

PUBLIC UTILITIES COMMISSION

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To: All Parties in R.13-11-005

From: Katie Wu, Regulatory Analyst

Subject: Final 2015 Efficiency Savings and Performance Incentive (ESPI) Uncertain List

Date: December 1, 2014

To all Parties in R.13-11-005:

Commission Decision (D.) 13-09-023 directs that by October 31 of each program year each, Commission staff finalize the list of DEER and non-DEER workpaper measures that will not have locked down ex ante values for the next program year due to high uncertainty¹ associated with the ex ante parameters. This list of measures is referred to as the "ESPI Uncertain List" and is unique for each investor-owned utility. Under the ESPI mechanism, energy savings for measures that are included on the ESPI Uncertain List will be awarded shareholder incentives on an ex post (i.e., evaluated) basis. For the 2015 program year, Commission staff was granted an extension to finalize the list on from the original deadline of October 31, 2014 to December 1, 2014.

On October 7, 2014, Commission staff sent an email to program administrators to ask for initial recommendations on how to update the 2013-14 ESPI Uncertain List for the 2015 program year. SoCalGas and SCE responded with the following for their respective lists:

- SoCalGas: Remove water savings kits and pipe insulation and add pool covers and demand control recirculation pumps. SoCalGas believes that the impending 2013 evaluations will add certainty to the ex ante values for water savings kits and pipe insulation.
- SCE: Remove Home Energy Efficiency Surveys. SCE believes that the 2010-12 impact evaluation results add certainty to the workpaper values that were based on a billing analysis.

On November 24, 2014, Commission staff held a publicly noticed webinar to discuss edits to the 2013-14 ESPI Uncertain List for the 2015 program year. Representatives from the four investor-owned utilities were in attendance. In addition to the recommendations above, the webinar discussed the following proposed modifications:

- Remove screw-in CFL of all types with wattages of 30 watts and less. Staff believes recent evaluation research allows the ex ante values for these measures to be updated so as to adequately reduce the uncertainty.

¹ "High uncertainty" measures are defined as those measures for which the Commission believes the net lifetime savings of the current ex ante estimate may be as much as 50% or more over- or under-estimated. For example, three parameters (e.g., net-to-gross, effective useful life) with approximately 20% uncertainty can provide an overall uncertainty threshold of at least 50%.

- Remove T5 fluorescent lamps and fixtures replacing metal halide. Staff believes recent evaluation research results allows the ex ante values for these measures to be updated so as to adequately reduce the uncertainty.
- Substitute LED screw-in lamps for the previously included pin-based (i.e., surface, pendant, track, accent) LED technologies. The program uptake of the screw-in lamps is much greater than the uptake of the pin-based technologies and the product offerings as well as pricing of these technologies is changing rapidly.
- Add HVAC QM activities to SoCalGas' ESPI Uncertain List as the ex ante values for those measures have similar uncertainty as identified the other utilities (i.e., change in program design and maturing program offering with many new measures makes impact assumptions highly uncertain).
- Add LED street lights and outdoor area lighting for electric utilities (i.e., PG&E, SCE, SDG&E) as those measure have become important portfolio components and both gross and net savings are uncertain.

During the webinar, Commission staff asked for written comments by Wednesday, November 26. PG&E was the only party to submit comments. PG&E's comments are summarized as:

- Remove computer network and workstation power management software. PG&E provided supporting documentation from SCE's Computer Power Management workpaper, including a summary of studies used to determine energy savings values in the workpaper.
- Remove occupancy sensor lighting controls since the measure has been sunset in PG&E's portfolio as of June 30, 2014.
- Remove delamping of T12 lamps in existing fixtures since it contributes a small amount to PG&E's portfolio.

