



This appendix supplements the findings and results discussed in Section 4. The appendix is divided into three sections, summarized below in order of their appearance.

- Lighting only realization rates and explanations of differences
- Site level non-lighting (electric) realization rates and explanations of differences
- Site level natural gas realization rates and explanations of differences

Lighting Only Realization Rates and Explanations of Differences

Site ID	kWh RR	Explanation of Difference
SBEA1	104%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Using site specific operating data the evaluators also found that the evaluated interactive effects were greater than what was used by the applicant (and stipulated within the PSD).
SBEA3	109%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators updating fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. The evaluators also found that the fixtures run for a longer period of time than what was assumed by the applicant and that the claimed savings used different interactivity factors than what was stipulated in the PSD. While these impacts drove savings higher, the evaluators also found that the interactive effects were less than what had been stipulated by the PSD, yielding a reduction in evaluated savings.
SBEA4	129%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to pre- and post-retrofit fixtures.
SBEA5	102%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the claimed savings used different interactivity factors than what had been stipulated in the PSD, driving the evaluated savings up. The evaluators also used site specific operating data to conclude that some fixtures operated for less time than what had been anticipated by the applicant and that the evaluated interactive effects were slightly lower than what was stipulated within the PSD.
SBEA7	63%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the lighting fixtures ran for fewer hours than what had been anticipated by the applicant. The evaluators also found that the incanted occupancy controls were promptly removed by the customer following the project installation, for which the difference has been allocated to the quantity category. Additionally the evaluators found that the evaluated savings had larger interactive effects than what is stipulated in the PSD.
SBEA9	116%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours than what had been anticipated by the applicant. The evaluators also found that the evaluated interactive effects were lower than what was stipulated in the PSD in addition to updating fixture wattages where appropriate based on information found on site using a standard wattage table.
SBEA10	106%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures, which also increased the evaluated savings. The evaluators also found that the claimed savings used different interactivity factors than what was stipulated in the PSD in addition to finding that the evaluated interactive savings were less than the PSD stipulated values.
SBEA11	108%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the applicant. The evaluators also found that the claimed savings used lower interactivity factors than what was stipulated in the PSD in addition to finding that the evaluated interactive savings were lower than what was stipulated in the PSD.
SBEA12	120%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also found that the evaluated interactive effects were lower than what was stipulated within the PSD in addition to updating fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures.

Site ID	kWh RR	Explanation of Difference
SBEA13	83%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators using site specific operating data to find that the evaluated interactive effects were less than what was stipulated by the PSD. The evaluators also found that the claimed savings used different interactivity factors than what was stipulated in the PSD. Fixture wattages were updated where appropriate based on information found on site and then applied using a standard wattage table. The remaining discrepancy was attributed to differences in equipment operation.
SBEA16	117%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also updated fixture wattage where appropriate based on information found on site and then applying wattages from a standard fixture table to the pre- and post-retrofit fixtures. Using site specific operating data the evaluators found that the evaluated interactive effects were slightly lower than what was stipulated within the PSD.
SBEA17	53%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. The evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table.
SBEA18	114%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Additionally, the evaluators found that the claimed savings used different interactivity factors than what was stipulated in the PSD and that the evaluated interactive effects were less than what was stipulated in the PSD.
SBEA19	66%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. The evaluators updated fixture wattages where appropriate based on information found on site and using a standard fixture wattage table. The evaluators found that the claimed savings had higher interactive cooling impacts than what was stipulated in the PSD, which can be seen in the documentation category. Additionally the evaluators found that the evaluated interactive cooling impacts were lower than what was stipulated within the PSD.
SBEA20	91%	The evaluated savings for this project are lower than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. The evaluators used site specific operating data and found that the evaluated interactive effects were less than what was stipulated in the PSD. The evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table. Additionally, the evaluators found that the claimed savings used lower interactivity factors than what was stipulated in the PSD, which can be seen in the documentation category.
SBEA21	148%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the claimed savings used lower interactivity factors than what was stipulated in the PSD. Additionally the evaluators found that the equipment runs for a longer period of time than what was assumed by the applicant. Using site specific operating data, the evaluators concluded that the evaluated interactive effects were less than what was stipulated within the PSD.
SBEA22	131%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program.
SBEA23	130%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Additionally, the evaluators found that the claimed savings used different interactivity factors than what was stipulated in the PSD and that the evaluated interactive effects were greater than what was stipulated in the PSD.
SBEA25	102%	The evaluated project savings are greater than reported values due to the evaluators application of interactive cooling impacts that were not included in the reported savings. The evaluators also found that the lighting fixtures run for a shorter period of time than what had been assumed by the applicant.

