

TO: Public Advisor, California Energy Commission

FROM: Clyde Murley, Murley Consulting Group, Albany, CA

SUBJECT: Docket Number 13-CCEJA-1: Comments on Prop 39

DATE: October 25, 2013

I appreciate this opportunity to provide the following comments and recommendations regarding the Energy Commission's Prop 39 Program Implementation Draft Guidelines (CEC-400-2013-010-D-REV2, October 2013).

Comment #1:

This comment addresses the issue of the sequencing of potential Prop 39 funding proposals as described on page 15 of the Draft Guidelines, as follows:

The Energy Commission recommends LEAs use the sequencing approach described below for reducing energy. LEAs should select energy efficiency and demand reduction projects first.

The Prop 39 Final Guidelines should clarify that the sequencing order as described in this section of the Draft Guidelines does not mean that Prop 39 funding will be available for renewable energy projects unless and until all energy efficiency measures have first been applied for and/or implemented.

With respect to this section of the Draft Guidelines we recommend the following modification (additions in **bold**, deletions in ~~strikeout~~) to the section immediately following the excerpt above. The justification for this recommendation follows the recommendation.

Recommended modification:

Sequencing Approach

Outlined below is the sequencing order when considering facility improvements:

1) First, **consider and evaluate for their cost effectiveness projects that increase** ~~maximize~~ energy efficiency (for example, installing daylighting or energy management systems).

2) Next, consider **and evaluate for their cost effectiveness** clean on-site

energy generation (for example, solar, photovoltaic [PV], solar water heating, wind or an efficient biogas fueled fuel cell or combined heat and power system).

3) Finally, consider **and evaluate for their cost effectiveness** nonrenewable projects (such as an efficient natural gas fueled fuel cell or combined heat and power project system).

An LEA's Prop 39 applications should be reasonably balanced with respect to this sequencing order. The sequence order does not mean that no renewable or nonrenewable energy projects are eligible for funding until and unless all cost effective energy efficiency improvements have already been implemented or applied for under Prop 39. A reasonable way to consider the appropriateness of funding renewable energy projects, for example, is to evaluate whether the specific sizing of a renewable energy system at a particular site would be appropriate after substantial energy efficiency improvements were implemented at the associated facilities, even if such implementation occurs together with or even after the implementation of the renewable energy system. Moreover, many LEAs may have already invested extensively in energy efficiency improvements such that investing in renewable energy projects may offer superior cost effectiveness.

A renewable energy project would be eligible for Prop 39 funding as long as (1) the energy output from such a renewable energy system is appropriately sized relative to the site's expected energy requirements after substantial cost-effective energy efficiency improvements are assumed to have been made, whether or not they have been made at the time of the Prop 39 application, and (2) the renewable energy system otherwise meets the Prop 39 cost effectiveness requirements.

Justification:

As noted in the Draft Guidelines, Public Resources Code section 26235(a)(3)(C) states that the Energy Commission shall establish guidelines for sequencing of facility improvements. This code section is based on the state's so-called "loading order," which establishes a policy framework for long-term energy resource procurement in California. The most recent version of this state's Energy Action Plan (2008) reads as follows on this point:

From 2008 Energy Action Plan, p. 1: *The "loading order" established that the state, in meeting its energy needs, would invest **first** [emphasis added] in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply.*

To properly understand the meaning of California's energy loading order it is crucial to focus on the word "first" in this passage. If "first" were intended to mean that no renewable or other supply-side resources were to be utilized until all energy efficiency resources had *first* been secured, then the whole of California's energy procurement

practices since the loading order was established in 2003 would be fundamentally at odds with this stated policy. In fact, reading “first” in a strict, literal, temporal sense, no renewable or nonrenewable supply energy resources would have been justified since 2003, since the state has been actively implementing energy efficiency improvements this entire time. Had the State intended for the word “first” to be taken so literally and temporally, it would not have created and implemented the successful California Solar Initiative in 2007, since certainly not all energy efficiency improvements had been made by that point in time. There would also had to have been an absolute prohibition on fossil-fuel power plants starting in 2003, which is not the case.

In fact, cost-effective energy efficiency opportunities will be available for many decades if not centuries into the future. Establishing a strict “energy-efficiency-first” policy effectively would mean a corresponding and equally strict “no-new-energy-supply” policy. We do not believe such a policy position is consistent with the overall body of California energy law and policy, nor do we believe this position is the intended meaning of the State’s Energy Action Plan.