Commission staff's responses to all comments are as follows:

- Water savings kits and pipe insulation will remain on SoCalGas' 2015 ESPI Uncertain List. Staff believes it is premature to remove these measures as there are not yet evaluation results available to update the ex ante values. The status of these measures will be re-examined after 2013 evaluation activities on these measures provide results.
- Pool covers will be added to the 2015 ESPI Uncertain List for all gas utilities (i.e., PG&E, SDG&E, SoCalGas). Staff is compelled to add the measure due to the increase in uptake as well as lack of recent and rigorous evaluation on gross and net savings.
- Home Energy Efficiency Surveys will remain on SCE's 2015 ESPI Uncertain List. Staff believes it is premature to remove this measure because the 2010-12 evaluation results varied greatly from the ex ante values for all but the mail-in surveys; however, the use of the alternative survey delivery mechanism varied widely for the utilities. Additionally, the degree of usage-based

targeting (i.e., using past bills to target customers for participation) and uptake of difference measure categories varied between the utilities and may not reflect 2015 program year participants. Staff believes that additional years of ex post evaluation are required before the uncertainty associated with ex ante values can be reduced to an acceptable level.

- Computer network and workstation power management will remain on PG&E's and SCE's 2015 ESPI Uncertain List because of uncertain baselines and lack of previous study. If the utilities continue to find little uptake of the measure, utilities should consider removing the measure from their respective portfolios. PG&E noted that the SCE workpaper references several studies as the basis for energy savings values. Staff review of these studies indicates that they do not represent current system hardware technologies where software is installed, current standard operating system features with similar features, or the current participants, many of whom are installing newer systems rather than retrofitting older systems.
- Occupancy sensor lighting controls will remain on the electric utilities' 2015 ESPI Uncertain List because it was an important measure in the 2013 program year and the lifetime savings may continue to be significant in the 2015 program year.
- Delamping of T12 lamps will remain on the electric utilities' 2015 ESPI Uncertain List because the measure has not been extensively studied historically and it collectively represents a large proportion of deemed savings statewide.

The final 2015 ESPI Uncertain List for each utility is attached to this memorandum and posted to the CPUC's Shareholder Incentive Mechanism page at the following link:

<http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Shareholder+Incentive+Mechanism.htm>.

Planning for the 2015 impact evaluations has not yet started. Once the process begins, research and impact evaluation plans will be posted to the CPUC's Public Documents Area

(<http://www.energydataweb.com/cpuc/home.aspx>). All stakeholders are invited to participate in the comment process.

If you have any questions regarding the final 2015 ESPI Uncertain Lists, please contact Katie Wu at katie.wu@cpuc.ca.gov or 415.703.2452.

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Appendix: Final 2015 ESPI Uncertain List

| Utility | Measure Description | Comments on need |
|---------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PGE | Home Energy Reports (Residential Energy Advisor Program) | Behavioral program requires ex post evaluation of all claims. |
| | Screw-in CFLs of all types with wattage values greater than 30. | Update of the gross baseline assumptions to account for the type and wattage of the lamp being replaced. Previous NTG studies have not focused on high wattage CFL lamps.. |
| | Computer network and workstation power management software | Major concern that supply of this software is standard practice; this measure has not been previously studied and impact assumptions need verification. |
| | Sprinklers - low pressure nozzles and micro conversions | Energy savings estimates uncertain due to unclear measure definition; this measure has not been previously studied and impact assumptions need verification. |
| | HVAC Quality Maintenance activities | Change in program design and maturing program offering with many new measures makes assumption for impact highly uncertain. |
| | Screw-in LED lamps including downlight replacement kits | Update baseline assumptions and net savings including replaced lamp for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology and rapidly changing products and pricing requires verification of assumptions. |
| | LED street lights and outdoor area lighting | Baseline assumptions and net savings including replaced lamp/ballast for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology requires verification of assumptions. |
| | Occupancy sensor lighting controls - integrated and wall/ceiling | Code changes may change standard practice. |
| | De-lamping of T12 lamps in existing fixtures | De-lamping may normally be a required action during retrofit of surrounding fixtures thus subject to code or other baseline consideration. |