Site ID	kWh RR	Explanation of Difference
SBEA26	101%	The total difference between claimed and evaluated savings is minor despite significant adjustments in the savings process. The evaluators found that the claimed savings used different interactivity factors than what was stipulated in the PSD, for which the adjustment can be seen in the documentation category. The evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. The evaluators used site specific operating data and found that the evaluated interactive effects were significantly lower than what was stipulated within the PSD. Additionally, the evaluators found that the equipment runs for a longer period of time than what was assumed by the applicant.
SBEA27	62%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Using site specific data the evaluators also determined that the evaluated interactive effects were lower than what had been used by the applicant (and stipulated within the PSD). Fixture wattages were updated where appropriate based on information found on site and using a standard wattage table.
SBEA28	141%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also found that the claimed savings used lower interactivity factors than what was stipulated in the PSD, which is reflected in the documentation adjustment. Using site specific data the evaluators concluded that the evaluated interactive effects were less than what is stipulated within the PSD. Additionally, the evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard fixture table.
SBEA29	68%	The evaluated savings for this project are lower than the claimed values primarily due to the evaluators finding that the installed fixtures with the largest energy impacts ran for fewer hours than what had been anticipated by the program. Additionally the evaluators found that the claimed savings used higher interactivity factors than what was stipulated by the PSD, further reducing the evaluated energy savings.
SBEA30	82%	The evaluated savings are lower than the claimed savings for this project primarily due the evaluators finding that the equipment ran for less time than what had been anticipated by the program. Additionally the evaluators found that the interactivity effects of the lighting upgrade were smaller than what had been assumed by the applicant and stipulated within the PSD.
SBEA31	173%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran longer than what had been anticipated by the program. Additionally the evaluators found that the claimed savings used lower interactivity factors than what was stipulated within the PSD. The evaluators also determined that the evaluated interactive effects were less than what was stipulated within the PSD. Fixture wattages were updated where appropriate based on information found on site and then applying wattages from a standard fixture wattage table.
SBEA32	5%	The evaluated savings for this project are less than the claimed values due to the evaluators finding that the majority of fixtures were removed promptly following their installation and replaced with different fixtures. For the fixtures which remained installed and were verified during the site visit, the evaluators determined that they operated for fewer hours than anticipated by the applicant. The evaluators also found that the claimed savings used lower interactivity factors than what was stipulated within the PSD, for which the adjustment can be seen in the documentation category.
SBEA33	110%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the evaluated interactive effects were larger than what had been stipulated by the PSD (and used by the applicant). Additionally, evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table.
SBEA35	106%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the evaluated interactive effects were larger than what had been stipulated by the PSD. Evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. Additionally, the evaluators found that some of the fixtures associated with larger savings operated for fewer hours than what had been anticipated by the applicant.

Site ID	kWh RR	Explanation of Difference
SBEA36	117%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the claimed savings used smaller interactivity factors than what is stipulated in the PSD, for which the adjustment can be seen in the documentation category. Using site specific data the evaluators found that the evaluated interactive effects were lower than what was stipulated within the PSD. Some fixtures with higher savings were found to run for a longer period of time than what had been assumed by the applicant. Fixture wattages were updated where appropriate based on information found on site and applied using a standard wattage table.
SBEA37	25%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Additionally, the evaluators found that there were more fixtures installed in the space than what had been reported by the program. The evaluated interactive effects were also larger than what had been stipulated within the PSD (and used by the applicant).
SBEA40	8%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. The evaluated interactive effects were also larger than what had been stipulated within the PSD (and used by the applicant).
SBEA41	157%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Additionally, the evaluators found that the evaluated interactive effects were larger than what was stipulated within the PSD. The evaluators also found that the claimed savings used different interactivity factors than what was stipulated within the PSD. Evaluators also updated fixture wattages where appropriate based on information found on site by applying wattages from a standard wattage table.
SBEA43	247%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also updated fixture wattages where appropriate based on information found on site and using a standard fixture wattage table. Additionally the evaluators found that the evaluated interactive effects were slightly lower than what was stipulated by the PSD (and used by the applicant).
SBEA45	81%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Additionally the evaluators used site specific operating data and found that the evaluated interactive effects were lower than what was stipulated in the PSD. The evaluators also found that the claimed savings used different interactivity factors than what was stipulated in the PSD.
SBEA46	85%	The evaluated savings for this project are less than the claimed values due to a number of reasons. Evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. The evaluators found that the claimed savings used higher interactivity factors than what was stipulated within the PSD, for which the adjustment can be seen in the documentation category. Using site specific data the evaluators also found that the evaluated interactive effects were less than what had been stipulated in the PSD. The remaining difference can be attributed to the fixtures running for less time than what had been anticipated by the applicant.
SBEA48	63%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the claimed savings used higher interactivity factors than what was stipulated within the PSD, for which the adjustment can be seen in the documentation category. Using site specific data the evaluators also found that the evaluated interactive effects were less than what had been stipulated in the PSD. Evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. Evaluators found that the majority of fixtures with smaller claimed savings operated longer than what was assumed by the applicant, despite the fact that the average evaluated operating hours were lower than the claimed average.

