# AIC Plan 3 Portfolio Compliance Spreadsheet

| | Annual MWH Savings | | | | | | | | | Annual Therm Savings | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Energy Efficiency** | **PY7 Filed Goal** | **PY7 Compliance Goal** | **PY7 Goal Difference** | **PY8 Filed Goal** | **PY8 Compliance Goal** | **PY8 Goal Difference** | **PY9 Filed Goal** | **PY9 Compliance Goal** | **PY9 Goal Difference** | **PY7 Filed Goal** | **PY7 Compliance Goal** | **PY7 Goal Difference** | **PY8 Filed Goal** | **PY8 Compliance Goal** | **PY8 Goal Difference** | **PY9 Filed Goal** | **PY9 Compliance Goal** | **PY9 Goal Difference** |
| RES-Appliance Recycling | 4,010 | 4,010 | 0 | 3,702 | 3,702 | 0 | 3,329 | 3,329 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES-Behavior Modification | 29,350 | 29,350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,887,500 | 1,887,500 | 0 | 1,887,500 | 1,887,500 | 0 | 1,887,500 | 1,887,500 | 0 |
| RES-ENERGY STAR New Homes | 791 | 791 | 0 | 791 | 791 | 0 | 791 | 791 | 0 | 25,663 | 25,663 | 0 | 25,663 | 25,663 | 0 | 25,663 | 25,663 | 0 |
| RES-HPwES | 5,346 | 5,346 | 0 | 5,346 | 5,346 | 0 | 5,346 | 5,346 | 0 | 768,779 | 768,779 | 0 | 768,779 | 768,779 | 0 | 768,779 | 768,779 | 0 |
| RES-HVAC | 4,492 | 4,492 | 0 | 4,492 | 4,492 | 0 | 4,492 | 4,492 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES-Lighting | 26,359 | 26,359 | 0 | 5,841 | 5,841 | 0 | 4,968 | 4,968 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RES-Moderate Income | 1,194 | 1,194 | 0 | 6,604 | 6,604 | 0 | 6,604 | 6,604 | 0 | 219,987 | 219,987 | 0 | 462,778 | 462,778 | 0 | 462,778 | 462,778 | 0 |
| RES-Multifamily In-Unit | 5,517 | 5,517 | 0 | 5,517 | 5,517 | 0 | 5,517 | 5,517 | 0 | 112,521 | 112,521 | 0 | 112,521 | 112,521 | 0 | 112,521 | 112,521 | 0 |
| RES-School Kits | 388 | 388 | 0 | 388 | 388 | 0 | 388 | 388 | 0 | 54,986 | 54,986 | 0 | 54,986 | 54,986 | 0 | 54,986 | 54,986 | 0 |
| **RESIDENTIAL PORTFOLIO TOTAL** | **77,447** | **77,447** | **0** | **32,681** | **32,681** | **0** | **31,435** | **31,435** | **0** | **3,069,437** | **3,069,437** | **0** | **3,312,228** | **3,312,228** | **0** | **3,312,228** | **3,312,228** | **0** |
| BUS-Standard | 78,548 | 78,548 | 0 | 85,378 | 85,378 | 0 | 93,178 | 93,178 | 0 | 851,087 | 851,087 | 0 | 851,087 | 851,087 | 0 | 851,087 | 851,087 | 0 |
| BUS-Custom | 32,716 | 32,716 | 0 | 32,544 | 32,544 | 0 | 32,372 | 32,372 | 0 | 1,139,309 | 1,139,309 | 0 | 1,135,436 | 1,135,436 | 0 | 1,131,575 | 1,131,575 | 0 |
| BUS-RCx | 17,254 | 17,254 | 0 | 17,196 | 17,196 | 0 | 17,137 | 17,137 | 0 | 135,089 | 135,089 | 0 | 134,629 | 134,629 | 0 | 134,172 | 134,172 | 0 |
| BUS-Large C&I | 17,480 | 17,480 | 0 | 17,480 | 17,480 | 0 | 17,480 | 17,480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **BUSINESS PORTFOLIO TOTAL** | **145,999** | **145,999** | **0** | **152,598** | **152,598** | **0** | **160,168** | **160,168** | **0** | **2,125,485** | **2,125,485** | **0** | **2,121,152** | **2,121,152** | **0** | **2,116,833** | **2,116,834** | **0** |
| **AMEREN ILLINOIS PORTFOLIO TOTAL** | **223,446** | **223,446** | **0** | **185,278** | **185,278** | **0** | **191,603** | **191,603** | **0** | **5,194,921** | **5,194,921** | **0** | **5,433,379** | **5,433,380** | **0** | **5,429,061** | **5,429,061** | **0** |

Note: This spreadsheet demonstrates that the savings forecasted in the approved Plan 3 filings matches the calculated savings in this spreadsheet along with listing the measure associated with the NTG approved for PY7. The PY7 Compliance Goal will be further updated with the IL-TRM measure codes (Ver. 3.0) approved in Docket 14-0189. PY8 and PY9 will be further adjusted based upon NTG and TRM applicable to those years.

Note: Fields highlighted in yellow in the various worksheets of this spreadsheet document indicate cells that have been unlocked.

| | TRM Algorithm | AIC Measure Code | Measure Electric Savings as a % of Portfolio Savings | | | Measure Natural Gas Savings as a % of Portfolio Savings | | | TRM Measure Code | Measure Lifetime | Gross kWh/Unit | Gross kW/Unit | Gross Therms/Unit | Electric NTG Components | | | Gas NTG Components | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | | | | | | FR | Part SO | Non-Part SO | FR | Part SO | Non-Part SO | PY7 |
| **Appliance Recycling** | | | | | | | | | | | | | | | | | | | | |
| Recycled Refrigerator | RES AR | N/A | 1.28% | 1.43% | 1.24% | 0.00% | 0.00% | 0.00% | RS-APL-RFRC-V01-120601 | 8 | 808 | 0.10 | 0 | 47% | 3% | 0% | 0% | 0% | 0% | 56% |
| Recycled Freezer | RES AR | N/A | 0.51% | 0.57% | 0.50% | 0.00% | 0.00% | 0.00% | RS-APL-RFRC-V01-120601 | 8 | 904 | 0.11 | 0 | 39% | 1% | 0% | 0% | 0% | 0% | 62% |
| **Behavior Modification** | | | | | | | | | | | | | | | | | | | | |
| Behavior Modification Group 1 | Not in IL-TRM | N/A | 4.69% | 0.00% | 0.00% | 11.67% | 11.16% | 11.17% | Not in TRM | 1 | 167.7 | 0.038 | 9.7 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Behavior Modification Group 2 | Not in IL-TRM | N/A | 5.02% | 0.00% | 0.00% | 14.08% | 13.46% | 13.47% | Not in TRM | 1 | 179.3 | 0.041 | 11.7 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Behavior Modification Group 3 | Not in IL-TRM | N/A | 3.43% | 0.00% | 0.00% | 10.59% | 10.12% | 10.13% | Not in TRM | 1 | 122.6 | 0.028 | 8.8 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| **ENERGY STAR New Homes** | | | | | | | | | | | | | | | | | | | | |
| Rated Home - gas heat only, HERS <=60 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.05% | 0.05% | 0.05% | Not in TRM | 30 | 0 | 0.00 | 138 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| Rated Home - gas heat, HERS <=60 | RES New Homes | N/A | 0.04% | 0.04% | 0.04% | 0.10% | 0.10% | 0.10% | Not in TRM | 30 | 2,070 | 0.86 | 138 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| Rated Home - electric heat, HERS <=60 | RES New Homes | N/A | 0.03% | 0.04% | 0.03% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 3,450 | 0.86 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - gas heat only, HERS 41-60 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.03% | 0.03% | 0.03% | Not in TRM | 30 | 0 | 0.00 | 178 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - gas heat, HERS 41-60 | RES New Homes | N/A | 0.02% | 0.03% | 0.03% | 0.07% | 0.06% | 0.06% | Not in TRM | 30 | 2,670 | 1.11 | 178 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - electric heat, HERS 41-60 | RES New Homes | N/A | 0.04% | 0.05% | 0.04% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 4,450 | 1.11 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - gas heat only, HERS <=40 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 0 | 0.00 | 298 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - gas heat, HERS <=40 | RES New Homes | N/A | 0.02% | 0.02% | 0.02% | 0.06% | 0.05% | 0.05% | Not in TRM | 30 | 4,470 | 1.86 | 298 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Home - electric heat, HERS <=40 | RES New Homes | N/A | 0.06% | 0.08% | 0.07% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 7,450 | 1.86 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| Rated Multifamily Unit - gas heat only, HERS <=60 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.03% | 0.03% | 0.03% | Not in TRM | 30 | 0 | 0.00 | 78 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| Rated Multifamily Unit - gas heat, HERS <=60 | RES New Homes | N/A | 0.02% | 0.03% | 0.03% | 0.07% | 0.07% | 0.07% | Not in TRM | 30 | 1,101 | 0.46 | 78 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| Rated Multifamily Unit - electric heat, HERS <=60 | RES New Homes | N/A | 0.02% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 1,835 | 0.46 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - gas heat only, HERS 41-60 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.02% | 0.02% | 0.02% | Not in TRM | 30 | 0 | 0.00 | 100 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - gas heat, HERS 41-60 | RES New Homes | N/A | 0.01% | 0.01% | 0.01% | 0.04% | 0.04% | 0.04% | Not in TRM | 30 | 1,420 | 0.59 | 100 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - electric heat, HERS 41-60 | RES New Homes | N/A | 0.04% | 0.05% | 0.05% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 2,367 | 0.59 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - gas heat only, HERS <=40 | RES New Homes | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 0 | 0.00 | 167 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - gas heat, HERS <=40 | RES New Homes | N/A | 0.01% | 0.01% | 0.01% | 0.03% | 0.03% | 0.03% | Not in TRM | 30 | 2,378 | 0.99 | 167 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| E-Star Multifamily Unit - electric heat, HERS <=40 | RES New Homes | N/A | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | Not in TRM | 30 | 3,963 | 0.99 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 80% |
| **HPwES** | | | | | | | | | | | | | | | 9% | | | 3% | | |
| CFL 43w to 14w - Post-EISA | RES Lighting | N/A | 0.11% | 0.13% | 0.12% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 26 | 0.003 | -0.63 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| CFL 53w to 19w - Post-EISA | RES Lighting | N/A | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 31 | 0.003 | -1 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| CFL 72w to 23w - Post-EISA | RES Lighting | N/A | 0.04% | 0.05% | 0.04% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 44 | 0.005 | -1 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| CFL 60w to 14w globe - Pre-EISA | RES Lighting | N/A | 0.15% | 0.18% | 0.17% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 55 | 0.006 | -1.13 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| CFL 60w to 14w candelabra - Pre-EISA | RES Lighting | N/A | 0.16% | 0.19% | 0.19% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 59 | 0.006 | -1 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| CFL 60w to 14w reflector - Pre-EISA | RES Lighting | N/A | 0.16% | 0.19% | 0.18% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 42 | 0.005 | -1 | 12% | 9% | 0% | 12% | 3% | 0% | 97% |
| Showerhead 1.75 gpm - Electric DHW | RES DHW | N/A | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | RS-HWE-LFSH-V01-120601 | 10 | 368 | 0.02 | 0 | 4% | 9% | 0% | 21% | 3% | 0% | 105% |
| Faucet Aerator - Electric DHW | RES DHW | N/A | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-HWE-LFFA-V01-120601 | 9 | 42 | 0.02 | 0 | 23% | 9% | 0% | 28% | 3% | 0% | 86% |
| Water Heater Temp Adjustment - Electric DHW | RES DHW | N/A | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-HWE-TMPS-V01-120601 | 2 | 86 | 0.01 | 0 | 0% | 9% | 0% | 0% | 3% | 0% | 109% |
| Showerhead 1.75 gpm - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.28% | 0.27% | 0.27% | RS-HWE-LFSH-V01-120601 | 10 | 0 | 0.00 | 15.64000 | 4% | 9% | 0% | 21% | 3% | 0% | 105% |
| Faucet Aerator - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.05% | 0.05% | 0.05% | RS-HWE-LFFA-V01-120601 | 9 | 0 | 0.00 | 1.89000 | 23% | 9% | 0% | 28% | 3% | 0% | 86% |
| Water Heater Temp Adjustment - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.11% | 0.10% | 0.10% | RS-HWE-TMPS-V01-120601 | 2 | 0 | 0.00 | 6 | 0% | 9% | 0% | 0% | 3% | 0% | 109% |
| Air Sealing - Electric Heat | RES SHELL | N/A | 0.12% | 0.14% | 0.14% | 0.00% | 0.00% | 0.00% | RS-SHL-AIRS-V01-120601 | 15 | 3,779 | 1.42 | 0 | 21% | 9% | 0% | 20% | 3% | 0% | 88% |
| Ceiling Insulation (R-11 to R-49) - Electric Heat | RES SHELL | N/A | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 1,521 | 0.13 | 0 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Ceiling Insulation (R-19 to R-49) - Electric Heat | RES SHELL | N/A | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 846 | 0.15 | 0 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| R-11 Wall Insulation - Electric Heat | RES SHELL | N/A | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 2,095 | 0.23 | 0 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Rim Joist Insulation - Electric Heat | RES SHELL | N/A | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 382 | 0.03 | 0 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Crawl Space Insulation - Electric Heat | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-SHL-BINS-V01-120601 | 25 | 1,001 | 0.06 | 0 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Air Sealing - Gas Heat Only | RES SHELL | N/A | 0.03% | 0.03% | 0.03% | 1.27% | 1.21% | 1.21% | RS-SHL-AIRS-V01-120601 | 15 | 173 | 0.00 | 189 | 21% | 9% | 0% | 20% | 3% | 0% | 88% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat Only | RES SHELL | N/A | 0.01% | 0.01% | 0.01% | 0.39% | 0.37% | 0.37% | RS-SHL-AINS-V01-120601 | 25 | 88 | 0.00 | 88 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.08% | 0.08% | 0.08% | RS-SHL-AINS-V01-120601 | 25 | 59 | 0.00 | 59 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| R-11 Wall Insulation - Gas Heat Only | RES SHELL | N/A | 0.01% | 0.01% | 0.01% | 0.52% | 0.49% | 0.49% | RS-SHL-AINS-V01-120601 | 25 | 128 | 0.00 | 144 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Rim Joist Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.12% | 0.11% | 0.11% | RS-SHL-AINS-V01-120601 | 25 | 25 | 0.00 | 28 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Crawl Space Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.05% | 0.05% | 0.05% | RS-SHL-BINS-V01-120601 | 25 | 65 | 0.00 | 71 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Air Sealing - Gas Heat w/ AC | RES SHELL | N/A | 1.08% | 1.30% | 1.26% | 6.06% | 5.79% | 5.80% | RS-SHL-AIRS-V01-120601 | 15 | 1,355 | 1.42 | 189 | 21% | 9% | 0% | 20% | 3% | 0% | 88% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat w/ AC | RES SHELL | N/A | 0.12% | 0.15% | 0.14% | 1.86% | 1.78% | 1.78% | RS-SHL-AINS-V01-120601 | 25 | 225 | 0.13 | 88 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat w/ AC | RES SHELL | N/A | 0.02% | 0.03% | 0.03% | 0.40% | 0.39% | 0.39% | RS-SHL-AINS-V01-120601 | 25 | 132 | 0.15 | 59 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| R-11 Wall Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.14% | 0.17% | 0.16% | 2.47% | 2.36% | 2.37% | RS-SHL-AINS-V01-120601 | 25 | 312 | 0.24 | 144 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Rim Joist Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.03% | 0.03% | 0.03% | 0.57% | 0.54% | 0.54% | RS-SHL-AINS-V01-120601 | 25 | 48 | 0.03 | 28 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Crawl Space Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.01% | 0.01% | 0.01% | 0.24% | 0.23% | 0.23% | RS-SHL-BINS-V01-120601 | 25 | 106 | 0.06 | 71 | 21% | 9% | 0% | 23% | 3% | 0% | 88% |
| Programmable Thermostat - Electric Heat | RES HVAC | N/A | 0.04% | 0.05% | 0.05% | 0.00% | 0.00% | 0.00% | RS-HVC-PROG-V01-120601 | 5 | 616 | 0.00 | 0 | 13% | 9% | 0% | 13% | 3% | 0% | 96% |
| Programmable Thermostat - Gas Heat | RES HVAC | N/A | 0.01% | 0.01% | 0.01% | 0.32% | 0.31% | 0.31% | RS-HVC-PROG-V01-120601 | 5 | 26 | 0.00 | 28 | 13% | 9% | 0% | 13% | 3% | 0% | 96% |
| **HVAC** | | | | | | | | | | | | | | | | | | | | |
| CAC 14.5-14.9 SEER | RES HVAC | N/A | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 195 | 0.24 | 0 | 57% | 0% | 22% | 0% | 0% | 0% | 65% |
| CAC 15.0-15.9 SEER | RES HVAC | N/A | 0.01% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 252 | 0.32 | 0 | 57% | 0% | 22% | 0% | 0% | 0% | 65% |
| CAC 16.0+ SEER | RES HVAC | N/A | 0.05% | 0.06% | 0.06% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 354 | 0.44 | 0 | 50% | 0% | 22% | 0% | 0% | 0% | 72% |
| CAC ER 14.5-14.9 SEER | RES HVAC | N/A | 0.25% | 0.30% | 0.29% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 1,161 | 1.45 | 0 | 69% | 0% | 22% | 0% | 0% | 0% | 53% |
| CAC ER 15.0-15.9 SEER | RES HVAC | N/A | 0.09% | 0.11% | 0.11% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 1,217 | 1.53 | 0 | 69% | 0% | 22% | 0% | 0% | 0% | 53% |
| CAC ER 16.0+ SEER | RES HVAC | N/A | 0.41% | 0.50% | 0.48% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 1,319 | 1.65 | 0 | 44% | 0% | 22% | 0% | 0% | 0% | 78% |
| ASHP 14.5-14.9 SEER | RES HVAC | N/A | 0.01% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 709 | 0.21 | 0 | 57% | 0% | 22% | 0% | 0% | 0% | 65% |
| ASHP 15.0-15.9 SEER | RES HVAC | N/A | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 1,041 | 0.27 | 0 | 57% | 0% | 22% | 0% | 0% | 0% | 65% |
| ASHP 16.0+ SEER | RES HVAC | N/A | 0.04% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 1,151 | 0.37 | 0 | 50% | 0% | 22% | 0% | 0% | 0% | 72% |
| ASHP ER 14.5-14.9 SEER | RES HVAC | N/A | 0.15% | 0.18% | 0.17% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 6,359 | 1.17 | 0 | 69% | 0% | 22% | 0% | 0% | 0% | 53% |
| ASHP ER 15.0-15.9 SEER | RES HVAC | N/A | 0.12% | 0.15% | 0.14% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 6,691 | 1.23 | 0 | 69% | 0% | 22% | 0% | 0% | 0% | 53% |
| ASHP ER 16.0+ SEER | RES HVAC | N/A | 0.26% | 0.31% | 0.30% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 6,800 | 1.34 | 0 | 44% | 0% | 22% | 0% | 0% | 0% | 78% |
| BPM Blower Motor | RES HVAC | N/A | 0.58% | 0.69% | 0.67% | 0.00% | 0.00% | 0.00% | RS-HVC-FBMT-V01-120601 | 20 | 720 | 0.31 | 0 | 56% | 0% | 22% | 0% | 0% | 0% | 66% |
| **Lighting** | | | | | | | | | | | | | | | | | | | | |
| Standard CFL | RES Lighting | N/A | 11.80% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 19.43 | 0.0022 | -0.4379 | 53% | 0% | 0% | 53% | 0% | 0% | 47% |
| Standard CFL PY7 Carryover to PY8 | RES Lighting | N/A | 0.00% | 3.15% | 0.00% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 4.31 | 0.0005 | -0.0970 | 53% | 0% | 0% | 53% | 0% | 0% | 47% |
| Standard CFL PY7 Carryover to PY9 | RES Lighting | N/A | 0.00% | 0.00% | 2.59% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 4 | 3.66 | 0.0004 | -0.0825 | 53% | 0% | 0% | 53% | 0% | 0% | 47% |
| **Moderate Income** | | | | | | | | | | | | | | | | | | | | |
| CFL 43w to 14w - Post-EISA | RES Lighting | N/A | 0.02% | 0.21% | 0.20% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 26 | 0.003 | -0.63 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CFL 53w to 19w - Post-EISA | RES Lighting | N/A | 0.01% | 0.12% | 0.12% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 31 | 0.003 | -1 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CFL 72w to 23w - Post-EISA | RES Lighting | N/A | 0.01% | 0.15% | 0.14% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 44 | 0.005 | -1 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CFL 60w to 14w globe - Pre-EISA | RES Lighting | N/A | 0.04% | 0.36% | 0.35% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 55 | 0.006 | -1.13 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CFL 60w to 14w candelabra - Pre-EISA | RES Lighting | N/A | 0.04% | 0.39% | 0.38% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 59 | 0.006 | -1 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CFL 60w to 14w reflector - Pre-EISA | RES Lighting | N/A | 0.04% | 0.39% | 0.37% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCC-V01-120601 | 7 | 42 | 0.005 | -1 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Showerhead 1.75 gpm - Electric DHW | RES DHW | N/A | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-HWE-LFSH-V01-120601 | 10 | 368 | 0.02 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Faucet Aerator - Electric DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-HWE-LFFA-V01-120601 | 9 | 42 | 0.02 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Water Heater Temp Adjustment - Electric DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-HWE-TMPS-V01-120601 | 2 | 86 | 0.01 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Showerhead 1.75 gpm - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.10% | 0.12% | 0.12% | RS-HWE-LFSH-V01-120601 | 10 | 0 | 0.00 | 16 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Faucet Aerator - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.01% | 0.01% | 0.01% | RS-HWE-LFFA-V01-120601 | 9 | 0 | 0.00 | 2 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Water Heater Temp Adjustment - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.02% | 0.02% | 0.02% | RS-HWE-TMPS-V01-120601 | 2 | 0 | 0.00 | 6 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Air Sealing - Electric Heat | RES SHELL | N/A | 0.02% | 0.22% | 0.21% | 0.00% | 0.00% | 0.00% | RS-SHL-AIRS-V01-120601 | 15 | 3,684 | 1.260 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-11 to R-49) - Electric Heat | RES SHELL | N/A | 0.01% | 0.06% | 0.06% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 1,411 | 0.100 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-19 to R-49) - Electric Heat | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 669 | 0.100 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| R-11 Wall Insulation - Electric Heat | RES SHELL | N/A | 0.01% | 0.07% | 0.06% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 2,437 | 0.227 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Rim Joist Insulation - Electric Heat | RES SHELL | N/A | 0.00% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 432 | 0.028 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Crawl Space Insulation - Electric Heat | RES SHELL | N/A | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-SHL-BINS-V01-120601 | 25 | 1,138 | 0.049 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Basement Wall Insulation - Electric Heat | RES SHELL | N/A | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-SHL-BINS-V01-120601 | 25 | 1,225 | 0.049 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Air Sealing - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.08% | 0.09% | 0.09% | RS-SHL-AIRS-V01-120601 | 15 | 154 | 0.000 | 171 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.03% | 0.03% | 0.03% | RS-SHL-AINS-V01-120601 | 25 | 70 | 0.000 | 81 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-SHL-AINS-V01-120601 | 25 | 40 | 0.000 | 38 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| R-11 Wall Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.03% | 0.03% | 0.03% | RS-SHL-AINS-V01-120601 | 25 | 128 | 0.000 | 140 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Rim Joist Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.01% | 0.01% | 0.01% | RS-SHL-AINS-V01-120601 | 25 | 24 | 0.000 | 25 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Crawl Space Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-SHL-BINS-V01-120601 | 25 | 63 | 0.000 | 68 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Basement Wall Insulation - Gas Heat Only | RES SHELL | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-SHL-BINS-V01-120601 | 25 | 68 | 0.000 | 73 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Air Sealing - Gas Heat w/ AC | RES SHELL | N/A | 0.21% | 0.71% | 0.68% | 1.30% | 3.41% | 3.41% | RS-SHL-AIRS-V01-120601 | 15 | 1,204 | 1.260 | 171 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat w/ AC | RES SHELL | N/A | 0.02% | 0.08% | 0.08% | 0.46% | 1.21% | 1.21% | RS-SHL-AINS-V01-120601 | 25 | 180 | 0.100 | 81 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat w/ AC | RES SHELL | N/A | 0.00% | 0.01% | 0.01% | 0.03% | 0.08% | 0.08% | RS-SHL-AINS-V01-120601 | 25 | 90 | 0.100 | 38 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| R-11 Wall Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.02% | 0.08% | 0.08% | 0.48% | 1.26% | 1.26% | RS-SHL-AINS-V01-120601 | 25 | 312 | 0.240 | 140 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Rim Joist Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.00% | 0.02% | 0.02% | 0.12% | 0.31% | 0.31% | RS-SHL-AINS-V01-120601 | 25 | 46 | 0.028 | 25 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Crawl Space Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.00% | 0.01% | 0.01% | 0.05% | 0.14% | 0.14% | RS-SHL-BINS-V01-120601 | 25 | 102 | 0.056 | 68 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Basement Wall Insulation - Gas Heat w/ AC | RES SHELL | N/A | 0.00% | 0.01% | 0.01% | 0.06% | 0.15% | 0.15% | RS-SHL-BINS-V01-120601 | 25 | 107 | 0.056 | 73 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| CAC 14.5+ SEER | RES HVAC | N/A | 0.00% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 195 | 0.245 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| ER CAC 14.5+ | RES HVAC | N/A | 0.02% | 0.20% | 0.19% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 517 | 0.65 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| ASHP 14.5+ SEER | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-HVC-CAC1-V01-120601 | 18 | 980.94 | 0.21 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| ER ASHP 14.5+ SEER (Replace ASHP) | RES HVAC | N/A | 0.01% | 0.14% | 0.13% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 2,403 | 0.51 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| ER ASHP 14.5+ SEER (Replace Resistance) | RES HVAC | N/A | 0.03% | 0.27% | 0.26% | 0.00% | 0.00% | 0.00% | RS-HVC-ASHP-V01-120601 | 18 | 4,703 | 0.51 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Programmable Thermostat - Electric Heat Pump | RES HVAC | N/A | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | RS-HVC-PROG-V01-120601 | 5 | 408 | 0.00 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Furnace 95% AFUE - Gas Heat | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-HVC-GHEF-V01-120601 | 20 | 0 | 0.00 | 136 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Furnace ER 95% AFUE - Gas Heat | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 1.21% | 1.36% | 1.36% | RS-HVC-GHEF-V01-120601 | 20 | 0 | 0.00 | 199 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Boiler 90% AFUE | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-HVC-GHEB-V01-120601 | 25 | 0 | 0.00 | 144 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Boiler ER 90% AFUE | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 0.11% | 0.13% | 0.13% | RS-HVC-GHEB-V01-120601 | 25 | 0 | 0.00 | 279 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Programmable Thermostat - Gas Heat | RES HVAC | N/A | 0.00% | 0.00% | 0.00% | 0.13% | 0.15% | 0.15% | RS-HVC-PROG-V01-120601 | 5 | 31 | 0.00 | 33 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| **Multifamily** | | | | | | | | | | | | | | | | | | | | |
| In-Unit Integral CFL 43w to 14w - Post-EISA | RES Lighting | N/A | 0.57% | 0.68% | 0.66% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 27 | 0.0029 | -1 | 19% | 0% | 0% | 19% | 0% | 0% | 81% |
| In-Unit Integral CFL 53w to 19w - Post-EISA | RES Lighting | N/A | 0.58% | 0.70% | 0.68% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 32 | 0.0033 | -1 | 19% | 0% | 0% | 19% | 0% | 0% | 81% |
| In-Unit Integral CFL 72w to 23w - Post-EISA | RES Lighting | N/A | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 46 | 0.0048 | -1 | 19% | 0% | 0% | 19% | 0% | 0% | 81% |
| In-Unit Showerhead - Electric DHW | RES DHW | N/A | 0.54% | 0.66% | 0.64% | 0.00% | 0.00% | 0.00% | RS-HWE-LFSH-V01-120601 | 10 | 415 | 0.0268 | 0 | 7% | 0% | 0% | 0% | 0% | 0% | 93% |
| In-Unit Faucet Aerator - Electric DHW | RES DHW | N/A | 0.13% | 0.16% | 0.15% | 0.00% | 0.00% | 0.00% | RS-HWE-LFFA-V01-120601 | 9 | 53.05 | 0.02 | 0 | 6% | 0% | 0% | 0% | 0% | 0% | 94% |
| In-Unit Showerhead 1.75 gpm - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 1.39% | 1.33% | 1.33% | RS-HWE-LFSH-V01-120601 | 10 | 0 | 0.00 | 21 | 0% | 0% | 0% | 7% | 0% | 0% | 100% |
| In-Unit Faucet Aerator - Gas DHW | RES DHW | N/A | 0.00% | 0.00% | 0.00% | 0.30% | 0.28% | 0.28% | RS-HWE-LFFA-V01-120601 | 9 | 0 | 0.00 | 2.61000 | 0% | 0% | 0% | 6% | 0% | 0% | 100% |
| In-Unit Programmable Thermostat - Electric Heat | RES HVAC | N/A | 0.63% | 0.76% | 0.73% | 0.00% | 0.00% | 0.00% | RS-HVC-PROG-V01-120601 | 5 | 837 | 0.00 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| In-Unit Programmable Thermostat - Gas Heat | RES HVAC | N/A | 0.01% | 0.01% | 0.01% | 0.47% | 0.45% | 0.45% | RS-HVC-PROG-V01-120601 | 5 | 26.96 | 0.00 | 29.3000 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| **School Kits** | | | | | | | | | | | | | | | | | | | | |
| CFL 43w to 14w - Post-EISA | RES Kits | N/A | 0.08% | 0.09% | 0.09% | 0.00% | 0.00% | 0.00% | RS-LTG-ESCF-V01-120601 | 5 | 20 | 0.002 | -0.4 | 22% | 7% | 0% | 0% | 0% | 0% | 85% |
| Showerhead 1.75 gpm - Electric DHW | RES Kits | N/A | 0.07% | 0.08% | 0.08% | 0.00% | 0.00% | 0.00% | RS-HWE-LFSH-V01-120601 | 10 | 198 | 0.0145 | 0 | 13% | 7% | 0% | 0% | 0% | 0% | 94% |
| Faucet Aerator - Electric DHW | RES Kits | N/A | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HWE-LFFA-V01-120601 | 9 | 21 | 0.01 | 0 | 7% | 7% | 0% | 0% | 0% | 0% | 100% |
| Water Heater Temp Adjustment - Electric DHW | RES Kits | N/A | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | RS-HWE-TMPS-V01-120601 | 2 | 43 | 0.00 | 0 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Showerhead 1.75 gpm - Gas DHW | RES Kits | N/A | 0.00% | 0.00% | 0.00% | 0.64% | 0.62% | 0.62% | RS-HWE-LFSH-V01-120601 | 10 | 0 | 0.00 | 8.430 | 0% | 0% | 0% | 13% | 0% | 8% | 100% |
| Faucet Aerator - Gas DHW | RES Kits | N/A | 0.00% | 0.00% | 0.00% | 0.15% | 0.15% | 0.15% | RS-HWE-LFFA-V01-120601 | 9 | 0 | 0.00 | 0.950 | 0% | 0% | 0% | 7% | 0% | 8% | 100% |
| Water Heater Temp Adjustment - Gas DHW | RES Kits | N/A | 0.00% | 0.00% | 0.00% | 0.26% | 0.25% | 0.25% | RS-HWE-TMPS-V01-120601 | 2 | 0 | 0.00 | 3.200 | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| **C&I Standard** | | | | | | | | | | | | | | | | | | | | |
| Highbay Fixture Replacement Option | BUS-BPL91 | BPL91 | 7.36% | 9.01% | 9.26% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 1450.95 | 0.24 | -18 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| T8 U-tube Lamps and Ballasts Replacing T12 U-bend Lamps and Ballasts | N/A | BPL40 | 0.14% | 0.18% | 0.20% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 171.60 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| New, high performance T8 (32W) lamps and ballasts replacing existing T12 lamps and ballasts | BUS-BPL60 | BPL60 | 1.11% | 1.43% | 1.43% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 313.95 | 0.05 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Reduced wattage T8 (28W) lamps and ballasts replacing existing T12 lamps and ballasts | BUS-BPL41 | BPL41 | 4.23% | 5.28% | 5.45% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 298.86 | 0.05 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Ultra-low wattage T8 (25W) lamps and ballasts replacing existing T12 lamps and ballasts | BUS-BPL42 | BPL42 | 0.62% | 0.89% | 0.95% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 416.00 | 0.07 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| T5 or reduced wattage T8 relamp and reballast upgrading an existing 32W T8 | BUS-BPL44 | BPL44 | 0.03% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 100.24 | 0.02 | -1 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| 2-foot T8 lamps (17W) and ballasts replacing 2-foot T12 lamps/ballasts OR replacing 4-foot T12 U-tube lamps/ballasts | BUS-BPL66 | BPL66 | 0.06% | 0.09% | 0.10% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 322.91 | 0.05 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| New high performance T8 fixture (with or without a reflector) replacing an existing T12 fixture | BUS-BPL62 | BPL62 | 3.36% | 4.28% | 4.45% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 406.83 | 0.07 | -5 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| New T5 fluorescent replacing an existing T12 | BUS-BPL43 | BPL43 | 2.25% | 2.74% | 2.99% | 0.00% | 0.00% | 0.00% | CI-LTG-T5FX-V01-120601 | 15 | 819.34 | 0.14 | -9 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| High efficiency T5 or T8 fluorescent fixtures replacing existing T12 recessed or surface mounted troffer (prismatic, parabolic, or semi-indirect fixture) | BUS-BPL64 | BPL64 | 1.92% | 2.34% | 2.48% | 0.00% | 0.00% | 0.00% | CI-LTG-T5FX-V01-120601 | 15 | 544.22 | 0.09 | -7 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Fixture mounted occupancy sensor for fluorescent or LED systems | BUS-BPL72 | BPL72 | 0.50% | 0.75% | 0.92% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 15 | 311.90 | 0.12 | -9 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Remote mounted occupancy sensors using ultrasonic or passive infrared technology | BUS-BPL73 | BPL73 | 0.12% | 0.17% | 0.25% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 15 | 1100.00 | 0.16 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall switch plate mounted occupancy sensors using ultrasonic or passive infrared technology | BUS-BPL74 | BPL74 | 0.18% | 0.24% | 0.29% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 15 | 711.00 | 0.09 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Low wattage occupancy sensors or daylight dimming controls | N/A | BPL79 | 0.04% | 0.06% | 0.06% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 8 | 176.00 | 0.00 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| LED lamp | BUS-BPL81 | BPL81 | 2.19% | 4.63% | 5.14% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 242.31 | 0.07 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| LED recessed down fixture (18W or less per fixture), replacing 60-100W incandescent lamp | N/A | BPL84 | 0.04% | 0.11% | 0.13% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 293.01 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Hard wired CFL fixtures replacing existing incandescent fixtures | N/A | BPL87 | 0.01% | 0.03% | 0.04% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 339.35 | 0.09 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Exterior Lighting | BUS-BPL50 | BPL50 | 0.46% | 0.68% | 0.81% | 0.00% | 0.00% | 0.00% | CI-LTG-T5FX-V01-120601 | 15 | 501.00 | 0.00 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Permanent Fixture/Lamp Removal | N/A | BPL68 | 0.32% | 0.60% | 0.71% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 11 | 624.25 | 0.11 | -7 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Glass Door LED Cooler/Freezer Lighting | BUS-BPL93 | BPL93 | 0.08% | 0.13% | 0.16% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 889.32 | 0.11 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Glass Door LED cooler/Freezer Lighting Controls/Sensors | N/A | BPL94 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 8 | 100.21 | 0.04 | 0 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Fixture mounted occupancy sensor or daylighting controls for HID systems | N/A | BPL77 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 8 | 335.56 | 0.03 | -5 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| LED, T-1 or electroluminescent exit sign | BUS-BPL78 | BPL78 | 1.16% | 1.40% | 1.79% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 16 | 326.29 | 0.04 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| LED Exit Sign Retro-fit Kit 6W or less | N/A | BPL82 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 16 | 380.56 | 0.10 | -35 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Interior LED Lamps and Fixtures | BUS-BPL67 | BPL67 | 0.19% | 0.45% | 0.81% | 0.00% | 0.00% | 0.00% | CI-LTG-T5FX-V01-120601 | 15 | 136.00 | 0.02 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Air Conditioner Tune-Up | N/A | BPC21 | 0.15% | 0.18% | 0.18% | 0.00% | 0.00% | 0.00% | CI-HVC-ACTU-V01-120601 | 3 | 878.00 | 0.39 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Unitary and Split AC Systems and Air Source Heat Pumps (up to 65,000 Btuh input, minimum 15 SEER) | N/A | BPC2 | 0.03% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-HVC-SPUA-V01-120601 | 15 | 514.38 | 0.50 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Unitary and Split AC Systems and Air Source Heat Pumps (65,000 to 134,999 Btuh input, minimum 12 EER) | N/A | BPC4 | 0.02% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-HVC-SPUA-V01-120601 | 15 | 744.50 | 0.75 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Unitary and Split AC Systems and Air Source Heat Pumps (240,000 to 759,999 Btuh input, minimum 10.8 EER/12.0 IPLV) | N/A | BPC6 | 0.05% | 0.06% | 0.06% | 0.00% | 0.00% | 0.00% | CI-HVC-SPUA-V01-120601 | 15 | 9363.21 | 9.27 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Unitary and Split AC Systems and Air Source Heat Pumps (760,000 or more Btuh input, minimum 10.2 EER/11.0 IPLV) | N/A | BPC8 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-SPUA-V01-120601 | 15 | 15220.95 | 15.56 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Air-Cooled Chillers (up to 150 tons) | N/A | BPC12 | 0.01% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | CI-HVC-CHIL-V01-120601 | 20 | 11888.10 | 9.00 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Unitary and Split AC Systems and Air Source Heat Pumps 135,000 to 239,999 Btuh input, greater than 12.0 EER) | N/A | BPC25 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-SPUA-V01-120601 | 15 | 2850.23 | 2.84 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Air-Cooled Chillers (150 tons and larger) | N/A | BPC26 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-CHIL-V01-120601 | 20 | 17844.89 | 18.33 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| PTAC/PTHP less than 65kBtuh input, new installation | N/A | BPC27 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-PTAC-V01-120601 | 15 | 179.18 | 0.20 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Variable Frequency Drives on HVAC Motors | BUS-BPC20 | BPC20 | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | CI-HVC-VSDH-V01-120601 | 15 | 11645.00 | 0.63 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| High Efficiency Tanked Water Heater (electric) | N/A | BPWH1 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HW -STWH-V01-120601 | 5 | 5005.72 | 0.57 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| High Efficiency Tankless Water Heaters (electric) | N/A | BPWH2 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HW -TKWH-V01-120601 | 5 | 7925.10 | 0.90 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| PTAC/PTHP less than 65,000 Btuh input, replacing an existing unit | N/A | BPC30 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-PTAC-V01-120601 | 15 | 358.62 | 0.27 | 0 | 57% | 0% | 1% | 0% | 0% | 0% | 44% |
| Beverage Machine Control | N/A | BPR9 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 1411.33 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Snack Machine Control | N/A | BPR10 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 342.75 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Automatic Door Closer for Walk-in Freezer/Cooler (back access door) or Walk-in Cooler Door, or Walk-in Freezer Door | N/A | BPR7 | 0.11% | 0.13% | 0.12% | 0.00% | 0.00% | 0.00% | CI-RFG-ATDC-V01-120601 | 8 | 1625.00 | 0.22 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Auto Closer for Display Case Door: Reach-in Cooler Door or Reach-in Freezer Door | N/A | BPR13 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-ATDC-V01-120601 | 8 | 1625.00 | 0.22 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Strip Curtain on Walk-in Coolers or Freezers | N/A | BPR1 | 0.02% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-RFG-CRTN-V01-120601 | 6 | 1698.00 | 0.20 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Night Curtain for Open Cooler | N/A | BPR12 | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | CI-RFG-CRTN-V01-120601 | 5 | 94.50 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Glass Door Freezer (31-50 cu ft) | N/A | BPR31 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 3871.65 | 0.41 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Glass Door Freezer (51 cu ft or more) | N/A | BPR32 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 7341.53 | 0.79 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Anti Sweat Heater Control, Freezer | BUS-BPR33 | BPR33 | 0.15% | 0.17% | 0.17% | 0.00% | 0.00% | 0.00% | CI-RFG-DHCT-V01-120601 | 12 | 2709.20 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Anti Sweat Heater Control, Cooler | BUS-BPR34 | BPR34 | 0.17% | 0.20% | 0.20% | 0.00% | 0.00% | 0.00% | CI-RFG-DHCT-V01-120601 | 12 | 1278.19 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Evaporator Fan Controls | N/A | BPR6 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-EVPF-V01-120601 | 16 | 478.00 | 0.06 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Solid Door Freezer (up to 15 cu ft) | N/A | BPR27 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 269.90 | 0.03 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Solid Door Freezer (15-30 cu ft) | N/A | BPR28 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 595.40 | 0.06 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Solid Door Freezer (31-50 cu ft) | N/A | BPR29 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 958.40 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Solid Door Freezer (51 cu ft or more) | N/A | BPR30 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-CSDO-V01-120601 | 12 | 2765.50 | 0.30 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| EC Motor for Walk-in Cooler | N/A | BPR4 | 0.01% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | CI-RFG-ECMF-V01-120601 | 15 | 357.50 | 0.04 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| EC Motor for Walk-in Freezer | N/A | BPR19 | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | CI-RFG-ECMF-V01-120601 | 15 | 577.00 | 0.09 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| EC Motor for Reach-In Cooler | N/A | BPR5 | 0.04% | 0.05% | 0.05% | 0.00% | 0.00% | 0.00% | CI-RFG-ECMF-V01-120601 | 15 | 343.00 | 0.03 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| EC Motor for Reach-In Freezer | N/A | BPR18 | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | CI-RFG-ECMF-V01-120601 | 15 | 516.50 | 0.04 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency High Speed Exhaust/Ventilation Fans (24-35 in diameter) | N/A | BPA1 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 372.14 | 0.12 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency High Speed Exhaust/Ventilation Fans (36-47 in diameter) | N/A | BPA2 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 625.23 | 0.20 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency High Speed Exhaust/Ventilation Fans (48-71 in diameter) | N/A | BPA3 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 1122.36 | 0.36 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Circulation Fans (24-35 in diameter) | N/A | BPA4 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 372.14 | 0.12 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Circulation Fans (36-47 in diameter) | N/A | BPA5 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 625.23 | 0.20 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Circulation Fans (48-71 in diameter) | N/A | BPA6 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HSF -V01-120601 | 7 | 1122.36 | 0.36 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Volume Low Speed (HVLS) Fans | N/A | BPA7 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-HVSF-V01-120601 | 10 | 8379.47 | 3.07 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Equipment Heater Timers | N/A | BPA8 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | RS-APL-ESDH-V01-120601 | 3 | 664.00 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Live Stock Waterer (electrically heated) | N/A | BPA9 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-LSW1-V01-120601 | 10 | 1592.85 | 0.53 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Live Stock Waterer (energy free or ground source heat) | N/A | BPA10 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-AGE-LSW1-V01-120601 | 10 | 3337.40 | 0.83 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Guest Room Energy Management (GREM) Controls on PTAC System | BUS-BPLD1 | BPLD1 | 0.17% | 0.20% | 0.20% | 0.00% | 0.00% | 0.00% | CI-HVC-GREM-V01-120601 | 15 | 1686.50 | 1.25 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Guest Room Energy Management (GREM) Controls on PTHP System | N/A | BPLD2 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-GREM-V01-120601 | 15 | 1076.50 | 0.84 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (101-200 lbs) | N/A | BPR20 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 243.66 | 0.05 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (201-300 lbs) | N/A | BPR21 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 383.38 | 0.07 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (301-400 lbs) | N/A | BPR22 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 509.43 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (401-500 lbs) | N/A | BPR23 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 616.18 | 0.12 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (501-1000 lbs) | N/A | BPR24 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 915.87 | 0.17 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (1001-1500 lbs) | N/A | BPR25 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 1567.44 | 0.29 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| High Efficiency Ice Maker (1501 and up lbs) | N/A | BPR26 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESIM-V01-120601 | 10 | 1693.43 | 0.32 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Electric Steamer (3 pan) | N/A | BPCK1 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 13649.19 | 2.49 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Electric Steamer (4 pan) | N/A | BPCK2 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 18592.13 | 3.39 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Electric Steamer (5 pan) | N/A | BPCK3 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 23749.42 | 4.33 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Electric Steamer (6 pan) | N/A | BPCK4 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 28693.00 | 5.24 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Hot Holding Cabinet (half size) | N/A | BPCK5 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESHH-V01-120601 | 12 | 2628.00 | 1.20 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Hot Holding Cabinet (three-quarter size) | N/A | BPCK6 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESHH-V01-120601 | 12 | 3942.00 | 1.80 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Hot Holding Cabinet (full size) | N/A | BPCK7 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESHH-V01-120601 | 12 | 9308.00 | 4.25 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Electric Griddle | N/A | BPCK8 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESGR-V01-120601 | 12 | 2597.00 | 0.53 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Dishwasher, High Temp (Includes Booster Heater) | N/A | BPCK13 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESDW-V01-120601 | 15 | 10130.75 | 1.54 | 325 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Refrigeration Tune-up | Not in IL-TRM | BPR11 | 0.99% | 1.19% | 1.14% | 0.00% | 0.00% | 0.00% | Not in TRM | 4 | 5220.00 | 0.00 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| VFD | Not in IL-TRM | BPM1 | 6.21% | 7.46% | 7.19% | 0.00% | 0.00% | 0.00% | Not in TRM | 15 | 11337.00 | 1.12 | 0 | 20% | 0% | 1% | 0% | 0% | 0% | 81% |
| GE UltraMax Ballast 232-MAX/L/Ultra | N/A | Online store | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 83.43 | 0.02 | -1 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| GE UltraMax Ballast 332-MAX/L/Ultra | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 155.20 | 0.04 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| GE UltraMax Ballast 432-MAX/L/Ultra | N/A | Online store | 0.05% | 0.06% | 0.06% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 390.67 | 0.10 | -6 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| GE Ecolux Starcoat F32T8 (case of 36) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-T8FX-V01-120601 | 15 | 2205.00 | 0.55 | -36 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 13W Eco$ave™SpringLight 1ES13 | N/A | Online store | 0.12% | 0.14% | 0.14% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 195.28 | 0.05 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 20W SpringLight 1ES20 | N/A | Online store | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 256.42 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 23w Eco$ave SpringLight 1ES23 | N/A | Online store | 0.07% | 0.09% | 0.08% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 228.45 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Earthmate 15w Spiral E1552AK | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 177.14 | 0.04 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Earthmate 20w Spiral E2052AK | N/A | Online store | 0.03% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 411.54 | 0.10 | -7 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 14w G25 Globe (2G2514) | N/A | Online store | 0.00% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 198.53 | 0.05 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Maxlite 25w MicroMax MLM25SWW | N/A | Online store | 0.03% | 0.03% | 0.03% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 177.68 | 0.04 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Harmony 20w Lightwiz Spiral(H20027S) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 119.57 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Harmony Light 25w/MaxLite 25w | N/A | Online store | 0.04% | 0.05% | 0.05% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 257.91 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Feit 23w PAR-38 EcoBulb Flood (EST23PAR38T) | N/A | Online store | 0.01% | 0.02% | 0.01% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 655.53 | 0.16 | -11 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| GE 15w R30 Soft White Dimmable Flood (FLE 15/2/DV/R30) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 109.60 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| GE 15w R30 Soft White Flood (FLE 15/2/R30XL) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 288.50 | 0.07 | -5 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 14w R30 Reflector 803014 | N/A | Online store | 0.03% | 0.04% | 0.04% | 0.00% | 0.00% | 0.00% | CI-LTG-CCFL-V01-120601 | 2 | 125.93 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Cree LR6 Downlight Module LR6-27K | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 306.20 | 0.08 | -5 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Cree CR6 Downlight Retrofit | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 309.00 | 0.08 | -5 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Phillips 12w Endura LED A19 912E26A60) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 178.67 | 0.04 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Phillips 12w Endura LED TM Par30 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 178.67 | 0.04 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Philips 17w EnduraLED PAR38 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 222.76 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Phillips 10w Endura LED A19 L Prize | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 115.83 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Sylvania 8W UltraLED PAR20 (LED8PAR20/DIM/830/NFL25) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 125.00 | 0.01 | -1 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 14w 25 Deg Par30 LED14E26P3030KNFL | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 125.93 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 14w 40 Deg Beam Angle PAR30 LED | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 125.93 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 17w 25 Deg Par38 LED17E26P3830KNFL | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 227.10 | 0.06 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 17w 40 Deg Par38 LED17E26P3830KNFL | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 271.70 | 0.07 | -4 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP 9W LED PAR20 (LED9E26P2027KFL) | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-LEDB-V01-120601 | 15 | 115.83 | 0.03 | -2 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP Exit Sign Retrofit Set 20714 | N/A | Online store | 0.01% | 0.01% | 0.01% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 16 | 194.99 | 0.05 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| TCP Red LED Exit Sign with Battery (22743D) | N/A | Online store | 0.09% | 0.11% | 0.10% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 16 | 476.88 | 0.12 | -8 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Hubbell White Wall Switch 120/277 1WS-ZP-3P-W | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 8 | 443.00 | 0.05 | -3 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Hubbell Ivory Motion-Sensing Wall Switch 120/277 Iws-ZP-3P-I | N/A | Online store | 0.02% | 0.02% | 0.02% | 0.00% | 0.00% | 0.00% | CI-LTG-OSLC-V01-120601 | 8 | 443.00 | 1.17 | -78 | 26% | 3% | 1% | 26% | 3% | 1% | 78% |
| Vending Miser VM150 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 1613.00 | 0.40 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Vending Miser VM151 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 1613.00 | 0.40 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Vending Mizer EZ VM170 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 1613.00 | 0.40 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Vending Mizer EZ VM171 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 1613.00 | 0.40 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| SnackMizer (Primary with Sensor) SM150 | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 387.00 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| SnackMizer SM151-Secondary W/cable | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 387.00 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| SnackMizer (Primary with Sensor) SM170 Machine Mount | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 387.00 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| SnackMizer (Secondary W/Cable) SM171 Machine Mount | N/A | Online store | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-RFG-BEVM-V01-120601 | 5 | 387.00 | 0.10 | 0 | 18% | 0% | 1% | 0% | 0% | 0% | 83% |
| Gas Boiler Tune-Up | N/A | BPH1 | 0.00% | 0.00% | 0.00% | 0.05% | 0.04% | 0.04% | CI-HVC-PBTU-V01-120601 | 3 | 0.00 | 0.00 | 227 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| Gas Boiler Replacement (AFUE 85% min) | N/A | BPH3 | 0.00% | 0.00% | 0.00% | 0.01% | 0.01% | 0.01% | CI-HVC-BOIL-V01-120601 | 20 | 0.00 | 0.00 | 358 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| Gas Boiler Replacement (Thermal Eff 90%) | BUS-BPH4 | BPH4 | 0.00% | 0.00% | 0.00% | 0.24% | 0.23% | 0.23% | CI-HVC-BOIL-V01-120601 | 20 | 0.00 | 0.00 | 429 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| Gas Furnace Replacement (92% AFUE) | N/A | BPH6 | 0.00% | 0.00% | 0.00% | 0.01% | 0.01% | 0.01% | CI-HVC-FRNC-V01-120601 | 17 | 0.0 | 0.00 | 184 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| Gas Furnace Replacement (94% AFUE) | BUS-BPH7 | BPH7 | 0.00% | 0.00% | 0.00% | 0.13% | 0.12% | 0.12% | CI-HVC-FRNC-V01-120601 | 17 | 0.00 | 0.00 | 166 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| High Efficiency Tankless Water Heater (gas) | N/A | BPWH3 | 0.00% | 0.00% | 0.00% | 0.06% | 0.06% | 0.06% | CI-HW -TKWH-V01-120601 | 20 | 0.00 | 0.00 | 172 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| High Efficiency Condensing Tanked Water Heater (gas) | BUS-BPWH4 | BPWH4 | 0.00% | 0.00% | 0.00% | 0.02% | 0.02% | 0.02% | CI-HW -STWH-V01-120601 | 15 | 0.00 | 0.00 | 1,246 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| High Efficiency Tanked Water Heater (gas) | BUS-BPWH5 | BPWH5 | 0.00% | 0.00% | 0.00% | 0.02% | 0.02% | 0.02% | CI-HW -STWH-V01-120601 | 15 | 0.00 | 0.00 | 251 | 0% | 0% | 1% | 40% | 20% | 0% | 101% |
| Gas Steamer (5 pan) | N/A | BPCK9 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 0.00 | 0.00 | 1,678 | 0% | 0% | 1% | 30% | 20% | 0% | 101% |
| Gas Steamer (6 pan) | N/A | BPCK10 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-STMC-V01-120601 | 12 | 0.00 | 0.00 | 1,809 | 0% | 0% | 1% | 30% | 20% | 0% | 101% |
| Gas Griddle | N/A | BPCK11 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESGR-V01-120601 | 12 | 0.00 | 0.00 | 149 | 0% | 0% | 1% | 30% | 20% | 0% | 101% |
| Gas Fryer | N/A | BPCK12 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-FSE-ESFR-V01-120601 | 15 | 0.00 | 0.00 | 505 | 0% | 0% | 1% | 30% | 20% | 0% | 101% |
| Steam Trap Survey (HVAC) | N/A | BPST1 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-STRE-V01-120601 | 6 | 0.00 | 0.00 | 0 | 0% | 0% | 1% | 10% | 0% | 0% | 101% |
| Steam Trap Repair / Replacement (HVAC) | BUS-BPST2 | BPST2 | 0.00% | 0.00% | 0.00% | 0.66% | 0.63% | 0.63% | CI-HVC-STRE-V01-120601 | 6 | 0.00 | 0.00 | 75 | 0% | 0% | 1% | 10% | 0% | 0% | 101% |
| Steam Trap Survey (Industrial Process or Multi-use HVAC/Process Boilers over 7,750 hours per year operation) | N/A | BPST4 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | CI-HVC-STRE-V01-120601 | 6 | 0.00 | 0.00 | 0 | 0% | 0% | 1% | 10% | 0% | 0% | 101% |
| Steam Trap Repair / Replacement (Industrial Process or Multi-use HVAC/Process Boilers over 7,750 hours per year operation) | BUS-BPST5 | BPST5 | 0.00% | 0.00% | 0.00% | 15.19% | 14.53% | 14.54% | CI-HVC-STRE-V01-120601 | 6 | 0.00 | 0.00 | 470 | 0% | 0% | 1% | 10% | 0% | 0% | 101% |
| **C&I Custom** | | | | | | | | | | | | | | | | | | | | |
| Custom Electric (Includes New Const.) | Not in IL-TRM | N/A | 14.64% | 17.56% | 16.90% | 0.00% | 0.00% | 0.00% | Not in TRM | 13 | 43,563,668 | 10,891 | 0 | 26% | 0% | 1% | 26% | 0% | 0% | 75% |
| Custom Gas (Includes New Const.) | Not in IL-TRM | N/A | 0.00% | 0.00% | 0.00% | 21.93% | 20.90% | 20.84% | Not in TRM | 13 | 0 | 0 | 1,073,807 | 26% | 0% | 32% | 26% | 0% | 0% | 106% |
| **C&I Retro-commissioning** | | | | | | | | | | | | | | | | | | | | |
| Retro-commissioning Electric | Not in IL-TRM | N/A | 7.72% | 9.28% | 8.94% | 0.00% | 0.00% | 0.00% | Not in TRM | 5 | 17,973,281 | 4,493 | 0 | 15% | 10% | 1% | 15% | 10% | 0% | 96% |
| Retro-commissioning Gas | Not in IL-TRM | N/A | 0.00% | 0.00% | 0.00% | 2.60% | 2.48% | 2.47% | Not in TRM | 5 | 0 | 0 | 140,717 | 15% | 10% | 1% | 15% | 10% | 0% | 96% |
| **Large C&I Pilot** | | | | | | | | | | | | | | | | | | | | |
| Large C&I Pilot | Not in IL-TRM | N/A | 7.82% | 9.43% | 9.12% | 0.00% | 0.00% | 0.00% | Not in TRM | 13 | 23,945,729 | 5,986 | 0 | 28% | 0% | 1% | 28% | 0% | 0% | 73% |

