

FIT Coalition comments on SCE WDAT reform

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I. Introduction

The FIT Coalition appreciates this chance to provide additional comments on SCE's proposed WDAT reforms. We also appreciate SCE's more detailed discussion of clustering at the Distribution Level on the November 8th conference call. This was useful to our understanding and helped to highlight the opportunities that exist for Wholesale Distributed Generation (WDG, 20MW-and-smaller, distribution-interconnected) projects to optimize use of existing distribution grid capacity and even enhance that capacity by connecting close to load and reducing upstream system demand.

For example, during the discussion, SCE confirmed that if WDAT IR#4 was a project that only served downstream load and never backflowed into "B-Station", then the project would be independent and would not share any of the costs modeled "above" it. Not surprisingly, many developers would like to develop such a project and we encourage SCE to provide sufficient information for developers to determine where opportunities similar to WDAT IR#4 could occur.

II. Grid Transparency

To provide sufficient information, SCE would have to expand upon its current Google Map. The FIT Coalition has reviewed the data visibility practices of the Ontario Power Authority, SMUD, the California IOUs and other North American Utilities and determined what we believe to be "best practices" for a well-designed "Grid Transparency" program. We believe that the Grid Transparency program described below should be adopted by SCE in conjunction with the WDAT reform.

As an overview, distributed generation generally offsets load flowing from upstream, higher voltage lines. Therefore, distributed generation typically releases system capacity by meeting demand directly at the circuit level, thereby reducing the actual load on upstream lines and substations. However, generation in excess of circuit load would require backflow power switching and protection equipment to distribute excess generation to other feed line circuits at the same substation, and generation in excess of substation load would require the installation of backflow transformers to convert the power to higher line voltage and redistribution capacity. The potential for exceeding circuit and substation loads must be made apparent, and is an appropriate basis for defining available remaining generation interconnection capacity (GIC) with regard to siting distributed generation. (To provide a simplistic example, if there is a substation with one 50MW transformer, 30MW of peak load and no distributed generation yet connected, then Remaining Peak GIC is 30MW. Note that this example does not take into account peak load limits such as those found in Rule 21.)

We believe that a best practices Grid Transparency program includes the following information:

1. Information on load and generation (or net load) must be made available for both each substation and each feed line circuit emanating from it. Such information should specify minimum net loads categorized by time of day and time of year such that local generation profiles are designed not to exceed a safe percentage of that load.
2. Information on any planned changes in GIC, including additional load servicing through new or upgraded facilities and queues for distributed generation applications and approved facilities, must also be included in order to determine GIC allocation and GIC remaining available.
3. Each feed line circuit and substation should be categorized as having an ability to accept additional generation interconnection (GIC Remaining) within defined

ranges of <1MW, 1-3MW, 3-5MW, 5-10MW, 10-20MW or > 20MW.

III. Data Presentation

In order to make interconnection information available, we recommend the following presentation formats:

1. Developed in Google Maps/Earth (or comparable GIS program), in order to provide direct access to detailed mapping that has sufficient geographic information to be useful to wholesale distributed generation (WDG) developers.
2. Locations of substations should be identified and color coded for existing GIC to highlight areas with higher distributed generation project potential. For each region, identified substations should be “clickable” in order to provide information and locations of distribution lines with remaining GIC of at least 300kW (locational information must be sufficiently accurate to be useful, but may be approximated to allay security concerns or may be restricted to licensed or qualified applicants).
3. In the event that a substation has more than one transformer, load on each transformer should be provided in addition to aggregated information for the substation as a whole.
4. Clicking on the substation should also provide information to all existing downstream distributed generation and interconnection queue information, as well as the size and timing of planned upgrades and load additions that will impact remaining GIC capacity range categorization defined above.