Site ID	kWh RR	Explanation of Difference
SBEA49	43%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. The evaluators also found that the evaluated interactive effects were less than the PSD stipulated values, as well as finding that the PSD values were less than the claimed interactive effects. Fixture wattages were updated where appropriate based on information found on site and using a standard fixture wattage table.
SBEA51	42%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Additionally the evaluators found that the evaluated interactive effects were lower than what had been stipulated in the PSD (and used by the applicant).
SBEA52	115%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Additionally the evaluators found that the evaluated interactive effects were greater than what was stipulated in the PSD (and used by the applicant). Evaluators also updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table.
SBEA53	124%	The evaluated project savings are greater than the claimed values for this project primarily due to the evaluators finding that the claimed savings used different interactivity factors than what was stipulated within the PSD. Additionally, the evaluators used site specific operating data and found that the lighting fixtures ran for less time than what had been assumed by the applicant, which also yielded lower interactive impacts than what was stipulated by the PSD.
SBEA54	209%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours than what had been anticipated by the program. Fixture wattages were updated where appropriate based on information found on site using a standard fixture wattage table.
SBEA56	93%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed fixtures operated less than what had been anticipated by the program. Evaluators also found that the evaluated interactive effects were less than what had been stipulated within the PSD. Additionally the evaluators found that the claimed savings used lower interactivity factors than what had been stipulated within the PSD. The evaluators updated fixture wattages where appropriate based on information found on site and applied wattages from a standard fixture wattage table.
SBEA57	73%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment operated for less time than what had been anticipated by the program. Additionally using site specific data the evaluators found that the evaluated interactive effects were significantly lower than what was stipulated within the PSD. Evaluators also found that the claimed savings used different interactivity factors than what was stipulated within the PSD. Fixture wattages were updated where appropriate based on information gathered on site and using a standard fixture wattage table.
SBEA59	111%	The evaluated project savings are higher than claimed values, primarily due to longer fixture runtimes than what had been assumed by the applicant. The evaluators also found that the claimed savings used different interactivity factors than what was stipulated in the PSD, for which the adjustment can be seen in the documentation category.
SBEA60	116%	The evaluated savings for this project are greater than the claimed values due to the evaluators finding that the claimed savings used lower interactivity factors than what was stipulated within the PSD and the installed fixture operated longer than what had been initially assumed by the applicant. Additionally, the evaluators updated fixture wattages where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures. The evaluators also found that the evaluated interactive savings were lower than what was stipulated within the PSD.
SBEA61	81%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Evaluators also found that the evaluated interactive effects were less than what had been stipulated within the PSD. Fixture wattages were updated where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures.