Note: "N/A" in the 'TRM Algorithm' column means no associated calculation with the gross measure have been included. For efficiency, the gross savings for these measure have been fixed in this Compliance Spreadsheet.

| kWh NTG | | Net kWh | | | kW NTG | | | Net kW | | | Therm NTG | | | Net Therms | | | Participation | | | kWh Goal | | | Therm Goal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | **4,010,428** | **3,701,751** | **3,328,731** | **0** | **0** | **0** |
| 56% | 56% | 453 | 453 | 453 | 56% | 56% | 56% | 0.06 | 0.06 | 0.06 | 100% | 100% | 100% | 0 | 0 | 0 | 6.340 | 5.850 | 5.255 | 2.869.817 | 2.648.017 | 2.378.689 | 0 | 0 | 0 |
| 62% | 62% | 560 | 560 | 560 | 62% | 62% | 62% | 0.07 | 0.07 | 0.07 | 100% | 100% | 100% | 0 | 0 | 0 | 2.035 | 1.880 | 1.695 | 1.140.611 | 1.053.734 | 950.042 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | **29,350,000** | **0** | **0** | **1,887,500** | **1,887,500** | **1,887,500** |
| 0% | 0% | 168 | 0 | 0 | 100% | 0% | 0% | 0.04 | 0.00 | 0.00 | 100% | 100% | 100% | 10 | 10 | 10 | 62.500 | 62.500 | 62.500 | 10.481.250 | 0 | 0 | 606.250 | 606.250 | 606.250 |
| 0% | 0% | 179 | 0 | 0 | 100% | 0% | 0% | 0.04 | 0.00 | 0.00 | 100% | 100% | 100% | 12 | 12 | 12 | 62.500 | 62.500 | 62.500 | 11.206.250 | 0 | 0 | 731.250 | 731.250 | 731.250 |
| 0% | 0% | 123 | 0 | 0 | 100% | 0% | 0% | 0.03 | 0.00 | 0.00 | 100% | 100% | 100% | 9 | 9 | 9 | 62.500 | 62.500 | 62.500 | 7.662.500 | 0 | 0 | 550.000 | 550.000 | 550.000 |
| | | | | | | | | | | | | | | | | | | | | **791,187** | **791,187** | **791,187** | **25,663** | **25,663** | **25,663** |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 110 | 110 | 110 | 24 | 24 | 24 | 0 | 0 | 0 | 2.650 | 2.650 | 2.650 |
| 80% | 80% | 1.656 | 1.656 | 1.656 | 80% | 80% | 80% | 0.69 | 0.69 | 0.69 | 80% | 80% | 80% | 110 | 110 | 110 | 48 | 48 | 48 | 79.488 | 79.488 | 79.488 | 5.299 | 5.299 | 5.299 |
| 80% | 80% | 2.760 | 2.760 | 2.760 | 80% | 80% | 80% | 0.69 | 0.69 | 0.69 | 80% | 80% | 80% | 0 | 0 | 0 | 24 | 24 | 24 | 66.240 | 66.240 | 66.240 | 0 | 0 | 0 |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 142 | 142 | 142 | 12 | 12 | 12 | 0 | 0 | 0 | 1.709 | 1.709 | 1.709 |
| 80% | 80% | 2.136 | 2.136 | 2.136 | 80% | 80% | 80% | 0.89 | 0.89 | 0.89 | 80% | 80% | 80% | 142 | 142 | 142 | 24 | 24 | 24 | 51.264 | 51.264 | 51.264 | 3.418 | 3.418 | 3.418 |
| 80% | 80% | 3.560 | 3.560 | 3.560 | 80% | 80% | 80% | 0.89 | 0.89 | 0.89 | 80% | 80% | 80% | 0 | 0 | 0 | 24 | 24 | 24 | 85.440 | 85.440 | 85.440 | 0 | 0 | 0 |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 238 | 238 | 238 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80% | 80% | 3.576 | 3.576 | 3.576 | 80% | 80% | 80% | 1.49 | 1.49 | 1.49 | 80% | 80% | 80% | 238 | 238 | 238 | 12 | 12 | 12 | 42.912 | 42.912 | 42.912 | 2.861 | 2.861 | 2.861 |
| 80% | 80% | 5.960 | 5.960 | 5.960 | 80% | 80% | 80% | 1.49 | 1.49 | 1.49 | 80% | 80% | 80% | 0 | 0 | 0 | 24 | 24 | 24 | 143.040 | 143.040 | 143.040 | 0 | 0 | 0 |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 62 | 62 | 62 | 24 | 24 | 24 | 0 | 0 | 0 | 1.498 | 1.498 | 1.498 |
| 80% | 80% | 881 | 881 | 881 | 80% | 80% | 80% | 0.37 | 0.37 | 0.37 | 80% | 80% | 80% | 62 | 62 | 62 | 60 | 60 | 60 | 52.848 | 52.848 | 52.848 | 3.744 | 3.744 | 3.744 |
| 80% | 80% | 1.468 | 1.468 | 1.468 | 80% | 80% | 80% | 0.37 | 0.37 | 0.37 | 80% | 80% | 80% | 0 | 0 | 0 | 36 | 36 | 36 | 52.848 | 52.848 | 52.848 | 0 | 0 | 0 |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 80 | 80 | 80 | 12 | 12 | 12 | 0 | 0 | 0 | 960 | 960 | 960 |
| 80% | 80% | 1.136 | 1.136 | 1.136 | 80% | 80% | 80% | 0.47 | 0.47 | 0.47 | 80% | 80% | 80% | 80 | 80 | 80 | 24 | 24 | 24 | 27.272 | 27.272 | 27.272 | 1.919 | 1.919 | 1.919 |
| 80% | 80% | 1.894 | 1.894 | 1.894 | 80% | 80% | 80% | 0.47 | 0.47 | 0.47 | 80% | 80% | 80% | 0 | 0 | 0 | 48 | 48 | 48 | 90.908 | 90.908 | 90.908 | 0 | 0 | 0 |
| 80% | 80% | 0 | 0 | 0 | 80% | 80% | 80% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 134 | 134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80% | 80% | 1.902 | 1.902 | 1.902 | 80% | 80% | 80% | 0.79 | 0.79 | 0.79 | 80% | 80% | 80% | 134 | 134 | 134 | 12 | 12 | 12 | 22.829 | 22.829 | 22.829 | 1.607 | 1.607 | 1.607 |
| 80% | 80% | 3.171 | 3.171 | 3.171 | 80% | 80% | 80% | 0.79 | 0.79 | 0.79 | 80% | 80% | 80% | 0 | 0 | 0 | 24 | 24 | 24 | 76.097 | 76.097 | 76.097 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | **5,345,567** | **5,345,567** | **5,345,567** | **768,779** | **768,779** | **768,779** |
| 97% | 97% | 25 | 25 | 25 | 97% | 97% | 97% | 0.00 | 0.00 | 0.00 | 91% | 91% | 91% | -1 | -1 | -1 | 9.293 | 9.293 | 9.293 | 235.860 | 235.860 | 235.860 | -5.295 | -5.295 | -5.295 |
| 97% | 97% | 30 | 30 | 30 | 97% | 97% | 97% | 0.00 | 0.00 | 0.00 | 91% | 91% | 91% | -1 | -1 | -1 | 2.512 | 2.512 | 2.512 | 74.737 | 74.737 | 74.737 | -1.678 | -1.678 | -1.678 |
| 97% | 97% | 43 | 43 | 43 | 97% | 97% | 97% | 0.00 | 0.00 | 0.00 | 91% | 91% | 91% | -1 | -1 | -1 | 2.009 | 2.009 | 2.009 | 86.168 | 86.168 | 86.168 | -1.934 | -1.934 | -1.934 |
| 97% | 97% | 53 | 53 | 53 | 97% | 97% | 97% | 0.01 | 0.01 | 0.01 | 91% | 91% | 91% | -1 | -1 | -1 | 6.279 | 6.279 | 6.279 | 334.173 | 334.173 | 334.173 | -6.406 | -6.406 | -6.406 |
| 97% | 97% | 57 | 57 | 57 | 97% | 97% | 97% | 0.01 | 0.01 | 0.01 | 91% | 91% | 91% | -1 | -1 | -1 | 6.279 | 6.279 | 6.279 | 357.889 | 357.889 | 357.889 | -6.861 | -6.861 | -6.861 |
| 97% | 97% | 40 | 40 | 40 | 97% | 97% | 97% | 0.00 | 0.00 | 0.00 | 91% | 91% | 91% | -1 | -1 | -1 | 8.791 | 8.791 | 8.791 | 353.900 | 353.900 | 353.900 | -6.784 | -6.784 | -6.784 |
| 105% | 105% | 386 | 386 | 386 | 105% | 105% | 105% | 0.02 | 0.02 | 0.02 | 82% | 82% | 82% | 0 | 0 | 0 | 176 | 176 | 176 | 67.901 | 67.901 | 67.901 | 0 | 0 | 0 |
| 86% | 86% | 36 | 36 | 36 | 86% | 86% | 86% | 0.02 | 0.02 | 0.02 | 75% | 75% | 75% | 0 | 0 | 0 | 328 | 328 | 328 | 11.894 | 11.894 | 11.894 | 0 | 0 | 0 |
| 109% | 109% | 94 | 94 | 94 | 109% | 109% | 109% | 0.01 | 0.01 | 0.01 | 103% | 103% | 103% | 0 | 0 | 0 | 164 | 164 | 164 | 15.426 | 15.426 | 15.426 | 0 | 0 | 0 |
| 105% | 105% | 0 | 0 | 0 | 105% | 105% | 105% | 0.00 | 0.00 | 0.00 | 82% | 82% | 82% | 13 | 13 | 13 | 1.147 | 1.147 | 1.147 | 0 | 0 | 0 | 14.615 | 14.615 | 14.615 |
| 86% | 86% | 0 | 0 | 0 | 86% | 86% | 86% | 0.00 | 0.00 | 0.00 | 75% | 75% | 75% | 1 | 1 | 1 | 1.816 | 1.816 | 1.816 | 0 | 0 | 0 | 2.556 | 2.556 | 2.556 |
| 109% | 109% | 0 | 0 | 0 | 109% | 109% | 109% | 0.00 | 0.00 | 0.00 | 103% | 103% | 103% | 7 | 7 | 7 | 841 | 841 | 841 | 0 | 0 | 0 | 5.516 | 5.516 | 5.516 |
| 88% | 88% | 3.326 | 3.326 | 3.326 | 88% | 88% | 88% | 1.25 | 1.25 | 1.25 | 83% | 83% | 83% | 0 | 0 | 0 | 80 | 80 | 80 | 264.726 | 264.726 | 264.726 | 0 | 0 | 0 |
| 88% | 88% | 1.338 | 1.338 | 1.338 | 88% | 88% | 88% | 0.11 | 0.11 | 0.11 | 80% | 80% | 80% | 0 | 0 | 0 | 58 | 58 | 58 | 77.610 | 77.610 | 77.610 | 0 | 0 | 0 |
| 88% | 88% | 744 | 744 | 744 | 88% | 88% | 88% | 0.13 | 0.13 | 0.13 | 80% | 80% | 80% | 0 | 0 | 0 | 17 | 17 | 17 | 12.354 | 12.354 | 12.354 | 0 | 0 | 0 |
| 88% | 88% | 1.844 | 1.844 | 1.844 | 88% | 88% | 88% | 0.20 | 0.20 | 0.20 | 80% | 80% | 80% | 0 | 0 | 0 | 42 | 42 | 42 | 76.510 | 76.510 | 76.510 | 0 | 0 | 0 |
| 88% | 88% | 336 | 336 | 336 | 88% | 88% | 88% | 0.03 | 0.03 | 0.03 | 80% | 80% | 80% | 0 | 0 | 0 | 50 | 50 | 50 | 16.690 | 16.690 | 16.690 | 0 | 0 | 0 |
| 88% | 88% | 881 | 881 | 881 | 88% | 88% | 88% | 0.05 | 0.05 | 0.05 | 80% | 80% | 80% | 0 | 0 | 0 | 8 | 8 | 8 | 7.310 | 7.310 | 7.310 | 0 | 0 | 0 |
| 88% | 88% | 152 | 152 | 152 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 83% | 83% | 83% | 156 | 156 | 156 | 422 | 422 | 422 | 64.369 | 64.369 | 64.369 | 65.832 | 65.832 | 65.832 |
| 88% | 88% | 77 | 77 | 77 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 70 | 70 | 70 | 291 | 291 | 291 | 22.392 | 22.392 | 22.392 | 20.229 | 20.229 | 20.229 |
| 88% | 88% | 52 | 52 | 52 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 47 | 47 | 47 | 94 | 94 | 94 | 4.854 | 4.854 | 4.854 | 4.385 | 4.385 | 4.385 |
| 88% | 88% | 113 | 113 | 113 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 114 | 114 | 114 | 235 | 235 | 235 | 26.414 | 26.414 | 26.414 | 26.846 | 26.846 | 26.846 |
| 88% | 88% | 22 | 22 | 22 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 22 | 22 | 22 | 281 | 281 | 281 | 6.104 | 6.104 | 6.104 | 6.163 | 6.163 | 6.163 |
| 88% | 88% | 57 | 57 | 57 | 88% | 88% | 88% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 56 | 56 | 56 | 47 | 47 | 47 | 2.693 | 2.693 | 2.693 | 2.649 | 2.649 | 2.649 |
| 88% | 88% | 1.192 | 1.192 | 1.192 | 88% | 88% | 88% | 1.25 | 1.25 | 1.25 | 83% | 83% | 83% | 156 | 156 | 156 | 2.019 | 2.019 | 2.019 | 2.406.686 | 2.406.686 | 2.406.686 | 314.828 | 314.828 | 314.828 |
| 88% | 88% | 198 | 198 | 198 | 88% | 88% | 88% | 0.11 | 0.11 | 0.11 | 80% | 80% | 80% | 70 | 70 | 70 | 1.391 | 1.391 | 1.391 | 275.398 | 275.398 | 275.398 | 96.754 | 96.754 | 96.754 |
| 88% | 88% | 116 | 116 | 116 | 88% | 88% | 88% | 0.13 | 0.13 | 0.13 | 80% | 80% | 80% | 47 | 47 | 47 | 449 | 449 | 449 | 52.239 | 52.239 | 52.239 | 20.975 | 20.975 | 20.975 |
| 88% | 88% | 275 | 275 | 275 | 88% | 88% | 88% | 0.21 | 0.21 | 0.21 | 80% | 80% | 80% | 114 | 114 | 114 | 1.122 | 1.122 | 1.122 | 307.974 | 307.974 | 307.974 | 128.412 | 128.412 | 128.412 |
| 88% | 88% | 42 | 42 | 42 | 88% | 88% | 88% | 0.03 | 0.03 | 0.03 | 80% | 80% | 80% | 22 | 22 | 22 | 1.346 | 1.346 | 1.346 | 56.677 | 56.677 | 56.677 | 29.480 | 29.480 | 29.480 |
| 88% | 88% | 93 | 93 | 93 | 88% | 88% | 88% | 0.05 | 0.05 | 0.05 | 80% | 80% | 80% | 56 | 56 | 56 | 224 | 224 | 224 | 20.893 | 20.893 | 20.893 | 12.670 | 12.670 | 12.670 |
| 96% | 96% | 591 | 591 | 591 | 96% | 96% | 96% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 0 | 0 | 0 | 151 | 151 | 151 | 89.078 | 89.078 | 89.078 | 0 | 0 | 0 |
| 96% | 96% | 25 | 25 | 25 | 96% | 96% | 96% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 25 | 25 | 25 | 673 | 673 | 673 | 16.647 | 16.647 | 16.647 | 16.869 | 16.869 | 16.869 |
| | | | | | | | | | | | | | | | | | | | | **4,492,109** | **4,492,109** | **4,492,109** | **0** | **0** | **0** |
| 65% | 65% | 127 | 127 | 127 | 65% | 65% | 65% | 0.16 | 0.16 | 0.16 | 100% | 100% | 100% | 0 | 0 | 0 | 360 | 360 | 360 | 45.743 | 45.743 | 45.743 | 0 | 0 | 0 |
| 65% | 65% | 164 | 164 | 164 | 65% | 65% | 65% | 0.21 | 0.21 | 0.21 | 100% | 100% | 100% | 0 | 0 | 0 | 194 | 194 | 194 | 31.690 | 31.690 | 31.690 | 0 | 0 | 0 |
| 72% | 72% | 255 | 255 | 255 | 72% | 72% | 72% | 0.32 | 0.32 | 0.32 | 100% | 100% | 100% | 0 | 0 | 0 | 450 | 450 | 450 | 114.780 | 114.780 | 114.780 | 0 | 0 | 0 |
| 53% | 53% | 616 | 616 | 616 | 53% | 53% | 53% | 0.77 | 0.77 | 0.77 | 100% | 100% | 100% | 0 | 0 | 0 | 900 | 900 | 900 | 554.606 | 554.606 | 554.606 | 0 | 0 | 0 |
| 53% | 53% | 646 | 646 | 646 | 53% | 53% | 53% | 0.81 | 0.81 | 0.81 | 100% | 100% | 100% | 0 | 0 | 0 | 315 | 315 | 315 | 203.544 | 203.544 | 203.544 | 0 | 0 | 0 |
| 78% | 78% | 1.030 | 1.030 | 1.030 | 78% | 78% | 78% | 1.29 | 1.29 | 1.29 | 100% | 100% | 100% | 0 | 0 | 0 | 900 | 900 | 900 | 927.190 | 927.190 | 927.190 | 0 | 0 | 0 |
| 65% | 65% | 462 | 462 | 462 | 65% | 65% | 65% | 0.14 | 0.14 | 0.14 | 100% | 100% | 100% | 0 | 0 | 0 | 68 | 68 | 68 | 31.162 | 31.162 | 31.162 | 0 | 0 | 0 |
| 65% | 65% | 678 | 678 | 678 | 65% | 65% | 65% | 0.17 | 0.17 | 0.17 | 100% | 100% | 100% | 0 | 0 | 0 | 54 | 54 | 54 | 36.608 | 36.608 | 36.608 | 0 | 0 | 0 |
| 72% | 72% | 830 | 830 | 830 | 72% | 72% | 72% | 0.27 | 0.27 | 0.27 | 100% | 100% | 100% | 0 | 0 | 0 | 99 | 99 | 99 | 82.147 | 82.147 | 82.147 | 0 | 0 | 0 |
| 53% | 53% | 3.376 | 3.376 | 3.376 | 53% | 53% | 53% | 0.62 | 0.62 | 0.62 | 100% | 100% | 100% | 0 | 0 | 0 | 99 | 99 | 99 | 334.268 | 334.268 | 334.268 | 0 | 0 | 0 |
| 53% | 53% | 3.553 | 3.553 | 3.553 | 53% | 53% | 53% | 0.65 | 0.65 | 0.65 | 100% | 100% | 100% | 0 | 0 | 0 | 77 | 77 | 77 | 271.792 | 271.792 | 271.792 | 0 | 0 | 0 |
| 78% | 78% | 5.311 | 5.311 | 5.311 | 78% | 78% | 78% | 1.04 | 1.04 | 1.04 | 100% | 100% | 100% | 0 | 0 | 0 | 108 | 108 | 108 | 573.595 | 573.595 | 573.595 | 0 | 0 | 0 |
| 66% | 66% | 476 | 476 | 476 | 66% | 66% | 66% | 0.21 | 0.21 | 0.21 | 100% | 100% | 100% | 0 | 0 | 0 | 2.700 | 2.700 | 2.700 | 1.284.984 | 1.284.984 | 1.284.984 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | | | | | | **26,358,566** | **5,840,603** | **4,968,305** | **0** | **0** | **0** |
| 47% | 47% | 9 | 9 | 9 | 47% | 47% | 47% | 0.00 | 0.00 | 0.00 | 47% | 47% | 47% | 0 | 0 | 0 | 2.885.714 | 0 | 0 | 26.358.566 | 0 | 0 | -593.913 | 0 | 0 |
| 47% | 47% | 2 | 2 | 2 | 47% | 47% | 47% | 0.00 | 0.00 | 0.00 | 47% | 47% | 47% | 0 | 0 | 0 | 0 | 2.885.714 | 0 | 0 | 5.840.603 | 0 | 0 | -131.601 | 0 |
| 47% | 47% | 2 | 2 | 2 | 47% | 47% | 47% | 0.00 | 0.00 | 0.00 | 47% | 47% | 47% | 0 | 0 | 0 | 0 | 0 | 2.885.714 | 0 | 0 | 4.968.305 | 0 | 0 | -111.946 |
| | | | | | | | | | | | | | | | | | | | | **1,193,501** | **6,604,234** | **6,604,234** | **219,987** | **462,778** | **462,778** |
| 100% | 100% | 26 | 26 | 26 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | -1 | -1 | -1 | 1.716 | 14.740 | 14.740 | 44.900 | 385.691 | 385.691 | -1.080 | -9.280 | -9.280 |
| 100% | 100% | 31 | 31 | 31 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | -1 | -1 | -1 | 858 | 7.370 | 7.370 | 26.321 | 226.095 | 226.095 | -633 | -5.440 | -5.440 |
| 100% | 100% | 44 | 44 | 44 | 100% | 100% | 100% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | -1 | -1 | -1 | 715 | 6.142 | 6.142 | 31.611 | 271.539 | 271.539 | -761 | -6.533 | -6.533 |
| 100% | 100% | 55 | 55 | 55 | 100% | 100% | 100% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | -1 | -1 | -1 | 1.430 | 12.284 | 12.284 | 78.459 | 673.967 | 673.967 | -1.612 | -13.848 | -13.848 |
| 100% | 100% | 59 | 59 | 59 | 100% | 100% | 100% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | -1 | -1 | -1 | 1.430 | 12.284 | 12.284 | 84.028 | 721.797 | 721.797 | -1.727 | -14.831 | -14.831 |
| 100% | 100% | 42 | 42 | 42 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | -1 | -1 | -1 | 2.002 | 17.197 | 17.197 | 83.091 | 713.754 | 713.754 | -1.707 | -14.666 | -14.666 |
| 100% | 100% | 368 | 368 | 368 | 100% | 100% | 100% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 9 | 74 | 74 | 3.164 | 27.184 | 27.184 | 0 | 0 | 0 |
| 100% | 100% | 42 | 42 | 42 | 100% | 100% | 100% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 9 | 74 | 74 | 363 | 3.120 | 3.120 | 0 | 0 | 0 |
| 100% | 100% | 86 | 86 | 86 | 100% | 100% | 100% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | 0 | 0 | 0 | 9 | 74 | 74 | 743 | 6.385 | 6.385 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 16 | 16 | 16 | 343 | 405 | 405 | 0 | 0 | 0 | 5.368 | 6.334 | 6.334 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 2 | 2 | 2 | 286 | 338 | 338 | 0 | 0 | 0 | 541 | 638 | 638 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 6 | 6 | 6 | 143 | 169 | 169 | 0 | 0 | 0 | 915 | 1.080 | 1.080 |
| 100% | 100% | 3.684 | 3.684 | 3.684 | 100% | 100% | 100% | 1.26 | 1.26 | 1.26 | 100% | 100% | 100% | 0 | 0 | 0 | 13 | 112 | 112 | 47.889 | 411.475 | 411.475 | 0 | 0 | 0 |
| 100% | 100% | 1.411 | 1.411 | 1.411 | 100% | 100% | 100% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 0 | 0 | 0 | 10 | 83 | 83 | 13.689 | 117.557 | 117.557 | 0 | 0 | 0 |
| 100% | 100% | 669 | 669 | 669 | 100% | 100% | 100% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 11 | 11 | 869 | 7.490 | 7.490 | 0 | 0 | 0 |
| 100% | 100% | 2.437 | 2.437 | 2.437 | 100% | 100% | 100% | 0.23 | 0.23 | 0.23 | 100% | 100% | 100% | 0 | 0 | 0 | 6 | 50 | 50 | 14.135 | 121.363 | 121.363 | 0 | 0 | 0 |
| 100% | 100% | 432 | 432 | 432 | 100% | 100% | 100% | 0.03 | 0.03 | 0.03 | 100% | 100% | 100% | 0 | 0 | 0 | 8 | 67 | 67 | 3.369 | 28.937 | 28.937 | 0 | 0 | 0 |
| 100% | 100% | 1.138 | 1.138 | 1.138 | 100% | 100% | 100% | 0.05 | 0.05 | 0.05 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 11 | 11 | 1.479 | 12.740 | 12.740 | 0 | 0 | 0 |
| 100% | 100% | 1.225 | 1.225 | 1.225 | 100% | 100% | 100% | 0.05 | 0.05 | 0.05 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 11 | 11 | 1.592 | 13.719 | 13.719 | 0 | 0 | 0 |
| 100% | 100% | 154 | 154 | 154 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 171 | 171 | 171 | 25 | 30 | 30 | 3.881 | 4.574 | 4.574 | 4.300 | 5.068 | 5.068 |
| 100% | 100% | 70 | 70 | 70 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 81 | 81 | 81 | 19 | 22 | 22 | 1.323 | 1.561 | 1.561 | 1.528 | 1.802 | 1.802 |
| 100% | 100% | 40 | 40 | 40 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 38 | 38 | 38 | 3 | 3 | 3 | 100 | 120 | 120 | 96 | 115 | 115 |
| 100% | 100% | 128 | 128 | 128 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 140 | 140 | 140 | 11 | 13 | 13 | 1.446 | 1.702 | 1.702 | 1.586 | 1.867 | 1.867 |
| 100% | 100% | 24 | 24 | 24 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 25 | 25 | 25 | 15 | 18 | 18 | 359 | 424 | 424 | 384 | 453 | 453 |
| 100% | 100% | 63 | 63 | 63 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 68 | 68 | 68 | 3 | 3 | 3 | 158 | 189 | 189 | 170 | 204 | 204 |
| 100% | 100% | 68 | 68 | 68 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 73 | 73 | 73 | 3 | 3 | 3 | 169 | 203 | 203 | 184 | 220 | 220 |
| 100% | 100% | 1.204 | 1.204 | 1.204 | 100% | 100% | 100% | 1.26 | 1.26 | 1.26 | 100% | 100% | 100% | 171 | 171 | 171 | 395 | 1.086 | 1.086 | 475.580 | 1.307.905 | 1.307.905 | 67.402 | 185.363 | 185.363 |
| 100% | 100% | 180 | 180 | 180 | 100% | 100% | 100% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 81 | 81 | 81 | 296 | 815 | 815 | 53.316 | 146.628 | 146.628 | 23.940 | 65.839 | 65.839 |
| 100% | 100% | 90 | 90 | 90 | 100% | 100% | 100% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 38 | 38 | 38 | 40 | 109 | 109 | 3.555 | 9.774 | 9.774 | 1.512 | 4.158 | 4.158 |
| 100% | 100% | 312 | 312 | 312 | 100% | 100% | 100% | 0.24 | 0.24 | 0.24 | 100% | 100% | 100% | 140 | 140 | 140 | 178 | 489 | 489 | 55.442 | 152.474 | 152.474 | 24.945 | 68.603 | 68.603 |
| 100% | 100% | 46 | 46 | 46 | 100% | 100% | 100% | 0.03 | 0.03 | 0.03 | 100% | 100% | 100% | 25 | 25 | 25 | 237 | 652 | 652 | 10.949 | 30.113 | 30.113 | 6.027 | 16.577 | 16.577 |
| 100% | 100% | 102 | 102 | 102 | 100% | 100% | 100% | 0.06 | 0.06 | 0.06 | 100% | 100% | 100% | 68 | 68 | 68 | 40 | 109 | 109 | 4.037 | 11.099 | 11.099 | 2.688 | 7.391 | 7.391 |
| 100% | 100% | 107 | 107 | 107 | 100% | 100% | 100% | 0.06 | 0.06 | 0.06 | 100% | 100% | 100% | 73 | 73 | 73 | 40 | 109 | 109 | 4.223 | 11.610 | 11.610 | 2.900 | 7.974 | 7.974 |
| 100% | 100% | 195 | 195 | 195 | 100% | 100% | 100% | 0.24 | 0.24 | 0.24 | 100% | 100% | 100% | 0 | 0 | 0 | 25 | 211 | 211 | 4.782 | 41.086 | 41.086 | 0 | 0 | 0 |
| 100% | 100% | 517 | 517 | 517 | 100% | 100% | 100% | 0.65 | 0.65 | 0.65 | 100% | 100% | 100% | 0 | 0 | 0 | 82 | 701 | 701 | 42.184 | 362.336 | 362.336 | 0 | 0 | 0 |
| 100% | 100% | 981 | 981 | 981 | 100% | 100% | 100% | 0.21 | 0.21 | 0.21 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100% | 100% | 2.403 | 2.403 | 2.403 | 100% | 100% | 100% | 0.51 | 0.51 | 0.51 | 100% | 100% | 100% | 0 | 0 | 0 | 12 | 105 | 105 | 29.319 | 251.858 | 251.858 | 0 | 0 | 0 |
| 100% | 100% | 4.703 | 4.703 | 4.703 | 100% | 100% | 100% | 0.51 | 0.51 | 0.51 | 100% | 100% | 100% | 0 | 0 | 0 | 12 | 105 | 105 | 57.376 | 492.867 | 492.867 | 0 | 0 | 0 |
| 100% | 100% | 408 | 408 | 408 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 8 | 67 | 67 | 3.181 | 27.323 | 27.323 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 136 | 136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 199 | 199 | 199 | 315 | 372 | 372 | 0 | 0 | 0 | 62.661 | 73.936 | 73.936 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 144 | 144 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 279 | 279 | 279 | 21 | 25 | 25 | 0 | 0 | 0 | 5.863 | 6.924 | 6.924 |
| 100% | 100% | 31 | 31 | 31 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 33 | 33 | 33 | 210 | 248 | 248 | 6.420 | 7.575 | 7.575 | 6.978 | 8.233 | 8.233 |
| | | | | | | | | | | | | | | | | | | | | **5,516,833** | **5,516,833** | **5,516,833** | **112,521** | **112,521** | **112,521** |
| 81% | 81% | 22 | 22 | 22 | 81% | 81% | 81% | 0.00 | 0.00 | 0.00 | 81% | 81% | 81% | -1 | -1 | -1 | 57.120 | 57.120 | 57.120 | 1.268.327 | 1.268.327 | 1.268.327 | -29.128 | -29.128 | -29.128 |
| 81% | 81% | 26 | 26 | 26 | 81% | 81% | 81% | 0.00 | 0.00 | 0.00 | 81% | 81% | 81% | -1 | -1 | -1 | 49.980 | 49.980 | 49.980 | 1.301.128 | 1.301.128 | 1.301.128 | -29.881 | -29.881 | -29.881 |
| 81% | 81% | 38 | 38 | 38 | 81% | 81% | 81% | 0.00 | 0.00 | 0.00 | 81% | 81% | 81% | -1 | -1 | -1 | 214 | 214 | 214 | 8.036 | 8.036 | 8.036 | -185 | -185 | -185 |
| 93% | 93% | 386 | 386 | 386 | 93% | 93% | 93% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 3.150 | 3.150 | 3.150 | 1.217.173 | 1.217.173 | 1.217.173 | 0 | 0 | 0 |
| 94% | 94% | 50 | 50 | 50 | 94% | 94% | 94% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 5.880 | 5.880 | 5.880 | 293.218 | 293.218 | 293.218 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 93% | 93% | 93% | 19 | 19 | 19 | 3.780 | 3.780 | 3.780 | 0 | 0 | 0 | 72.452 | 72.452 | 72.452 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 94% | 94% | 94% | 2 | 2 | 2 | 6.300 | 6.300 | 6.300 | 0 | 0 | 0 | 15.456 | 15.456 | 15.456 |
| 100% | 100% | 837 | 837 | 837 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 1.680 | 1.680 | 1.680 | 1.406.307 | 1.406.307 | 1.406.307 | 0 | 0 | 0 |
| 100% | 100% | 27 | 27 | 27 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 29 | 29 | 29 | 840 | 840 | 840 | 22.644 | 22.644 | 22.644 | 24.612 | 24.612 | 24.612 |
| | | | | | | | | | | | | | | | | | | | | **388,356** | **388,356** | **388,356** | **54,986** | **54,986** | **54,986** |
| 85% | 85% | 17 | 17 | 17 | 85% | 85% | 85% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 10.000 | 10.000 | 10.000 | 170.262 | 170.262 | 170.262 | -4.111 | -4.111 | -4.111 |
| 94% | 94% | 187 | 187 | 187 | 94% | 94% | 94% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | 0 | 0 | 0 | 800 | 800 | 800 | 149.270 | 149.270 | 149.270 | 0 | 0 | 0 |
| 100% | 100% | 21 | 21 | 21 | 100% | 100% | 100% | 0.01 | 0.01 | 0.01 | 100% | 100% | 100% | 0 | 0 | 0 | 1.600 | 1.600 | 1.600 | 34.264 | 34.264 | 34.264 | 0 | 0 | 0 |
