BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.	Rulemaking 13-11-005 (Filed November 14, 2013)

COMMENTS
OF
THE NATIONAL ASSOCIATION OF ENERGY SERVICE COMPANIES
ON THE
ADMINISTRATIVE LAW JUDGE'S RULING
REGARDING POST-2014 ENERGY EFFICIENCY GOALS

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The National Association of Energy Service Companies (NAESCO) appreciates the opportunity to submit these comments in response to the *Administrative Law Judge's Ruling Regarding Post-2014 Energy Efficiency Goals* (*ALJ Ruling*), issued November 26, 2013, in this proceeding.

Introduction to NAESCO

NAESCO is the leading national trade association of the energy services industry. NAESCO numbers among its members some of the world's leading energy services companies, including: ABM Energy, AECOM Energy, Aireko Energy Solutions, Ameresco, Burns & McDonnell, CM3 Building Solutions, Chevron Energy Solutions, Clark Energy Group, ClearEnergy Contracting, Climatec, Comfort Systems USA EnergyServices, ConEdison *Solutions*, Constellation New Energy, Control Technologies and Solutions, CTI Energy Services, Eaton Corporation, Energy Control, Energy Solutions Professionals, Energy Systems Group, Entegrity, Excel Energy, The Fulcrum Group, NextEra Energy Solutions, Green Campus Partners, Honeywell, Johnson Controls, Lockheed Martin, M360, McClure Energy, Navitas, NORESCO, NXEGEN, Onsite Energy, Pepco Energy Services, Performance Services, Schneider Electric, Siemens Industry, Synergy Companies, Southland Industries, Trane, UCONS, Wendel Energy Services, and Wipro Limited. Utility members include the New York Power Authority, Pacific Gas & Electric, and Southern California Edison.

During the last twenty years, NAESCO member companies have delivered several billion dollars of investment in energy efficiency, renewable energy and distributed generation projects to California commercial, institutional, industrial and residential customers. Nationally, NAESCO member company projects have produced:

- $45 billion in projects paid from savings
- $50 billion in savings – guaranteed and verified
- 400,000 person-years of direct employment
- $30 billion of infrastructure improvements in public facilities

• 450 million tons of CO_2 savings at no additional cost

In addition, NAESCO has been a party to the Commission's various energy efficiency proceedings for the past fifteen years.

ALJ Questions

In his ruling, Administrative Law Judge Edmister asked the parties to R.13-11-005 to respond to three questions:

> A. Does the 2013 Potential and Goals Study present a reasonable and appropriate assessment of the energy efficiency potential available for program administrators to capture? What changes, if any, should be made to improve its accuracy?
>
> B. Is it appropriate to apply all components of energy efficiency market potential identified in the 2013 Potential and Goals Study to administrator program goals? If not, what portion should be omitted and why?
>
> C. Are Staff's recommendations appropriate for the application of the 2013 Potential and Goals Study to post-2014 goals? If not, why not, and how should they be changed?

Summary of Comments

1) The 2013 Potential and Goals Study does not present a reasonable and appropriate assessment of the energy efficiency (EE) potential available for program administrators to capture, because it is constrained by Commission policy that views only the incremental "above code" measures as EE potential.

2) The adoption of the staff recommendations for the application of the 2013 Potential and Goals Study to post-2014 goals would make it increasingly difficult, if not impossible, to achieve California's strategic goal of capturing all cost-effective EE, and would, in effect, re-work the "Loading Order" for energy resources with energy efficiency no longer the leading resource acquisition priority.

3) The Commission appears to be pursuing contradictory goals, which illustrates the need for a re-examination of Commission policies, research, and pilot programs that should be the targeted focus of the transition period.

Discussion

NAESCO offers the following arguments in support of its comments summarized above.

1) The 2013 Potential and Goals Study does not present a reasonable and appropriate assessment of the energy efficiency (EE) potential available for program

administrators to capture, because it is constrained by Commission policy that views only the incremental "above code" measures as EE potential.