Site ID	kWh RR	Explanation of Difference
SBEA62	87%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Additionally, the evaluators found that the claimed savings used larger interactive effects than what was stipulated within the PSD. Evaluators also found that the evaluated interactive effects were less than what had been stipulated within the PSD. Fixture wattages were updated where appropriate based on information found on site and then applying wattages from a standard wattage table to the pre- and post-retrofit fixtures.
SBEA63	62%	The evaluated savings for this project are less than the claimed values due to a number of differences. The evaluators found that the lighting fixtures run for less time than what had been assumed by the applicant. The evaluators also found that the evaluated interactive effects were lower than what was stipulated within the PSD. Fixture wattages were updated where appropriate based on information gathered on site and using a standard fixture wattage table. The evaluators also identified a difference in installed fixture quantity after they were unable to determine the location where one of the retrofit measures occurred. Additionally the claimed savings used slightly different interactivity factors than what was stipulated within the PSD.
SBEA120	105%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran longer than what had been anticipated by the program. Additionally the evaluators found that the evaluated interactive effects were less than what had been stipulated by the PSD. The evaluators also found that the claimed savings used interactive effects less than what is stipulated within the PSD.
SBEA124	105%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Fixture wattages were updated where appropriate based on information found on site using a standard fixture wattage table. Additionally, the evaluators found that the evaluated interactive effects were lower than what is stipulated with the PSD.
SBEA127	112%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. Additionally the evaluators found that the claimed savings used lower interactivity effects than what was stipulated by the PSD, which can be seen in the documentation category. Evaluators also found that the evaluated interactive effects were slightly greater than what was stipulated within the PSD. Fixture wattages were updated where appropriate based on information gathered on site using a standard fixture wattage table.
SBEA131	127%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the installed equipment ran for longer hours of operation than what had been anticipated by the program. The evaluators also found that the claimed savings used smaller interactive effects than what is stipulated within the PSD. Fixture wattages were updated where appropriate based on information found on site using a standard fixture wattage table. Additionally, the evaluators found that the evaluated interactive effects were less than what is stipulated within the PSD.
SBEA153	140%	The evaluated savings for this project are greater than the claimed values primarily due to the evaluators finding that the claimed savings used lower interactivity factors than what was stipulated within the PSD. Fixture wattages were updated where appropriate to reflect information gathered on site using a standard fixture wattage table. The evaluators also found that the equipment runs for a longer period of time than what was assumed by the applicant. Evaluators used site specific operating data and found that the evaluated interactive effects were lower than what was stipulated within the PSD. Additionally the evaluators found that one of the control measures was replaced with the old manual switch shortly after the project took place, which is reflected in the quantity adjustment.
SBEA154	99%	The evaluated savings for this project are less than the claimed values primarily due to the evaluators finding that the installed equipment ran for fewer hours than what had been anticipated by the program. Evaluators found that the evaluated interactive effects were greater than what was stipulated within the PSD while the claimed savings used interactivity factors that were less than what was stipulated in the PSD.