| 100% | 100% | 43 | 43 | 43 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 800 | 800 | 800 | 34.560 | 34.560 | 34.560 | 0 | 0 | 0 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 95% | 95% | 95% | 8 | 8 | 8 | 4.200 | 4.200 | 4.200 | 0 | 0 | 0 | 33.494 | 33.494 | 33.494 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 101% | 101% | 101% | 1 | 1 | 1 | 8.400 | 8.400 | 8.400 | 0 | 0 | 0 | 8.052 | 8.052 | 8.052 |
| 100% | 100% | 0 | 0 | 0 | 100% | 100% | 100% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 3 | 3 | 3 | 4.200 | 4.200 | 4.200 | 0 | 0 | 0 | 13.440 | 13.440 | 13.440 |
| | | | | | | | | | | | | | | | | | | | | **78,548,400** | **85,377,851** | **93,177,896** | **851,087** | **851,087** | **851,087** |
| 78% | 78% | 1.132 | 1.132 | 1.132 | 78% | 78% | 78% | 0.19 | 0.19 | 0.19 | 78% | 78% | 78% | -14 | -14 | -14 | 14.523 | 14.755 | 15.680 | 16.436.320 | 16.698.884 | 17.745.748 | -202.508 | -205.743 | -218.642 |
| 78% | 78% | 134 | 134 | 134 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 2.375 | 2.497 | 2.800 | 317.891 | 334.220 | 374.777 | -3.170 | -3.332 | -3.737 |
| 78% | 78% | 245 | 245 | 245 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -3 | -3 | -3 | 10,149 | 10,783 | 11,200 | 2,485,266 | 2,640,519 | 2,742,633 | -30,904 | -32,834 | -34,104 |
| 78% | 78% | 233 | 233 | 233 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -3 | -3 | -3 | 40.593 | 41.995 | 44.800 | 9.462.793 | 9.789.619 | 10.443.503 | -112.567 | -116.455 | -124.233 |
| 78% | 78% | 324 | 324 | 324 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 4.246 | 5.108 | 5.600 | 1.377.742 | 1.657.444 | 1.817.088 | -12.962 | -15.593 | -17.095 |
| 78% | 78% | 78 | 78 | 78 | 78% | 78% | 78% | 0.01 | 0.01 | 0.01 | 78% | 78% | 78% | -1 | -1 | -1 | 728 | 718 | 784 | 56.918 | 56.136 | 61.296 | -716 | -706 | -771 |
| 78% | 78% | 252 | 252 | 252 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -3 | -3 | -3 | 519 | 681 | 784 | 130,720 | 171,523 | 197,465 | -1,442 | -1,892 | -2,178 |
| 78% | 78% | 317 | 317 | 317 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -4 | -4 | -4 | 23.683 | 24.970 | 26.880 | 7.515.209 | 7.923.606 | 8.529.697 | -95.768 | -100.972 | -108.696 |
| 78% | 78% | 639 | 639 | 639 | 78% | 78% | 78% | 0.11 | 0.11 | 0.11 | 78% | 78% | 78% | -7 | -7 | -7 | 7.862 | 7.945 | 8.960 | 5.024.488 | 5.077.532 | 5.726.204 | -55.752 | -56.340 | -63.538 |
| 78% | 78% | 424 | 424 | 424 | 78% | 78% | 78% | 0.07 | 0.07 | 0.07 | 78% | 78% | 78% | -6 | -6 | -6 | 10,092 | 10,215 | 11,200 | 4,283,938 | 4,336,150 | 4,754,271 | -57,121 | -57,818 | -63,393 |
| 78% | 78% | 243 | 243 | 243 | 78% | 78% | 78% | 0.09 | 0.09 | 0.09 | 78% | 78% | 78% | -7 | -7 | -7 | 4.554 | 5.675 | 7.280 | 1.107.910 | 1.380.630 | 1.771.099 | -31.828 | -39.663 | -50.880 |
| 78% | 78% | 858 | 858 | 858 | 78% | 78% | 78% | 0.13 | 0.13 | 0.13 | 78% | 78% | 78% | 0 | 0 | 0 | 322 | 363 | 560 | 276.276 | 311.454 | 480.480 | 0 | 0 | -1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78% | 78% | 555 | 555 | 555 | 78% | 78% | 78% | 0.07 | 0.07 | 0.07 | 78% | 78% | 78% | 0 | 0 | 0 | 737 | 795 | 1,008 | 408,725 | 440,891 | 559,016 | -1 | -1 | -1 |
| 78% | 78% | 137 | 137 | 137 | 78% | 78% | 78% | 0.00 | 0.00 | 0.00 | 78% | 78% | 78% | 0 | 0 | 0 | 712 | 760 | 784 | 97,743 | 104,333 | 107,628 | -24 | -26 | -27 |
| 78% | 78% | 189 | 189 | 189 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 25,864 | 45,411 | 52,093 | 4,888,363 | 8,582,797 | 9,845,712 | -76,951 | -135,108 | -154,989 |
| 78% | 78% | 229 | 229 | 229 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 390 | 908 | 1,120 | 89,135 | 207,524 | 255,976 | -1,122 | -2,611 | -3,221 |
| 78% | 78% | 265 | 265 | 265 | 78% | 78% | 78% | 0.07 | 0.07 | 0.07 | 78% | 78% | 78% | -3 | -3 | -3 | 101 | 227 | 280 | 26,734 | 60,086 | 74,114 | -299 | -671 | -828 |
| 78% | 78% | 391 | 391 | 391 | 78% | 78% | 78% | 0.00 | 0.00 | 0.00 | 78% | 78% | 78% | 0 | 0 | 0 | 2,642 | 3,206 | 3,955 | 1,032,441 | 1,252,841 | 1,545,535 | 0 | 0 | 0 |
| 78% | 78% | 487 | 487 | 487 | 78% | 78% | 78% | 0.08 | 0.08 | 0.08 | 78% | 78% | 78% | -6 | -6 | -6 | 1,455 | 2,270 | 2,800 | 708,461 | 1,105,297 | 1,363,362 | -8,352 | -13,030 | -16,072 |
| 78% | 78% | 694 | 694 | 694 | 78% | 78% | 78% | 0.08 | 0.08 | 0.08 | 78% | 78% | 78% | 0 | 0 | 0 | 252 | 341 | 448 | 174,804 | 236,540 | 310,763 | 0 | 0 | 0 |
| 78% | 78% | 78 | 78 | 78 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | 0 | 0 | 0 | 5 | 7 | 7 | 391 | 547 | 547 | 0 | 0 | 0 |
| 78% | 78% | 262 | 262 | 262 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -4 | -4 | -4 | 29 | 28 | 34 | 7,590 | 7,329 | 8,899 | -122 | -118 | -144 |
| 78% | 78% | 255 | 255 | 255 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -3 | -3 | -3 | 10,144 | 10,215 | 13,440 | 2,581,703 | 2,599,773 | 3,420,553 | -29,005 | -29,208 | -38,429 |
| 78% | 78% | 297 | 297 | 297 | 78% | 78% | 78% | 0.08 | 0.08 | 0.08 | 78% | 78% | 78% | -27 | -27 | -27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78% | 78% | 106 | 106 | 106 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 4,030 | 7,945 | 14,560 | 427,502 | 842,805 | 1,544,523 | -5,644 | -11,126 | -20,390 |
| 44% | 44% | 389 | 389 | 389 | 44% | 44% | 44% | 0.17 | 0.17 | 0.17 | 100% | 100% | 100% | 0 | 0 | 0 | 871 | 871 | 871 | 338,779 | 338,779 | 338,779 | 0 | 0 | 0 |
| 44% | 44% | 228 | 228 | 228 | 44% | 44% | 44% | 0.22 | 0.22 | 0.22 | 100% | 100% | 100% | 0 | 0 | 0 | 247 | 247 | 247 | 56,284 | 56,284 | 56,284 | 0 | 0 | 0 |
| 44% | 44% | 330 | 330 | 330 | 44% | 44% | 44% | 0.33 | 0.33 | 0.33 | 100% | 100% | 100% | 0 | 0 | 0 | 168 | 168 | 168 | 55,409 | 55,409 | 55,409 | 0 | 0 | 0 |
| 44% | 44% | 4,148 | 4,148 | 4,148 | 44% | 44% | 44% | 4.11 | 4.11 | 4.11 | 100% | 100% | 100% | 0 | 0 | 0 | 26 | 26 | 26 | 107,845 | 107,845 | 107,845 | 0 | 0 | 0 |
| 44% | 44% | 6,743 | 6,743 | 6,743 | 44% | 44% | 44% | 6.89 | 6.89 | 6.89 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 6,743 | 6,743 | 6,743 | 0 | 0 | 0 |
| 44% | 44% | 5,266 | 5,266 | 5,266 | 44% | 44% | 44% | 3.99 | 3.99 | 3.99 | 100% | 100% | 100% | 0 | 0 | 0 | 6 | 6 | 6 | 31,599 | 31,599 | 31,599 | 0 | 0 | 0 |
| 44% | 44% | 1,263 | 1,263 | 1,263 | 44% | 44% | 44% | 1.26 | 1.26 | 1.26 | 100% | 100% | 100% | 0 | 0 | 0 | 3 | 3 | 3 | 3,788 | 3,788 | 3,788 | 0 | 0 | 0 |
| 44% | 44% | 7,905 | 7,905 | 7,905 | 44% | 44% | 44% | 8.12 | 8.12 | 8.12 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 7,905 | 7,905 | 7,905 | 0 | 0 | 0 |
| 44% | 44% | 79 | 79 | 79 | 44% | 44% | 44% | 0.09 | 0.09 | 0.09 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 79 | 79 | 79 | 0 | 0 | 0 |
| 44% | 44% | 5,159 | 5,159 | 5,159 | 44% | 44% | 44% | 0.28 | 0.28 | 0.28 | 100% | 100% | 100% | 0 | 0 | 0 | 15 | 15 | 15 | 77,381 | 77,381 | 77,381 | 0 | 0 | 0 |
| 44% | 44% | 2,218 | 2,218 | 2,218 | 44% | 44% | 44% | 0.25 | 0.25 | 0.25 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 2,218 | 2,218 | 2,218 | 0 | 0 | 0 |
| 44% | 44% | 3,511 | 3,511 | 3,511 | 44% | 44% | 44% | 0.40 | 0.40 | 0.40 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 3,511 | 3,511 | 3,511 | 0 | 0 | 0 |
| 44% | 44% | 159 | 159 | 159 | 44% | 44% | 44% | 0.12 | 0.12 | 0.12 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 159 | 159 | 159 | 0 | 0 | 0 |
| 83% | 83% | 1,176 | 1,176 | 1,176 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 286 | 286 | 286 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 1,354 | 1,354 | 1,354 | 83% | 83% | 83% | 0.18 | 0.18 | 0.18 | 100% | 100% | 100% | 0 | 0 | 0 | 174 | 173 | 172 | 235,531 | 234,177 | 232,824 | 0 | 0 | 0 |
| 83% | 83% | 1,354 | 1,354 | 1,354 | 83% | 83% | 83% | 0.18 | 0.18 | 0.18 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 1,414 | 1,414 | 1,414 | 83% | 83% | 83% | 0.17 | 0.17 | 0.17 | 100% | 100% | 100% | 0 | 0 | 0 | 34 | 34 | 34 | 48,091 | 48,091 | 48,091 | 0 | 0 | 0 |
| 83% | 83% | 79 | 79 | 79 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 167 | 167 | 166 | 13,146 | 13,146 | 13,067 | 0 | 0 | 0 |
| 83% | 83% | 3,225 | 3,225 | 3,225 | 83% | 83% | 83% | 0.34 | 0.34 | 0.34 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 3,225 | 3,225 | 3,225 | 0 | 0 | 0 |
| 83% | 83% | 6,115 | 6,115 | 6,115 | 83% | 83% | 83% | 0.65 | 0.65 | 0.65 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 2,257 | 2,257 | 2,257 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 144 | 142 | 141 | 324,974 | 320,460 | 318,204 | 0 | 0 | 0 |
| 83% | 83% | 1,065 | 1,065 | 1,065 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 357 | 354 | 352 | 380,109 | 376,915 | 374,785 | 0 | 0 | 0 |
| 83% | 83% | 398 | 398 | 398 | 83% | 83% | 83% | 0.05 | 0.05 | 0.05 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 225 | 225 | 225 | 83% | 83% | 83% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 496 | 496 | 496 | 83% | 83% | 83% | 0.05 | 0.05 | 0.05 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 798 | 798 | 798 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 798 | 798 | 798 | 0 | 0 | 0 |
| 83% | 83% | 2,304 | 2,304 | 2,304 | 83% | 83% | 83% | 0.25 | 0.25 | 0.25 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 298 | 298 | 298 | 83% | 83% | 83% | 0.03 | 0.03 | 0.03 | 100% | 100% | 100% | 0 | 0 | 0 | 104 | 104 | 103 | 30,971 | 30,971 | 30,673 | 0 | 0 | 0 |
| 83% | 83% | 481 | 481 | 481 | 83% | 83% | 83% | 0.07 | 0.07 | 0.07 | 100% | 100% | 100% | 0 | 0 | 0 | 83 | 83 | 83 | 39,893 | 39,893 | 39,893 | 0 | 0 | 0 |
| 83% | 83% | 286 | 286 | 286 | 83% | 83% | 83% | 0.02 | 0.02 | 0.02 | 100% | 100% | 100% | 0 | 0 | 0 | 318 | 317 | 316 | 90,859 | 90,573 | 90,287 | 0 | 0 | 0 |
| 83% | 83% | 430 | 430 | 430 | 83% | 83% | 83% | 0.03 | 0.03 | 0.03 | 100% | 100% | 100% | 0 | 0 | 0 | 94 | 94 | 94 | 40,443 | 40,443 | 40,443 | 0 | 0 | 0 |
| 83% | 83% | 310 | 310 | 310 | 83% | 83% | 83% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 521 | 521 | 521 | 83% | 83% | 83% | 0.17 | 0.17 | 0.17 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 935 | 935 | 935 | 83% | 83% | 83% | 0.30 | 0.30 | 0.30 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 935 | 935 | 935 | 0 | 0 | 0 |
| 83% | 83% | 310 | 310 | 310 | 83% | 83% | 83% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 521 | 521 | 521 | 83% | 83% | 83% | 0.17 | 0.17 | 0.17 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 935 | 935 | 935 | 83% | 83% | 83% | 0.30 | 0.30 | 0.30 | 100% | 100% | 100% | 0 | 0 | 0 | 3 | 3 | 3 | 2,805 | 2,805 | 2,805 | 0 | 0 | 0 |
| 83% | 83% | 6,980 | 6,980 | 6,980 | 83% | 83% | 83% | 2.56 | 2.56 | 2.56 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 553 | 553 | 553 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 1,327 | 1,327 | 1,327 | 83% | 83% | 83% | 0.44 | 0.44 | 0.44 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 2,780 | 2,780 | 2,780 | 83% | 83% | 83% | 0.69 | 0.69 | 0.69 | 100% | 100% | 100% | 0 | 0 | 0 | 2 | 2 | 2 | 5,560 | 5,560 | 5,560 | 0 | 0 | 0 |
| 83% | 83% | 1,405 | 1,405 | 1,405 | 83% | 83% | 83% | 1.04 | 1.04 | 1.04 | 100% | 100% | 100% | 0 | 0 | 0 | 269 | 268 | 267 | 377,906 | 376,501 | 375,096 | 0 | 0 | 0 |
| 83% | 83% | 897 | 897 | 897 | 83% | 83% | 83% | 0.70 | 0.70 | 0.70 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 203 | 203 | 203 | 83% | 83% | 83% | 0.04 | 0.04 | 0.04 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 319 | 319 | 319 | 83% | 83% | 83% | 0.06 | 0.06 | 0.06 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 424 | 424 | 424 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 513 | 513 | 513 | 83% | 83% | 83% | 0.10 | 0.10 | 0.10 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 763 | 763 | 763 | 83% | 83% | 83% | 0.14 | 0.14 | 0.14 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 1,306 | 1,306 | 1,306 | 83% | 83% | 83% | 0.24 | 0.24 | 0.24 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 1,411 | 1,411 | 1,411 | 83% | 83% | 83% | 0.27 | 0.27 | 0.27 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 11,370 | 11,370 | 11,370 | 83% | 83% | 83% | 2.07 | 2.07 | 2.07 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 15,487 | 15,487 | 15,487 | 83% | 83% | 83% | 2.82 | 2.82 | 2.82 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 19,783 | 19,783 | 19,783 | 83% | 83% | 83% | 3.61 | 3.61 | 3.61 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 23,901 | 23,901 | 23,901 | 83% | 83% | 83% | 4.36 | 4.36 | 4.36 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 2,189 | 2,189 | 2,189 | 83% | 83% | 83% | 1.00 | 1.00 | 1.00 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 3,284 | 3,284 | 3,284 | 83% | 83% | 83% | 1.50 | 1.50 | 1.50 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 7,754 | 7,754 | 7,754 | 83% | 83% | 83% | 3.54 | 3.54 | 3.54 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 2,163 | 2,163 | 2,163 | 83% | 83% | 83% | 0.44 | 0.44 | 0.44 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 8,439 | 8,439 | 8,439 | 83% | 83% | 83% | 1.28 | 1.28 | 1.28 | 100% | 100% | 100% | 325 | 325 | 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83% | 83% | 4,348 | 4,348 | 4,348 | 83% | 83% | 83% | 0.00 | 0.00 | 0.00 | 100% | 100% | 100% | 0 | 0 | 0 | 507 | 505 | 504 | 2,204,568 | 2,195,871 | 2,191,523 | 0 | 0 | 0 |
| 81% | 81% | 9,217 | 9,217 | 9,217 | 81% | 81% | 81% | 0.91 | 0.91 | 0.91 | 100% | 100% | 100% | 0 | 0 | 0 | 1,505 | 1,500 | 1,495 | 13,871,556 | 13,825,472 | 13,779,387 | 0 | 0 | 0 |
| 78% | 78% | 65 | 65 | 65 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 415 | 413 | 412 | 27,006 | 26,876 | 26,811 | -436 | -433 | -432 |
| 78% | 78% | 121 | 121 | 121 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -2 | -2 | -2 | 66 | 66 | 65 | 7,990 | 7,990 | 7,869 | -129 | -129 | -127 |
| 78% | 78% | 305 | 305 | 305 | 78% | 78% | 78% | 0.08 | 0.08 | 0.08 | 78% | 78% | 78% | -5 | -5 | -5 | 360 | 359 | 357 | 109,700 | 109,395 | 108,786 | -1,769 | -1,764 | -1,755 |
| 78% | 78% | 1,720 | 1,720 | 1,720 | 78% | 78% | 78% | 0.43 | 0.43 | 0.43 | 78% | 78% | 78% | -28 | -28 | -28 | 1 | 1 | 1 | 1,720 | 1,720 | 1,720 | -28 | -28 | -28 |
| 78% | 78% | 152 | 152 | 152 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -2 | -2 | -2 | 1,714 | 1,708 | 1,702 | 261,074 | 260,160 | 259,246 | -4,211 | -4,196 | -4,181 |
| 78% | 78% | 200 | 200 | 200 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 349 | 348 | 346 | 69,803 | 69,603 | 69,203 | -1,126 | -1,123 | -1,116 |
| 78% | 78% | 178 | 178 | 178 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 904 | 900 | 897 | 161,085 | 160,372 | 159,837 | -2,598 | -2,587 | -2,578 |
| 78% | 78% | 138 | 138 | 138 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -2 | -2 | -2 | 49 | 49 | 49 | 6,770 | 6,770 | 6,770 | -109 | -109 | -109 |
| 78% | 78% | 321 | 321 | 321 | 78% | 78% | 78% | 0.08 | 0.08 | 0.08 | 78% | 78% | 78% | -5 | -5 | -5 | 188 | 187 | 187 | 60,348 | 60,027 | 60,027 | -973 | -968 | -968 |
| 78% | 78% | 155 | 155 | 155 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -2 | -2 | -2 | 70 | 70 | 70 | 10,840 | 10,840 | 10,840 | -175 | -175 | -175 |
| 78% | 78% | 139 | 139 | 139 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -2 | -2 | -2 | 419 | 417 | 416 | 58,069 | 57,792 | 57,654 | -937 | -932 | -930 |
| 78% | 78% | 93 | 93 | 93 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -2 | -2 | -2 | 65 | 64 | 64 | 6,062 | 5,969 | 5,969 | -98 | -96 | -96 |
| 78% | 78% | 201 | 201 | 201 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 442 | 441 | 439 | 88,917 | 88,716 | 88,314 | -1,434 | -1,431 | -1,424 |
| 78% | 78% | 511 | 511 | 511 | 78% | 78% | 78% | 0.12 | 0.12 | 0.12 | 78% | 78% | 78% | -8 | -8 | -8 | 55 | 55 | 55 | 28,122 | 28,122 | 28,122 | -454 | -454 | -454 |
| 78% | 78% | 85 | 85 | 85 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 69 | 68 | 68 | 5,899 | 5,813 | 5,813 | -95 | -94 | -94 |
| 78% | 78% | 225 | 225 | 225 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -4 | -4 | -4 | 16 | 16 | 16 | 3,600 | 3,600 | 3,600 | -58 | -58 | -58 |
| 78% | 78% | 98 | 98 | 98 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -2 | -2 | -2 | 758 | 755 | 753 | 74,455 | 74,160 | 73,964 | -1,201 | -1,196 | -1,193 |
| 78% | 78% | 239 | 239 | 239 | 78% | 78% | 78% | 0.06 | 0.06 | 0.06 | 78% | 78% | 78% | -4 | -4 | -4 | 14 | 14 | 14 | 3,344 | 3,344 | 3,344 | -54 | -54 | -54 |
| 78% | 78% | 241 | 241 | 241 | 78% | 78% | 78% | 0.06 | 0.06 | 0.06 | 78% | 78% | 78% | -4 | -4 | -4 | 1 | 1 | 1 | 241 | 241 | 241 | -4 | -4 | -4 |
| 78% | 78% | 139 | 139 | 139 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -2 | -2 | -2 | 25 | 25 | 25 | 3,484 | 3,484 | 3,484 | -56 | -56 | -56 |
| 78% | 78% | 139 | 139 | 139 | 78% | 78% | 78% | 0.03 | 0.03 | 0.03 | 78% | 78% | 78% | -2 | -2 | -2 | 18 | 18 | 18 | 2,509 | 2,509 | 2,509 | -40 | -40 | -40 |
| 78% | 78% | 174 | 174 | 174 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 23 | 23 | 23 | 3,996 | 3,996 | 3,996 | -64 | -64 | -64 |
| 78% | 78% | 90 | 90 | 90 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 1 | 1 | 1 | 90 | 90 | 90 | -1 | -1 | -1 |
| 78% | 78% | 98 | 98 | 98 | 78% | 78% | 78% | 0.01 | 0.01 | 0.01 | 78% | 78% | 78% | -1 | -1 | -1 | 1 | 1 | 1 | 98 | 98 | 98 | -1 | -1 | -1 |
| 78% | 78% | 98 | 98 | 98 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -2 | -2 | -2 | 1 | 1 | 1 | 98 | 98 | 98 | -2 | -2 | -2 |
| 78% | 78% | 98 | 98 | 98 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -2 | -2 | -2 | 1 | 1 | 1 | 98 | 98 | 98 | -2 | -2 | -2 |
| 78% | 78% | 177 | 177 | 177 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 1 | 1 | 1 | 177 | 177 | 177 | -3 | -3 | -3 |
| 78% | 78% | 212 | 212 | 212 | 78% | 78% | 78% | 0.05 | 0.05 | 0.05 | 78% | 78% | 78% | -3 | -3 | -3 | 1 | 1 | 1 | 212 | 212 | 212 | -3 | -3 | -3 |
| 78% | 78% | 90 | 90 | 90 | 78% | 78% | 78% | 0.02 | 0.02 | 0.02 | 78% | 78% | 78% | -1 | -1 | -1 | 1 | 1 | 1 | 90 | 90 | 90 | -1 | -1 | -1 |
| 78% | 78% | 152 | 152 | 152 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -2 | -2 | -2 | 110 | 109 | 109 | 16,730 | 16,578 | 16,578 | -270 | -267 | -267 |
| 78% | 78% | 372 | 372 | 372 | 78% | 78% | 78% | 0.09 | 0.09 | 0.09 | 78% | 78% | 78% | -6 | -6 | -6 | 530 | 528 | 526 | 197,142 | 196,398 | 195,654 | -3,180 | -3,168 | -3,156 |
| 78% | 78% | 346 | 346 | 346 | 78% | 78% | 78% | 0.04 | 0.04 | 0.04 | 78% | 78% | 78% | -2 | -2 | -2 | 1 | 1 | 1 | 346 | 346 | 346 | -2 | -2 | -2 |
| 78% | 78% | 346 | 346 | 346 | 78% | 78% | 78% | 0.91 | 0.91 | 0.91 | 78% | 78% | 78% | -59 | -59 | -59 | 116 | 116 | 116 | 40,083 | 40,083 | 40,083 | -6,854 | -6,854 | -6,854 |
| 83% | 83% | 1,344 | 1,344 | 1,344 | 83% | 83% | 83% | 0.33 | 0.33 | 0.33 | 100% | 100% | 100% | 0 | 0 | 0 | 4 | 4 | 4 | 5,375 | 5,375 | 5,375 | 0 | 0 | 0 |
| 83% | 83% | 1,344 | 1,344 | 1,344 | 83% | 83% | 83% | 0.33 | 0.33 | 0.33 | 100% | 100% | 100% | 0 | 0 | 0 | 3 | 3 | 3 | 4,031 | 4,031 | 4,031 | 0 | 0 | 0 |
| 83% | 83% | 1,344 | 1,344 | 1,344 | 83% | 83% | 83% | 0.33 | 0.33 | 0.33 | 100% | 100% | 100% | 0 | 0 | 0 | 3 | 3 | 3 | 4,031 | 4,031 | 4,031 | 0 | 0 | 0 |
| 83% | 83% | 1,344 | 1,344 | 1,344 | 83% | 83% | 83% | 0.33 | 0.33 | 0.33 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 1,344 | 1,344 | 1,344 | 0 | 0 | 0 |
| 83% | 83% | 322 | 322 | 322 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 322 | 322 | 322 | 0 | 0 | 0 |
| 83% | 83% | 322 | 322 | 322 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 1 | 1 | 1 | 322 | 322 | 322 | 0 | 0 | 0 |
| 83% | 83% | 322 | 322 | 322 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 2 | 2 | 2 | 645 | 645 | 645 | 0 | 0 | 0 |
| 83% | 83% | 322 | 322 | 322 | 83% | 83% | 83% | 0.08 | 0.08 | 0.08 | 100% | 100% | 100% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 181 | 181 | 181 | 13 | 13 | 13 | 0 | 0 | 0 | 2,358 | 2,358 | 2,358 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 287 | 287 | 287 | 2 | 2 | 2 | 0 | 0 | 0 | 573 | 573 | 573 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 343 | 343 | 343 | 36 | 36 | 36 | 0 | 0 | 0 | 12,360 | 12,360 | 12,360 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 147 | 147 | 147 | 3 | 3 | 3 | 0 | 0 | 0 | 442 | 442 | 442 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 133 | 133 | 133 | 51 | 51 | 51 | 0 | 0 | 0 | 6,781 | 6,781 | 6,781 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 138 | 138 | 138 | 23 | 23 | 23 | 0 | 0 | 0 | 3,166 | 3,166 | 3,166 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 997 | 997 | 997 | 1 | 1 | 1 | 0 | 0 | 0 | 997 | 997 | 997 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 80% | 80% | 80% | 201 | 201 | 201 | 5 | 5 | 5 | 0 | 0 | 0 | 1,004 | 1,004 | 1,004 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 1,510 | 1,510 | 1,510 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 1,628 | 1,628 | 1,628 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 134 | 134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 455 | 455 | 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 68 | 68 | 68 | 505 | 505 | 505 | 0 | 0 | 0 | 34,088 | 34,088 | 34,088 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101% | 101% | 0 | 0 | 0 | 101% | 101% | 101% | 0.00 | 0.00 | 0.00 | 90% | 90% | 90% | 423 | 423 | 423 | 1,866 | 1,866 | 1,866 | 0 | 0 | 0 | 789,318 | 789,318 | 789,318 |
| | | | | | | | | | | | | | | | | | | | | **32,716,314** | **32,543,936** | **32,372,144** | **1,139,309** | **1,135,436** | **1,131,575** |
| 75% | 75% | 32,716,314 | 32,543,936 | 32,372,144 | 75% | 75% | 75% | 8,179.08 | 8,135.98 | 8,093.04 | 74% | 74% | 74% | 0 | 0 | 0 | 1 | 1 | 1 | 32,716,314 | 32,543,936 | 32,372,144 | 0 | 0 | 0 |
| 106% | 106% | 0 | 0 | 0 | 106% | 106% | 106% | 0.00 | 0.00 | 0.00 | 74% | 74% | 74% | 1,139,309 | 1,135,436 | 1,131,575 | 1 | 1 | 1 | 0 | 0 | 0 | 1,139,309 | 1,135,436 | 1,131,575 |
| | | | | | | | | | | | | | | | | | | | | **17,254,350** | **17,195,685** | **17,137,220** | **135,089** | **134,629** | **134,172** |
| 96% | 96% | 17,254,350 | 17,195,685 | 17,137,220 | 96% | 96% | 96% | 4,313.59 | 4,298.92 | 4,284.30 | 95% | 95% | 95% | 0 | 0 | 0 | 1 | 1 | 1 | 17,254,350 | 17,195,685 | 17,137,220 | 0 | 0 | 0 |
| 96% | 96% | 0 | 0 | 0 | 96% | 96% | 96% | 0.00 | 0.00 | 0.00 | 95% | 95% | 95% | 135,089 | 134,629 | 134,172 | 1 | 1 | 1 | 0 | 0 | 0 | 135,089 | 134,629 | 134,172 |
| | | | | | | | | | | | | | | | | | | | | **17,480,382** | **17,480,382** | **17,480,382** | **0** | **0** | **0** |
| 73% | 73% | 17,480,382 | 17,480,382 | 17,480,382 | 73% | 73% | 73% | 4,370.10 | 4,370.10 | 4,370.10 | 72% | 72% | 72% | 0 | 0 | 0 | 1 | 1 | 1 | 17,480,382 | 17,480,382 | 17,480,382 | 0 | 0 | 0 |