| Utility | Measure Description | Comments on need |
|------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Energy Upgrade California | Change in program design and maturing program offering makes assumption uncertain; normal replacement versus early retirement assumptions are uncertain. |
| | Pool covers of all types | Uncertain gross and net savings; early replacement, normal replacement or add-on retrofit status unclear resulting in baseline, free-ridership, installation rate and measure eligibility uncertainty. |
| SCE | Screw-in CFLs of all types with wattage values greater than 30. | Update of the gross baseline assumptions to account for the type and wattage of the lamp being replaced. Previous NTG studies have not focused on high wattage CFL lamps. |
| | Screw-in LED lamps including downlight replacement kits. | Update baseline assumptions and net savings including replaced lamp for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology and rapidly changing products and pricing requires verification of assumptions. |
| | LED street lights and outdoor area lighting. | Baseline assumptions and net savings including replaced lamp/ballast for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology requires verification of assumptions. |
| | Occupancy sensor lighting controls - integrated and wall/ceiling | Code changes may change standard practice. |
| | De-lamping of T12 lamps in existing fixtures | De-lamping may normally be a required action during retrofit of surrounding fixtures thus subject to code or other baseline consideration. |
| | Home Energy Surveys (mail and phone) | Changing survey and audit methods and target population makes use of previous result inappropriate. |
| | LED night lights | Assumptions of replaced equipment and use uncertain. |

| Utility | Measure Description | Comments on need |
|-------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Computer network and workstation power management software | Major concern that supply of this software is standard practice; this measure has not been previously studied and impact assumptions need verification. |
| | HVAC mini-split system | This new technology is now widely available yet expensive with limited applicability; performance has not been studied and free ridership is uncertain. |
| | HVAC Quality Maintenance activities | Change in program design and maturing program offering with many new measures makes assumption for impact highly uncertain. |
| | Energy Upgrade California | Change in program design and shifting program offerings make assumptions uncertain; normal replacement versus early retirement assumptions are uncertain. |
| SDGE | Screw-in CFLs of all types with wattage values greater than 30. | Update of the gross baseline assumptions to account for the type and wattage of the lamp being replaced. Previous NTG studies have not focused on high wattage CFL lamps. |
| | Screw-in LED lamps including downlight replacement kits. | Update baseline assumptions and net savings including replaced lamp for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology and rapidly changing products and pricing requires verification of assumptions. |
| | LED street lights and outdoor area lighting. | Baseline assumptions and net savings including replaced lamp/ballast for early retirement versus standard practice for normal replacement and replace-on-burnout; market move to LED technology requires verification of assumptions. |
| | Occupancy sensor lighting controls - integrated and wall/ceiling | Code changes may change standard practice. |
| | De-lamping of T12 lamps in existing fixtures | De-lamping may normally be a required action during retrofit of surrounding fixtures thus subject to code or other baseline consideration. |
| | HVAC Quality Maintenance activities | Change in program design and maturing program offering with many new measures makes assumption for impact highly uncertain. |

| Utility | Measure Description | Comments on need |
|------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Variable speed pool pump | Rapid reduction in equipment pricing and improved efficiency makes gross and net savings uncertain. |
| | Energy Upgrade California | Change in program design and maturing program offering makes assumption uncertain; normal replacement versus early retirement assumptions are uncertain. |
| | Water savings kits/items (shower and faucet) | Energy impacts of this measure not subject to previous evaluation and assumption are uncertain; uncertain install rate and level of free riders. |
| | Pool covers of all types | Uncertain gross and net savings; early replacement, normal replacement or add-on retrofit status unclear resulting in baseline, free-ridership, installation rate and measure eligibility uncertainty. |
| SCG | HVAC Quality Maintenance activities | Change in program design and maturing program offering with many new measures makes assumption for impact highly uncertain. Coordination between electric and gas utility offerings uncertain. |
| | Water savings kits/items (shower and faucet) | Energy impacts of this measure not subject to previous evaluation and assumption are uncertain; uncertain install rate and level of free riders. |
| | Pipe insulation - steam and hot water | Uncertain typical pipe internal and surrounding temperatures, install rate (measure eligibility) and level of free riders. |
| | Pool covers of all types | Uncertain gross and net savings; early replacement, normal replacement or add-on retrofit status unclear resulting in baseline, free-ridership, installation rate and measure eligibility uncertainty. |