Site Level Electric Realization Rates and Explanations of Differences

Site ID	kWh RR	Explanation of Difference
SBEA26	113%	Metered data indicated that the installed pump controls operated at a significantly lower speed than what had been assumed by the applicant. Additionally, the installed refrigeration controls were found to not cycle the evaporator fan motors on and off as intended.
SBEA27	66%	Claimed savings approach did not include interactivity between measures. Savings analysis was updated to reflect the interactivity amongst the implemented control schemes, eliminating overlapping savings potential. Metered data and on site observations were used to update assumptions on equipment performance, which further decreased savings.
SBEA28	135%	Claimed savings for refrigeration measures did not include interactive impacts, which were added to evaluator analysis. No metering of refrigeration measures due hazardous conditions on site. Metered data from kitchen hood exhaust fan indicated larger kW reduction but fewer hours of operation than assumed by applicant.
SBEA29	69%	Majority of discrepancy (95%) is due to lighting measure (shorter hours of operation). Non-lighting difference due to inceded rooftop unit serving largely unoccupied space.
SBEA30	83%	Majority of discrepancy (99.9%) is due to lighting measure (shorter hours of operation). Refrigeration measure was verification only due to inability to meter (unidentifiable circuits) during site visit.
SBEA31	169%	Majority of discrepancy (99%) is due to lighting measure (longer hours of operation). Refrigeration measure was verification only (metered data was unusable) and the difference is attributed to missing vending machine controls.
SBEA32	43%	Majority of lighting fixtures and EMS controls were removed within a year of the project's implementation. Metered data from kitchen hood exhaust fan showed larger reduction in hours of operation than what had been assumed by applicant.
SBEA33	92%	Verification only approach used on VFD measure as the site contact was unable to provide access to the panel to meter at the time of the site visit. Applicant analysis was updated with lower hours of operation based on information collected during the site visit.
SBEA35	106%	Non-lighting measures used verification only approach due to unusable metered data. Evaluators were unable to discern equipment end uses within refrigeration data and there wasn't enough data to reach a conclusive decision on economizer measure as metering was conducted in the shoulder season.
SBEA36	104%	Majority of discrepancy due to lighting measure (evaluators used larger interactivity factors than applicant). The evalautors also added interactive cooling effects to the door heater measure and updated the EMS measure to reflect the hours of operation determined from metered data.
SBEA37	0%	Metered data and discussions with the site contact indicated that there was no change in control strategy with the implementation of the VFD controls.
SBEA40	0%	Metered data and discussions with the site contact indicated that there was no change in control strategy with the implementation of the VFD controls.
SBEA41	156%	Majority of discrepancy due to lighting measure (longer hours of operation). Refrgieration measure was found to be installed on equipment that failed shortly after its installation.
SBEA43	180%	Majority of discrepancy due to lighting measure (longer hours of operation). The pool cover measure saved less than the claimed savings due to fewer unoccupied hours for the measure to save.
SBEA45	83%	Majority of discrepancy due to lighting measure (shorter hours of operation, lower interactive effects). Refrigeration measure was verification only (metered data was unusable) and the claimed savings for the door heater measure did not include interactive impacts, which were included in the evaluator analysis.
SBEA46	96%	Majority of discrepancy due to lighting measure (updated fixture wattages using standard table, where appropriate). Evaluators were unable to replicate or verify tracking savings methodology for EMS measure. EMS and RTU measures were verification only due to unusable data and lost loggers.
SBEA48	67%	Entire discrepancy due to lighting measure (shorter hours of operation). Setback thermostats evaluated using verification only methodology.
SBEA49	56%	Majority of discrepancy due to lighting measure (shorter hours of operation). Refrigeration measure was verification only (metered data was unusable) and the claimed savings for the door heater measure did not include interactive impacts, which were included in the evaluator analysis.
SBEA51	60%	Majority of discrepancy (72%) due to lighting measure (shorter hours of operation). Metered data indicated that refrigeration controls were bypassed and did not reduce equipment hours of operation.
SBEA52	95%	Metered data indicated that the compressor operated at a higher load than anticipated by the applicant (yielding fewer opportunities for load reduction). The lighting measure achieved higher savings due to longer hours of operation.
SBEA53	123%	Majority of discrepancy due to lighting measure (evaluators used larger interactivity factors than applicant). Metered data indicated a larger reduction in evaporator fan motor power than what was assumed by the applicant.

Site ID	kWh RR	Explanation of Difference
SBEA54	68%	Lighting measure evaluated using metered data and EMS measure evaluated using a verification only approach. Billing analysis used to determine whole building impacts and EMS measure savings established by backing out lighting savings from BA results. EMS measure had significantly lower savings, likely due to aggressive assumptions about measure savings potential.
SBEA56	100%	Verification only approach used on low flow measures due to small fraction of overall savings (accounted for 4% of claimed savings). Evaluators found the installed aerators had lower GPM than what had been assumed, yielding higher savings.
SBEA57	84%	Majority of discrepancy due to lighting measure (shorter hours of operation). Refrigeration measure was verification only (metered data was unusable) and the claimed savings did not include control impacts, which were found to be installed by evaluators and included within evaluated savings.
SBEA59	106%	Entire discrepancy due to lighting measure (longer hours of operation). Refrigeration measure was verification only (metered data was unusable) and found to be installed and operating as assumed by the applicant.
SBEA60	113%	Majority of discrepancy due to lighting measure (longer hours of operation). Refrigeration measure was verification only (metered data was unusable). Applicant methodology used unspecified load factors that were removed from the evaluator analysis.
SBEA61	98%	Majority of discrepancy due to lighting measure (shorter hours of operation). Refrigeration measure was verification only (metered data was unusable) and the claimed savings for the door heater measure did not include interactive impacts, which were included in the evaluator analysis.
SBEA62	62%	Refrigeration measure was verification only due to the hazardous metering conditions found on site. Vending machine controls were removed due to customer dissatisfaction.
SBEA63	118%	Refrigeration measure was verification only due to metered data being unusable. The claimed refrigeration savings did not include control impacts, which were found to be installed by evaluators and included within evaluated savings.
SBEA124	105%	Majority of discrepancy (88%) due to lighting measure (longer hours of operation). Metered data from refrigeration measure indicated a larger reduction in wattage than what had been anticipated by the applicant.
SBEA127	110%	Majority of discrepancy due to lighting measure (longer hours of operation). Metered data indicated a smaller reduction in hours of operation from fan controls than what had been anticipated by the applicant.
SBEA131	133%	Majority of discrepancy (74%) due to lighting measure. Claimed savings for refrigeration measures were lower than what had been calculated within the applicant workbook. Metered data indicated that the controls reduce fan motor operating hours for more time than what had been anticipated by applicant, further increasing the evaluated savings.
SBEA153	112%	Majority of discrepancy due to lighting measure (applicant used lower interactivity factors). Vending machine controls could not be found on site. Metered data indicated a smaller fan motor wattage reduction than what had been assumed by the applicant.