| | Electric NTG Components | | | Gas NTG Components | | | kWh NTG | | | kW NTG | | | Therm NTG | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR | Part SO | Non-Part SO | FR | Part SO | Non-Part SO | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 | PY7 | PY8 | PY9 |
| **Appliance Recycling** | | | | | | | | | | | | | | | |
| Recycled Refrigerator | 47.0% | 3.0% | 0.0% | 0.0% | 0.0% | 0.0% | 56.0% | 56.0% | 56.0% | 56.0% | 56.0% | 56.0% | 100.0% | 100.0% | 100.0% |
| Recycled Freezer | 39.0% | 1.0% | 0.0% | 0.0% | 0.0% | 0.0% | 62.0% | 62.0% | 62.0% | 62.0% | 62.0% | 62.0% | 100.0% | 100.0% | 100.0% |
| **Behavior Modification** | | | | | | | | | | | | | | | |
| Behavior Modification Group 1 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| Behavior Modification Group 2 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| Behavior Modification Group 3 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| **ENERGY STAR New Homes** | | | | | | | | | | | | | | | |
| Rated Home - gas heat only, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| Rated Home - gas heat, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| Rated Home - electric heat, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - gas heat only, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - gas heat, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - electric heat, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - gas heat only, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - gas heat, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Home - electric heat, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| Rated Multifamily Unit - gas heat only, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| Rated Multifamily Unit - gas heat, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| Rated Multifamily Unit - electric heat, HERS <=60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - gas heat only, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - gas heat, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - electric heat, HERS 41-60 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - gas heat only, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - gas heat, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| E-Star Multifamily Unit - electric heat, HERS <=40 | N/A | N/A | N/A | N/A | N/A | N/A | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| **HEP** | | | | | | | | | | | | | | | |
| CFL 43w to 14w - Post-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| CFL 53w to 19w - Post-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| CFL 72w to 23w - Post-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| CFL 60w to 14w globe - Pre-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| CFL 60w to 14w candelabra - Pre-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| CFL 60w to 14w reflector - Pre-EISA | 12.0% | 9.0% | 0.0% | 12.0% | 2.5% | 0.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 97.0% | 90.5% | 90.5% | 90.5% |
| Showerhead 1.75 gpm - Electric DHW | 4.0% | 9.0% | 0.0% | 21.0% | 2.5% | 0.0% | 105.0% | 105.0% | 105.0% | 105.0% | 105.0% | 105.0% | 81.5% | 81.5% | 81.5% |
| Faucet Aerator - Electric DHW | 23.0% | 9.0% | 0.0% | 28.0% | 2.5% | 0.0% | 86.0% | 86.0% | 86.0% | 86.0% | 86.0% | 86.0% | 74.5% | 74.5% | 74.5% |
| Water Heater Temp Adjustment - Electric DHW | 0.0% | 9.0% | 0.0% | 0.0% | 2.5% | 0.0% | 109.0% | 109.0% | 109.0% | 109.0% | 109.0% | 109.0% | 102.5% | 102.5% | 102.5% |
| Showerhead 1.75 gpm - Gas DHW | 4.0% | 9.0% | 0.0% | 21.0% | 2.5% | 0.0% | 105.0% | 105.0% | 105.0% | 105.0% | 105.0% | 105.0% | 81.5% | 81.5% | 81.5% |
| Faucet Aerator - Gas DHW | 23.0% | 9.0% | 0.0% | 28.0% | 2.5% | 0.0% | 86.0% | 86.0% | 86.0% | 86.0% | 86.0% | 86.0% | 74.5% | 74.5% | 74.5% |
| Water Heater Temp Adjustment - Gas DHW | 0.0% | 9.0% | 0.0% | 0.0% | 2.5% | 0.0% | 109.0% | 109.0% | 109.0% | 109.0% | 109.0% | 109.0% | 102.5% | 102.5% | 102.5% |
| Air Sealing - Electric Heat | 21.0% | 9.0% | 0.0% | 20.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 82.5% | 82.5% | 82.5% |
| Ceiling Insulation (R-11 to R-49) - Electric Heat | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Ceiling Insulation (R-19 to R-49) - Electric Heat | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| R-11 Wall Insulation - Electric Heat | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Rim Joist Insulation - Electric Heat | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Crawl Space Insulation - Electric Heat | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Air Sealing - Gas Heat Only | 21.0% | 9.0% | 0.0% | 20.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 82.5% | 82.5% | 82.5% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat Only | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat Only | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| R-11 Wall Insulation - Gas Heat Only | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Rim Joist Insulation - Gas Heat Only | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Crawl Space Insulation - Gas Heat Only | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Air Sealing - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 20.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 82.5% | 82.5% | 82.5% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| R-11 Wall Insulation - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Rim Joist Insulation - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Crawl Space Insulation - Gas Heat w/ AC | 21.0% | 9.0% | 0.0% | 23.0% | 2.5% | 0.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 88.0% | 79.5% | 79.5% | 79.5% |
| Programmable Thermostat - Electric Heat | 13.0% | 9.0% | 0.0% | 13.0% | 2.5% | 0.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 89.5% | 89.5% | 89.5% |
| Programmable Thermostat - Gas Heat | 13.0% | 9.0% | 0.0% | 13.0% | 2.5% | 0.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 89.5% | 89.5% | 89.5% |
| **HVAC** | | | | | | | | | | | | | | | |
| CAC 14.5-14.9 SEER | 57.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 100.0% | 100.0% | 100.0% |
| CAC 15.0-15.9 SEER | 57.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 100.0% | 100.0% | 100.0% |
| CAC 16.0+ SEER | 50.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 72.1% | 72.1% | 72.1% | 72.1% | 72.1% | 72.1% | 100.0% | 100.0% | 100.0% |
| CAC ER 14.5-14.9 SEER | 69.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 100.0% | 100.0% | 100.0% |
| CAC ER 15.0-15.9 SEER | 69.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 100.0% | 100.0% | 100.0% |
| CAC ER 16.0+ SEER | 44.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 78.1% | 78.1% | 78.1% | 78.1% | 78.1% | 78.1% | 100.0% | 100.0% | 100.0% |
| ASHP 14.5-14.9 SEER | 57.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 100.0% | 100.0% | 100.0% |
| ASHP 15.0-15.9 SEER | 57.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 65.1% | 100.0% | 100.0% | 100.0% |
| ASHP 16.0+ SEER | 50.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 72.1% | 72.1% | 72.1% | 72.1% | 72.1% | 72.1% | 100.0% | 100.0% | 100.0% |
| ASHP ER 14.5-14.9 SEER | 69.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 100.0% | 100.0% | 100.0% |
| ASHP ER 15.0-15.9 SEER | 69.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 53.1% | 100.0% | 100.0% | 100.0% |
| ASHP ER 16.0+ SEER | 44.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 78.1% | 78.1% | 78.1% | 78.1% | 78.1% | 78.1% | 100.0% | 100.0% | 100.0% |
| BPM Blower Motor | 56.0% | 0.1% | 22.0% | 0.0% | 0.0% | 0.0% | 66.1% | 66.1% | 66.1% | 66.1% | 66.1% | 66.1% | 100.0% | 100.0% | 100.0% |
| **Lighting** | | | | | | | | | | | | | | | |
| Standard CFL | 53.0% | 0.0% | 0.0% | 53.0% | 0.0% | 0.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% |
| Standard CFL PY7 Carryover to PY8 | 53.0% | 0.0% | 0.0% | 53.0% | 0.0% | 0.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% |
| Standard CFL PY7 Carryover to PY9 | 53.0% | 0.0% | 0.0% | 53.0% | 0.0% | 0.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% | 47.0% |
| **Moderate Income** | | | | | | | | | | | | | | | |
| CFL 43w to 14w - Post-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CFL 53w to 19w - Post-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CFL 72w to 23w - Post-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CFL 60w to 14w globe - Pre-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CFL 60w to 14w candelabra - Pre-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CFL 60w to 14w reflector - Pre-EISA | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Showerhead 1.75 gpm - Electric DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Faucet Aerator - Electric DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Water Heater Temp Adjustment - Electric DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Showerhead 1.75 gpm - Gas DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Faucet Aerator - Gas DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Water Heater Temp Adjustment - Gas DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Air Sealing - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-11 to R-49) - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-19 to R-49) - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| R-11 Wall Insulation - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rim Joist Insulation - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Crawl Space Insulation - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Basement Wall Insulation - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Air Sealing - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| R-11 Wall Insulation - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rim Joist Insulation - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Crawl Space Insulation - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Basement Wall Insulation - Gas Heat Only | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Air Sealing - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-11 to R-49) - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Ceiling Insulation (R-19 to R-49) - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| R-11 Wall Insulation - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Rim Joist Insulation - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Crawl Space Insulation - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Basement Wall Insulation - Gas Heat w/ AC | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| CAC 14.5+ SEER | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| ER CAC 14.5+ | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| ASHP 14.5+ SEER | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| ER ASHP 14.5+ SEER (Replace ASHP) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| ER ASHP 14.5+ SEER (Replace Resistance) | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Programmable Thermostat - Electric Heat Pump | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Furnace 95% AFUE - Gas Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Furnace ER 95% AFUE - Gas Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Boiler 90% AFUE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Boiler ER 90% AFUE | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Programmable Thermostat - Gas Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| **Multifamily** | | | | | | | | | | | | | | | |
| In-Unit Integral CFL 43w to 14w - Post-EISA | 19.0% | 0.0% | 0.0% | 19.0% | 0.0% | 0.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% |
| In-Unit Integral CFL 53w to 19w - Post-EISA | 19.0% | 0.0% | 0.0% | 19.0% | 0.0% | 0.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% |
| In-Unit Integral CFL 72w to 23w - Post-EISA | 19.0% | 0.0% | 0.0% | 19.0% | 0.0% | 0.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% | 81.0% |
| In-Unit Showerhead - Electric DHW | 7.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 93.0% | 93.0% | 93.0% | 93.0% | 93.0% | 93.0% | 100.0% | 100.0% | 100.0% |
| In-Unit Faucet Aerator - Electric DHW | 6.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 94.0% | 94.0% | 94.0% | 94.0% | 94.0% | 94.0% | 100.0% | 100.0% | 100.0% |
| In-Unit Showerhead 1.75 gpm - Gas DHW | 0.0% | 0.0% | 0.0% | 7.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 93.0% | 93.0% | 93.0% |
| In-Unit Faucet Aerator - Gas DHW | 0.0% | 0.0% | 0.0% | 6.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 94.0% | 94.0% | 94.0% |
| In-Unit Programmable Thermostat - Electric Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| In-Unit Programmable Thermostat - Gas Heat | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| **School Kits** | | | | | | | | | | | | | | | |
| CFL 43w to 14w - Post-EISA | 22.0% | 7.1% | 0.0% | 0.0% | 0.0% | 0.0% | 85.1% | 85.1% | 85.1% | 85.1% | 85.1% | 85.1% | 100.0% | 100.0% | 100.0% |
| Showerhead 1.75 gpm - Electric DHW | 13.0% | 7.1% | 0.0% | 0.0% | 0.0% | 0.0% | 94.1% | 94.1% | 94.1% | 94.1% | 94.1% | 94.1% | 100.0% | 100.0% | 100.0% |
| Faucet Aerator - Electric DHW | 6.7% | 7.1% | 0.0% | 0.0% | 0.0% | 0.0% | 100.4% | 100.4% | 100.4% | 100.4% | 100.4% | 100.4% | 100.0% | 100.0% | 100.0% |
| Water Heater Temp Adjustment - Electric DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Showerhead 1.75 gpm - Gas DHW | 0.0% | 0.0% | 0.0% | 13.0% | 0.0% | 7.6% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 94.6% | 94.6% | 94.6% |
| Faucet Aerator - Gas DHW | 0.0% | 0.0% | 0.0% | 6.7% | 0.0% | 7.6% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.9% | 100.9% | 100.9% |
| Water Heater Temp Adjustment - Gas DHW | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| **C&I Standard** | | | | | | | | | | | | | | | |
| Highbay Fixture Replacement Option | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| T8 U-tube Lamps and Ballasts Replacing T12 U-bend Lamps and Ballasts | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| New, high performance T8 (32W) lamps and ballasts replacing existing T12 lamps and ballasts | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Reduced wattage T8 (28W) lamps and ballasts replacing existing T12 lamps and ballasts | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Ultra-low wattage T8 (25W) lamps and ballasts replacing existing T12 lamps and ballasts | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| T5 or reduced wattage T8 relamp and reballast upgrading an existing 32W T8 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| 2-foot T8 lamps (17W) and ballasts replacing 2-foot T12 lamps/ballasts OR replacing 4-foot T12 U-tube lamps/ballasts | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| New high performance T8 fixture (with or without a reflector) replacing an existing T12 fixture | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| New T5 fluorescent replacing an existing T12 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| High efficiency T5 or T8 fluorescent fixtures replacing existing T12 recessed or surface mounted troffer (prismatic, parabolic, or semi-indirect fixture) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Fixture mounted occupancy sensor for fluorescent or LED systems | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Remote mounted occupancy sensors using ultrasonic or passive infrared technology | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Wall switch plate mounted occupancy sensors using ultrasonic or passive infrared technology | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Low wattage occupancy sensors or daylight dimming controls | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| LED lamp | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| LED recessed down fixture (18W or less per fixture), replacing 60-100W incandescent lamp | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Hard wired CFL fixtures replacing existing incandescent fixtures | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Exterior Lighting | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Permanent Fixture/Lamp Removal | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Glass Door LED Cooler/Freezer Lighting | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Glass Door LED cooler/Freezer Lighting Controls/Sensors | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Fixture mounted occupancy sensor or daylighting controls for HID systems | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| LED, T-1 or electroluminescent exit sign | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| LED Exit Sign Retro-fit Kit 6W or less | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Interior LED Lamps and Fixtures | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Air Conditioner Tune-Up | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Unitary and Split AC Systems and Air Source Heat Pumps (up to 65,000 Btuh input, minimum 15 SEER) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Unitary and Split AC Systems and Air Source Heat Pumps (65,000 to 134,999 Btuh input, minimum 12 EER) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Unitary and Split AC Systems and Air Source Heat Pumps (240,000 to 759,999 Btuh input, minimum 10.8 EER/12.0 IPLV) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Unitary and Split AC Systems and Air Source Heat Pumps (760,000 or more Btuh input, minimum 10.2 EER/11.0 IPLV) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Air-Cooled Chillers (up to 150 tons) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Unitary and Split AC Systems and Air Source Heat Pumps 135,000 to 239,999 Btuh input, greater than 12.0 EER) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Air-Cooled Chillers (150 tons and larger) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| PTAC/PTHP less than 65kBtuh input, new installation | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Variable Frequency Drives on HVAC Motors | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Tanked Water Heater (electric) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Tankless Water Heaters (electric) | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| PTAC/PTHP less than 65,000 Btuh input, replacing an existing unit | 57.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 44.3% | 100.0% | 100.0% | 100.0% |
| Beverage Machine Control | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Snack Machine Control | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Automatic Door Closer for Walk-in Freezer/Cooler (back access door) or Walk-in Cooler Door, or Walk-in Freezer Door | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Auto Closer for Display Case Door: Reach-in Cooler Door or Reach-in Freezer Door | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Strip Curtain on Walk-in Coolers or Freezers | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Night Curtain for Open Cooler | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Glass Door Freezer (31-50 cu ft) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Glass Door Freezer (51 cu ft or more) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Anti Sweat Heater Control, Freezer | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Anti Sweat Heater Control, Cooler | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Evaporator Fan Controls | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Solid Door Freezer (up to 15 cu ft) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Solid Door Freezer (15-30 cu ft) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Solid Door Freezer (31-50 cu ft) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Solid Door Freezer (51 cu ft or more) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| EC Motor for Walk-in Cooler | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| EC Motor for Walk-in Freezer | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| EC Motor for Reach-In Cooler | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| EC Motor for Reach-In Freezer | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency High Speed Exhaust/Ventilation Fans (24-35 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency High Speed Exhaust/Ventilation Fans (36-47 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency High Speed Exhaust/Ventilation Fans (48-71 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Circulation Fans (24-35 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Circulation Fans (36-47 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Circulation Fans (48-71 in diameter) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High Volume Low Speed (HVLS) Fans | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Equipment Heater Timers | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Live Stock Waterer (electrically heated) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Live Stock Waterer (energy free or ground source heat) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Guest Room Energy Management (GREM) Controls on PTAC System | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Guest Room Energy Management (GREM) Controls on PTHP System | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (101-200 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (201-300 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (301-400 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (401-500 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (501-1000 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (1001-1500 lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| High Efficiency Ice Maker (1501 and up lbs) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Electric Steamer (3 pans) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Electric Steamer (4 pans) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Electric Steamer (5 pans) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Electric Steamer (6 pans) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Hot Holding Cabinet (half size) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Hot Holding Cabinet (three-quarter size) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Hot Holding Cabinet (full size) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Electric Griddle | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Dishwasher, High Temp (Includes Booster Heater) | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Refrigeration Tune-up | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| VFD | 20.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 81.3% | 81.3% | 81.3% | 81.3% | 81.3% | 81.3% | 100.0% | 100.0% | 100.0% |
| GE UltraMax Ballast 232-MAX/L/Ultra | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| GE UltraMax Ballast 332-MAX/L/Ultra | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| GE UltraMax Ballast 432-MAX/L/Ultra | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| GE Evolux Starcoat F32T8 (case of 36) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 13W EcoSave™SpringLight 1ES13 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 20W SpringLight 1ES20 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 23w EcoSave SpringLight 1ES23 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Earthmate 15w Spiral E15S2AK | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Earthmate 20w Spiral E20S2AK | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 14w G25 Globe (2G2514) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Maxlite 25w MicroMax MLM25SWW | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Harmony 20w Lightwiz Spiral(H20027S) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Harmony Light 25w/MaxLite 25w | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Feit 23w PAR-38 EcoBulb Flood (ES723PAR38T) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| GE 15w R30 Soft White Dimmable Flood (FLE 15/2/DR30) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| GE 15w R30 Soft White Flood (FLE 15/2/R30/L) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 14w R30 Reflector 803014 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Cree LR6 Downlight Module LR6-27K | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Cree CR6 Downlight Retrofit | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Phillips 12w Endura LED A19 912E26A60 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Philips 12w Endura LED TM Par30 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Philips 17w EnduraLED PAR30 | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Phillips 10w Endura LED A19 L Prize | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Sylvania 8W UltraLED PAR20 (LED8PAR20/DIM/830/NFL20) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 14w 25 Deg Par30 LED14E26P3030KNFL | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 14w 40 Deg Beam Angle PAR30 LED | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 17w 25 Deg Par38 LED17E26P3830KNFL | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 17w 40 Deg Par38 LED17E26P3830KNFL | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP 9W LED PAR20 (LED9E26P2027KFL) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP Exit Sign Retrofit Set 2071w | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| TCP Red LED Exit Sign with Battery (2274SD) | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Hubball White Wall Switch 120/277 1WS-2P-3P-W | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Hubbell Ivory Motion-Sensing Wall Switch 120/277 1ws-2P-3P-I | 26.0% | 3.0% | 1.0% | 26.0% | 3.0% | 1.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% | 78.0% |
| Vending Miser VM150 | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Vending Miser VM151 | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Vending Miser EZ VM170 | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Vending Miser EZ VM171 | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| SnackMizer (Primary with Sensor) SM150 | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| SnackMizer SM151-Secondary W/cable | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| SnackMizer (Primary with Sensor) SM170 Machine Mount | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| SnackMizer (Secondary W/Cable) SM171 Machine Mount | 18.0% | 0.3% | 1.0% | 0.0% | 0.0% | 0.0% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 83.3% | 100.0% | 100.0% | 100.0% |
| Gas Boiler Tune-Up | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| Gas Boiler Replacement (AFUE 85% min) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| Gas Boiler Replacement (Thermal Eff 90%) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| Gas Furnace Replacement (92% AFUE) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| Gas Furnace Replacement (94% AFUE) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| High Efficiency Tankless Water Heater (gas) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| High Efficiency Condensing Tanked Water Heater (gas) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| High Efficiency Tanked Water Heater (gas) | 0.0% | 0.0% | 1.0% | 40.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 80.0% | 80.0% | 80.0% |
| Gas Steamer (5 pans) | 0.0% | 0.0% | 1.0% | 30.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Gas Steamer (6 pans) | 0.0% | 0.0% | 1.0% | 30.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Gas Griddle | 0.0% | 0.0% | 1.0% | 30.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Gas Fryer | 0.0% | 0.0% | 1.0% | 30.0% | 20.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Steam Trap Survey (HVAC) | 0.0% | 0.0% | 1.0% | 10.0% | 0.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Steam Trap Repair / Replacement (HVAC) | 0.0% | 0.0% | 1.0% | 10.0% | 0.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Steam Trap Survey (Industrial Process or Multi-use HVAC/Process Boilers over 7,750 hours per year operations) | 0.0% | 0.0% | 1.0% | 10.0% | 0.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| Steam Trap Repair / Replacement (Industrial Process or Multi-use HVAC/Process Boilers over 7,750 hours per year operations) | 0.0% | 0.0% | 1.0% | 10.0% | 0.0% | 0.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 101.0% | 90.0% | 90.0% | 90.0% |
| **C&I Custom** | | | | | | | | | | | | | | | |
| Custom Electric (Includes New Const.) | 26.0% | 0.1% | 1.0% | 26.0% | 0.1% | 0.0% | 75.1% | 75.1% | 75.1% | 75.1% | 75.1% | 75.1% | 74.1% | 74.1% | 74.1% |
| Custom Gas (Includes New Const.) | 26.0% | 0.1% | 32.0% | 26.0% | 0.1% | 0.0% | 108.1% | 108.1% | 108.1% | 108.1% | 108.1% | 108.1% | 74.1% | 74.1% | 74.1% |
| **C&I Retro-commissioning** | | | | | | | | | | | | | | | |
| Retro-commissioning Electric | 15.0% | 10.0% | 1.0% | 15.0% | 10.0% | 0.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 95.0% | 95.0% | 95.0% |
| Retro-commissioning Gas | 15.0% | 10.0% | 1.0% | 15.0% | 10.0% | 0.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 96.0% | 95.0% | 95.0% | 95.0% |
| **Large C&I Pilot** | | | | | | | | | | | | | | | |
| Large C&I Pilot | 28.0% | 0.0% | 1.0% | 28.0% | 0.0% | 0.0% | 73.0% | 73.0% | 73.0% | 73.0% | 73.0% | 73.0% | 72.0% | 72.0% | 72.0% |