As NAESCO has noted in its comments in predecessor proceedings (*e.g*., R.09-11-014), Commission policy for the subject potential study and during the past several program cycles has limited the recognition of energy efficiency potential essentially only to the efficiencies produced by measures that are "above code" or better than what theoretically exists in the marketplace. This policy seems to be driven by the debatable belief that building owners and homeowners are *en masse* implementing the full range of energy efficiency measures that will bring their homes and buildings "to code" and the California building stock has already achieved a plateau of energy efficiency, which NAESCO does not believe is empirically accurate. NAESCO respectfully suggests that the implementation of energy efficiency across the California building stock has been spotty at best. It may be true that some equipment and appliances are available only in models that meet current efficiency code and standards, but there is little evidence that NAESCO has seen that indicates that millions of homes and buildings are implementing other measures as part of a comprehensive overhaul of inefficient facilities. Optimizing the level of energy savings contained in California homes and buildings is essential to the realization of California's state energy policy (*e.g.,* building thermal shell improvements). Furthermore, as the Commission has itself recognized in this proceeding, the requirement that home and building owners bring their buildings to code is a barrier that is preventing the replacement of obsolete heating and air conditioning equipment (OIR at 23-24) which is just one key equipment component of ensuring that maximum energy savings are achieved.

NAESCO therefore urges the Commission to revise the potential study to include all cost-effective energy efficiency potential, not just the potential above code or above current industry practice.

2) The adoption of the staff recommendations for the application of the 2013 Potential and Goals Study to post-2014 goals would make it increasingly difficult, if not impossible, to achieve California's strategic goal of capturing all cost-effective EE, and would, in effect, re-work the "Loading Order" for energy resources with energy efficiency no longer the leading resource acquisition priority.

At the same time that the ALJ is asking for comments on the potential study that describes only a fraction of the available, cost-effective energy efficiency potential in California, it has authorized Southern California Edison (SCE) to initiate a program to acquire energy resources to replace the retired San Onofre Nuclear Generating Station (SONGS), and has designated energy efficiency as one of the "preferred resources" that SCE should acquire. SCE has issued a Request for Offers (RFO) for the necessary resources, and has specified that ESCOs and other implementers may propose efficiency programs and/or measures that use existing field conditions, rather than above code or above current industry practice, as the baseline for measuring savings. This makes sense because a kW or kWh "to code" is just as good as a kW or kWh "above code" in replacing the resources from SONGS.

NAESCO suggests that the SCE RFO appears to better represent California state energy policy (the "Loading Order") than the ongoing ratepayer-funded energy efficiency programs, because the RFO appears to be designed to capture all cost-effective energy efficiency, and recognizes that acquiring efficiency resources from buildings as they exist today, rather than limiting resource acquisition "to above code" measures and programs, is a better deal for ratepayers than constructing new gas-fired generating plants. We respectfully ask why the Commission would not apply the policy embodied in the RFO to the next cycle of ratepayer-funded programs that are the subject of this proceeding. The impact of the Commission's policy choice appears to us to reverse the SCE paradigm: every kW of kWh of "to code" energy efficiency resources that the programs do not acquire will be replaced with a more expensive and more environmentally harmful unit of gas generation.

NAESCO therefore strongly urges the Commission to allow the program administrators to use actual field conditions as the baseline for calculating measure and program savings in 2014 and 2015, if not in all programs, then in a sufficient fraction of programs to allow the Commission to evaluate the economics of this approach across all customer segments.

3) The Commission appears to be pursuing contradictory goals, which illustrates the need for a re-examination of Commission policies, research, and pilot programs that should be the targeted focus of the transition period.

The Commission has established a goal that is a foundational element of the portfolios of energy efficiency programs fielded by the various program administrators: provide incentives for homeowners and building owners to implement comprehensive retrofits that will put their homes and buildings on the path to Zero Net Energy (ZNE).

The ZNE path for existing buildings appears to require building “deep retrofits” that produce 50-70% savings through projects that implement a sequence of steps taken in order, as described by U.S. General Services Administration (GSA) in introducing their Nationwide Deep Energy Retrofit (NDER) pilot project that involves about 30 buildings (none, unfortunately, in California) that are being retrofitted by NAESCO member ESCOs.

- First, minimize the thermal load of the building and maximize (especially in commercial buildings) the use of day-lighting.
- Second, install the most efficient equipment available to meet the minimized thermal and lighting loads.
- Third, install appropriate electronic controls and communications (smart metering and micro-grid) devices that optimize the energy use of a particular building within the context of the electrical system.
- Fourth, provide the substantially reduced energy required by the building from on site-renewables, supplemented by a CHP or district energy system, which employ renewables to the maximum extent feasible. The design, implementation and financing of these ZNE projects is still in its infancy.

To date, the Commission policies have encouraged the development of programs that are a scattershot approach to this sequence.