Site Level Natural Gas Realization Rates and Explanations of Differences

Site ID	MMBtu RR	Explanation of Difference
SBEA65	57%	Evaluators found that the faucet aerators had been removed shortly after their installation due to customer complaints. Metered data indicated that the kitchen exhaust fans operated for fewer hours than what had been anticipated by the applicant.
SBEA66	23%	Verification only approach used due to insufficient amount of available billing data. Savings are significantly lower due to differences between the assumed and observed steam trap operating specifications and applied savings methodologies. Reported savings account for over 50% of facility's post-project annual gas usage.
SBEA68	34%	Low realization rate likely due to the facility being occupied less and equipment operating for fewer hours than what had been anticipated by the applicant. Reported savings accounted for 23% of facility's pre-project annual gas usage.
SBEA71	0%	Billing analysis corroborated on-site findings of a zero saver due to setback controls regularly being overridden by occupants, eliminating any setback savings potential. Reported savings accounted for over 50% of facility's pre-project annual gas usage.
SBEA72	91%	Verification only approach used due to insufficient amount of available billing data. Evaluators used lower PSD-stipulated hours of operation than the applicant did for equipment impacting the incented insulation. Evaluators also found the installed tankless water heater had a higher rated efficiency than what was assumed by the applicant.
SBEA73	67%	Metered data and other information gathered during the site visit indicated that the applicant largely mischaracterized the facility's baseline and installed operating conditions. Review of the applicant analysis revealed lack of interactivity among interdependent measures. Evaluators updated analysis to include interactivity amongst measures and operating profiles to reflect actual equipment operation.
SBEA74	2%	Low realization rate primarily due to the seasonal, intermittent operation of the installed unit heaters.
SBEA75	60%	Metered data indicated that the installed boilers did not run in condensing mode for the majority of time and therefore operated at a significantly lower average efficiency than what had been assumed by the applicant.
SBEA77	97%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators updated the applicant bin analysis to reflect the actual facility hours of operation.
SBEA78	39%	Low realization rate likely due to shorter hours of operation and a lack of interactivity among the installed equipment control schemes. Reported savings accounted for 31% of the facility's pre-project annual gas usage.
SBEA79	109%	Verification only approach used due to insufficient amount of available billing data. Evaluators found that the reported savings calculation included an additional term tacked on to the end of the PSD-stipulated formula, which was not included in the evaluator analysis.
SBEA80	260%	High realization rate due to metered data indicating significantly longer hours of operation for the installed boiler.
SBEA81	91%	Verification only approach used due to compromised metered data. Evaluators found that the installed equipment operated at a lower efficiency than what had been assumed by the applicant. The evaluators also found that the reported savings calculation included an additional term tacked on to the end of the PSD-stipulated formula, which was not included in the evaluator analysis.
SBEA82	0%	Billing analysis corroborated on-site findings of a zero saver due to setback controls regularly being overridden by occupants, eliminating any setback savings potential. Reported savings accounted for 23% of facility's pre-project annual gas usage.
SBEA83	142%	High realization rate due to metered data indicating longer hours of operation for the installed boiler.
SBEA86	3%	Low realization rate primarily due to a tracking discrepancy, as the evaluators' replicated applicant analysis yielded savings 91% lower than the claimed savings. Metered data also indicated shorter hours of operation than what had been assumed by the applicant.
SBEA87	152%	High realization rate primarily due to equipment end use being identified as space heating rather than DHW in the claimed savings methodology. Evaluated results derived from billing analysis, but PSD method for DHW heater yields considerably closer savings to billing analysis results than applicant heating equipment PSD approach.
SBEA88	156%	Verification only approach used due to insufficient amount of available billing data. Evaluators updated the applicant savings calculation with PSD hours of operation that more accurately reflected the space types found to be served by the installed equipment.
SBEA90	53%	Low realization rate likely due to installed equipment running for fewer hours than what had been anticipated by the applicant. Reported savings account for over 50% of facility's pre-project annual gas usage.
SBEA93	118%	High realization rate likely due to installed equipment running for longer hours than what had been anticipated by the applicant.