## KITS

| CFL - SELF INSTALL | 5.5.1 | RS-LTG-ESCF-V02-130601 |
|---|---|---|
| EFFICIENT | CFL | |
| BASELINE | Incandescent bulb | |
| MEASURE LIFE | 5.2 | Unknown location |
| MEASURE COST | $2.50 | |
| COINCIDENCE FACTOR | 9.5% | Unknown location |

kWh = kWh_light + kWh_heat
kWh_light = ((WattsBase - WattsEE)/1000) * ISR * Hours * WHFe

| | | | |
|---|---|---|---|
| ISR | 69.5% | | |
| Hours | 1,000 | | Unknown location |
| WHFe | 1.06 | | Unknown location |

kW = ((WattsBase - WattsEE)/1000) * ISR * WHFd * CF

| | | | |
|---|---|---|---|
| WHFd | 1.11 | | Unknown location |

kWh_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF) / COP[Heat]
therms_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF * 0.03412) / nHeat

| | | | |
|---|---|---|---|
| HF | 49% | | |
| COP[Heat] | 2.00 | 1.53% | Heat pump, before 2006 |
| COP[Heat] | 2.26 | 0.17% | Heat pump, 2006 and after |
| COP[Heat] | 1.00 | 12.90% | Resistance |
| COP[Heat] | 0.00 | 85.40% | Gas heat |
| nHeat | 70% | | |

| MEASURE | LOCATION | WattsBase | WattsEE | HP, <2006 | HP, ≥2006 | Resistance | Gas Heat |
|---|---|---|---|---|---|---|---|
| 60w replaced by 14w CFL - Pre-EISA | Unknown | 60 | 14 | -7.83 | -6.93 | -15.67 | 0.00 |
| 75w replaced by 19w CFL - Pre-EISA | Unknown | 75 | 19 | -9.54 | -8.44 | -19.07 | 0.00 |
| 100w replaced by 23w CFL - Pre-EISA | Unknown | 100 | 23 | -13.11 | -11.60 | -26.22 | 0.00 |
| 43w replaced by 14w CFL - Post-EISA | Unknown | 43 | 14 | -4.94 | -4.37 | -9.88 | 0.00 |
| 53w replaced by 19w CFL - Post-EISA | Unknown | 53 | 19 | -5.79 | -5.12 | -11.58 | 0.00 |
| 72w replaced by 23w CFL - Post-EISA | Unknown | 72 | 23 | -8.34 | -7.38 | -16.69 | 0.00 |
| | | | Frequency | 1.53% | 0.17% | 12.90% | 85.40% |

| MEASURE | LOCATION | WattsBase | WattsEE | kWh_light | kWh_heat | **kWh_total** | **kW** | **therms** |
|---|---|---|---|---|---|---|---|---|
| 60w replaced by 14w CFL - Pre-EISA | Unknown | 60 | 14 | 33.89 | -2.15 | **31.74** | **0.0034** | **-0.65** |
| 75w replaced by 19w CFL - Pre-EISA | Unknown | 75 | 19 | 41.26 | -2.62 | **38.63** | **0.0041** | **-0.79** |
| 100w replaced by 23w CFL - Pre-EISA | Unknown | 100 | 23 | 56.73 | -3.60 | **53.12** | **0.0056** | **-1.09** |
| 43w replaced by 14w CFL - Post-EISA | Unknown | 43 | 14 | 21.36 | -1.36 | **20.01** | **0.0021** | **-0.41** |
| 53w replaced by 19w CFL - Post-EISA | Unknown | 53 | 19 | 25.05 | -1.59 | **23.46** | **0.0025** | **-0.48** |
| 72w replaced by 23w CFL - Post-EISA | Unknown | 72 | 23 | 36.10 | -2.29 | **33.81** | **0.0036** | **-0.69** |

| SHOWERHEAD - SELF INSTALL | 5.4.5 | RS-HWE-LFSH-V02-130601 |
|---|---|---|
| EFFICIENT | 1.75 gpm showerhead | |
| BASELINE | 2.5+ gpm showerhead | |
| MEASURE LIFE | 10 | |
| MEASURE COST | $12 | |
| COINCIDENCE FACTOR | 2.78% | |

kWh = %ElectricDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * SPCD * 365.25 / SPH) * EPG_electric * ISR

| | | |
|---|---|---|
| %ElectricDHW | 100% | |
| GPM_base | 2.35 | Gallons per minute, Retrofit |
| L_base | 8.20 | Length of shower |
| GPM_low | 1.75 | Gallons per minute |
| L_low | 8.20 | Length of shower |
| Household | 2.56 | SF |
| Household | 2.10 | MF |
| SPCD | 0.75 | Showers per capita per day |
| SPH | 1.79 | SF |
| SPH | 1.30 | MF |
| EPG_electric | 0.127 | kWh/gal |
| ISR | 0.81 | In-Service Rate, Self Install, from TRM v1 |
| **kWh** | **198.29** | SF |
| **kWh** | **223.97** | MF |

kW = kWh/Hours x CF

| | | |
|---|---|---|
| Hours | 380 | SF, Retrofit |
| Hours | 311 | MF, Retrofit |
| **kW** | **0.0145** | SF |
| **kW** | **0.0164** | MF |

therms = %FossilDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * SPCD * 365.25 / SPH) * EPG_gas * ISR

| | | |
|---|---|---|
| %FossilDHW | 100% | |
| EPG_gas | 0.0054 | SF |
| EPG_gas | 0.0063 | MF |
| **therms** | **8.43** | SF |
| **therms** | **11.11** | MF |

| FAUCET AERATOR - SELF INSTALL | 5.4.4 | RS-HWE-LFFA-V02-130601 |
|---|---|---|
| EFFICIENT | 2.2 gpm kitchen aerator | |
| BASELINE | 2.75+ gpm kitchen aerator | |
| EFFICIENT | 1.5 gpm bath aerator | |
| BASELINE | 2.25+ gpm bath aerator | |
| MEASURE LIFE | 9 | |
| MEASURE COST | $8 | |
| COINCIDENCE FACTOR | 2.2% | |

kWh = %ElectricDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * 365.25 * DF / FPH) * EPG_electric * ISR

| | | |
|---|---|---|
| %ElectricDHW | 100% | |
| GPM_base | 1.20 | Gallons per minute |
| L_base | 9.85 | Length of shower |
| GPM_low | 0.94 | Gallons per minute |
| L_low | 9.85 | Length of shower |
| Household | 2.56 | SF |
| Household | 2.10 | MF |
| DF | 0.795 | Location unknown |
| FPH | 3.83 | SF |
| FPH | 2.50 | MF |
| EPG_electric | 0.0894 | kWh/gal |
| ISR | 0.48 | In-Service Rate, Self Install, from TRM v1 |
| **kWh** | **21.33** | SF |
| **kWh** | **26.81** | MF |

kW = kWh/Hours x CF

| | | |
|---|---|---|
| Hours | 45 | SF, Location unknown |
| Hours | 57 | MF, Location unknown |
| **kW** | **0.0104** | SF |
| **kW** | **0.0103** | MF |

therms = %FossilDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * 365.25 * DF / FPH) * EPG_gas * ISR

| | | |
|---|---|---|
| %FossilDHW | 100% | |
| EPG_gas | 0.00399 | SF |
| EPG_gas | 0.00446 | MF |
| **therms** | **0.95** | SF |
| **therms** | **1.34** | MF |

| WATER HEATER TEMPERATURE SETBACK | 5.4.6 | RS-HWE-TMPS-V02-130601 |
|---|---|---|
| EFFICIENT | 120 degrees | |
| BASELINE | 130+ degrees | |
| MEASURE LIFE | 2 | |
| MEASURE COST | $5 | |
| COINCIDENCE FACTOR | 100% | |
| ISR | 0.50 | In-Service Rate, Self Install, estimated |

| | | |
|---|---|---|
| kWh | 86.40 | Gross |
| kW | 0.0099 | Gross |
| **kWh** | **43.20** | Discounted for ISR |
| **kW** | **0.0049** | Discounted for ISR |

| | | |
|---|---|---|
| therms | 6.40 | Gross |
| kWh penalty | -34.20 | Gross |
| **therms** | **3.20** | Discounted for ISR |
| **kWh penalty** | **-17.10** | Discounted for ISR |

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## HVAC

| CAC - Single Family | 5.3.2 | RS-HVC-CAC1-V02-130601 |
|---|---|---|
| MEASURE LIFE (Replace on fail) | 18 | |
| MEASURE LIFE (Early replacement) | 6 | Savings for remaining 12 years based on federal minimum baseline. |
| COINCIDENCE FACTOR | 91.5% | |

kWh = (FLH[cool] * Capacity * (1/SEER[base] - 1/SEER[ee]))/1000

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield |
| Capacity | 33,600 | BTUh, default |

kW = ((Capacity * (1/EER[base] - 1/EER[ee]))/1000) * CF

EER = (-0.02 * SEER^2) + (1.12 * SEER)

| MEASURE | MEASURE COST | SEER[base] | SEER[ee] | kWh | EER[base] | EER[ee] | kW | | |
|---|---|---|---|---|---|---|---|---|---|
| CAC 14.0-14.4 SEER | $333 | 13.0 | 14.0 | **134.77** | 11.2 | 11.8 | **0.1356** | | |
| CAC 14.5-14.9 SEER | $500 | 13.0 | 14.5 | **195.18** | 11.2 | 12.3 | **0.2446** | | |
| CAC 15.0-15.9 SEER | $666 | 13.0 | 15.0 | **251.57** | 11.2 | 12.6 | **0.3153** | | |
| CAC 16.0+ SEER | $1,000 | 13.0 | 16.0 | **353.77** | 11.2 | 13.3 | **0.4434** | | |
| ER CAC 13.0-13.9 SEER | $2,968 | 8.6 | 13.0 | **965.32** | 8.2 | 11.2 | **1.0211** | | |
| ER CAC 14.0-14.4 SEER | $3,301 | 8.6 | 14.0 | **1,100.09** | 8.2 | 11.8 | **1.1567** | | |
| ER CAC 14.5-14.9 SEER | $3,468 | 8.6 | 14.5 | **1,160.51** | 8.2 | 13.3 | **1.4546** | 516.96 | 0.65 |
| ER CAC 15.0-15.9 SEER | $3,634 | 8.6 | 15.0 | **1,216.89** | 8.2 | 13.7 | **1.5253** | | |
| ER CAC 16.0+ | $3,968 | 8.6 | 16.0 | **1,319.09** | 8.2 | 14.5 | **1.6534** | | |

| ASHP - Single Family | 5.3.1 | RS-HVC-ASHP-V02-130601 |
|---|---|---|
| MEASURE LIFE (Replace on fail) | 18 | |
| MEASURE LIFE (Early replacement) | 6 | Savings for remaining 12 years based on federal minimum baseline. |
| COINCIDENCE FACTOR | 91.5% | |

kWh = ((FLH[cool] * Capacity_cooling * (1/SEER[base] - 1/SEER[ee]))/1000)+((FLH[heat] * Capacity_heating * (1/HSPF[base] - 1/HSPF[ee]))/1000)

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[heat] | 1,754 | Springfield, SF |
| Capacity_cooling | 36,000 | BTUh, average from PY4 |
| Capacity_heating | 36,000 | BTUh, estimate |

kW = ((Capacity_cooling * (1/EER[base] - 1/EER[ee]))/1000) * CF

EER = (-0.02 * SEER^2) + (1.12 * SEER)

| MEASURE | MEASURE COST | SEER[base] | SEER[ee] | HSPF[base] | HSPF[ee] | kWh | EER[base] | EER[ee] | kW | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASHP 14.0-14.4 SEER | $411 | 13.0 | 14.0 | 7.70 | 8.30 | **737.20** | 11.18 | 11.76 | **0.1453** | | | |
| ASHP 14.5-14.9 SEER | $617 | 13.0 | 14.5 | 7.70 | 8.20 | **709.16** | 11.18 | 12.04 | **0.2093** | | | |
| ASHP 15.0-15.9 SEER | $822 | 13.0 | 15.0 | 7.70 | 8.50 | **1,041.35** | 11.18 | 12.30 | **0.2683** | | | |
| ASHP 16.0+ SEER | $1,644 | 13.0 | 16.0 | 7.70 | 8.50 | **1,150.85** | 11.18 | 12.80 | **0.3729** | | | |
| ER ASHP 13.0-13.9 SEER | $3,732 | | | | | 6,388.87 | | | 0.9623 | | | |
| Replace ASHP | | 9.12 | 13.0 | 5.44 | 7.70 | **4,266.87** | 8.55 | 11.18 | **0.9059** | 0.70 | | |
| Replace Resistance | | 8.60 | 13.0 | 3.41 | 7.70 | **11,340.20** | 8.15 | 11.18 | **1.0940** | 0.30 | | |
| ER ASHP 14.0-14.4 SEER | $4,143 | | | | | 6,533.27 | | | 1.1076 | | | |
| Replace ASHP | | 9.12 | 14.0 | 5.44 | 7.70 | **4,411.27** | 8.55 | 11.76 | **1.0512** | 0.70 | | |
| Replace Resistance | | 8.60 | 14.0 | 3.41 | 7.70 | **11,484.60** | 8.15 | 11.76 | **1.2393** | 0.30 | | |
| ER ASHP 14.5-14.9 SEER | $4,349 | | | | | 6,358.65 | | | 1.1653 | | | |
| Replace ASHP | | 9.12 | 14.5 | 5.44 | 7.70 | **4,476.00** | 8.55 | 12.04 | **1.1152** | 0.73 | 6,358.65 | 1.17 |
| Replace Resistance | | 8.60 | 14.5 | 3.41 | 7.70 | **11,549.33** | 8.15 | 12.04 | **1.3033** | 0.27 | | |
| ER ASHP 15.0-15.9 SEER | $4,554 | | | | | 6,690.84 | | | 1.2315 | | | |
| Replace ASHP | | 9.12 | 15.0 | 5.44 | 7.70 | **4,536.41** | 8.55 | 12.30 | **1.1742** | 0.70 | 6,690.84 | 1.23 |
| Replace Resistance | | 8.60 | 15.0 | 3.41 | 7.70 | **11,609.74** | 8.15 | 12.30 | **1.3623** | 0.30 | | |
| ER ASHP 16.0+ SEER | $5,376 | | | | | 6,800.34 | | | 1.3361 | | | |
| Replace ASHP | | 9.12 | 16.0 | 5.44 | 7.70 | **4,645.91** | 8.55 | 12.80 | **1.2788** | 0.70 | 6,800.34 | 1.34 |
| Replace Resistance | | 8.60 | 16.0 | 3.41 | 7.70 | **11,719.24** | 8.15 | 12.80 | **1.4669** | 0.30 | | |

| ASHP - Single Family (by HSPF) | 5.3.1 | RS-HVC-ASHP-V02-130601 |
|---|---|---|
| MEASURE LIFE (Replace on fail) | 18 | |
| MEASURE LIFE (Early replacement) | 6 | Savings for remaining 12 years based on federal minimum baseline. |
| COINCIDENCE FACTOR | 91.5% | |

kWh = ((FLH[cool] * Capacity_cooling * (1/SEER[base] - 1/SEER[ee]))/1000)+((FLH[heat] * Capacity_heating * (1/HSPF[base] - 1/HSPF[ee]))/1000)

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[heat] | 1,754 | Springfield, SF |
| Capacity_cooling | 36,000 | BTUh, average from PY4 |
| Capacity_heating | 36,000 | BTUh, estimate |

kW = ((Capacity_cooling * (1/EER[base] - 1/EER[ee]))/1000) * CF

EER = (-0.02 * SEER^2) + (1.12 * SEER)

| MEASURE | MEASURE COST | SEER[base] | SEER[ee] | HSPF[base] | HSPF[ee] | kWh | EER[base] | EER[ee] | kW | |
|---|---|---|---|---|---|---|---|---|---|---|
| ASHP <8.50 HSPF | $411 | 13.0 | 14.0 | 7.70 | 8.30 | **737.20** | 11.18 | 11.76 | **0.1453** | |
| ASHP 8.50-8.79 HSPF | $617 | 13.0 | 15.2 | 7.70 | 8.55 | **1,107.85** | 11.18 | 12.40 | **0.2906** | |
| ASHP 8.8-9.19 HSPF | $822 | 13.0 | 16.1 | 7.70 | 9.00 | **1,573.76** | 11.18 | 12.85 | **0.3825** | |
| ASHP 9.20+ HSPF | $1,644 | 13.0 | 17.4 | 7.70 | 9.60 | **2,134.21** | 11.18 | 13.43 | **0.4941** | |
| ER ASHP 13.0-13.9 SEER | $3,732 | | | | | 6,388.87 | | | 0.9623 | |
| Replace ASHP | | 9.12 | 13.0 | 5.44 | 7.70 | **4,266.87** | 8.55 | 11.18 | **0.9059** | 0.70 |
| Replace Resistance | | 8.60 | 13.0 | 3.41 | 7.70 | **11,340.20** | 8.15 | 11.18 | **1.0940** | 0.30 |
| ER ASHP 14.0-14.4 SEER | $4,143 | | | | | 7,126.08 | | | 1.1076 | |
| Replace ASHP | | 9.12 | 14.0 | 5.44 | 8.30 | **5,004.08** | 8.55 | 11.76 | **1.0512** | 0.70 |
| Replace Resistance | | 8.60 | 14.0 | 3.41 | 8.30 | **12,077.41** | 8.15 | 11.76 | **1.2393** | 0.30 |
| ER ASHP 14.5-14.9 SEER | $4,349 | | | | | 7,496.72 | | | 1.2529 | |
| Replace ASHP | | 9.12 | 15.2 | 5.44 | 8.55 | **5,374.72** | 8.55 | 12.40 | **1.1965** | 0.70 |
| Replace Resistance | | 8.60 | 15.2 | 3.41 | 8.55 | **12,448.05** | 8.15 | 12.40 | **1.3846** | 0.30 |
| ER ASHP 15.0-15.9 SEER | $4,554 | | | | | 7,962.63 | | | 1.3448 | |
| Replace ASHP | | 9.12 | 16.1 | 5.44 | 9.00 | **5,840.63** | 8.55 | 12.85 | **1.2884** | 0.70 |
| Replace Resistance | | 8.60 | 16.1 | 3.41 | 9.00 | **12,913.96** | 8.15 | 12.85 | **1.4765** | 0.30 |
| ER ASHP 16.0+ SEER | $5,376 | | | | | 8,523.09 | | | 1.4564 | |
| Replace ASHP | | 9.12 | 17.4 | 5.44 | 9.60 | **6,401.09** | 8.55 | 13.43 | **1.4000** | 0.70 |
| Replace Resistance | | 8.60 | 17.4 | 3.41 | 9.60 | **13,474.42** | 8.15 | 13.43 | **1.5881** | 0.30 |

| ASHP - Single Family Moderate Incom | 5.3.1 | RS-HVC-ASHP-V02-130601 |
|---|---|---|
| MEASURE LIFE (Replace on fail) | 18 | |
| MEASURE LIFE (Early replacement) | 6 | Savings for remaining 12 years based on federal minimum baseline. |
| COINCIDENCE FACTOR | 91.5% | |

kWh = ((FLH[cool] * Capacity_cooling * (1/SEER[base] - 1/SEER[ee]))/1000)+((FLH[heat] * Capacity_heating * (1/HSPF[base] - 1/HSPF[ee]))/1000)

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[heat] | 1,754 | Springfield, SF |
| Capacity_cooling | 36,000 | BTUh, average from PY4 |
| Capacity_heating | 36,000 | BTUh, estimate |

kW = ((Capacity_cooling * (1/EER[base] - 1/EER[ee]))/1000) * CF

EER = (-0.02 * SEER^2) + (1.12 * SEER)

| MEASURE | MEASURE COST | SEER[base] | SEER[ee] | HSPF[base] | HSPF[ee] | kWh | EER[base] | EER[ee] | kW | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASHP 14.0-14.4 SEER | $411 | 13.0 | 14.0 | 7.70 | 8.30 | **737.20** | 11.18 | 11.76 | **0.1453** | | | |
| ASHP 14.5-14.9 SEER | $617 | 13.0 | 14.5 | 7.70 | 8.50 | **980.94** | 11.18 | 12.04 | **0.2093** | | | |
| ASHP 15.0-15.9 SEER | $822 | 13.0 | 15.0 | 7.70 | 8.70 | **1,212.13** | 11.18 | 12.30 | **0.2683** | | | |
| ASHP 16.0+ SEER | $1,644 | 13.0 | 17.0 | 7.70 | 9.20 | **1,812.70** | 11.18 | 13.26 | **0.4622** | | | |
| ER ASHP 13.0-13.9 SEER | $3,732 | | | | | 6,388.87 | | | 0.9623 | | | |
| Replace ASHP | | 9.12 | 13.0 | 5.44 | 7.70 | **4,266.87** | 8.55 | 11.18 | **0.9059** | 0.70 | | |
| Replace Resistance | | 8.60 | 13.0 | 3.41 | 7.70 | **11,340.20** | 8.15 | 11.18 | **1.0940** | 0.30 | | |
| ER ASHP 14.0-14.4 SEER | $4,143 | | | | | 7,126.08 | | | 1.1076 | | | |
| Replace ASHP | | 9.12 | 14.0 | 5.44 | 8.30 | **5,004.08** | 8.55 | 11.76 | **1.0512** | 0.70 | | |
| Replace Resistance | | 8.60 | 14.0 | 3.41 | 8.30 | **12,077.41** | 8.15 | 11.76 | **1.2393** | 0.30 | | |
| ER ASHP 14.5-14.9 SEER | $4,349 | | | | | 7,317.54 | | | 1.1152 | | | |
| Replace ASHP | | 9.12 | 14.5 | 5.44 | 8.50 | **5,247.81** | 8.55 | 12.04 | **1.1152** | 0.70 | **2,403.23** | **0.51** |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Replace Resistance | | 9.12 | 14.5 | 3.41 | 8.50 | **12,146.91** | 8.55 | 12.04 | **1.1152** | 0.30 | **4,702.93** | **0.51** |
| ER ASHP 15.0-15.9 SEER | $4,554 | | | | | 7,601.00 | | | 1.2306 | | | |
| Replace ASHP | | 9.12 | 15.0 | 5.44 | 8.70 | **5,479.00** | 8.55 | 12.30 | **1.1742** | 0.70 | | |
| Replace Resistance | | 8.60 | 15.0 | 3.41 | 8.70 | **12,552.33** | 8.15 | 12.30 | **1.3623** | 0.30 | | |
| ER ASHP 16.0+ SEER | $5,376 | | | | | 8,201.57 | | | 1.4245 | | | |
| Replace ASHP | | 9.12 | 17.0 | 5.44 | 9.20 | **6,079.57** | 8.55 | 13.26 | **1.3681** | 0.70 | | |
| Replace Resistance | | 8.60 | 17.0 | 3.41 | 9.20 | **13,152.90** | 8.15 | 13.26 | **1.5562** | 0.30 | | |

| **BPM BLOWER MOTOR (ECM)** | **5.3.4** | **RS-HVC-FBMT-V01-120601** |
|---|---|---|
| MEASURE LIFE | 20 | |
| MEASURE COST | $97 | |
| COINCIDENCE FACTOR | 91.5% | |

kWh = Heating Savings + Cooling Savings + Shoulder Season Savings

| | | |
|---|---|---|
| Heating Savings | 418 | |
| Cooling Savings | 251 | Unknown |
| Shoulder Season Savings | 51 | |
| **kWh** | **720.00** | |

kW = (Cooling Savings / FLH[cool]) * CF

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield |
| **kW** | **0.3146** | |

therms = - (Heating Savings * 0.03412)

| | |
|---|---|
| **therms** | **-14.26** |

| **GAS BOILERS** | **5.3.5** | **RS-HVC-GHEB-V02-130601** |
|---|---|---|
| MEASURE LIFE (ROB) | 25 | |
| MEASURE LIFE (ER) | 8 | Savings for remaining 17 years based on federal minimum baseline. |

therms = Gas_Boiler_Load * (1/AFUE[base]-1/AFUE[ee])

| | | |
|---|---|---|
| Gas_Boiler_Load | 1,043 | Springfield |

| MEASURE | MEASURE COST | AFUE[base] | AFUE[ee] | **therms** | |
|---|---|---|---|---|---|
| 90% AFUE Gas Boiler | $1,272 | 0.82 | 0.925 | **144.38** | |
| 95% AFUE Gas Boiler | $1,785 | 0.82 | 0.950 | **174.06** | |
| ER 82% AFUE Gas Boiler | $3,543 | 0.616 | 0.820 | **421.23** | |
| ER 90% AFUE Gas Boiler | $4,815 | 0.616 | 0.925 | **565.61** | 279.18 |
| ER 95% AFUE Gas Boiler | $5,328 | 0.616 | 0.950 | **595.29** | |

| **GAS FURNACES** | **5.3.6** | **RS-HVC-GHEF-V02-130601** |
|---|---|---|
| MEASURE LIFE (ROB) | 20 | |
| MEASURE LIFE (ER) | 6 | Savings for remaining 14 years based on federal minimum baseline. |

therms = Gas_Furnace_Load * (1/AFUE[base]-1/AFUE[ee])

| | | |
|---|---|---|
| Gas_Furnace_Load | 690 | Springfield |

| MEASURE | MEASURE COST | AFUE[base] | AFUE[ee] | **therms** | |
|---|---|---|---|---|---|
| 92% AFUE Furnace | $802 | 0.800 | 0.920 | **112.50** | |
| 95% AFUE Furnace | $1,438 | 0.800 | 0.950 | **136.18** | |
| 97% AFUE Furnace | $1,862 | 0.800 | 0.970 | **151.16** | |
| ER 90% AFUE Furnace | $2,641 | 0.644 | 0.900 | **304.76** | |
| ER 92% AFUE Furnace | $2,813 | 0.644 | 0.920 | **321.43** | |
| ER 95% AFUE Furnace | $3,449 | 0.644 | 0.950 | **345.11** | 198.86 |
| ER 97% AFUE Furnace | $3,873 | 0.644 | 0.970 | **360.09** | |

| **PROGRAMMABLE THERMOSTAT - SINGLE FAMILY** | | **5.3.10** | **RS-HVC-PROG-V02-130601** |
|---|---|---|---|
| EFFICIENT | Programmable | | |
| BASELINE | Non-programmable | | |
| MEASURE LIFE | 5 | | |
| MEASURE COST | $30.00 | Direct Install | |
| COINCIDENCE FACTOR | 0% | | |

ELECTRIC HEAT

kWh = %ElectricHeat x Elec_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

| | | |
|---|---|---|
| %ElectricHeat | 100% | |
| Elec_Heating_Consumption | 21,304 | Springfield, resistance |
| Elec_Heating_Consumption | 10,652 | Springfield, heat pump |
| Heating_Reduction | 6.2% | |
| HF | 100% | Single family |
| Eff_ISR | 65% | Single family |
| therms | 0 | |
| **kWh** | **858.55** | Resistance |
| **kWh** | **429.28** | Heat pump |
| **kWh** | **143.09** | Electric baseboard, average of 6 per home |
| **kW** | **0.0000** | No cooling savings |

GAS HEAT

therms = %FossilHeat x Gas_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

kWh = therms x F[e] x 29.3

| | | |
|---|---|---|
| %FossilHeat | 100% | |
| Gas_Heating_Consumption | 727 | Springfield |
| Heating_Reduction | 6.2% | |
| HF | 100% | Single family |
| Eff_ISR | 65% | Direct install |
| F[e] | 3.14% | |
| **therms** | **29.30** | |
| **kWh** | **26.95** | |
| **kW** | **0.0000** | No cooling savings |

| **PROGRAMMABLE THERMOSTAT - MULTI-FAMILY** | | **5.3.10** | **RS-HVC-PROG-V02-130601** |
|---|---|---|---|
| EFFICIENT | Programmable | | |
| BASELINE | Non-programmable | | |
| MEASURE LIFE | 5 | | |
| MEASURE COST | $30.00 | Direct Install | |
| COINCIDENCE FACTOR | 0% | | |

ELECTRIC HEAT

kWh = %ElectricHeat x Elec_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

| | | | |
|---|---|---|---|
| %ElectricHeat | 100% | | |
| Elec_Heating_Consumption | 21,304 | Springfield, resistance | |
| Elec_Heating_Consumption | 10,652 | Springfield, heat pump | |
| Heating_Reduction | 6.2% | | |
| HF | 65% | Multi-family | |
| Eff_ISR | 100% | Direct Install | |
| therms | 0 | | |
| **kWh** | **858.55** | Resistance | 837.087 |
| **kWh** | **429.28** | Heat pump | |
| **kWh** | **214.64** | Electric baseboard, average of 4 per home | |
| **kW** | **0.0000** | No cooling savings | |

GAS HEAT

therms = %FossilHeat x Gas_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

kWh = therms x F[e] x 29.3

| | | |
|---|---|---|
| %FossilHeat | 100% | |
| Gas_Heating_Consumption | 727 | Springfield |
| Heating_Reduction | 6.2% | |
| HF | 65% | Multi-family |
| Eff_ISR | 100% | Direct install |

| | | |
|---|---|---|
| F[e] | 3.14% | |
| **therms** | **29.30** | |
| **kWh** | **26.96** | |
| **kW** | **0.0000** | No cooling savings |

**ALL-ELECTRIC HOMES & MODERATE INCOME**

**PROGRAMMABLE THERMOSTAT - SINGLE FAMILY 5.3.10 RS-HVC-PROG-V02-130601**

| | | |
|---|---|---|
| EFFICIENT | Programmable | |
| BASELINE | Non-programmable | |
| MEASURE LIFE | 5 | |
| MEASURE COST | $30.00 | Direct Install |
| COINCIDENCE FACTOR | 0% | |

ELECTRIC HEAT

kWh = %ElectricHeat x Elec_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

| | | |
|---|---|---|
| %ElectricHeat | 100% | |
| Elec_Heating_Consumption | 6,577.50 | Springfield, heat pump, calculated w/ ASHP algorithm |
| Heating_Reduction | 6.2% | |
| HF | 100% | Single family |
| Eff_ISR | 100% | Direct Install |
| **kWh** | **407.81** | Heat pump |
| **kW** | **0.0000** | No cooling savings |

GAS HEAT

therms = %FossilHeat x Gas_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

kWh = therms x F[e] x 29.3

| | | |
|---|---|---|
| %FossilHeat | 100% | |
| Gas_Heating_Consumption | 536 | Springfield |
| Heating_Reduction | 6.2% | |
| HF | 100% | Multi-family |
| Eff_ISR | 100% | Direct install |
| F[e] | 3.14% | |
| **therms** | **33.21** | |
| **kWh** | **30.56** | |
| **kW** | **0.0000** | No cooling savings |

**PROGRAMMABLE THERMOSTAT - MULTI-FAMILY 5.3.10 RS-HVC-PROG-V02-130601**

| | | |
|---|---|---|
| EFFICIENT | Programmable | |
| BASELINE | Non-programmable | |
| MEASURE LIFE | 5 | |
| MEASURE COST | $30.00 | Direct Install |
| COINCIDENCE FACTOR | 0% | |

ELECTRIC HEAT

kWh = %ElectricHeat x Elec_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

| | | |
|---|---|---|
| %ElectricHeat | 100% | |
| Elec_Heating_Consumption | 4,978 | Springfield, heat pump, calculated w/ ASHP algorithm |
| Heating_Reduction | 6.2% | |
| HF | 100% | MF accounted for in Elec_Heating_Consumption |
| Eff_ISR | 100% | Direct Install |
| **kWh** | **308.64** | Heat pump |
| **kW** | **0.0000** | No cooling savings |

**ASHP - SF (de-rated HSPF) 5.3.1 RS-HVC-ASHP-V01-120601**

| | | |
|---|---|---|
| MEASURE LIFE (Replace on fail) | 18 | |
| MEASURE LIFE (Early replacement) | 6 | |
| COINCIDENCE FACTOR | 91.5% | |

kWh = ((FLH[cool] * Capacity * (1/SEER[base] - 1/SEER[ee]))/1000)+((FLH[heat] * Capacity * (1/HSPF[base] - 1/HSPF[ee]))/1000)

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[heat] | 1,754 | Springfield, SF |
| Capacity | 36,000 | BTUh |

kW = ((Capacity * (1/EER[base] - 1/EER[ee]))/1000) * CF

EER = (-0.02 * SEER^2) + (1.12 * SEER)

| MEASURE | MEASURE COST | SEER[base] | SEER[ee] | HSPF[base] | HSPF[ee] | **kWh** | EER[base] | EER[ee] | **kW** | |
|---|---|---|---|---|---|---|---|---|---|---|
| ASHP 14.0-14.4 SEER | $411 | 13.0 | 14.0 | 5.41 | 5.72 | **776.95** | 11.2 | 11.8 | **0.1453** | |
| ASHP 14.5-14.9 SEER | $618 | 13.0 | 14.5 | 5.41 | 5.73 | **860.95** | 11.2 | 12.0 | **0.2093** | |
| ASHP 15.0-15.9 SEER | $822 | 13.0 | 15.0 | 5.41 | 5.82 | **1,091.77** | 11.2 | 12.3 | **0.2683** | |
| ASHP 16.0+ SEER | $1,233 | 13.0 | 17.0 | 5.41 | 6.03 | **1,675.73** | 11.2 | 13.3 | **0.4622** | |
| ER ASHP 13.0-13.9 SEER | $3,732 | | | | | 5,520.94 | | | 0.9059 | |
| Replace ASHP | | 9.12 | 13.0 | 4.10 | 5.41 | **4,589.30** | 8.6 | 11.2 | **0.9059** | 0.70 |
| Replace Resistance | | 9.12 | 13.0 | 3.41 | 5.41 | **7,694.77** | 8.6 | 11.2 | **0.9059** | 0.30 |
| ER ASHP 14.0-14.4 SEER | $4,143 | | | | | 6,297.89 | | | 1.0512 | |
| Replace ASHP | | 9.12 | 14.0 | 4.10 | 5.72 | **5,366.25** | 8.6 | 11.8 | **1.0512** | 0.70 |
| Replace Resistance | | 9.12 | 14.0 | 3.41 | 5.72 | **8,471.72** | 8.6 | 11.8 | **1.0512** | 0.30 |
| ER ASHP 14.5-14.9 SEER | $4,350 | | | | | 6,381.89 | | | 1.1152 | |
| Replace ASHP | | 9.12 | 14.5 | 4.10 | 5.73 | **5,450.25** | 8.6 | 12.0 | **1.1152** | 0.70 |
| Replace Resistance | | 9.12 | 14.5 | 3.41 | 5.73 | **8,555.72** | 8.6 | 12.0 | **1.1152** | 0.30 |
| ER ASHP 15.0-15.9 SEER | $4,554 | | | | | 6,612.71 | | | 1.1742 | |
| Replace ASHP | | 9.12 | 15.0 | 4.10 | 5.82 | **5,681.07** | 8.6 | 12.3 | **1.1742** | 0.70 |
| Replace Resistance | | 9.12 | 15.0 | 3.41 | 5.82 | **8,786.54** | 8.6 | 12.3 | **1.1742** | 0.30 |
| ER ASHP 16.0+ SEER | $4,965 | | | | | 7,196.67 | | | 1.3681 | |
| Replace ASHP | | 9.12 | 17.0 | 4.10 | 6.03 | **6,265.03** | 8.6 | 13.3 | **1.3681** | 0.70 |
| Replace Resistance | | 9.12 | 17.0 | 3.41 | 6.03 | **9,370.50** | 8.6 | 13.3 | **1.3681** | 0.30 |

**PROGRAMMABLE THERMOSTAT 5.3.10 RS-HVC-PROG-V02-130601**

| | | |
|---|---|---|
| EFFICIENT | Programmable | |
| BASELINE | Non-programmable | |
| MEASURE LIFE | 5 | |
| MEASURE COST | $30.00 | |
| COINCIDENCE FACTOR | 0% | |

ELECTRIC HEAT

kWh = %ElectricHeat x Elec_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

| | | | | | |
|---|---|---|---|---|---|
| %ElectricHeat | 100% | | | | |
| Elec_Heating_Consumption | 17,734 | Electric heat, type and location unknown | | | |
| Heating_Reduction | 6.2% | | | | |
| HF | 100% | Single family | | | |
| Eff_ISR | 56% | Not direct install | | | |
| therms | 0 | | | | |
| **kWh** | **615.72** | | 615.72448 | 0.00000 | 0.00000 |
| **kW** | **0.0000** | | 25.77808 | 0.00000 | 28.01904 |

GAS HEAT

therms = %FossilHeat x Gas_Heating_Consumption x Heating_Reduction x HF x Eff_ISR

kWh = therms x F[e] x 29.3

| | | |
|---|---|---|
| %FossilHeat | 100% | |
| Gas_Heating_Consumption | 807 | Gas heat, location unknown |
| Heating_Reduction | 6.2% | |
| HF | 100% | Single family |
| Eff_ISR | 56% | Not direct install |
| F[e] | 3.14% | |
| **therms** | **28.02** | |
| **kWh** | **25.78** | |
| **kW** | **0.0000** | |

## SHELL MEASURES

Assumptions

| | Unit | HPwES | MI |
|---|---|---|---|
| Air Sealing | CFM50 | 1,575 | 1,400 |
| Attic R11 | SF | 1,250 | 1,000 |
| Attic R19 | SF | 1,470 | 1,000 |
| Wall | SF | 800 | 800 |
| Rim | LF | 145 | 140 |
| Crawl | LF | 145 | 140 |
| Basement | LF | 145 | 140 |

| | | HPwES | MI |
|---|---|---|---|
| Electric | HP | 0.8 | 0.50 |
| | Resistance, h | 0.014 | 0.13 |
| | Resistance w/ | 0.186 | 0.38 |

### AIR SEALING 5.6.1 RS-SHL-AIRS-V01-120601

| | | |
|---|---|---|
| MEASURE LIFE | 15 | |
| MEASURE COST | $0.75 | estimated |
| COINCIDENCE FACTOR | 91.5% | |

kWh = kWh_Cooling + kWh_Heating

kWh_Cooling = ((((CFM50_existing - CFM50_new) / N[cool]) * 60 * 24 * CDD * DUA * 0.018) / (1000 * SEER[base])) * LM

| | | |
|---|---|---|
| CFM_existing | 1 | Calculate per-CFM savings value |
| CFM_new | 0 | Calculate per-CFM savings value |
| N[cool] | 18.5 | Zone 2, Normal |
| CDD | 1,108 | Springfield, CDD65 |
| DUA | 0.75 | |
| SEER[base] - before 2006 | 10 | 0.90 |
| SEER[base] - 2006+ | 13 | 0.10 |
| SEER[base] | 10.30 | Weighted average |
| LM | 6.6 | Springfield |
| kWh _Cooling | 0.75 | |

kWh_Heating = (((CFM50_existing - CFM50_new) / N[heat]) * 60 * 24 * HDD * 0.018) / (COP[base] * 3412)

| | | |
|---|---|---|
| N[heat] | 16.7 | Zone 2, Normal, 1.5 story |
| HDD | 5,497 | Springfield, HDD65 |
| COP[base] - HP, before 2006 | 1.70 | 0.90 |
| COP[base] - HP, 2006+ | 1.92 | 0.10 |
| COP[base] - HP | 1.72 | Weighted average |
| COP[base] - Resistance | 1.00 | |
| kWh_Heating | 1.45 | Heat pump |
| kWh_Heating | 2.50 | Resistance |

| | | |
|---|---|---|
| **kWh** | **0.75** | AC only |
| **kWh** | **2.20** | Heat pump |
| **kWh** | **2.50** | Resistance, heat only |
| **kWh** | **3.25** | Resistance w/ AC |

kW = (kWh_Cooling / FLH[cool]) * CF

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[cool] | 663 | Springfield, MF |
| **kW** | **0.0009** | Cooling only, SF |
| **kW** | **0.0010** | Cooling only, MF |

| | | | | | kWh | kW | Therm |
|---|---|---|---|---|---|---|---|
| HPwES | HP | 0.8 | 2,772 | 1.13 | | | |
| | Resistance, heat only | 0.014 | 55 | 0.02 | | | |
| | Resistance w/ AC | 0.186 | 952 | 0.26 | | | |
| | | | 3,779.21 | 1.42 | 0.00 | | |
| MI | HP | 0.50 | 1,540 | | | | |
| | Resistance, heat only | 0.13 | 438 | | | | |
| | Resistance w/ AC | 0.38 | 1,706 | | | | |
| | | | 3,683.75 | 1.26 | 0 | | |

therms = (((CFM50_existing - CFM50_new) / N[heat]) * 60 * 24 * HDD * 0.018) / (AFUE[base] * 100000)

| | | | | | | |
|---|---|---|---|---|---|---|
| AFUE[base] | 70% | | | kWh | kW | Therm |
| **therms** | **0.12** | HPwES | W AC | 1,354.50 | 1.42 | 189 |
| kWh = therms x F[e] x 29.3 | Run-time savings due to reduced heating load | | Gas Only | 173 | 0 | 189 |
| F[e] | 3.14% | MI | W AC | 1,204 | 1.26 | 170.64 |
| **kWh** | **0.11** | | Gas Only | 154.00 | 0.00 | 170.64 |

