California Independent System Operator, Inc.
2012/2013 Transmission Planning Process Stakeholder Meeting
September 26-27, 2012

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COMMENTS OF
THE INTERSTATE RENEWABLE ENERGY COUNCIL, INC.

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The Interstate Renewable Energy Council, Inc. (IREC) appreciates the opportunity to provide the following comments on several of the topics that came up during the 2012/2013 Transmission Planning Process Stakeholder Meeting that took place at the CAISO's offices on September 26-27, 2012.

Much of that two-day meeting addressed the technical analyses prepared by CAISO staff that provided a preliminary identification of needed reliability projects within the CAISO footprint for possible approval by the CAISO board this coming March, as well as the various reliability projects that the Participating Transmission Owners (PTOs) within the CAISO had proposed in the first Request Window that closed on September 15, 2012.

IREC does not have any particular comments with respect to either the CAISO staff's technical analyses or the various reliability projects proposed by the PTOs. However, the final substantive presentation on Day One of this meeting, on Non-Transmission Alternatives was a highly welcome opening from the CAISO on an issue that, in the past, has been a matter of frustration for many CAISO stakeholders. Among the primary goals of IREC is the facilitation of wider deployment of renewable

distributed generation (DG), especially residential and smaller-scale commercial solar photovoltaic (PV) systems. Until Neil Millar's presentation on September 26, it has been difficult for IREC – and others – to discern a path forward to engage the CAISO in a serious dialogue regarding how PV DG can play the significant role in meeting California's future energy needs that it clearly has the capacity to play.

It was therefore encouraging that Mr. Millar stated affirmatively during his presentation that the CAISO's processes are intended to address non-transmission alternatives, that the CAISO wants to ensure that the opportunities for suggesting non-transmission alternatives are clear, and that the CAISO wants to ensure that the methodology for comparable evaluation of non-transmission alternatives is also clear.

IREC has no doubt that the CAISO is willing to, and will, work with the non-wires stakeholders to identify precisely how non-transmission alternatives, including, but certainly not limited to, PV DG, will be able to be actively considered in the CAISO's transmission planning processes going forward. However, as the old expression goes, "the devil is in the details."

The CAISO needs to begin – as soon as possible -- an energetic and proactive engagement with stakeholders that will ultimately result in the CAISO's promulgation of a set of detailed guidelines that will inform stakeholders clearly and precisely what needs to be done in order for particular types of non-wires resources to be counted toward a PTO's resource adequacy requirements. Such guidelines currently do not exist, and it is a matter of urgency for the CAISO to roll up its sleeves and begin addressing how non-wires alternatives can play a real and effective role in meeting the state's energy needs.

In his presentation, Mr. Millar stated that the CAISO has no ability or authority to ensure that any proposed non-wires alternative is actually implemented. That statement may be true in a narrow sense, but the fact is that the California Public Utilities Commission (CPUC) has undoubted authority over the actions of the PTOs under its jurisdiction (which PTOs serve the great majority of the customers within the CAISO's balancing area). The CPUC can direct the PTOs under its jurisdiction to take specific steps to expand their respective distribution systems' reliance on energy efficiency, demand-side resources and DG. The CPUC, working closely with the CAISO, will be able to (and should!) develop a set of detailed criteria and counting conventions that will direct the CPUC's jurisdictional utilities to account for such non-wires resources in a way that will allow the energy generated or saved by such resources to be credited to those utilities' resource adequacy requirements.

In this regard, an existing problem faced by PV DG where such an effort will be able to make a major difference is the limited amount of "qualifying capacity" toward meeting resource adequacy requirements for which PV DG is currently credited. The current methodologies for assigning " capacity factors" to PV DG are uniformly backward looking, and simply do not assign any significant amount of capacity credit for DG PV resources. This needs to change, and several well-respected studies, including one by Energy + Environmental Economics (E3),[1] have proposed methodologies which would allow for the development of a more reasonable capacity factor for PV DG by aggregating PV systems for which there are hourly generation data into groups with similar characteristics.

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1 See, *e.g*., *Net Energy Metering (NEM) Cost-Effectiveness Evaluation*, prepared for the CPUC, January 2010.

Moreover, even though the actual capacity factor that should be assigned to PV DG is significantly higher than is currently the case, the CAISO also needs to recognize the fact that PV DG that is coordinated with distributed electricity storage would have a very high capacity factor, especially during peak periods of demand within the state. Moreover, such PV DG plus storage systems can be sited strategically, so as to dramatically assist in meeting local capacity requirements. Such systems, because of their inherent flexibility, will also overcome the utilities' traditional concern about the need for "limits" on the amount of PV that can be installed on any given distribution circuit. Most importantly, perhaps, such systems can be installed and brought into operation in a fraction of the time needed to design, permit and build a new transmission line.

Specific, detailed criteria to facilitate and expand the opportunities for such advanced distributed resources need to be vetted with the CAISO's stakeholders. Ultimately, such criteria should be approved by the CPUC as directives to its jurisdictional utilities, and should also be incorporated into a chapter of the CAISO's Business Practice manual, so that all entities who seek to have California rely on a more robust set of local, renewable resources in order to help meet the state's clean energy goals will know exactly the steps to follow in order to help bring those goals into a reality.

The key to this effort will be a thoroughgoing reform of the existing, somewhat opaque counting conventions that are used in connection with the evaluation of PV DG (as well as energy efficiency and many demand-side resources) as an "alternative" to transmission or to more traditional (although polluting) dispatchable resources. The

pressing need for such reform is demonstrated by the comment in Mr. Millar's presentation to the effect that "[u]tility-connected distributed generation from CPUC/CEC provided renewable generation portfolios" is "currently difficult to model due to lack of certainty about location."

Again, Mr. Millar's statement may be true in the narrow and limited sense of how things are done today. However, with the widespread deployment of "smart meters" throughout California, it should already be quite easy for the utilities to identify both the location and the extent of small-scale PV resources. The utilities also have sophisticated records of their customers' use of electricity over time. Given this existing information, it should be relatively easy to develop data sets, aggregated by the areas into which the utilities' service territories are divided, that can be modeled to show with a high degree of reliability the amount of PV DG that is actively serving load in those areas. Similarly, it should be reasonably easy for the CAISO, working with the utilities, to develop similar data sets to identify the capacity of PV DG at the nodes where the transmission system meets the distribution system and for the utilities to aggregate installed PV DG that is contributing to overall system capacity needs by node. Moreover, with the addition of distributed storage within the utility's service territories, the generation provided by PV DG should be able to treated as firm capacity, or something very close to it.

To conclude, IREC thanks the CAISO staff for the opportunity to present the foregoing comments. We trust that as the CAISO's transmission planning process evolves over this and the following few planning cycles, the CAISO will aggressively advance the agenda of facilitating the opportunities for non-transmission alternatives, in particular, PV DG, to meet the needs of California's energy consumers.

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