Site ID	MMBtu RR	Explanation of Difference
SBEA94	108%	High realization rate likely due to installed equipment running for longer hours than what had been anticipated by the applicant.
SBEA95	53%	Low realization rate likely due to installed equipment running for fewer hours than what had been anticipated by the applicant.
SBEA96	302%	Metered data indicated that the installed boiler runs for longer equivalent full load hours than what had been anticipated. Additionally, the evaluators found that the installed equipment capacity was greater than what had been reported by the applicant.
SBEA97	123%	Metered data indicated that the installed boiler runs for longer equivalent full load hours than what had been anticipated by the applicant.
SBEA98	35%	Low realization rate likely due to installed equipment running for few hours than what had been anticipated, although the evaluators were unable to verify the applicant savings methodology. Reported savings account for over 50% of facility's pre-project annual gas usage.
SBEA99	101%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators updated the occupancy schedule with longer hours of operation in the applicant analysis.
SBEA100	7%	Low realization rate likely due to the applicant's aggressive assumptions about the EMS's ability to reduce the facility's energy consumption
SBEA101	40%	Low realization rate likely due to the hot water boilers running for fewer hours than what had been anticipated by the applicant.
SBEA102	0%	Verification only approach used due to insufficient amount of available billing data. Setbacks implemented by contractor were removed by customer shortly following their initial configuration.
SBEA106	113%	High realization rate primarily due to higher average production volume than what had been assumed by the applicant.
SBEA107	93%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators found fewer installed faucet aerators than what had been reported.
SBEA109	84%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators found the facility operated for fewer hours than what had been assumed by the applicant.
SBEA110	138%	High realization rate primarily due to the applicant underestimating the pre-project outdoor air requirement for a three shift operation.
SBEA111	329%	Verification only approach used due to insufficient amount of available billing data. Evaluators were unable to replicate the applicant savings methodology for the programmable thermostat measure, leaving them unable to identify specific discrepancies contributing to the difference in savings.
SBEA112	41%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators found fewer installed faucet aerators and spray valves than what had been reported.
SBEA113	69%	Verification only approach used due to insufficient amount of available billing data. Evaluators were unable to replicate the claimed savings but attribute the difference in savings to the facility's hours of occupancy being greater than what was likely used by the applicant, yielding fewer hours for the facility to setback the space temperature.
SBEA114	138%	Verification only approach used due to indiscernible impacts within the facility's billed usage. Evaluators found a higher number of installed aerator units than what had been reported.
SBEA116	0%	Billing analysis corroborated the findings of a zero saver due to setback control strategies not being implemented within the installed programmable thermostats.
SBEA132	208%	Metered data indicated that the exhaust and makeup air fans operated longer than what had been anticipated. Evaluators were unable to verify or replicate the applicant savings methodology for the installed spray valves and faucet aerators, leaving them unable to identify specific discrepancies contributing to the difference in savings.
SBEA133	153%	Metered data indicated that the exhaust fans operated longer than what had been anticipated by the applicant.
SBEA134	78%	Metered data and information gathered during the site visit indicated that the installed heating equipment ran for fewer equivalent full load hours than what had been anticipated by the applicant.
SBEA139	143%	Metered data indicated that the installed heating equipment ran for longer equivalent full load hours than what had been anticipated by the applicant.
SBEA142	70%	Low realization rate likely due to the heating equipment running for fewer hours than what had been anticipated by the applicant.
SBEA143	102%	Verification only approach used due to insufficient amount of available billing data. Evaluators updated the savings methodology after finding that the boilers claimed as installed were actually furnaces.
SBEA148	0%	Verification only approach used due to insufficient amount of available billing data. Evaluators found that the installed programmable thermostats were not configured to setback temperatures during unoccupied periods.