### ATTIC INSULATION - R11 TO R49 5.6.4 RS-SHL-AINS-V02-130601

| | | |
|---|---|---|
| MEASURE LIFE | 25 | |
| MEASURE COST | $1.20 | PER SF |
| COINCIDENCE FACTOR | 91.5% | |

kWh = kWh_Cooling + kWh_Heating

kWh_Cooling = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * CDD * DUA) / (1000 * SEER[base])

| | | |
|---|---|---|
| R_old | 12 | R11 existing w/ plaster |
| R_attic | 50 | R49 total w/ plaster |
| A_attic | 1 | Calculate per-SF value |
| Framing_factor | 15% | |
| CDD | 1,108 | Springfield, CDD65 |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois |
| SEER[base] - before 2006 | 10 | 0.90 |
| SEER[base] - 2006+ | 13 | 0.10 |
| SEER[base] | 10.30 | Weighted average |
| kWh_Cooling | 0.11 | |

kWh _Heating = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * HDD) / (COP[base] * 3412)

| | | |
|---|---|---|
| HDD | 4,379 | Springfield, HDD60, should be HDD65? |
| COP[base] - HP, before 2006 | 1.70 | 0.90 |
| COP[base] - HP, 2006+ | 1.92 | 0.10 |
| COP[base] - HP | 1.72 | Weighted average |
| COP[base] - Resistance | 1.00 | |
| kWh_Heating | 0.96 | Heat pump |
| kWh_Heating | 1.66 | Resistance |

| | | |
|---|---|---|
| **kWh** | **0.11** | AC only |
| **kWh** | **1.08** | Heat pump |
| **kWh** | **1.66** | Resistance, heat only |
| **kWh** | **1.77** | Resistance w/ AC |

kW = (kWh_Cooling / FLH[cool]) * CF

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[cool] | 663 | Springfield, MF |
| **kW** | **0.0001** | Cooling only, SF |
| **kW** | **0.0002** | Cooling only, MF |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | kWh | kW | Therm |
| HPwES | HP | 0.8 | 1,080 | 0.10 | | | |
| | Resistance, heat only | 0.014 | 29 | 0.00 | | | |
| | Resistance w/ AC | 0.186 | 412 | 0.02 | | | |
| | | | 1,520.58 | 0.13 | 0.00 | | |
| MI | HP | 0.50 | 540 | 0.050 | 0 | | |
| | Resistance, heat only | 0.13 | 208 | 0.013 | 0 | | |
| | Resistance w/ AC | 0.38 | 664 | 0.038 | 0 | | |
| | | | 1,411.25 | 0.100 | 0.000 | | |
| | | | | | | | 87.50 |
| | | | | | kWh | kW | Therm |
| HPwES | W AC | | 225.00 | 0.125 | 87.50 | | |
| | Gas Only | | 88 | 0 | 87.50 | | |
| MI | W AC | | 180 | 0.10 | 80.82 | | |
| | Gas Only | | 70.00 | 0.00 | 80.82 | | |

therms = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * HDD) / (AFUE[base] * 100000)

| | | |
|---|---|---|
| AFUE[base] | 70% | |
| **therms** | **0.08** | |
| kWh = therms x F[e] x 29.3 | Run-time savings due to reduced heating load | |
| F[e] | 3.14% | |
| **kWh** | **0.07** | |

### ATTIC INSULATION - R19 TO R49 5.6.4 RS-SHL-AINS-V02-130601

| | | |
|---|---|---|
| MEASURE LIFE | 25 | |
| MEASURE COST | $1.10 | PER SF |
| COINCIDENCE FACTOR | 91.5% | |

kWh = kWh_Cooling + kWh_Heating

kWh_Cooling = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * CDD * DUA) / (1000 * SEER[base])

| | | |
|---|---|---|
| R_old | 20 | R19 existing w/ plaster |
| R_attic | 50 | R49 total w/ plaster |
| A_attic | 1 | Calculate per-SF value |
| Framing_factor | 15% | |
| CDD | 1,108 | Springfield, CDD65 |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois |
| SEER[base] - before 2006 | 10 | 0.90 |
| SEER[base] - 2006+ | 13 | 0.10 |
| SEER[base] | 10.30 | Weighted average |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| kWh_Cooling | 0.05 | | | | | | | |
| kWh _Heating = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * HDD) / (COP[base] * 3412) | | | | | | | | |
| HDD | 4,379 | Springfield, HDD60, should be HDD65? | | | | | | |
| COP[base] - HP, before 2006 | 1.70 | 0.90 | | | | | | |
| COP[base] - HP, 2006+ | 1.92 | 0.10 | | | | | | |
| COP[base] - HP | 1.72 | Weighted average | | | | | | |
| COP[base] - Resistance | 1.00 | | | | | | | |
| kWh_Heating | 0.46 | Heat pump | | | | | | |
| kWh_Heating | 0.79 | Resistance | | | | | | |
| | | | | | | kWh | kW | Therm |
| **kWh** | **0.05** | AC only | HPwES | HP | 0.8 | 600 | 0.118 | |
| **kWh** | **0.51** | Heat pump | | Resistance, heat only | 0.014 | 16 | 0.002 | |
| **kWh** | **0.79** | Resistance, heat only | | Resistance w/ AC | 0.186 | 230 | 0.027 | |
| **kWh** | **0.84** | Resistance w/ AC | | | | 845.69 | 0.147 | 0.00 |
| | | | MI | HP | 0.50 | 255 | 0.050 | 0 |
| kW = (kWh_Cooling / FLH[cool]) * CF | | | | Resistance, heat only | 0.13 | 99 | 0.013 | 0 |
| FLH[cool] | 730 | Springfield, SF | | Resistance w/ AC | 0.38 | 315 | 0.038 | 0 |
| FLH[cool] | 663 | Springfield, MF | | | | 668.75 | 0.100 | 0.000 |
| **kW** | **0.0001** | Cooling only, SF | | | | | | |
| **kW** | **0.0001** | Cooling only, MF | | | | | | 0.00 |
| | | | | | | kWh | kW | Therm |
| therms = (((1/R_old - 1/R_attic) * A_attic * (1 - Framing_factor/2)) * 24 * HDD) / (AFUE[base] * 100000) | | | | HPwES | W AC | 132.30 | 0.147 | 58.80 |
| AFUE[base] | 70% | | | | Gas Only | 58.80 | 0 | 58.80 |
| **therms** | **0.04** | | | MI | W AC | 90 | 0.10 | 38.28 |
| kWh = therms x F[e] x 29.3 | Run-time savings due to reduced heating load | | | | Gas Only | 40.00 | 0.00 | 38.28 |
| F[e] | 3.14% | | | | | | | |
| **kWh** | **0.04** | | | | | | | |

| | | |
|---|---|---|
| **WALL INSULATION** | **5.6.4** | **RS-SHL-AINS-V02-130601** |
| MEASURE LIFE | 25 | |
| MEASURE COST | $1.60 | Dense-pack cellulose |
| COINCIDENCE FACTOR | 91.5% | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| kWh = kWh_Cooling + kWh_Heating | | | | | | | | |
| kWh_Cooling = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * CDD * DUA) / (1000 * SEER[base]) | | | | | | | | |
| R_old | 5 | Empty cavity | | | | | | |
| R_wall | 16 | Assembly R-value w/ 4" dense-pack cellulose | | | | | | |
| A_wall | 1 | Calculate per-SF value | | | | | | |
| Framing_factor | 15% | | | | | | | |
| CDD | 1,108 | Springfield, CDD65 | | | | | | |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois | | | | | | |
| SEER[base] - before 2006 | 10 | 0.90 | | | | | | |
| SEER[base] - 2006+ | 13 | 0.10 | | | | | | |
| SEER[base] | 10.30 | Weighted average | | | | | | |
| kWh_Cooling | 0.23 | | | | | | | |
| kWh _Heating = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (COP[base] * 3412) | | | | | | | | |
| HDD | 4,379 | Springfield, HDD60, should be HDD65? | | | | | | |
| COP[base] - HP, before 2006 | 1.70 | 0.90 | | | | | | |
| COP[base] - HP, 2006+ | 1.92 | 0.10 | | | | | | |
| COP[base] - HP | 1.72 | Weighted average | | | | | | |
| COP[base] - Resistance | 1.00 | | | | | | | |
| kWh_Heating | 2.09 | Heat pump | | | | kWh | kW | Therm |
| kWh_Heating | 3.60 | Resistance | HPwES | HP | 0.8 | 1,485 | 0.182 | |
| | | | | Resistance, heat only | 0.014 | 40 | 0.003 | |
| **kWh** | **0.23** | AC only | | Resistance w/ AC | 0.186 | 570 | 0.042 | |
| **kWh** | **2.32** | Heat pump | | | | 2,095.02 | 0.227 | 0.00 |
| **kWh** | **3.60** | Resistance, heat only | MI | HP | 0.50 | 928 | 0.113 | 0 |
| **kWh** | **3.83** | Resistance w/ AC | | Resistance, heat only | 0.13 | 360 | 0.028 | 0 |
| | | | | Resistance w/ AC | 0.38 | 1,149 | 0.085 | 0 |
| kW = (kWh_Cooling / FLH[cool]) * CF | | | | | | 2,437.00 | 0.227 | 0.000 |
| FLH[cool] | 730 | Springfield, SF | | | | | | |
| FLH[cool] | 663 | Springfield, MF | | | | | | 0.00 |
| **kW** | **0.0003** | Cooling only, SF | | | | kWh | kW | Therm |
| **kW** | **0.0003** | Cooling only, MF | | HPwES | W AC | 312.00 | 0.240 | 144.00 |
| | | | | | Gas Only | 128.00 | 0 | 144.00 |
| therms = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (AFUE[base] * 100000) | | | | MI | W AC | 312 | 0.24 | 140.38 |
| AFUE[base] | 70% | | | | Gas Only | 128.00 | 0.00 | 140.38 |
| **therms** | **0.18** | | | | | | | |
| kWh = therms x F[e] x 29.3 | Run-time savings due to reduced heating load | | | | | | | |
| F[e] | 3.14% | | | | | | | |
| **kWh** | **0.16** | | | | | | | |

| | | |
|---|---|---|
| **RIM JOIST INSULATION** | **5.6.4** | **RS-SHL-AINS-V02-130601** |
| MEASURE LIFE | 25 | |
| MEASURE COST | $2.50 | Closed cell spray foam |
| COINCIDENCE FACTOR | 91.5% | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| kWh = kWh_Cooling + kWh_Heating | | | | | | | | |
| kWh_Cooling = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * CDD * DUA) / (1000 * SEER[base]) | | | | | | | | |
| R_old | 3 | Rim joist, sheathing, siding | | | | | | |
| R_wall | 14 | Add R11 spray foam | | | | | | |
| A_wall | 0.93 | Calculate per-LF value | | | | | | |
| Framing_factor | 15% | | | | | | | |
| CDD | 436 | Springfield, Unconditioned CDD75 | | | | | | |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois | | | | | | |
| SEER[base] - before 2006 | 10 | 0.90 | | | | | | |
| SEER[base] - 2006+ | 13 | 0.10 | | | | | | |
| SEER[base] | 10.30 | Weighted average | | | | | | |
| kWh_Cooling | 0.16 | | | | | | | |
| kWh _Heating = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (COP[base] * 3412) | | | | | | | | |
| HDD | 2,550 | Springfield, Unconditioned HDD50 | | | | | | |
| COP[base] - HP, before 2006 | 1.70 | 0.90 | | | | | | |
| COP[base] - HP, 2006+ | 1.92 | 0.10 | | | | | | |
| COP[base] - HP | 1.72 | Weighted average | | | | | | |
| COP[base] - Resistance | 1.00 | | | | | | | |
| kWh_Heating | 2.16 | Heat pump | | | | | | |
| kWh_Heating | 3.73 | Resistance | | | | | | |
| | | | | | | kWh | kW | Therm |
| **kWh** | **0.16** | AC only | HPwES | HP | 0.8 | 269 | 0.023 | |
| **kWh** | **2.32** | Heat pump | | Resistance, heat only | 0.014 | 8 | 0.000 | |
| **kWh** | **3.73** | Resistance, heat only | | Resistance w/ AC | 0.186 | 105 | 0.005 | |
| **kWh** | **3.89** | Resistance w/ AC | | | | 381.61 | 0.029 | 0.00 |
| | | | MI | HP | 0.50 | 162 | 0.014 | 0 |
| kW = (kWh_Cooling / FLH[cool]) * CF | | | | Resistance, heat only | 0.13 | 65 | 0.004 | 0 |
| FLH[cool] | 730 | Springfield, SF | | Resistance w/ AC | 0.38 | 204 | 0.011 | 0 |
| FLH[cool] | 663 | Springfield, MF | | | | 431.90 | 0.028 | 0.000 |
| **kW** | **0.0002** | Cooling only, SF | | | | | | |
| **kW** | **0.0002** | Cooling only, MF | | | | | | |

therms = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (AFUE[base] * 100000)
AFUE[base] 70%
**therms** **0.18**
kWh = therms x F[e] x 29.3 Run-time savings due to reduced heating load
F[e] 3.14%
**kWh** **0.17**

| | | | | kWh | kW | Therm |
|---|---|---|---|---|---|---|
| HPwES | W AC | 47.85 | 0.029 | 27.55 |
| | Gas Only | 24.65 | 0 | 27.55 |
| MI | W AC | 46.2 | 0.028 | 25.43 |
| | Gas Only | 23.80 | 0.00 | 25.43 |

| **CRAWL SPACE INSULATION** | **5.6.2** | **RS-SHL-BINS-V02-130601** |
|---|---|---|
| MEASURE LIFE | 25 | |
| MEASURE COST | $7.50 | Per LF, estimated, R11 rigid or draped |
| COINCIDENCE FACTOR | 91.5% | |

kWh = kWh_Cooling + kWh_Heating
kWh_Cooling = (((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) * 24 * CDD * DUA) / (1000 * SEER[base])

| | | |
|---|---|---|
| R_old_AG | 2.25 | |
| R_added | 11 | |
| L_basement_wall_total | 1 | Calculate per-LF value |
| H_basement_wall_AG | 1 | 1' above grade, not including rim joist |
| Framing_factor | 0% | No framing |
| CDD | 436 | Springfield, Unconditioned CDD75 |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois |
| SEER[base] - before 2006 | 10 | 0.90 |
| SEER[base] - 2006+ | 13 | 0.10 |
| SEER[base] | 10.30 | Weighted average |
| kWh_Cooling | 0.28 | |

kWh_Heating = ((((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) + ((1/R_old_BG - 1/(R_added+R_old_BG)) * L_basement_wall_total * (H_basement_wall_total - H_basement_wall_AG) * (1-Framing_factor))) * 24 * HDD) / (COP[base] * 3412)

| | | |
|---|---|---|
| R_old_BG | 6.66 | 2' below grade |
| H_basement_wall_total | 3 | |
| HDD | 2,550 | Springfield, Unconditioned HDD50 |
| COP[base] - HP, before 2006 | 1.70 | 0.90 |
| COP[base] - HP, 2006+ | 1.92 | 0.10 |
| COP[base] - HP | 1.72 | Weighted average |
| COP[base] - Resistance | 1.00 | |
| kWh_Heating | 5.79 | Heat pump |
| kWh_Heating | 9.97 | Resistance |
| **kWh** | **0.28** | AC only |
| **kWh** | **6.07** | Heat pump |
| **kWh** | **9.97** | Resistance, heat only |
| **kWh** | **10.25** | Resistance w/ AC |

| | | | | kWh | kW | Therm |
|---|---|---|---|---|---|---|
| HPwES | HP | 0.8 | 704 | 0.046 | |
| | Resistance, heat only | 0.014 | 20 | 0.001 | |
| | Resistance w/ AC | 0.186 | 276 | 0.010 | |
| | | | 1,000.80 | 0.057 | 0.00 |
| MI | HP | 0.50 | 425 | 0.025 | 0 |
| | Resistance, heat only | 0.13 | 174 | 0.006 | 0 |
| | Resistance w/ AC | 0.38 | 538 | 0.019 | 0 |
| | | | 1,137.50 | 0.049 | 0.000 |

kW = (kWh_Cooling / FLH[cool]) * CF

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[cool] | 663 | Springfield, MF |
| **kW** | **0.0004** | Cooling only, SF |
| **kW** | **0.0004** | Cooling only, MF |

| | | kWh | kW | Therm |
|---|---|---|---|---|
| HPwES | W AC | 105.85 | 0.058 | 71.05 |
| | Gas Only | 65.25 | 0 | 71.05 |
| MI | W AC | 102.2 | 0.056 | 68.06 |
| | Gas Only | 63.00 | 0.00 | 68.06 |

therms = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (AFUE[base] * 100000)
therms = ((((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) + ((1/R_old_BG - 1/(R_added+R_old_BG)) * L_basement_wall_total * (H_basement_wall_total - H_basement_wall_AG) * (1-Framing_factor))) * 24 * HDD) / (AFUE[base] * 100000)
AFUE[base] 70%
**therms** **0.49**
kWh = therms x F[e] x 29.3 Run-time savings due to reduced heating load
F[e] 3.14%
**kWh** **0.45**

| **BASEMENT WALL INSULATION** | **5.6.2** | **RS-SHL-BINS-V02-130601** |
|---|---|---|
| MEASURE LIFE | 25 | |
| MEASURE COST | $10.00 | Per LF, estimated, R11 rigid or draped |
| COINCIDENCE FACTOR | 91.5% | |

kWh = kWh_Cooling + kWh_Heating
kWh_Cooling = (((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) * 24 * CDD * DUA) / (1000 * SEER[base])

| | | |
|---|---|---|
| R_old_AG | 2.25 | |
| R_added | 11 | |
| L_basement_wall_total | 1 | Calculate per-LF value |
| H_basement_wall_AG | 1 | 1' above grade, not including rim joist |
| Framing_factor | 0 | No framing |
| CDD | 436 | Springfield, Unconditioned CDD75 |
| DUA | 0.75 | Based on Wisconsin study, needs updating for Illinois |
| SEER[base] - before 2006 | 10 | 0.90 |
| SEER[base] - 2006+ | 13 | 0.10 |
| SEER[base] | 10.30 | Weighted average |
| kWh_Cooling | 0.28 | |

kWh_Heating = ((((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) + ((1/R_old_BG - 1/(R_added+R_old_BG)) * L_basement_wall_total * (H_basement_wall_total - H_basement_wall_AG) * (1-Framing_factor))) * 24 * HDD) / (COP[base] * 3412)

| | | |
|---|---|---|
| R_old_BG | 7.66 | 3' below grade |
| H_basement_wall_total | 4 | Code only requires the top 4' to be insulated. |
| HDD | 2,550 | Springfield, Unconditioned HDD50 |
| COP[base] - HP, before 2006 | 1.70 | 0.90 |
| COP[base] - HP, 2006+ | 1.92 | 0.10 |
| COP[base] - HP | 1.72 | Weighted average |
| COP[base] - Resistance | 1.00 | |
| kWh_Heating | 6.25 | Heat pump |
| kWh_Heating | 10.76 | Resistance |
| **kWh** | **0.28** | AC only |
| **kWh** | **6.53** | Heat pump |
| **kWh** | **10.76** | Resistance, heat only |
| **kWh** | **11.04** | Resistance w/ AC |

| | | | | kWh | kW | Therm |
|---|---|---|---|---|---|---|
| MI | HP | 0.50 | 457 | 0.025 | 0 |
| | Resistance, heat only | 0.13 | 188 | 0.006 | 0 |
| | Resistance w/ AC | 0.38 | 580 | 0.019 | 0 |
| | | | 1,224.95 | 0.049 | 0.000 |
| | | | | | |
| MI | W AC | | 106.9 | 0.056 | 73.42 |
| | Gas Only | | 67.55 | 0.00 | 73.42 |

kW = (kWh_Cooling / FLH[cool]) * CF

| | | |
|---|---|---|
| FLH[cool] | 730 | Springfield, SF |
| FLH[cool] | 663 | Springfield, MF |
| **kW** | **0.0004** | Cooling only, SF |
| **kW** | **0.0004** | Cooling only, MF |

therms = (((1/R_old - 1/R_wall) * A_wall * (1 - Framing_factor)) * 24 * HDD) / (AFUE[base] * 100000)
therms = ((((1/R_old_AG - 1/(R_added+R_old_AG)) * L_basement_wall_total * H_basement_wall_AG * (1-Framing_factor)) + ((1/R_old_BG - 1/(R_added+R_old_BG)) * L_basement_wall_total * (H_basement_wall_total - H_basement_wall_AG) * (1-Framing_factor))) * 24 * HDD) / (AFUE[base] * 100000)
AFUE[base] 70%
**therms** **0.52**
kWh = therms x F[e] x 29.3 Run-time savings due to reduced heating load
F[e] 3.14%
**kWh** **0.48**

## APPLIANCE RECYCLING

| REFRIGERATOR AND FREEZER RECYCLING | 5.1.8 | RS-APL-RFRC-V02-130601 |
|---|---|---|
| MEASURE LIFE | 8 | Values in shaded areas taken from PY4 EM&V report. |
| MEASURE COST | $120 | Unknown. Use actual program cost for TRC. |
| COINCIDENCE FACTOR | 1.081 | Refrigerators |
| COINCIDENCE FACTOR | 1.028 | Freezers |

**Refrigerators**

kWh = [116.843 + (Age * 10.895) + (Pre1990 * 431.788) + (Size * 19.424) + (SingleDoor * -795.368) + (SidebySide * 426.407) + (Primary% * 170.984) + (CDDs_uncond * 17.342) + (HDDs_uncond * -11.776)] * Part Use Factor

| | | |
|---|---|---|
| CDD | 1,108 | Springfield, CDD65 |
| HDD | 5,497 | Springfield, HDD 65 |
| Days/year | 365.25 | Earth |
| Hours/year | 8,766 | Earth |

| | | Refrigerator | |
|---|---|---|---|
| Intercept | 116.843 | 1.00 | |
| Age | 10.895 | 22.81 | |
| Pre1990 | 431.788 | 0.45 | |
| Size | 19.424 | 18.82 | |
| SingleDoor | -795.368 | 0.10 | |
| SidebySide | 426.407 | 0.17 | |
| Primary% | 170.984 | 0.34 | |
| CDDs_uncond * 17.342 | 52.608 | 0.43 | 17.342 |
| HDDs_uncond * -11.776 | -177.228 | 0.43 | -11.776 |
| Part Use Factor | | 0.876 | |
| **kWh** | | **808.31** | |
| kWh (gross) | | 922.73 | |

kW = kWh/8766 * CF

**kW** **0.0997**

**Freezers**

kWh = [132.122 + (Age * 12.130) + (Pre1990 * 156.181) + (Size * 31.839) + (ChestFreezer * -19.709) + (CDDs_uncond * -12.755) + (HDDs_uncond * 9.778)] *

| | | Freezer | |
|---|---|---|---|
| Intercept | 132.122 | 1.00 | |
| Age | 12.130 | 26.92 | |
| Pre1990 | 156.181 | 0.60 | |
| Size | 31.839 | 15.90 | |
| ChestFreezer | -19.709 | 0.48 | |
| CDDs_uncond * -12.755 | -38.693 | 0.43 | -12.755 |
| HDDs_uncond * 9.778 | 147.159 | 0.43 | 9.778 |
| Part Use Factor | | 0.825 | |
| **kWh** | | **904.03** | |
| kWh (gross) | | 1,095.79 | |

kW = kWh * CF

**kW** **0.1060**

## ENERGY STAR New Homes **Not in IL-TRM**

| Measure | HERS Index | kWh (gross) | kW (gross) | Therms (gross) |
|---|---|---|---|---|
| Rated Home - gas, HERS <=60 | 55 | 0.00 | 0.0000 | 138.00 |
| Rated Home - combo, HERS <=60 | 55 | 2,070.00 | 0.8630 | 138.00 |
| Rated Home - electric, HERS <=60 | 55 | 3,450.00 | 0.8630 | 0.00 |
| | | | | |
| E-Star Home - gas, HERS 51-60 | 55 | 0.00 | 0.0000 | 138.00 |
| E-Star Home - combo, HERS 51-60 | 55 | 2,070.00 | 0.8625 | 138.00 |
| E-Star Home - electric, HERS 51-60 | 55 | 3,450.00 | 0.8625 | 0.00 |
| E-Star Home - gas, HERS 41-50 | 45 | 0.00 | 0.0000 | 218.00 |
| E-Star Home - combo, HERS 41-50 | 45 | 3,270.00 | 1.3625 | 218.00 |
| E-Star Home - electric, HERS 41-50 | 45 | 5,450.00 | 1.3625 | 0.00 |
| E-Star Home - gas, HERS <=40 | 35 | 0.00 | 0.0000 | 298.00 |
| E-Star Home - combo, HERS <=40 | 35 | 4,470.00 | 1.8625 | 298.00 |
| E-Star Home - electric, HERS <=40 | 35 | 7,450.00 | 1.8625 | 0.00 |
| | | | | |
| Rated MF Unit - gas, HERS <=60 | 55 | 0.00 | 0.0000 | 78.00 |
| Rated MF Unit - combo, HERS <=60 | 55 | 1,101.00 | 0.4590 | 78.00 |
| Rated MF Unit - electric, HERS <=60 | 55 | 1,835.00 | 0.4590 | 0.00 |
| | | | | |
| E-Star MF Unit - gas, HERS 51-60 | 55 | 0.00 | 0.0000 | 77.50 |
| E-Star MF Unit - combo, HERS 51-60 | 55 | 1,101.24 | 0.4589 | 77.50 |
| E-Star MF Unit - electric, HERS 51-60 | 55 | 1,835.40 | 0.4589 | 0.00 |
| E-Star MF Unit - gas, HERS 41-50 | 45 | 0.00 | 0.0000 | 122.43 |
| E-Star MF Unit - combo, HERS 41-50 | 45 | 1,739.64 | 0.7249 | 122.43 |
| E-Star MF Unit - electric, HERS 41-50 | 45 | 2,899.40 | 0.7249 | 0.00 |
| E-Star MF Unit - gas, HERS <=40 | 35 | 0.00 | 0.0000 | 167.36 |
| E-Star MF Unit - combo, HERS <=40 | 35 | 2,378.04 | 0.9909 | 167.36 |
| E-Star MF Unit - electric, HERS <=40 | 35 | 3,963.40 | 0.9909 | 0.00 |

| | kWh (gross) | kW (gross) | Therms (gross) |
|---|---|---|---|
| Rated Home - gas heat only, HERS <=60 | 0 | 0.000 | 138 |
| Rated Home - gas heat, HERS <=60 | 2,070 | 0.863 | 138 |
| Rated Home - electric heat, HERS <=60 | 3,450 | 0.863 | 0 |
| E-Star Home - gas heat only, HERS 41-60 | 0 | 0 | 178 |
| E-Star Home - gas heat, HERS 41-60 | 2,670 | 1 | 178 |
| E-Star Home - electric heat, HERS 41-60 | 4,450 | 1 | 0 |
| E-Star Home - gas heat only, HERS <=40 | 0 | 0.000 | 298 |
| E-Star Home - gas heat, HERS <=40 | 4,470 | 1.863 | 298 |
| E-Star Home - electric heat, HERS <=40 | 7,450 | 1.863 | 0 |
| Rated Multifamily Unit - gas heat only, HERS <=60 | 0 | 0.000 | 78.0 |
| Rated Multifamily Unit - gas heat, HERS <=60 | 1,101 | 0.459 | 78 |
| Rated Multifamily Unit - electric heat, HERS <=60 | 1,835 | 0.459 | 0 |
| E-Star Multifamily Unit - gas heat only, HERS 41-60 | 0 | 0 | 100 |
| E-Star Multifamily Unit - gas heat, HERS 41-60 | 1,420 | 1 | 100 |
| E-Star Multifamily Unit - electric heat, HERS 41-60 | 2,367 | 1 | 0 |
| E-Star Multifamily Unit - gas heat only, HERS <=40 | 0 | 0.000 | 167 |
| E-Star Multifamily Unit - gas heat, HERS <=40 | 2,378 | 0.991 | 167 |
| E-Star Multifamily Unit - electric heat, HERS <=40 | 3,963 | 0.991 | 0 |

**New Homes - SF Baseline Energy Use**

| Measure | HERS Index | kWh Baseline | kW Baseline | Therm Baseline |
|---|---|---|---|---|
| 2004 IRC Home - gas heat only | 100 | 0 | 0.000 | 800 |
| 2004 IRC Home - gas heat w/ electric | 100 | 12,000 | 5.000 | 800 |
| 2004 IRC Home - electric heat | 100 | 20,000 | 5.000 | 0 |
| **Percent Improvement** | **15%** | | | |
| 2009 IECC Home - gas heat only | 85 | 0 | 0.000 | 680 |
| 2009 IECC Home - gas heat w/ electric | 85 | 10,200 | 4.250 | 680 |
| 2009 IECC Home - electric heat | 85 | 17,000 | 4.250 | 0 |
| **Percent Improvement** | **15%** | | | |
| 2012 IECC Home - gas heat only | 72 | 0 | 0.000 | 578 |
| 2012 IECC Home - gas heat w/ electric | 72 | 8,670 | 3.613 | 578 |
| 2012 IECC Home - electric heat | 72 | 14,450 | 3.613 | 0 |

**New Homes - MF Baseline Energy Use**

| Measure | HERS Index | kWh Baseline | kW Baseline | Therm Baseline |
|---|---|---|---|---|
| 2004 IRC MF Unit - gas heat only | 100 | 0 | 0.000 | 449 |
| 2004 IRC MF Unit - gas heat w/ electric | 100 | 6,384 | 2.660 | 449 |
| 2004 IRC MF Unit - electric heat | 100 | 10,640 | 2.660 | 0 |
| **Percent Improvement** | **15%** | | | |
| 2009 IECC MF Unit - gas heat only | 85 | 0 | 0.000 | 382 |
| 2009 IECC MF Unit - gas heat w/ electric | 85 | 5,426 | 2.261 | 382 |
| 2009 IECC MF Unit - electric heat | 85 | 9,044 | 2.261 | 0 |
| **Percent Improvement** | **15%** | | | |
| 2012 IECC MF Unit - gas heat only | 72 | 0 | 0.000 | 325 |
| 2012 IECC MF Unit - gas heat w/ electric | 72 | 4,612 | 1.922 | 325 |
| 2012 IECC MF Unit - electric heat | 72 | 7,687 | 1.922 | 0 |