Clearly, the word “first” is not meant to be interpreted in a strict temporal sense, nor should it be. The State’s current energy policy properly reflects the need for and necessity of a mixture of all three categories of energy resources contained in the loading order. The loading order establishes a conceptual hierarchy for their prioritization, not a strict temporal ordering of the procurement of these respective categories of energy resources. The Prop 39 guidelines should follow this conceptual hierarchy but not make the mistake of interpreting the word “first” in a strict temporal manner. The recommended modifications above attempts to clarify the loading order rationale in this respect.

Comment #2:

The Draft Guidelines, page 11, state the following:

Public Resources Code section 26233(b)(3) states “For every LEA that receives over one million dollars (\$1,000,000) pursuant to this subdivision, not less than 50 percent of the funds shall be used for projects larger than two hundred fifty thousand dollars (\$250,000) that achieve substantial energy efficiency, clean energy, and jobs benefits.”

LEAs that receive over one million dollars in any one fiscal year grant award are required to submit an energy expenditure plan that meets the large expenditure plan award requirement highlighted above. A large expenditure plan project is defined as a project at a school site whose project costs total more than \$250,000.

This requirement, which would mandate a focus on larger rather than smaller projects for many LEAs, likely would create what is surely an unintended bias in the allocation of Prop

39 funding toward supporting larger schools (generally high schools) at the expense of smaller schools (generally elementary schools). A collection of smaller projects at smaller schools may well be a superior investment to a \$250,000+ investment at a larger school. Districts should not be prevented from pursuing the most beneficial investments identified through their screening and audit processes simply because they do not cost enough. If larger projects truly possess economies of scale, this should be borne out in the planning, screening, and auditing, and evaluation processes. Requiring a *default* economy of scale eligibility factor has the potential to obstruct a more accurate assessment of cost effectiveness, and therefore should be removed.

Comment #3:

In some cases, an LEA may deem it beneficial to implement otherwise qualified projects in a single year that exceed that year's Prop 39 allocation. It therefore would be beneficial to LEAs, and promote greater Prop 39 benefits overall, if LEAs were allowed to apply future-year Prop 39 allocations to projects implemented in previous Prop 39 allocation years. This would enable LEAs to effectively pay themselves back for qualified Prop 39 investments they made that they were able to finance in the short term but would not have been able to take on without the ability to pay themselves back.

Permitting this approach would promote greater Prop 39 and LEA benefits for at least the following reasons: (1) bundling multiple projects into a single procurement process, as opposed to stretching the procurement over as many as five years, will often result in significant cost savings through economies of scale in technology and by reducing the resources expended in multiple procurement processes; (2) doing more projects earlier in the Prop 39 process delivers the benefits to the LEA and the State sooner; (3) the LEA may have a time-limited opportunity to combine Prop 39 funding with other grant or financing opportunities in a given year that if not acted on would reduce the overall extent of achievable Prop-39 related energy savings.

Implementing this recommended feature of the Prop 39 Guidelines would require that LEAs be able to receive approval for the entire project investment cost (subject to the LEA's otherwise applicable Prop 39 allocation limit) in the year it was procured.

Comment #4:

The Final Prop 39 Guidelines should permit an LEA to request and receive planning funding in all five years, not solely in the first year. It is generally unrealistic to assume that the planning conducted in the first year will negate the need for and value of additional planning in future years.

Comment #5:

Exhibit F of the Draft Guidelines includes a value for each listed measure's effective useful life. With respect to the values stated for the two primary components of photovoltaic ("PV") systems, the values appear to be overly conservative. The PV module effective useful life is stated as 20 years. While some PV modules are indeed warranted for 20 years, higher-quality modules are warranted for 25 years. I recommend that the LEA be able to use the applicable warranty period for the specific PV module included in its Prop 39 application. Doing so would better reflect the reasonably expected performance period of the selected modules and would also provide an incentive to the LEA to select the more durable PV module.

Exhibit F states the inverter effective useful life as 8 years. Most inverters come with a 10-year warranty, and extended warranties of 15 and 20 years are also available. Moreover, the CSI Program, which has effectively set the minimum performance requirements of most of California's customer-side solar PV systems, requires a minimum 10-year system-wide warranty. For these reasons, I recommend setting the minimum inverter effective useful life at 10 years, and allow an LEA to claim an effective useful life equal to the actual warranty period of the inverter that it procures. Again, doing so would better reflect the reasonably expected performance period of the selected inverters and would also provide an incentive to the LEA to procure inverters with longer warranty periods.

Finally, even though an inverter is generally not expected to last the full 25 years covered by many PV module warranties, what is fully expected is that the inverters will need to be replaced during this 25-year period. The PV system itself is still expected last at least 25 years. This means that the expected useful life of the PV inverter does not establish the expected useful life of the PV system as a whole. Prop 39 applicants therefore should be able to perform their PV cost effectiveness calculations based on the warranty period of the PV modules they intend to procure.