

2017 Energy Performance Program EM&V Key Observations and Recommendations

NO.	PROGRAM	KEY OBSERVATIONS	2017 EM&V RECOMMENDATIONS	IMPACT	IESO RESPONSE
1.	Energy Performance Program	<p>Enhancements to data tracking and project documentation can improve insight into program activities and facilitate program planning and evaluation.</p> <ul style="list-style-type: none"> • Cost data was not included in the savings reports, making it impossible to include actual equipment costs in the Cost Effectiveness analysis. • Moreover, there was no documentation specifying number and model of capital measures installed. Many lighting projects did not list the number of lamps installed or the model of the efficient units. Knowing this information would allow for a more robust evaluation of individual measures' effectiveness in saving energy at the facilities. 	<ul style="list-style-type: none"> • Require participants to provide measure-level cost data as part of their annual Savings Reports for every project implemented under the EPP program. Cost data should also be available in the tracking database. This can be achieved without placing too much burden on the participant by requiring invoices for equipment installed and associated measure costs. • Expand the technical review to include verification of measure-level project costs incurred by the participants. • Require that project details including quantity and type of equipment installed be included by the participants in the annual Savings Report. 	High	<ul style="list-style-type: none"> • Gathering specific project cost data at the measure level would increase the administrative requirements for participation in this program, counter to program objectives. Moving forward, the IESO may request program participants to provide project cost estimates or aggregated cost data for investments in energy efficiency on a voluntary basis.
2.	Energy Performance Program	<p>Peak summer demand savings were not verified or reported by the technical reviewer.</p> <ul style="list-style-type: none"> • Demand savings are easily calculated using annual interval billing analysis, which is already required by the program. While the focus of the CFF has shifted towards net verified energy savings in 2020, evaluating and reporting peak summer demand savings remains an important metric to understand the impact of the EPP program. Cost effectiveness is especially affected by the lack of reported demand savings, which can provide ample benefits. Demand savings can also be a metric for LDCs to leverage when thinking about their total capacity; and evaluating demand savings is critical when LDCs are trying to understand their growth and potential. 	<ul style="list-style-type: none"> • Require that the technical reviewer verify peak summer demand savings for all participating facilities. 	High	<ul style="list-style-type: none"> • The IESO will work with its Technical Reviewer to identify the requirements to begin calculating demand savings.
3.	Energy Performance Program	<p>The participant's Holiday Model provided to calculate savings via billing analysis were generally of low statistical significance and quality, as there are few holidays in a single year.</p> <ul style="list-style-type: none"> • There were three models utilized by the participant to calculate savings for each facility in the PY2017 EPP program: standard, holiday and December. The holiday model was not statistically significant in the billing analyses evaluated by EcoMetric. Many projects reported negative savings for those models, but EcoMetric found insignificant correlation between variables which led to crediting zero savings instead of negative savings, accounting for a small increase in verified savings. Building additional models that do not have the resolution to significantly capture program impact is not a good use of resources, and most of the current holiday models reviewed by EcoMetric were not statistically valid. 	<ul style="list-style-type: none"> • Revise the modeling guidelines for the program to recommend the use of a dummy variable for holidays rather than fully separate models. This would allow information learned throughout the regular year to better inform the modeling during off-peak periods. 	Low	<ul style="list-style-type: none"> • The IESO will work with its Technical Reviewer for EPP to address this observation.
4.	Energy Performance Program	<p>Natural gas savings were not verified or reported by the technical reviewer.</p> <ul style="list-style-type: none"> • Verified natural gas savings would allow for accurate pre- and post- 	<ul style="list-style-type: none"> • Require that the technical reviewer verify natural gas savings for all participating facilities. 	Medium	<ul style="list-style-type: none"> • Gathering natural gas savings data would increase the administrative requirements for participation in this program. The IESO will consider requesting

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		energy use intensity (EUI) to be developed and provide a quick reference to the program's efficacy. Performing a regression to account for any gas savings would also provide a greater opportunity to capture the full benefits of the program and improve the accuracy of the cost effectiveness analysis.			this data from participants on a voluntary basis.
5.	Energy Performance Program	<p>100% of PY2017 EPP gross energy savings persist to 2020.</p> <ul style="list-style-type: none"> To assess the persistence of energy and demand savings resulting from the EPP program, a weighted average approach was used to develop a single Effective Useful Life (EUL) for the multiple measures completed at each facility. By employing engineering algorithms and industry assumptions, EcoMetric leveraged facility-level metered data to break down whole facility savings into individual measures. Each individual measure was assigned an EUL based on IESO Measure and Assumption Lists (MALs) or industry norms. 	<ul style="list-style-type: none"> In order to simplify and standardize savings persistence and cost-effectiveness calculations for future evaluations, the program should calculate a standard average measure life for each project, considering the typical mix of measures and savings at the facilities. 	Medium	<ul style="list-style-type: none"> The IESO will take this recommendation into consideration in advance of the PY2018 evaluation.
6.	Energy Performance Program	<p>19 of the 25 facilities sampled reached the minimum savings threshold of 5%.</p> <ul style="list-style-type: none"> The 6 projects that did not meet the minimum threshold in the first year had not yet installed a planned lighting project which accounted for large portions of savings for the other projects, if those capital projects are installed in the second year of the program then it is likely that all the participants will meet the minimum threshold. 	<ul style="list-style-type: none"> For facilities that do not reach 5% energy savings in their first year, IESO should review the facility's future measure plans and ensure high-performing measures will be completed. If no major efficiency measures are planned, consider holding a meeting with the participant to develop a plan to reach the minimum threshold by year two. 	Low	<ul style="list-style-type: none"> The IESO intends to discuss all underperforming facilities with program participants to identify opportunities for improvement during the second year of enrollment.