## Lighting

| CFL - DIRECT INSTALL | 5.5.1 | RS-LTG-ESCF-V02-130601 |
|---|---|---|
| EFFICIENT | CFL | |
| BASELINE | Incandescent bulb | |
| MEASURE LIFE | 5.2 | SF & MF In-Unit |
| MEASURE LIFE | 1.7 | MF Common Area |
| MEASURE LIFE | 4.4 | Exterior |
| MEASURE COST | $7.50 | |
| COINCIDENCE FACTOR | 9.5% | SF & MF In-Unit |
| COINCIDENCE FACTOR | 75.0% | MF Common Area |

kWh_total = kWh_light + kWh_heat
kWh_light = ((WattsBase - WattsEE)/1000) * ISR * Hours * WHFe

| | | |
|---|---|---|
| ISR | 96.9% | |
| Hours | 938 | SF & MF In-Unit |
| Hours | 5,950 | MF Common Area |
| Hours | 1,825 | Exterior |
| WHFe | 1.06 | SF |
| WHFe | 1.04 | MF In-Unit |
| WHFe | 1.04 | MF Common Area |
| WHFe | 1.00 | Exterior |

kW = ((WattsBase - WattsEE)/1000) * ISR * WHFd * CF

| | | |
|---|---|---|
| WHFd | 1.11 | SF |
| WHFd | 1.07 | MF In-Unit |
| WHFd | 1.07 | MF Common Area |
| WHFd | 1.00 | Exterior |

kWh_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF) / COP[Heat]
therms_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF * 0.03412) / nHeat

| | |
|---|---|
| HF | 49% |
| nHeat | 70% |

| MEASURE | LOCATION | WattsBase | WattsEE | HP, <2006 | HP, ≥2006 | Resistance | Gas Heat |
|---|---|---|---|---|---|---|---|
| 60w replaced by 14w CFL - Pre-EISA | SF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| 75w replaced by 19w CFL - Pre-EISA | SF | 75 | 19 | -12.47 | -11.04 | -24.94 | 0.00 |
| 100w replaced by 23w CFL - Pre-EISA | SF | 100 | 23 | -17.15 | -15.17 | -34.29 | 0.00 |
| 43w replaced by 14w CFL - Post-EISA | SF | 43 | 14 | -6.46 | -5.71 | -12.92 | 0.00 |
| 53w replaced by 19w CFL - Post-EISA | SF | 53 | 19 | -7.57 | -6.70 | -15.14 | 0.00 |
| 72w replaced by 23w CFL - Post-EISA | SF | 72 | 23 | -10.91 | -9.66 | -21.82 | 0.00 |
| 60w replaced by 14w CFL - Pre-EISA | MF In-Unit | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| 75w replaced by 19w CFL - Pre-EISA | MF In-Unit | 75 | 19 | -12.47 | -11.04 | -24.94 | 0.00 |
| 100w replaced by 23w CFL - Pre-EISA | MF In-Unit | 100 | 23 | -17.15 | -15.17 | -34.29 | 0.00 |
| 43w replaced by 14w CFL - Post-EISA | MF In-Unit | 43 | 14 | -6.46 | -5.71 | -12.92 | 0.00 |
| 53w replaced by 19w CFL - Post-EISA | MF In-Unit | 53 | 19 | -7.57 | -6.70 | -15.14 | 0.00 |
| 72w replaced by 23w CFL - Post-EISA | MF In-Unit | 72 | 23 | -10.91 | -9.66 | -21.82 | 0.00 |
| 60w replaced by 14w CFL - Pre-EISA | MF CA | 60 | 14 | -64.98 | -57.50 | -129.96 | 0.00 |
| 75w replaced by 19w CFL - Pre-EISA | MF CA | 75 | 19 | -79.10 | -70.00 | -158.21 | 0.00 |
| 100w replaced by 23w CFL - Pre-EISA | MF CA | 100 | 23 | -108.77 | -96.25 | -217.53 | 0.00 |
| 43w replaced by 14w CFL - Post-EISA | MF CA | 43 | 14 | -40.96 | -36.25 | -81.93 | 0.00 |
| 53w replaced by 19w CFL - Post-EISA | MF CA | 53 | 19 | -48.03 | -42.50 | -96.05 | 0.00 |
| 72w replaced by 23w CFL - Post-EISA | MF CA | 72 | 23 | -69.22 | -61.25 | -138.43 | 0.00 |
| | | | Frequency | 1.53% | 0.17% | 12.90% | 85.40% |

| MEASURE | LOCATION | WattsBase | WattsEE | kWh_light | kWh_heat | **kWh_total** | **kW** | **therms** |
|---|---|---|---|---|---|---|---|---|
| 60w replaced by 14w CFL - Pre-EISA | SF | 60 | 14 | 44.32 | -2.81 | **41.50** | **0.0047** | **-1.00** |
| 75w replaced by 19w CFL - Pre-EISA | SF | 75 | 19 | 53.95 | -3.43 | **50.53** | **0.0057** | **-1.22** |
| 100w replaced by 23w CFL - Pre-EISA | SF | 100 | 23 | 74.19 | -4.71 | **69.47** | **0.0079** | **-1.67** |
| 43w replaced by 14w CFL - Post-EISA | SF | 43 | 14 | 27.94 | -1.77 | **26.17** | **0.0030** | **-0.63** |
| 53w replaced by 19w CFL - Post-EISA | SF | 53 | 19 | 32.76 | -2.08 | **30.68** | **0.0035** | **-0.74** |
| 72w replaced by 23w CFL - Post-EISA | SF | 72 | 23 | 47.21 | -3.00 | **44.21** | **0.0050** | **-1.06** |
| 60w replaced by 14w CFL - Pre-EISA | MF In-Unit | 60 | 14 | 43.48 | -2.81 | **40.67** | **0.0045** | **-1.00** |
| 75w replaced by 19w CFL - Pre-EISA | MF In-Unit | 75 | 19 | 52.94 | -3.43 | **49.51** | **0.0055** | **-1.22** |
| 100w replaced by 23w CFL - Pre-EISA | MF In-Unit | 100 | 23 | 72.79 | -4.71 | **68.07** | **0.0076** | **-1.67** |
| 43w replaced by 14w CFL - Post-EISA | MF In-Unit | 43 | 14 | 27.41 | -1.77 | **25.64** | **0.0029** | **-0.63** |
| 53w replaced by 19w CFL - Post-EISA | MF In-Unit | 53 | 19 | 32.14 | -2.08 | **30.06** | **0.0033** | **-0.74** |
| 72w replaced by 23w CFL - Post-EISA | MF In-Unit | 72 | 23 | 46.32 | -3.00 | **43.32** | **0.0048** | **-1.06** |
| 60w replaced by 14w CFL - Pre-EISA | MF CA | 60 | 14 | 275.82 | -17.86 | **257.97** | **0.0358** | **-6.33** |
| 75w replaced by 19w CFL - Pre-EISA | MF CA | 75 | 19 | 335.79 | -21.74 | **314.05** | **0.0435** | **-7.71** |
| 100w replaced by 23w CFL - Pre-EISA | MF CA | 100 | 23 | 461.71 | -29.89 | **431.82** | **0.0599** | **-10.60** |
| 43w replaced by 14w CFL - Post-EISA | MF CA | 43 | 14 | 173.89 | -11.26 | **162.63** | **0.0226** | **-3.99** |
| 53w replaced by 19w CFL - Post-EISA | MF CA | 53 | 19 | 203.87 | -13.20 | **190.67** | **0.0264** | **-4.68** |
| 72w replaced by 23w CFL - Post-EISA | MF CA | 72 | 23 | 293.81 | -19.02 | **274.79** | **0.0381** | **-6.75** |
| 60w replaced by 14w CFL - Pre-EISA | Exterior | 60 | 14 | 81.35 | 0.00 | **81.35** | **0.0334** | **0.00** |
| 75w replaced by 19w CFL - Pre-EISA | Exterior | 75 | 19 | 99.03 | 0.00 | **99.03** | **0.0407** | **0.00** |
| 100w replaced by 23w CFL - Pre-EISA | Exterior | 100 | 23 | 136.17 | 0.00 | **136.17** | **0.0560** | **0.00** |
| 43w replaced by 14w CFL - Post-EISA | Exterior | 43 | 14 | 51.28 | 0.00 | **51.28** | **0.0211** | **0.00** |
| 53w replaced by 19w CFL - Post-EISA | Exterior | 53 | 19 | 60.13 | 0.00 | **60.13** | **0.0247** | **0.00** |
| 72w replaced by 23w CFL - Post-EISA | Exterior | 72 | 23 | 86.65 | 0.00 | **86.65** | **0.0356** | **0.00** |

| SPECIALTY CFL - DIRECT INSTALL | 5.5.2 | RS-LTG-ESCC-V02-130601 |
|---|---|---|
| EFFICIENT | Specialty CFL | |
| BASELINE | Incandescent bulb | |
| MEASURE LIFE | 6.8 | SF & MF In-Unit |
| MEASURE LIFE | 4.4 | Exterior |
| MEASURE COST | $13.50 | |
| COINCIDENCE FACTOR | 8.1% | Three-way |
| COINCIDENCE FACTOR | 8.1% | Dimmable |
| COINCIDENCE FACTOR | 9.5% | Interior reflector |
| COINCIDENCE FACTOR | 18.4% | Exterior reflector |
| COINCIDENCE FACTOR | 12.2% | Candelabra base |
| COINCIDENCE FACTOR | 18.4% | Bug light |
| COINCIDENCE FACTOR | 18.4% | Post light (>100W) |
| COINCIDENCE FACTOR | 9.5% | Daylight |
| COINCIDENCE FACTOR | 9.5% | Plant light |
| COINCIDENCE FACTOR | 11.6% | Globe |
| COINCIDENCE FACTOR | 9.5% | Vibration or shatterproof |
| COINCIDENCE FACTOR | 9.5% | Standard sprial (≥150W) |
| COINCIDENCE FACTOR | 9.5% | Specialty - generic |

kWh_total = kWh_light + kWh_heat
kWh_light = ((WattsBase - WattsEE)/1000) * ISR * Hours * WHFe

| | | |
|---|---|---|
| ISR | 96.9% | |
| Hours | 897 | Three-way |
| Hours | 897 | Dimmable |
| Hours | 938 | Interior reflector |
| Hours | 1,825 | Exterior reflector |
| Hours | 1,328 | Candelabra base |
| Hours | 1,825 | Bug light |
| Hours | 1,825 | Post light (≥100W) |
| Hours | 938 | Daylight |
| Hours | 938 | Plant light |
| Hours | 1,240 | Globe |
| Hours | 938 | Vibration or shatterproof |
| Hours | 938 | Standard sprial (≥150W) |
| Hours | 938 | Specialty - generic |
| WHFe | 1.06 | SF |
| WHFe | 1.04 | MF |
| WHFe | 1.00 | Exterior |

kW = ((WattsBase - WattsEE)/1000) * ISR * WHFd * CF

| | | | |
|---|---|---|---|
| WHFd | 1.11 | SF | |
| WHFd | 1.07 | MF | |
| WHFd | 1.00 | Exterior | |

kWh_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF) / COP[Heat]
therms_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF * 0.03412) / nHeat

| | | | |
|---|---|---|---|
| HF | 49% | Interior | |
| HF | 0% | Exterior | |
| COP[Heat] | 2.00 | 1.53% | Heat pump, before 2006 |
| COP[Heat] | 2.26 | 0.17% | Heat pump, 2006 and after |
| COP[Heat] | 1.00 | 12.90% | Resistance |
| COP[Heat] | 0.00 | 85.40% | Gas heat |
| nHeat | 70% | | |

| MEASURE | LOCATION | WattsBase | WattsEE | HP, <2006 | HP, ≥2006 | Resistance | Gas Heat |
|---|---|---|---|---|---|---|---|
| Three-way | SF | 60 | 14 | -9.80 | -8.67 | -19.59 | 0.00 |
| Dimmable | SF | 60 | 14 | -9.80 | -8.67 | -19.59 | 0.00 |
| Interior reflector | SF | 40 | 14 | -5.79 | -5.12 | -11.58 | 0.00 |
| Exterior reflector | Exterior | 40 | 14 | 0.00 | 0.00 | 0.00 | 0.00 |
| Candelabra base | SF | 60 | 14 | -14.50 | -12.83 | -29.01 | 0.00 |
| Bug light | Exterior | 60 | 14 | 0.00 | 0.00 | 0.00 | 0.00 |
| Post light (≥100W) | Exterior | 100 | 26 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daylight | SF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Plant light | SF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Globe | SF | 60 | 14 | -13.54 | -11.98 | -27.08 | 0.00 |
| Vibration or shatterproof | SF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Standard sprial (≥150W) | SF | 150 | 38 | -24.94 | -22.07 | -49.88 | 0.00 |
| Specialty - generic | SF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Three-way | MF | 60 | 14 | -9.80 | -8.67 | -19.59 | 0.00 |
| Dimmable | MF | 60 | 14 | -9.80 | -8.67 | -19.59 | 0.00 |
| Interior reflector | MF | 40 | 14 | -5.79 | -5.12 | -11.58 | 0.00 |
| Exterior reflector | Exterior | 40 | 14 | 0.00 | 0.00 | 0.00 | 0.00 |
| Candelabra base | MF | 60 | 14 | -14.50 | -12.83 | -29.01 | 0.00 |
| Bug light | Exterior | 60 | 14 | 0.00 | 0.00 | 0.00 | 0.00 |
| Post light (≥100W) | Exterior | 100 | 26 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daylight | MF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Plant light | MF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Globe | MF | 60 | 14 | -13.54 | -11.98 | -27.08 | 0.00 |
| Vibration or shatterproof | MF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| Standard sprial (≥150W) | MF | 150 | 38 | -24.94 | -22.07 | -49.88 | 0.00 |
| Specialty - generic | MF | 60 | 14 | -10.24 | -9.07 | -20.49 | 0.00 |
| | | | Frequency | 1.53% | 0.17% | 12.90% | 85.40% |

| MEASURE | LOCATION | WattsBase | WattsEE | kWh_light | kWh_heat | **kWh_total** | **kW** | **therms** |
|---|---|---|---|---|---|---|---|---|
| Three-way | SF | 60 | 14 | 42.38 | -2.69 | **39.69** | **0.0040** | **-0.82** |
| Dimmable | SF | 60 | 14 | 42.38 | -2.69 | **39.69** | **0.0040** | **-0.82** |
| Interior reflector | SF | 40 | 14 | 25.05 | -1.59 | **23.46** | **0.0027** | **-0.48** |
| Exterior reflector | Exterior | 40 | 14 | 45.98 | 0.00 | **45.98** | **0.0046** | **0.00** |
| Candelabra base | SF | 60 | 14 | 62.75 | -3.99 | **58.76** | **0.0060** | **-1.21** |
| Bug light | Exterior | 60 | 14 | 81.35 | 0.00 | **81.35** | **0.0082** | **0.00** |
| Post light (≥100W) | Exterior | 100 | 26 | 130.86 | 0.00 | **130.86** | **0.0132** | **0.00** |
| Daylight | SF | 60 | 14 | 44.32 | -2.81 | **41.50** | **0.0047** | **-0.85** |
| Plant light | SF | 60 | 14 | 44.32 | -2.81 | **41.50** | **0.0047** | **-0.85** |
| Globe | SF | 60 | 14 | 58.59 | -3.72 | **54.87** | **0.0057** | **-1.13** |
| Vibration or shatterproof | SF | 60 | 14 | 44.32 | -2.81 | **41.50** | **0.0047** | **-0.85** |
| Standard sprial (≥150W) | SF | 150 | 38 | 107.91 | -6.85 | **101.05** | **0.0114** | **-2.08** |
| Specialty - generic | SF | 60 | 14 | 44.32 | -2.81 | **41.50** | **0.0047** | **-0.85** |
| Three-way | MF | 60 | 14 | 41.58 | -2.69 | **38.89** | **0.0039** | **-0.82** |
| Dimmable | MF | 60 | 14 | 41.58 | -2.69 | **38.89** | **0.0039** | **-0.82** |
| Interior reflector | MF | 40 | 14 | 24.58 | -1.59 | **22.99** | **0.0026** | **-0.48** |
| Exterior reflector | Exterior | 40 | 14 | 45.98 | 0.00 | **45.98** | **0.0046** | **0.00** |
| Candelabra base | MF | 60 | 14 | 61.56 | -3.99 | **57.58** | **0.0058** | **-1.21** |
| Bug light | Exterior | 60 | 14 | 81.35 | 0.00 | **81.35** | **0.0082** | **0.00** |
| Post light (≥100W) | Exterior | 100 | 26 | 130.86 | 0.00 | **130.86** | **0.0132** | **0.00** |
| Daylight | MF | 60 | 14 | 43.48 | -2.81 | **40.67** | **0.0045** | **-0.85** |
| Plant light | MF | 60 | 14 | 43.48 | -2.81 | **40.67** | **0.0045** | **-0.85** |
| Globe | MF | 60 | 14 | 57.48 | -3.72 | **53.76** | **0.0055** | **-1.13** |
| Vibration or shatterproof | MF | 60 | 14 | 43.48 | -2.81 | **40.67** | **0.0045** | **-0.85** |
| Standard sprial (≥150W) | MF | 150 | 38 | 105.87 | -6.85 | **99.02** | **0.0110** | **-2.08** |
| Specialty - generic | MF | 60 | 14 | 43.48 | -2.81 | **40.67** | **0.0045** | **-0.85** |

| **CFL** | **5.5.1** | **RS-LTG-ESCF-V02-130601** |
|---|---|---|
| EFFICIENT | CFL | |
| BASELINE | Incandescent bulb | |
| MEASURE LIFE | 5.2 | SF PY7 Install |
| MEASURE LIFE | 5.0 | SF PY8 Install |
| MEASURE LIFE | 4.0 | SF PY9 Install |
| MEASURE COST | $1.90 | |
| COINCIDENCE FACTOR | 9.5% | SF & MF In-Unit |

kWh_total = kWh_light + kWh_heat
kWh_light = ((WattsBase - WattsEE)/1000) * ISR * Hours * WHFe

| | | |
|---|---|---|
| ISR | 96.9% | |
| Hours | 938 | SF & MF In-Unit |
| Hours | 5,950 | MF Common Area |
| Hours | 1,825 | Exterior |
| WHFe | 1.06 | SF |
| WHFe | 1.04 | MF In-Unit |
| WHFe | 1.04 | MF Common Area |
| WHFe | 1.00 | Exterior |

kW = ((WattsBase - WattsEE)/1000) * ISR * WHFd * CF

| | | |
|---|---|---|
| WHFd | 1.11 | SF |
| WHFd | 1.07 | MF In-Unit |
| WHFd | 1.07 | MF Common Area |
| WHFd | 1.00 | Exterior |

kWh_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF) / COP[Heat]
therms_heat = - (((WattsBase - WattsEE)/1000) * ISR * Hours * HF * 0.03412) / nHeat

| | |
|---|---|
| HF | 49% |
| nHeat | 70% |

| Measure | Watt Base | Watt EE | ISR | Hours | Whfe | Whfd | CF | HF | nHeat | | Calculated kWh | kW | Therm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard CFL Y7 Install | 72 | 25 | 0.695 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.16 | 28.91 | 0.0033 | -0.65 |
| Standard CFL Y7 Install | 53 | 20 | 0.695 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.08 | 20.30 | 0.0023 | -0.46 |
| Standard CFL Y7 Install | 43 | 14 | 0.695 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.70 | 17.84 | 0.0020 | -0.40 |
| Standard CFL Y7 Install | 29 | 10 | 0.695 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.06 | 11.69 | 0.0013 | -0.26 |
| | | | | | | | | | | 1.00 | 19.43 | 0.0022 | -0.44 |
| Standard CFL Y8 Install | 72 | 25 | 0.154 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.16 | 6.40 | 0.0007 | -0.14 |
| Standard CFL Y8 Install | 53 | 20 | 0.154 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.08 | 4.50 | 0.0005 | -0.10 |
| Standard CFL Y8 Install | 43 | 14 | 0.154 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.70 | 3.95 | 0.0004 | -0.09 |
| Standard CFL Y8 Install | 29 | 10 | 0.154 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.06 | 2.59 | 0.0003 | -0.06 |
| | | | | | | | | | | | 4.31 | 0.0005 | -0.0970 |
| Standard CFL Y9 Install | 72 | 25 | 0.131 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.16 | 5.45 | 0.0006 | -0.12 |
| Standard CFL Y9 Install | 53 | 20 | 0.131 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.08 | 3.83 | 0.0004 | -0.09 |
| Standard CFL Y9 Install | 43 | 14 | 0.131 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.70 | 3.36 | 0.0004 | -0.08 |
| Standard CFL Y9 Install | 29 | 10 | 0.131 | 834.82 | 1.06 | 1.11 | 0.095 | 0.49 | 0.7 | 0.06 | 2.20 | 0.0003 | -0.05 |
| | | | | | | | | | | | 3.66 | 0.0004 | -0.0825 |

| SHOWERHEAD - DIRECT INSTALL | 5.4.5 | RS-HWE-LFSH-V02-130601 |
|---|---|---|
| EFFICIENT | 1.75 gpm showerhead | |
| BASELINE | 2.5+ gpm showerhead | |
| MEASURE LIFE | 10 | |
| MEASURE COST | $12 | |
| COINCIDENCE FACTOR | 2.78% | |

kWh = %ElectricDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * SPCD * 365.25 / SPH) * EPG_electric * ISR

| | | |
|---|---|---|
| %ElectricDHW | 100% | |
| GPM_base | 2.67 | Gallons per minute |
| L_base | 8.20 | Length of shower |
| GPM_low | 1.75 | Gallons per minute |
| L_low | 8.20 | Length of shower |
| Household | 2.56 | SF |
| Household | 2.10 | MF |
| SPCD | 0.75 | Showers per capita per day |
| SPH | 1.79 | SF |
| SPH | 1.30 | MF |
| EPG_electric | 0.127 | kWh/gal |
| ISR | 0.98 | In-Service Rate, Direct Install, SF |
| ISR | 0.98 | In-Service Rate, Direct Install, MF |
| **kWh** | **367.85** | SF |
| **kWh** | **415.49** | MF |

kW = kWh/Hours x CF

| | | |
|---|---|---|
| Hours | 431 | |
| Hours | 354 | |
| **kW** | **0.0237** | SF |
| **kW** | **0.0268** | MF |

therms = %FossilDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * SPCD * 365.25 / SPH) * EPG_gas * ISR

| | | |
|---|---|---|
| %FossilDHW | 100% | |
| EPG_gas | 0.0054 | SF |
| EPG_gas | 0.0063 | MF |
| **therms** | **15.64** | SF |
| **therms** | **20.61084** | MF |

| FAUCET AERATOR - DIRECT INSTALL | 5.4.4 | RS-HWE-LFFA-V02-130601 |
|---|---|---|
| EFFICIENT | 2.2 gpm kitchen aerator | |
| BASELINE | 2.75+ gpm kitchen aerator | |
| EFFICIENT | 1.5 gpm bath aerator | |
| BASELINE | 2.25+ gpm bath aerator | |
| MEASURE LIFE | 9 | |
| MEASURE COST | $8 | |
| COINCIDENCE FACTOR | 2.2% | |

kWh = %ElectricDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * 365.25 * DF / FPH) * EPG_electric * ISR

| | | |
|---|---|---|
| %ElectricDHW | 100% | |
| GPM_base | 1.20 | Gallons per minute |
| L_base | 9.85 | Length of faucet use |
| GPM_low | 0.94 | Gallons per minute |
| L_low | 9.85 | Length of faucet use |
| Household | 2.56 | SF |
| Household | 2.10 | MF |
| DF | 0.795 | |
| FPH | 3.83 | SF |
| FPH | 2.50 | MF |
| EPG_electric | 0.0894 | kWh/gal |
| ISR | 0.950 | In-Service Rate, Direct Install, SF |
| ISR | 0.937 | In-Service Rate, Direct Install, MF (blended average) |
| **kWh** | **42.22** | SF |
| **kWh** | **53.053** | MF |

kW = kWh/Hours x CF

| | | |
|---|---|---|
| Hours | 45 | SF |
| Hours | 57 | MF |
| **kW** | **0.0206** | SF |
| **kW** | **0.0205** | MF |

therms = %FossilDHW * (((GPM_base * L_base) - (GPM_low * L_low)) * Household * 365.25 * DF / FPH) * EPG_gas * ISR

| | | |
|---|---|---|
| %FossilDHW | 100% | |
| EPG_gas | 0.00399 | SF |
| EPG_gas | 0.00446 | MF |
| **therms** | **1.8900** | SF |
| **therms** | **2.61000** | MF |

| WATER HEATER TEMPERATURE SETBACK | 5.4.6 | RS-HWE-TMPS-V02-130601 |
|---|---|---|
| EFFICIENT | 120 degrees | |
| BASELINE | 130+ degrees | |
| MEASURE LIFE | 2 | |
| MEASURE COST | $5 | |
| COINCIDENCE FACTOR | 100% | |
| | | |
| **kWh** | **86.40** | |
| **kW** | **0.0099** | |
| | | |
| **therms** | **6.40** | |
| **kWh penalty** | **-34.20** | |

**BPL41 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL41 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 768 |
| Number of Participants | 40,593 |
| Gross kWh saved* | 12,131,786 |
| Gross kW demand reduction | 2,087 |
| Gross therms saved | -144,317 |
| Total Incentives** | $ 521,993 |
| Gross kWh/Measure | 298.86 |
| Gross kW/Measure | 0.05 |
| Gross Therms/Measure | -3.56 |
| Average Incentive $/Gross kWh | $0.043 |
| Average Gross kWh/project | 15,797 |
| Average Incentive/project | $680 |

*Including heating penalties
**Incl including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 9,462,793 |
| Net kW demand saved | 1,628 |
| Net therms saved | -112,567 |
| Incentive $/Net kWh | $0.055 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 11,992 |
| Grocery | 12,822 |
| Healthcare Clinic | 23,524 |
| Hospital | 63,336 |
| Heavy Industry | 29,856 |
| Light Industry | 21,031 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 7,757 |
| Retail/Service | 13,431 |
| College/University | 15,342 |
| Warehouse | 6,490 |
| Multi-family Common Areas | 741 |
| Miscellaneous | 18,177 |
| **Total for entire program** | **15,797** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| Building Type | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL41 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = ((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt reduced** | $0.25 |

## Project-Level Breakdown of kW Reduced

| Building Type | Project-Level Inputs | | | |
|---|---|---|---|---|
| | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 110 | 71 | 56 | 2.16 |
| Grocery | 169 | 90 | 21 | 1.64 |
| Healthcare Clinic | 121 | 73 | 72 | 3.45 |
| Hospital | 124 | 78 | 171 | 7.77 |
| Heavy Industry | 149 | 85 | 91 | 5.82 |
| Light Industry | 148 | 84 | 60 | 3.84 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 148 | 82 | 24 | 1.58 |
| Retail/Service | 159 | 84 | 32 | 2.39 |
| College/University | 130 | 77 | 72 | 3.80 |
| Warehouse | 130 | 79 | 24 | 1.22 |
| Multi-family Common Areas | 90 | 59 | 3 | 0.09 |
| Miscellaneous | 154 | 79 | 43 | 3.24 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| Building Type | Inputs Based on Projected Participation | | |
|---|---|---|---|
| | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 298 | 2.16 | 0.4% |
| Grocery | 10 | 1.64 | 20.0% |
| Healthcare Clinic | 95 | 3.45 | 0% |
| Hospital | 11 | 7.77 | 0% |
| Heavy Industry | 18 | 5.82 | 40.0% |
| Light Industry | 67 | 3.84 | 24.1% |
| Hotel/Motel Common Areas | 0 | 0 | 0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0% |
| High School/Middle School | 0 | 0 | 0% |
| Elementary School | 0 | 0 | 0% |
| Restaurant | 7 | 1.58 | 0% |
| Retail/Service | 172 | 2.39 | 20.3% |
| College/University | 16 | 3.80 | 0% |
| Warehouse | 30 | 1.22 | 26.1% |
| Multi-family Common Areas | 3 | 0.09 | 0% |
| Miscellaneous | 41 | 3.24 | 5.3% |

## Full Calculations

| Building Type | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 110 | 71.10 | 56.00 | 2.16 | 298 | 0.4% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 644.52 | 1.25 | 1.30 | $ 161,129 | 3,573,469 | 552.50 | -45,776 | 11,992 |
| Grocery | 169 | 90.20 | 21.00 | 1.64 | 10 | 20.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 16.44 | 1.34 | 1.42 | $ 4,111 | 128,221 | 16.07 | -1,145 | 12,822 |
| Healthcare Clinic | 121 | 72.87 | 72.00 | 3.45 | 95 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 327.33 | 1.34 | 1.57 | $ 81,832 | 2,234,772 | 385.43 | -13,342 | 23,524 |
| Hospital | 124 | 78.14 | 171.00 | 7.77 | 11 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 85.47 | 1.35 | 1.69 | $ 21,367 | 696,691 | 108.33 | -5,677 | 63,336 |
| Heavy Industry | 149 | 85.07 | 91.00 | 5.82 | 18 | 40.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 104.72 | 1.02 | 1.04 | $ 26,181 | 537,410 | 96.56 | -4,223 | 29,856 |
| Light Industry | 148 | 84.09 | 60.00 | 3.84 | 67 | 24.1% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 257.04 | 1.02 | 1.05 | $ 64,260 | 1,409,097 | 247.24 | -11,022 | 21,031 |
| Hotel/Motel Common Areas | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 148 | 82.00 | 24.00 | 1.58 | 7 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 11.03 | 1.34 | 1.65 | $ 2,758 | 54,298 | 14.56 | -932 | 7,757 |
| Retail/Service | 159 | 84.36 | 32.00 | 2.39 | 172 | 20.3% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 410.94 | 1.19 | 1.35 | $ 102,734 | 2,310,184 | 460.70 | -46,541 | 13,431 |
| College/University | 130 | 77.00 | 72.00 | 3.80 | 16 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 60.83 | 1.14 | 1.50 | $ 15,206 | 245,468 | 51.09 | -4,522 | 15,342 |
| Warehouse | 130 | 79.30 | 24.00 | 1.22 | 30 | 26.1% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 36.69 | 1.12 | 1.13 | $ 9,172 | 194,712 | 28.91 | -2,612 | 6,490 |
| Multi-family Common Areas | 90 | 59.00 | 3.00 | 0.09 | 3 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0.28 | 1.34 | 1.57 | $ 70 | 2,224 | 0.33 | -25 | 741 |
| Miscellaneous | 154 | 78.53 | 43.00 | 3.24 | 41 | 5.3% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 132.69 | 1.23 | 1.44 | $ 33,172 | 745,239 | 125.74 | -8,501 | 18,177 |

**BPL42 Model to predict annual program performance based on anticipated participation distribution**

### Program Performance Totals for Measure BPL42 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 82 |
| Number of Participants | 4,246 |
| Gross kWh saved* | 1,766,316 |
| Gross kW demand reduction | 277 |
| Gross therms saved | -16,617 |
| Total Incentives** | $ 59,287 |
| Gross kWh/Measure | 416.00 |
| Gross kW/Measure | 0.07 |
| Gross Therms/Measure | -3.91 |
| Average Incentive $/Gross kWh | $0.034 |
| Average Gross kWh/project | 21,541 |
| Average Incentive/project | $723 |

*Including heating penalties
**Not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 1,377,762 |
| Net kW demand saved | 216 |
| Net therms saved | -12,962 |
| Incentive $/Net kWh | $0.043 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 6,949 |
| Grocery | 9,804 |
| Healthcare Clinic | 14,512 |
| Hospital | 53,674 |
| Heavy Industry | - |
| Light Industry | - |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 5,954 |
| College/University | - |
| Warehouse | 21,001 |
| Multi-family Common Areas | - |
| Miscellaneous | 5,164 |
| **Total for entire program** | **21,541** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

### TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.66 | 0.66 | 0.014 | 100% |

**BPL42 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures)**

**The TRM defines the following energy savings calculation algorithms:**

kWh = ((WattsBase-WattsEE)/1000) * Hours *WHFe*ISR

kW =((WattsBase-WattsEE)/1000) * WHFd*CF*ISR

kTherms = ((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| WattsBase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

### Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

### Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 125 | 66 | 21 | 1.25 |
| Grocery | 140 | 68 | 13 | 1.19 |
| Healthcare Clinic | 115 | 66 | 43 | 2.13 |
| Hospital | 113 | 57 | 110 | 6.58 |
| Heavy Industry | 0 | 0 | 0 | 0 |
| Light Industry | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 110 | 64 | 22 | 1.02 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 151 | 92 | 75 | 4.43 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 |
| Miscellaneous | 74 | 39 | 26 | 0.91 |

*This value is (WattsBase-WattsEE)/1000 in the savings algorithm

### Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncoaled buildings (WHFe=1) |
| Office | 21 | 1.25 | 0.0% |
| Grocery | 11 | 1.19 | 0.0% |
| Healthcare Clinic | 3 | 2.13 | 0.0% |
| Hospital | 24 | 6.58 | 0.0% |
| Heavy Industry | 0 | 0 | 0.0% |
| Light Industry | 0 | 0 | 0.0% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 17 | 1.02 | 0.0% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 3 | 4.43 | 100.0% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 3 | 0.91 | 0.0% |

### Full Calculations

| Projections | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncoaled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 125 | 65.79 | 21 | 1.25 | 21 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 26.30 | 1.25 | 1.30 | $ 6,575 | 145,921 | 22.56 | -1,868 | 6,949 |
| Grocery | 140 | 68.00 | 13 | 1.19 | 11 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 13.13 | 1.43 | 1.52 | $ 3,283 | 108,942 | 13.77 | -914 | 9,904 |
| Healthcare Clinic | 115 | 65.50 | 43 | 2.13 | 3 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 6.39 | 1.34 | 1.57 | $ 1,596 | 43,596 | 7.52 | -260 | 14,532 |
| Hospital | 113 | 57.27 | 110 | 6.58 | 24 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 158.01 | 1.35 | 1.69 | $ 39,503 | 1,288,166 | 200.31 | -10,496 | 53,674 |
| Heavy Industry | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 0 | 1.03 | 1.06 | $ - | 0 | 0 | 0 | 0 |
| Light Industry | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 0 | 1.03 | 1.06 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 110 | 63.92 | 22 | 1.02 | 17 | 0.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 17.30 | 1.24 | 1.44 | $ 4,324 | 101,217 | 20.67 | -1,959 | 5,954 |
| College/University | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 151 | 92.00 | 75 | 4.43 | 3 | 100.0% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 13.28 | 1.00 | 1.00 | $ 3,319 | 63,003 | 9.28 | -045 | 21,001 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 74 | 39.00 | 26 | 0.91 | 3 | 0.0% | 4,576 | 1.24 | 1.66 | 0.66 | 0.014 | 100% | 2.73 | 1.24 | 1.66 | $ 683 | 15,491 | 2.63 | -175 | 5,164 |

## BPL43 Model to predict annual program performance based on anticipated participation distribution

### Program Performance Totals for Measure BPL43 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 873 |
| Number of Participants | 7,862 |
| Gross kWh saved* | 6,441,651 |
| Gross kW demand reduction | 1,071 |
| Gross therms saved | -71,477 |
| Total Incentives** | $ 243,038 |
| Gross kWh/Measure | 819.34 |
| Gross kW/Measure | 0.14 |
| Gross Therms/Measure | -9.09 |
| Average Incentive $/Gross kWh | $0.038 |
| Average Gross kWh/project | 7,379 |
| Average Incentive/project | $278 |

**Including heating penalties*

***Not including bonuses*

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 5,024,488 |
| Net kW demand saved | 835 |
| Net therms saved | -55,752 |
| Incentive $/Net kWh | $0.048 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 5,290 |
| Grocery | 809 |
| Healthcare Clinic | 6,687 |
| Hospital | 111,137 |
| Heavy Industry | 4,805 |
| Light Industry | 5,728 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 10,185 |
| College/University | - |
| Warehouse | 3,214 |
| Multi-family Common Areas | 686 |
| Miscellaneous | 1,000 |
| **Total for entire program** | **7,379** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

### TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL43 savings calculations are based on the IL Statewide TRM sections 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

$\Delta kWh = ((Wattsbase-WattsEE)/1000) * Hours * WHFe * ISR$

$\Delta kW = ((Wattsbase-WattsEE)/1000) * WHFd * CF * ISR$

$\Delta Therms = (((WattsBase-WattsEE)/1000) * ISR * Hours * -IFTherms$

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

### Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

### Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 129 | 23 | 9 | 0.95 |
| Grocery | 120 | 22 | 1 | 0.10 |
| Healthcare Clinic | 113 | 24 | 11 | 0.98 |
| Hospital | 206 | 22 | 74 | 13.63 |
| Heavy Industry | 103 | 26 | 12 | 0.93 |
| Light Industry | 159 | 28 | 8 | 1.05 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 142 | 26 | 15 | 1.74 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 198 | 29 | 4 | 0.68 |
| Multi-family Common Areas | 110 | 24 | 1 | 0.09 |
| Miscellaneous | 200 | 24 | 1 | 0.18 |

**This value is (Wattsbase-WattsEE)/1000 in the savings algorithm*

### Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 264 | 0.95 | 0.0% |
| Grocery | 242 | 0.10 | 0.0% |
| Healthcare Clinic | 97 | 0.98 | 0.0% |
| Hospital | 23 | 13.63 | 0.0% |
| Heavy Industry | 20 | 0.93 | 0.0% |
| Light Industry | 43 | 1.05 | 25.0% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 117 | 1.74 | 0.0% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 23 | 0.68 | 100.0% |
| Multi-family Common Areas | 24 | 0.09 | 0.0% |
| Miscellaneous | 20 | 0.18 | 0.0% |

**BPL44 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL44 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 19 |
| Number of Participants | 728 |
| Gross kWh saved* | 72,972 |
| Gross kW demand reduction | 11 |
| Gross therms saved | -918 |
| Total Incentives** | $ 3,214 |
| Gross kWh/Measure | 100.24 |
| Gross kW/Measure | 0.02 |
| Gross Therms/Measure | -1.26 |
| Average Incentive $/Gross kWh | $0.044 |
| Average Gross kWh/project | 3,841 |
| Average Incentive/project | $169 |

*Including heating penalties
**Incl including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 56,918 |
| Net kW demand saved | 9 |
| Net therms saved | -716 |
| Incentive $/Net kWh | $0.056 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 13,598 |
| Grocery | 2,091 |
| Healthcare Clinic | - |
| Hospital | - |
| Heavy Industry | - |
| Light Industry | 375 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 1,164 |
| College/University | - |
| Warehouse | 3,101 |
| Multi-family Common Areas | - |
| Miscellaneous | 3,870 |
| **Total for entire program** | **3,841** |

## Net-to-Gross Ratio

| NTG Components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL44 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 83 | 64 | 130 | 2.45 |
| Grocery | 107 | 86 | 12 | 0.25 |
| Healthcare Clinic | 0 | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 | 0 |
| Heavy Industry | 0 | 0 | 0 | 0 |
| Light Industry | 120 | 86 | 2 | 0.07 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 99 | 81 | 12 | 0.21 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 73 | 62 | 55 | 0.60 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 |
| Miscellaneous | 98 | 76 | 31 | 0.68 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 3 | 2.45 | 0.0% |
| Grocery | 3 | 0.25 | 0.0% |
| Healthcare Clinic | 0 | 0 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 0 | 0 | 0.0% |
| Light Industry | 4 | 0.07 | 0.0% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 3 | 0.21 | 37.5% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 3 | 0.60 | 40.0% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 3 | 0.68 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing | Average efficient | Average number of | Average kW reduced per | Number of Projects | % of kW reduction in | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 83 | 64 | 130 | 2.45 | 3 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 7.35 | 1.25 | 1.30 | $ 1,838 | 40,794 | 6.31 | -522 | 13,598 |
| Grocery | 107 | 86 | 12 | 0.25 | 3 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 0.76 | 1.43 | 1.52 | $ 189 | 6,272 | 0.79 | -53 | 2,091 |
| Healthcare Clinic | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 0 | 1.03 | 1.06 | $ - | 0 | 0 | 0 | 0 |
| Light Industry | 120 | 86 | 2 | 0.07 | 4 | 0.0% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 0.27 | 1.03 | 1.06 | $ 68 | 1,502 | 0.27 | -12 | 375 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 99 | 81 | 12 | 0.21 | 3 | 37.5% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 0.64 | 1.15 | 1.28 | $ 161 | 3,492 | 0.68 | -73 | 1,164 |
| College/University | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 73 | 62 | 55 | 0.60 | 3 | 40.0% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 1.79 | 1.10 | 1.10 | $ 447 | 9,302 | 1.38 | -127 | 3,101 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 98 | 76 | 31 | 0.68 | 3 | 0.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 2.05 | 1.24 | 1.46 | $ 512 | 11,609 | 1.97 | -131 | 3,870 |

**BPL50 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL50 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 183 |
| Number of Participants | 2,642 |
| Gross kWh saved* | 1,323,642 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 0 |
| Total Incentives** | $ 92,031 |
| Gross kWh/Measure | 501.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.070 |
| Average Gross kWh/project | 7,233 |
| Average Incentive/project | $503 |

