO will provide a list of the network nodes modeled in the study and the corresponding MW amounts of deliverable DG for each node.

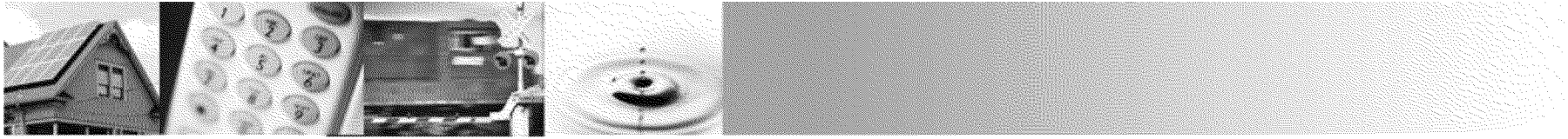




Allocation

- CPUC does not have a specific proposal
- Goal – Brainstorm and identify issues with allocation process

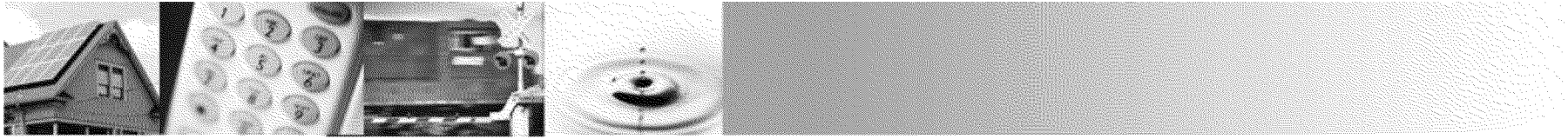




Potential Options

1. CPUC can administer programs so LSEs are directed to build facilities only at nodes that have residual deliverability.
2. CPUC can allocate deliverability to LSES and LSES can administer their own contracting pursuant to verification by CPUC staff.



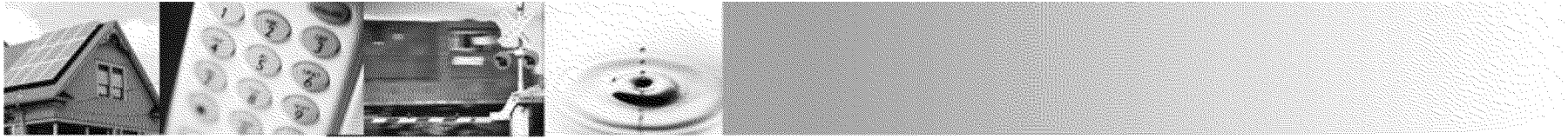


Which Programs Qualify ?

Options

- Projects approved under current CPUC DG programs
- Projects that connect through Rule 21 and WDAT
- Should there be a potential mix of various DG programs to fulfill various legislative mandates?
- Do all DG programs pay for RA ?



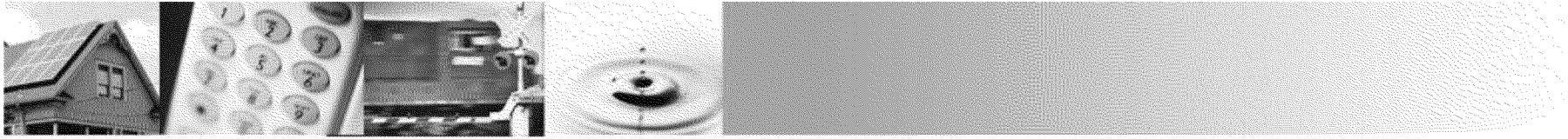


Tracking

Managing deliverability at the node

- Monitoring the projects at each node
- Mapping of the nodes
- Project viability for each DG project
- Transfer of deliverability at the nodes between projects and between LSEs
- Directing projects to nodes with residual deliverability
- Who should manage projects at the nodes?



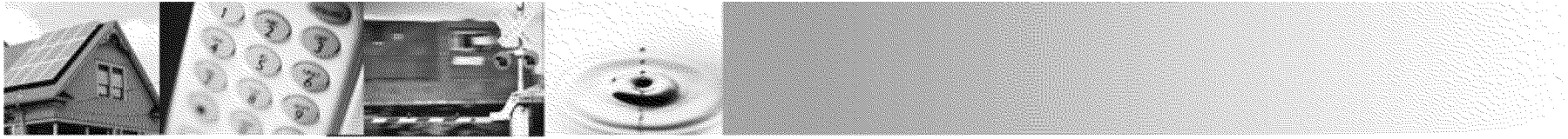


RA credit

How will LSEs get RA credit for distributed generation ?

- Individual qualifying capacity of resources
- Development of NQC list that includes all DG projects
- Resources like CHP which have customer side consumption as well as net export to distribution grid

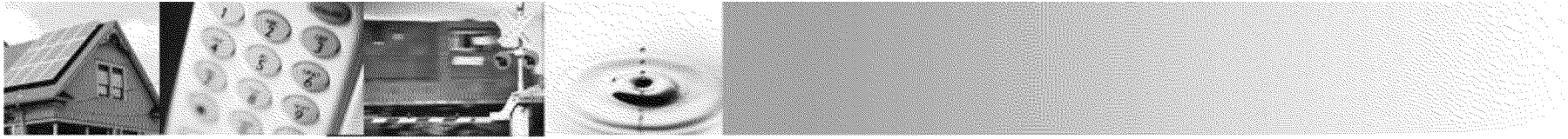




When should RA credit be allocated to a project

- Gestation of a DG project
 - How long does a project take to come online?
 - At what stage should the deliverability be allocated to the project?
 - What are the milestones that can be used to determine the progress of a project ?
 - How to determine QC given lack of performance data and lack of clarity

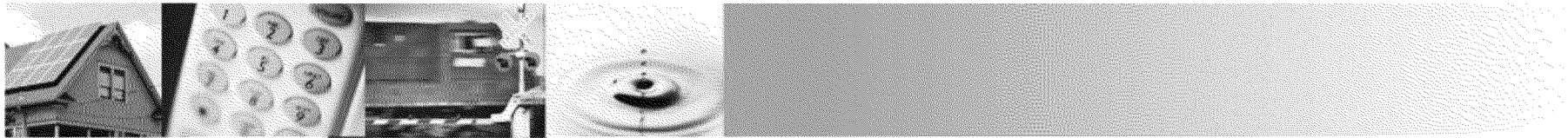




Timing

- Timing of the CAISOffs
- Tariff filing with FERC would synchronize with the CPUCffs RA proceeding.






Thank you!

For Additional Information:

<http://www.cpuc.ca.gov/PUC/energy/>



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