- First, the use of Title 24 as the baseline for calculating energy savings effectively precludes any incentives for the thermal upgrade of buildings.
- Second, Title 24 and Commission policy require that the installation of maximum-efficiency new equipment be accompanied by an upgrade of the entire equipment system to Title 24 standards. There are no incentives for the required code upgrades and for the energy savings produced by the incremental efficiency improvements of the new equipment from existing conditions to code.
- Third, the Commission has mandated the installation of advanced metering in all customer buildings, but most buildings lack the pre-requisite infrastructure (steps 1 and 2 above) to fully utilize the capabilities of an advanced metering infrastructure.
- Fourth, the Commission has, to NAESCO’s knowledge, never resolved the outstanding contradictions in the policy treatment of CHP systems. Current policy combines significant disincentives in the form of standby charges for CHP systems with policy encouragement for CHP and incentives for renewables.

NAESCO approaches the topic of deep retrofits with the realization that the energy efficiency industry and the other stakeholders to this proceeding are still struggling, after more than three decades, to get the majority of residential and non-residential building owners to implement quick payback measures. So getting building owners to embrace deep retrofits that involve 10-20 year paybacks is a huge undertaking that requires an understanding of, and coordination between, the various elements of a deep retrofit program – technology, economics and financing. And the precedents are not encouraging. The marquee residential deep retrofit program, Energy Upgrade California, is similar to a program that has been operating in New York State for about eight years, through the boom years and the recession, and seems to have settled into a steady state production of less than 10,000 homes per year.

NAESCO member ESCOs deliver projects that produce savings of greater than 20% in their non-residential building projects, which typically implement comprehensive packages of measures, such as lighting, boilers, chillers, controls, etc. In NAESCO's experience, public sector customers are increasingly motivated, by mandates and the need for facility modernization, to implement comprehensive projects. Private sector residential and non-residential customers usually lack these drivers, or are not credit-worthy, and so do not implement comprehensive retrofit projects. Innovative financing programs may chip away at the edges of the potential EE resources in these buildings, but seem unlikely to solve the problem that the building owners lack the motivation to implement comprehensive projects.

Based on decades of unsuccessfully trying to convince private-sector customers to implement comprehensive projects, NAESCO respectfully suggests that the Commission needs to rethink the economics of its EE program policies if it hopes to achieve comprehensive retrofits in a large number of buildings. The challenge in pursuing energy efficiency through deep retrofit programs for private-sector residential and non-residential buildings is that they are asking building owners to make, in effect, irrational economic decisions. If a comprehensive project has a 10-20 year payback (similar to the projects NAESCO members typically deliver to public sector customers), the average building owner will not recoup the cost of the project, either in energy savings (because the average term of ownership is less than the payback period), or in an increased selling price (especially in today's real estate market). Supplying low-cost or even no-cost financing does not solve the problem that a deep retrofit program is asking the building owners to put substantial capital at risk in a bet that the market valuation of EE improvements will be transformed in the near future.

If a deep retrofit does not make economic sense on a standalone basis, and the Commission wants a program that implements millions of such retrofits, then it has to provide incentives that change the unfavorable project economics. Unfortunately, Commission policy currently seems to be headed in the wrong direction. Instead of increasing incentives to increase program participation, Commission policy effectively increasingly puts large amounts of potential savings beyond the reach of the EE programs, as each update of the Title 24 standard raises the baseline from which energy savings are calculated.

NAESCO therefore urges the Commission to use the next two years to thoroughly re-examine all of the policies underlying achievement of the deep retrofit goals that are being established, and reset and coordinate the policies and incentives so that they support the creation of successful deep retrofit programs that can effectively push California existing homes and buildings along the path to ZNE.

Conclusion

NAESCO appreciates the opportunity to offer these comments, and urges the Commission to accept its recommendations, as follows:

1) Revise the potential study to include all cost-effective energy efficiency potential, not just the potential above code efficiency improvements or above those levels of energy savings that are generated by current industry practice.

2) Allow the program administrators to use actual field conditions as the baseline for calculating measure and program savings for 2014 and 2015, if not in all programs, then in a sufficient fraction of programs to allow the Commission to evaluate the economics of this approach across all customer segments.

3) Use the next two years to thoroughly re-examine all of the policies that would affect achievement of its deep retrofit goals, and reset and coordinate the policies so that the deep retrofit programs can be successful in pushing existing California homes and buildings along the path to ZNE.

Respectfully submitted by,

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