**Including heating penalties*
***not including bonuses*

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 1,032,441 |
| Net kW demand saved | 0 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.089 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Exterior | 7,458 |
| Garage | - |
| Garage 24/7 | 4,882 |
| **Total for entire program** | **7,233** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Exterior | 4,903 | 1.00 | 1.00 | 0.00 | 0.000 | 100% |
| Garage | 3,540 | 1.00 | 1.00 | 0.00 | 0.000 | 100% |
| Garage 24/7 | 8,766 | 1.00 | 1.00 | 0.00 | 0.000 | 100% |

**BPL50 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours * -IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.35 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Exterior | 297 | 188 | 14 | 1.52 |
| Garage | 0 | 0 | 0 | 0 |
| Garage 24/7 | 183 | 154 | 19 | 0.56 |

**This value is (Wattsbase-WattsEE)/1000 in the savings algorithm*

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Exterior | 167 | 1.52 | 0% |
| Garage | 0 | 0 | 0% |
| Garage 24/7 | 16 | 0.56 | 0% |

**BPL60 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL60 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 274 |
| Number of Participants | 10,149 |
| Gross kWh saved* | 3,186,238 |
| Gross kW demand reduction | 554 |
| Gross therms saved | -39,620 |
| Total Incentives** | $ 139,320 |
| Gross kWh/Measure | 313.95 |
| Gross kW/Measure | 0.05 |
| Gross Therms/Measure | -3.90 |
| Average Incentive $/Gross kWh | $0.044 |
| Average Gross kWh/project | 11,629 |
| Average Incentive/project | $508 |

**Including heating penalties*
***Incl including bonuses*

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 2,485,266 |
| Net kW demand saved | 432 |
| Net therms saved | -30,904 |
| Incentive $/Net kWh | $0.056 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 7,960 |
| Grocery | 13,519 |
| Healthcare Clinic | 53,519 |
| Hospital | 14,741 |
| Heavy Industry | 2,592 |
| Light Industry | 24,683 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 2,427 |
| Retail/Service | 11,705 |
| College/University | 3,055 |
| Warehouse | 6,881 |
| Multi-family Common Areas | 18,705 |
| Miscellaneous | 6,785 |
| **Total for entire program** | **11,629** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL60 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 131 | 76 | 26 | 1.43 |
| Grocery | 156 | 88 | 24 | 1.63 |
| Healthcare Clinic | 143 | 76 | 117 | 7.84 |
| Hospital | 96 | 69 | 66 | 1.81 |
| Heavy Industry | 103 | 63 | 13 | 0.51 |
| Light Industry | 136 | 77 | 77 | 4.54 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 154 | 84 | 7 | 0.49 |
| Retail/Service | 152 | 92 | 35 | 2.11 |
| College/University | 115 | 86 | 26 | 0.76 |
| Warehouse | 146 | 98 | 29 | 1.39 |
| Multi-family Common Areas | 144 | 75 | 34 | 2.35 |
| Miscellaneous | 110 | 68 | 30 | 1.25 |

**This value is (Wattsbase-WattsEE)/1000 in the savings algorithm*

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 52 | 1.43 | 0.0% |
| Grocery | 12 | 1.63 | 0.0% |
| Healthcare Clinic | 6 | 7.84 | 0.0% |
| Hospital | 6 | 1.81 | 0.0% |
| Heavy Industry | 7 | 0.51 | 100.0% |
| Light Industry | 35 | 4.54 | 52.4% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 15 | 0.49 | 0.0% |
| Retail/Service | 70 | 2.11 | 26.0% |
| College/University | 12 | 0.76 | 0.0% |
| Warehouse | 20 | 1.39 | 71.4% |
| Multi-family Common Areas | 2 | 2.35 | 0.0% |
| Miscellaneous | 37 | 1.25 | 24.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 131 | 76 | 26 | 1.43 | 52 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 74.60 | 1.25 | 1.30 | $ 18,649 | 413,923 | 64.00 | -5,298 | 7,960 |
| Grocery | 156 | 88 | 24 | 1.63 | 12 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 19.55 | 1.43 | 1.52 | $ 4,888 | 162,223 | 20.51 | -1,361 | 13,519 |
| Healthcare Clinic | 143 | 76 | 117 | 7.84 | 6 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 47.03 | 1.34 | 1.57 | $ 11,759 | 321,115 | 55.38 | -1,917 | 53,519 |
| Hospital | 96 | 69 | 66 | 1.81 | 6 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 10.85 | 1.35 | 1.69 | $ 2,713 | 88,445 | 13.75 | -721 | 14,741 |
| Heavy Industry | 103 | 63 | 13 | 0.51 | 7 | 100.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 3.60 | 1.00 | 1.00 | $ 900 | 18,146 | 3.20 | -145 | 2,592 |
| Light Industry | 136 | 77 | 77 | 4.54 | 35 | 52.4% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 158.91 | 1.01 | 1.03 | $ 39,726 | 863,902 | 150.37 | -6,814 | 24,683 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 154 | 84 | 7 | 0.49 | 15 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 7.40 | 1.34 | 1.65 | $ 1,849 | 36,405 | 9.76 | -625 | 2,427 |
| Retail/Service | 152 | 92 | 35 | 2.11 | 70 | 26.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 147.44 | 1.18 | 1.33 | $ 36,860 | 819,344 | 162.22 | -16,699 | 11,705 |
| College/University | 115 | 86 | 26 | 0.76 | 12 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 9.08 | 1.14 | 1.50 | $ 2,271 | 36,654 | 7.63 | -675 | 3,055 |
| Warehouse | 146 | 98 | 29 | 1.39 | 20 | 71.4% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 27.73 | 1.05 | 1.05 | $ 6,933 | 137,629 | 20.35 | -1,974 | 6,881 |
| Multi-family Common Areas | 144 | 75 | 34 | 2.35 | 2 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 4.69 | 1.34 | 1.57 | $ 1,173 | 37,409 | 5.52 | -419 | 18,705 |
| Miscellaneous | 110 | 68 | 30 | 1.25 | 37 | 24.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 46.40 | 1.18 | 1.35 | $ 11,600 | 251,044 | 41.33 | -2,972 | 6,785 |

**BPL62 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL62 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 1121 |
| Number of Participants | 23,683 |
| Gross kWh saved* | 9,634,883 |
| Gross kW demand reduction | 1,650 |
| Gross therms saved | -122,779 |
| Total Incentives** | $ 440,739 |
| Gross kWh/Measure | 406.83 |
| Gross kW/Measure | 0.07 |
| Gross Therms/Measure | -5.18 |
| Average Incentive $/Gross kWh | $0.046 |
| Average Gross kWh/project | 8,595 |
| Average Incentive/project | $393 |

**Including heating penalties*

***not including bonuses*

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 7,515,209 |
| Net kW demand saved | 1,287 |
| Net therms saved | -95,768 |
| Incentive $/Net kWh | $0.059 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh Saved PER PROJECT |
|---|---|
| Office | 11,889 |
| Grocery | 14,636 |
| Healthcare Clinic | 1,304 |
| Hospital | - |
| Heavy Industry | 7,748 |
| Light Industry | 13,894 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 6,300 |
| Retail/Service | 5,616 |
| College/University | 5,662 |
| Warehouse | 5,821 |
| Multi-family Common Areas | 792 |
| Miscellaneous | 6,808 |
| **Total for entire program** | **8,595** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL62 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 172 | 77 | 23 | 2.17 |
| Grocery | 177 | 93 | 21 | 1.76 |
| Healthcare Clinic | 117 | 54 | 3 | 0.19 |
| Hospital | 0 | 0 | 0 | 0 |
| Heavy Industry | 157 | 98 | 26 | 1.52 |
| Light Industry | 167 | 96 | 36 | 2.55 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 192 | 112 | 16 | 1.28 |
| Retail/Service | 168 | 89 | 13 | 1.02 |
| College/University | 160 | 99 | 23 | 1.40 |
| Warehouse | 138 | 92 | 26 | 1.18 |
| Multi-family Common Areas | 107 | 58 | 2 | 0.10 |
| Miscellaneous | 145 | 81 | 20 | 1.28 |

**This value is (Wattsbase-WattsEE)/1000 in the savings algorithm*

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 225 | 2.17 | 6.5% |
| Grocery | 23 | 1.76 | 0.0% |
| Healthcare Clinic | 16 | 0.19 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 106 | 1.52 | 54.5% |
| Light Industry | 179 | 2.55 | 48.6% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 6 | 1.28 | 0.0% |
| Retail/Service | 380 | 1.02 | 31.0% |
| College/University | 9 | 1.40 | 0.0% |
| Warehouse | 44 | 1.18 | 77.8% |
| Multi-family Common Areas | 15 | 0.10 | 0.0% |
| Miscellaneous | 118 | 1.28 | 33.3% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 172 | 77 | 23 | 2.17 | 225 | 6.5% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 488.45 | 1.23 | 1.28 | $ 122,114 | 2,674,962 | 412.79 | -34,692 | 11,889 |
| Grocery | 177 | 93 | 21 | 1.76 | 23 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 40.57 | 1.43 | 1.52 | $ 10,143 | 336,620 | 42.55 | -2,825 | 14,636 |
| Healthcare Clinic | 117 | 54 | 3 | 0.19 | 16 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 3.06 | 1.34 | 1.57 | $ 764 | 20,864 | 3.60 | -125 | 1,304 |
| Hospital | 0 | 0 | 0 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 157 | 98 | 26 | 1.52 | 106 | 54.5% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 160.72 | 1.01 | 1.03 | $ 40,181 | 821,263 | 146.95 | -6,482 | 7,748 |
| Light Industry | 167 | 96 | 36 | 2.55 | 179 | 48.6% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 456.97 | 1.02 | 1.03 | $ 114,242 | 2,487,080 | 433.36 | -19,595 | 13,894 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 192 | 112 | 16 | 1.28 | 6 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 7.68 | 1.34 | 1.65 | $ 1,920 | 37,800 | 10.14 | -649 | 6,300 |
| Retail/Service | 168 | 89 | 13 | 1.02 | 380 | 31.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 387.93 | 1.17 | 1.30 | $ 96,983 | 2,134,011 | 419.80 | -43,936 | 5,616 |
| College/University | 160 | 99 | 23 | 1.40 | 9 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 12.63 | 1.14 | 1.50 | $ 3,157 | 50,958 | 10.61 | -939 | 5,662 |
| Warehouse | 138 | 92 | 26 | 1.18 | 44 | 77.8% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 52.12 | 1.04 | 1.04 | $ 13,029 | 256,135 | 37.86 | -3,710 | 5,821 |
| Multi-family Common Areas | 107 | 58 | 2 | 0.10 | 15 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 1.49 | 1.34 | 1.57 | $ 373 | 11,880 | 1.75 | -133 | 792 |
| Miscellaneous | 145 | 81 | 20 | 1.28 | 118 | 33.3% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 151.34 | 1.16 | 1.31 | $ 37,834 | 803,310 | 130.51 | -9,695 | 6,808 |

**BPL64 Model to predict annual program performance based on anticipated participation distribution**

### Program Performance Totals for Measure BPL64 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 246 |
| Number of Participants | 10,092 |
| Gross kWh saved* | 5,492,228 |
| Gross kW demand reduction | 934 |
| Gross therms saved | -73,232 |
| Total Incentives** | $ 244,037 |
| Gross kWh/Measure | 544.22 |
| Gross kW/Measure | 0.09 |
| Gross Therms/Measure | -7.26 |
| Average Incentive $/Gross kWh | $0.044 |
| Average Gross kWh/project | 22,326 |
| Average Incentive/project | $992 |

*Including heating penalties

**Net including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 4,283,938 |
| Net kW demand saved | 729 |
| Net therms saved | -57,121 |
| Incentive $/Net kWh | $0.057 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh Saved PER PROJECT |
|---|---|
| Office | 34,926 |
| Grocery | 45,633 |
| Healthcare Clinic | 11,163 |
| Hospital | 8,966 |
| Heavy Industry | 40,749 |
| Light Industry | 20,204 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | |
| Restaurant | 3,662 |
| Retail/Service | 16,424 |
| College/University | - |
| Warehouse | 8,063 |
| Multi-family Common Areas | - |
| Miscellaneous | 11,950 |
| **Total for entire program** | **22,326** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

### TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

BPL64 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)

The TRM defines the following energy savings calculation algorithms:

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = ((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

| Where: | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooline effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

### Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.25 |

### Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 175 | 56 | 53 | 6.29 |
| Grocery | 153 | 98 | 100 | 5.50 |
| Healthcare Clinic | 182 | 73 | 15 | 1.64 |
| Hospital | 97 | 42 | 20 | 1.10 |
| Heavy Industry | 140 | 68 | 109 | 7.85 |
| Light Industry | 179 | 75 | 36 | 3.73 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 153 | 60 | 8 | 0.74 |
| Retail/Service | 173 | 81 | 32 | 2.95 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 212 | 69 | 11 | 1.57 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 |
| Miscellaneous | 155 | 74 | 26 | 2.11 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

### Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 68 | 6.29 | 0.0% |
| Grocery | 6 | 5.50 | 0.0% |
| Healthcare Clinic | 12 | 1.64 | 0.0% |
| Hospital | 5 | 1.10 | 0.0% |
| Heavy Industry | 15 | 7.85 | 0.0% |
| Light Industry | 18 | 3.73 | 66.7% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 13 | 0.74 | 0.0% |
| Retail/Service | 82 | 2.95 | 25.9% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 7 | 1.57 | 50.0% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 20 | 2.11 | 0.0% |

### Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 175 | 56 | 53 | 6.29 | 68 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 428.02 | 1.25 | 1.30 | $ 107,005 | 2,374,976 | 367.24 | -30,400 | 34,926 |
| Grocery | 153 | 98 | 100 | 5.50 | 6 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 33.00 | 1.43 | 1.52 | $ 8,250 | 273,796 | 34.61 | -2,298 | 45,633 |
| Healthcare Clinic | 182 | 73 | 15 | 1.64 | 12 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 19.62 | 1.34 | 1.57 | $ 4,905 | 133,952 | 23.10 | -800 | 11,163 |
| Hospital | 97 | 42 | 20 | 1.10 | 5 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 5.50 | 1.35 | 1.69 | $ 1,375 | 44,832 | 6.97 | -365 | 8,966 |
| Heavy Industry | 140 | 68 | 109 | 7.85 | 15 | 0.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 117.72 | 1.03 | 1.06 | $ 29,430 | 611,229 | 111.06 | -4,747 | 40,749 |
| Light Industry | 179 | 75 | 36 | 3.73 | 18 | 66.7% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 67.18 | 1.01 | 1.02 | $ 16,794 | 363,664 | 63.04 | -2,881 | 20,204 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 153 | 60 | 8 | 0.74 | 13 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 9.67 | 1.34 | 1.65 | $ 2,418 | 47,604 | 12.77 | -817 | 3,662 |
| Retail/Service | 173 | 81 | 32 | 2.95 | 82 | 25.9% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 242.31 | 1.18 | 1.33 | $ 60,577 | 1,346,737 | 266.67 | -27,443 | 16,424 |
| College/University | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 212 | 69 | 11 | 1.57 | 7 | 50.0% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 11.01 | 1.08 | 1.09 | $ 2,753 | 56,439 | 8.36 | -784 | 8,063 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 155 | 74 | 26 | 2.11 | 20 | 0.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 42.12 | 1.24 | 1.46 | $ 10,530 | 238,999 | 40.59 | -2,698 | 11,950 |

**BPL66 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL66 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 47 |
| Number of Participants | 519 |
| Gross kWh saved* | 167,590 |
| Gross kW demand reduction | 28 |
| Gross therms saved | -1,849 |
| Total Incentives** | $ 6,549 |
| Gross kWh/Measure | 322.91 |
| Gross kW/Measure | 0.05 |
| Gross Therms/Measure | -3.56 |
| Average Incentive $/Gross kWh | $0.039 |
| Average Gross kWh/project | 3,566 |
| Average Incentive/project | $139 |

*Including heating penalties

**not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 130,720 |
| Net kW demand saved | 22 |
| Net therms saved | -1,442 |
| Incentive $/Net kWh | $0.050 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 2,289 |
| Grocery | 921 |
| Healthcare Clinic | 3,382 |
| Hospital | 50,245 |
| Heavy Industry | 2,835 |
| Light Industry | 2,543 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 3,881 |
| College/University | - |
| Warehouse | 1,068 |
| Multi-family Common Areas | 670 |
| Miscellaneous | 511 |
| **Total for entire program** | **3,566** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

BPL66 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)

The TRM defines the following energy savings calculation algorithms:

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

| Where: | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| Incentive per Watt Reduced | $0.25 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 76 | 35 | 10 | 0.41 |
| Grocery | 69 | 32 | 3 | 0.11 |
| Healthcare Clinic | 73 | 32 | 12 | 0.50 |
| Hospital | 119 | 27 | 67 | 6.16 |
| Heavy Industry | 70 | 31 | 14 | 0.55 |
| Light Industry | 96 | 38 | 8 | 0.46 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 84 | 37 | 14 | 0.66 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 115 | 40 | 3 | 0.23 |
| Multi-family Common Areas | 71 | 29 | 2 | 0.08 |
| Miscellaneous | 119 | 29 | 1 | 0.09 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 16 | 0.41 | 0.0% |
| Grocery | 1 | 0.11 | 0.0% |
| Healthcare Clinic | 8 | 0.50 | 0.0% |
| Hospital | 1 | 6.16 | 0.0% |
| Heavy Industry | 3 | 0.55 | 0.0% |
| Light Industry | 3 | 0.46 | 25.0% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 8 | 0.66 | 0.0% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 3 | 0.23 | 100.0% |
| Multi-family Common Areas | 2 | 0.08 | 0.0% |
| Miscellaneous | 2 | 0.09 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 76 | 35 | 10 | 0.41 | 16 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 6.60 | 1.25 | 1.30 | $ 1,650 | 36,618 | 5.66 | -469 | 2,289 |
| Grocery | 69 | 32 | 3 | 0.11 | 1 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 0.11 | 1.43 | 1.52 | $ 28 | 921 | 0.12 | -8 | 921 |
| Healthcare Clinic | 73 | 32 | 12 | 0.50 | 8 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 3.96 | 1.34 | 1.57 | $ 991 | 27,060 | 4.67 | -162 | 3,382 |
| Hospital | 119 | 27 | 67 | 6.16 | 1 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 6.16 | 1.35 | 1.69 | $ 1,541 | 50,245 | 7.81 | -409 | 50,245 |
| Heavy Industry | 70 | 31 | 14 | 0.55 | 3 | 0.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 1.64 | 1.03 | 1.06 | $ 410 | 8,505 | 1.55 | -66 | 2,835 |
| Light Industry | 96 | 38 | 8 | 0.46 | 3 | 25.0% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 1.39 | 1.02 | 1.05 | $ 348 | 7,629 | 1.34 | -60 | 2,543 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 84 | 37 | 14 | 0.66 | 8 | 0.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 5.31 | 1.24 | 1.44 | $ 1,327 | 31,048 | 6.34 | -601 | 3,881 |
| College/University | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 115 | 40 | 3 | 0.23 | 3 | 100.0% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 0.68 | 1.00 | 1.00 | $ 169 | 3,204 | 0.47 | -48 | 1,068 |
| Multi-family Common Areas | 71 | 29 | 2 | 0.08 | 2 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0.17 | 1.34 | 1.57 | $ 42 | 1,339 | 0.20 | -15 | 670 |
| Miscellaneous | 119 | 29 | 1 | 0.09 | 2 | 0.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 0.18 | 1.24 | 1.46 | $ 45 | 1,021 | 0.17 | -12 | 511 |

**BPL67 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL67 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 81 |
| Number of Participants | 4,030 |
| Gross kWh saved* | 548,079 |
| Gross kW demand reduction | 85 |
| Gross therms saved | -7,236 |
| Total Incentives** | $ 36,221 |
| Gross kWh/Measure | 136.00 |
| Gross kW/Measure | 0.02 |
| Gross Therms/Measure | -1.80 |
| Average Incentive $/Gross kWh | $0.066 |
| Average Gross kWh/project | 6,766 |
| Average Incentive/project | $447 |

*Including heating penalties
**Incl including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 427,502 |
| Net kW demand saved | 66 |
| Net therms saved | -5,644 |
| Incentive $/Net kWh | $0.085 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 2,061 |
| Grocery | 5,600 |
| Healthcare Clinic | 3,219 |
| Hospital | - |
| Heavy Industry | 6,169 |
| Light Industry | - |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 1,142 |
| College/University | |
| Warehouse | 49,860 |
| Multi-family Common Areas | - |
| Miscellaneous | 6,605 |
| **Total for entire program** | **6,766** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL67 savings calculations are based on the IL Statewide TRM section 4.5.5 (LED Bulbs and Fixtures)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt Reduced** | $0.35 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 30 | 20 | 37 | 0.37 |
| Grocery | 37 | 22 | 45 | 0.68 |
| Healthcare Clinic | 40 | 28 | 37 | 0.47 |
| Hospital | 0 | 0 | 0 | 0 |
| Heavy Industry | 133 | 84 | 24 | 1.19 |
| Light Industry | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 27 | 21 | 33 | 0.20 |
| College/University | 0 | 0 | 0 | 0 |
| Warehouse | 172 | 129 | 245 | 10.51 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 |
| Miscellaneous | 71 | 31 | 29 | 1.16 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 9 | 0.37 | 0.0% |
| Grocery | 12 | 0.68 | 0.0% |
| Healthcare Clinic | 3 | 0.47 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 7 | 1.19 | 0.0% |
| Light Industry | 0 | 0 | 0.0% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 33 | 0.20 | 3.0% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 6 | 10.51 | 100.0% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 11 | 1.16 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 30 | 19.91 | 37.00 | 0.37 | 9 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 3.34 | 1.25 | 1.30 | $ 1,170 | 18,551 | 2.87 | -237 | 2,061 |
| Grocery | 37 | 21.80 | 45.00 | 0.68 | 12 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 8.10 | 1.43 | 1.52 | $ 2,835 | 67,205 | 8.50 | -564 | 5,600 |
| Healthcare Clinic | 40 | 27.66 | 37.00 | 0.47 | 3 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 1.41 | 1.34 | 1.57 | $ 495 | 9,656 | 1.67 | -58 | 3,219 |
| Hospital | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 133 | 83.59 | 24.00 | 1.19 | 7 | 0.0% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 8.32 | 1.03 | 1.06 | $ 2,911 | 43,183 | 7.85 | -335 | 6,169 |
| Light Industry | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 0 | 1.03 | 1.06 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 27 | 20.59 | 33.00 | 0.20 | 33 | 3.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 6.48 | 1.23 | 1.43 | $ 2,266 | 37,671 | 7.67 | -733 | 1,142 |
| College/University | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 172 | 128.91 | 245.00 | 10.51 | 6 | 100.0% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 63.03 | 1.00 | 1.00 | $ 22,062 | 299,157 | 44.12 | -4,487 | 49,860 |
| Multi-family Common Areas | 0 | 0.00 | 0.00 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 71 | 30.90 | 29.00 | 1.16 | 11 | 0.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 12.80 | 1.24 | 1.46 | $ 4,482 | 72,657 | 12.34 | -820 | 6,605 |

**BPL72 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL72 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 48 |
| Number of Participants | 4,554 |
| Gross kWh saved* | 1,420,397 |
| Gross kW demand reduction | 530 |
| Gross therms saved | -40,805 |
| Total Incentives** | $ 136,620 |
| Gross kWh/Measure | 311.90 |
| Gross kW/Measure | 0.12 |
| Gross Therms/Measure | -8.96 |
| Average Incentive $/Gross kWh | $0.096 |
| Average Gross kWh/project | 29,592 |
| Average Incentive/project | $2,846 |

*Including heating penalties
**not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 1,107,910 |
| Net kW demand saved | 413 |
| Net therms saved | -31,828 |
| Incentive $/Net kWh | $0.123 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 1,433 |
| Grocery | - |
| Healthcare Clinic | - |
| Hospital | - |
| Heavy Industry | 37,013 |
| Light Industry | 14,084 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 5,442 |
| College/University | - |
| Warehouse | 57,173 |
| Multi-family Common Areas | - |
| Miscellaneous | - |
| **Total for entire program** | **29,592** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor baseline | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL72 savings calculations are based on the IL Statewide TRM section 4.5.10 (Occupancy Sensor Lighting Controls)**

**ΔkWh = (kWcontrolled*Hours*ESF*WHFe)**

ΔkW = (kWcontrolled*WHFd*(Cfbaseline-CFos)
ΔTherms = (kWcontrolled*Hours*ESF*-IFTherms)
Where:

| | | |
|---|---|---|
| **kWcontrolled** | Collected | Avg. wattage of controlled per sensor*Number of units per project/1000 |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |
| ESF | TRM | Energy Savings Factor |
| CFbaseline | TRM | Baseline Summer Peak Coincidence Factor for the lighting system without Occupancy Sensors installed |
| Cfos | TRM | Retrofit Summer Peak Coincidence Factor the lighting system with Occupancy Sensors installed |

| Non-Building Type Specific TRM-Defined Variables | |
|---|---|
| CFos | 0.15 |
| ESF | 30% |

## Incentive Level

| | |
|---|---|
| **Incentive per Unit installed** | $30.00 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | |
|---|---|---|---|
| Building Type | Avg wattage cont. per sensor (W) | Average number of units per project | Average kW reduced per project* |
| Office | 215 | 4 | 0.57 |
| Grocery | 0 | 0 | 0 |
| Healthcare Clinic | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 |
| Heavy Industry | 210 | 116 | 19.10 |
| Light Industry | 169 | 51 | 7.05 |
| Hotel/Motel Common Areas | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 |
| Retail/Service | 175 | 20 | 3.43 |
| College/University | 0 | 0 | 0 |
| Warehouse | 211 | 182 | 24.76 |
| Multi-family Common Areas | 0 | 0 | 0 |
| Miscellaneous | 0 | 0 | 0 |

*This value is (Wattsbase-Watts±1)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 9 | 0.57 | 0.0% |
| Grocery | 0 | 0 | 0.0% |
| Healthcare Clinic | 0 | 0 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 10 | 19.10 | 82.4% |
| Light Industry | 6 | 7.05 | 55.6% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 7 | 3.43 | 60.0% |
| College/University | 0 | 0 | 0.0% |
| Warehouse | 16 | 24.76 | 72.7% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 0 | 0 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Avg wattage cont. per sensor (W) | Average number of units per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 215 | 4 | 0.57 | 9 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 5.14 | 1.25 | 1.30 | $ 1,080 | 12,896 | 4.41 | -365 | 1,433 |
| Grocery | 0 | 0 | 0 | 0 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 0 | 1.43 | 1.52 | $ - | 0 | 0 | 0 | 0 |
| Healthcare Clinic | 0 | 0 | 0 | 0 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 210 | 116 | 19.10 | 10 | 82.4% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 190.97 | 1.01 | 1.01 | $ 34,800 | 370,133 | 171.76 | -7,702 | 37,013 |
| Light Industry | 169 | 51 | 7.05 | 6 | 55.6% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 42.33 | 1.01 | 1.03 | $ 9,180 | 84,502 | 39.98 | -1,815 | 14,084 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0.0% | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 0 | 0 | 0 | 0 | 0.0% | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 175 | 20 | 3.43 | 7 | 60.0% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 24.04 | 1.10 | 1.18 | $ 4,200 | 38,096 | 23.47 | -2,723 | 5,442 |
| College/University | 0 | 0 | 0 | 0 | 0.0% | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 0 | 1.14 | 1.50 | $ - | 0 | 0 | 0 | 0 |
| Warehouse | 211 | 182 | 24.76 | 16 | 72.7% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 396.14 | 1.04 | 1.05 | $ 87,360 | 914,770 | 290.16 | -28,201 | 57,173 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 0 | 0 | 0 | 0 | 0.0% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 0 | 1.24 | 1.46 | $ - | 0 | 0 | 0 | 0 |

**BPL73 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL73 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 24 |
| Number of Participants | 322 |
| Gross kWh saved* | 354,200 |
| Gross kW demand reduction | 52 |
| Gross therms saved | 0 |
| Total Incentives** | $ 9,660 |
| Gross kWh/Measure | 1,100.00 |
| Gross kW/Measure | 0.16 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.027 |
| Average Gross kWh/project | 14,758 |
| Average Incentive/project | $403 |

*Including heating penalties
**Not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 276,276 |
| Net kW demand saved | 40 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.035 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh Saved PER PROJECT |
|---|---|
| Office | 16,150 |
| Grocery | - |
| Healthcare Clinic | - |
| Hospital | - |
| Heavy Industry | - |
| Light Industry | 17,254 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | - |
| Retail/Service | 29,052 |
| College/University | |
| Warehouse | 3,749 |
| Multi-family Common Areas | 1,866 |
| Miscellaneous | 1,363 |
| **Total for entire program** | **14,758** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor Baseline | Coincidence Factor Occupancy Sensor | IFTherms | In Service Rate | Energy Savings Factor |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.15 | 0.016 | 100% | 0.410 |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.15 | 0.012 | 100% | 0.410 |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.15 | 0.008 | 100% | 0.410 |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.15 | 0.011 | 100% | 0.410 |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.15 | 0.008 | 100% | 0.410 |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.15 | 0.008 | 100% | 0.410 |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.15 | 0.022 | 100% | 0.410 |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.15 | 0.022 | 100% | 0.410 |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.15 | 0.017 | 100% | 0.410 |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.15 | 0.019 | 100% | 0.410 |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.15 | 0.023 | 100% | 0.410 |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.15 | 0.024 | 100% | 0.410 |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.15 | 0.021 | 100% | 0.410 |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.15 | 0.015 | 100% | 0.410 |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.15 | 0.015 | 100% | 0.410 |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.15 | 0.014 | 100% | 0.410 |

| BPL73 savings calculations are based on the IL Statewide TRM section 4.5.10 (Occupancy Sensor Lighting Controls) | | |
|---|---|---|
| **ΔkWh = (kWcontrolled*Hours*ESF*WHFe)** | | |
| ΔkW = (kWcontrolled*WHFd*(Cfbaseline-CFos) | | |
| ΔTherms = (kWcontrolled*Hours*ESF*-IFTherms) | | |
| Where: | | |
| **kWcontrolled** | Collected | Avg. wattage of controlled per sensor*Number of units per project/1000 |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |
| ESF | TRM | Energy Savings Factor |
| CFbaseline | TRM | Baseline Summer Peak Coincidence Factor for the lighting system without Occupancy Sensors installed |
| CFoccupancy | TRM | Retrofit Summer Peak Coincidence Factor the lighting system with Occupancy Sensors installed |

## Incentive Level

| | |
|---|---|
| **Incentive per Sensor** | $30.00 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | |
|---|---|---|
| Building Type | Average connected wattage (W) | Average number of sensors per project |
| Office | 194 | 15 |
| Grocery | 0 | 0 |
| Healthcare Clinic | 0 | 0 |
| Hospital | 0 | 0 |
| Heavy Industry | 0 | 0 |
| Light Industry | 195 | 16 |
| Hotel/Motel Common Areas | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 |
| High School/Middle School | 0 | 0 |
| Elementary School | 0 | 0 |
| Restaurant | 0 | 0 |
| Retail/Service | 191 | 26 |
| College/University | 0 | 0 |
| Warehouse | 227 | 3 |
| Multi-family Common Areas | 78 | 3 |
| Miscellaneous | 240 | 1 |

## Participation Projections

| | Inputs Based on Projected Participation | |
|---|---|---|
| Building Type | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 8 | 0.0% |
| Grocery | 0 | 0.0% |
| Healthcare Clinic | 0 | 0.0% |
| Hospital | 0 | 0.0% |
| Heavy Industry | 0 | 0.0% |
| Light Industry | 2 | 33.3% |
| Hotel/Motel Common Areas | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0.0% |
| High School/Middle School | 0 | 0.0% |
| Elementary School | 0 | 0.0% |
| Restaurant | 0 | 0.0% |
| Retail/Service | 6 | 47.6% |
| College/University | 0 | 0.0% |
| Warehouse | 2 | 66.7% |
| Multi-family Common Areas | 1 | 0.0% |
| Miscellaneous | 5 | 0.0% |

**BPL74 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL74 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 65 |
| Number of Participants | 737 |
| Gross kWh saved* | 524,006 |
| Gross kW demand reduction | 67 |
| Gross therms saved | -1 |
| Total Incentives** | $ 22,110 |
| Gross kWh/Measure | 711.00 |
| Gross kW/Measure | 0.09 |
| Gross Therms/Measure | 0.00 |
| Averaae Incentive $/Gross kWh | 50.042 |
| Averaae Gross kWh/oroiect | 8,062 |
| Average Incentive/project | $340 |

*Including heating penalties

**not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 408,725 |
| Net kW demand saved | 52 |
| Net therms saved | -1 |
| Incentive $/Net kWh | 50.054 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh Saved PER project* |
|---|---|
| Office | 6,110 |
| Grocery | 2,578 |
| Healthcare Clinic | 26,463 |
| Hospital | - |
| Heavy Industry | 14,490 |
| Light Industry | 18,854 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | 20,016 |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 3,494 |
| Retail/Service | 3,548 |
| College/University | - |
| Warehouse | 8,126 |
| Multi-family Common Areas | - |
| Miscellaneous | 6,081 |
| **Total for entire program** | **8,062** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor Baseline | Coincidence Factor Occupancy Sensor | IFTherms | In Service Rate | Energy Savings Factor |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.15 | 0.016 | 100% | 0.410 |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.15 | 0.012 | 100% | 0.410 |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.15 | 0.008 | 100% | 0.410 |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.15 | 0.011 | 100% | 0.410 |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.15 | 0.008 | 100% | 0.410 |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.15 | 0.008 | 100% | 0.410 |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.15 | 0.022 | 100% | 0.410 |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.15 | 0.022 | 100% | 0.410 |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.15 | 0.017 | 100% | 0.410 |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.15 | 0.019 | 100% | 0.410 |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.15 | 0.023 | 100% | 0.410 |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.15 | 0.024 | 100% | 0.410 |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.15 | 0.021 | 100% | 0.410 |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.15 | 0.015 | 100% | 0.410 |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.15 | 0.015 | 100% | 0.410 |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.15 | 0.014 | 100% | 0.410 |

**BPL74 savings calculations are based on the IL Statewide TRM section 4.5.10 (Occupancy Sensor Lighting Controls)**

**ΔkWh = (kWcontrolled*Hours*ESF*WHFe)**

ΔkW = (kWcontrolled*WHFd*(Cfbaseline-CFos)

ΔTherms = (kWcontrolled*Hours*ESF*-IFTherms)

Where:

| | | |
|---|---|---|
| **kWcontrolled** | Collected | Avg. wattage of controlled per sensor*Number of units per project/1000 |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| IFkWh | TRM | Factor to account for increased heating load (electric heating) |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| ESF | TRM | Energy Savings Factor |
| CFbaseline | TRM | Baseline Summer Peak Coincidence Factor for the lighting system without Occupancy Sensors installed |
| CFoccupancy | TRM | Retrofit Summer Peak Coincidence Factor for the lighting system with Occupancy Sensors installed |

## Incentive Level

| | |
|---|---|
| **Incentive per Sensor** | $30.00 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | |
|---|---|---|
| Building Type | Average connected wattage (W) | Average number of sensors per project |
| Office | 367 | 3 |
| Grocery | 311 | 1 |
| Healthcare Clinic | 228 | 17 |
| Hospital | 0 | 0 |
| Heavy Industry | 199 | 14 |
| Light Industry | 342 | 10 |
| Hotel/Motel Common Areas | 0 | 0 |
| Hotel/Motel Guest Rooms | 187 | 120 |
| High School/Middle School | 0 | 0 |
| Elementary School | 0 | 0 |
| Restaurant | 355 | 2 |
| Retail/Service | 303 | 2 |
| College/University | 0 | 0 |
| Warehouse | 246 | 6 |
| Multi-family Common Areas | 0 | 0 |
| Miscellaneous | 214 | 5 |

## Participation Projections

| | Inputs Based on Projected Participation | |
|---|---|---|
| Building Type | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 26 | 0.0% |
| Grocery | 10 | 0.0% |
| Healthcare Clinic | 3 | 0.0% |
| Hospital | 0 | 0.0% |
| Heavy Industry | 2 | 33.3% |
| Light Industry | 4 | 16.7% |
| Hotel/Motel Common Areas | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 4 | 0.0% |
| High School/Middle School | 0 | 0.0% |
| Elementary School | 0 | 0.0% |
| Restaurant | 1 | 0.0% |
| Retail/Service | 10 | 44.4% |
| College/University | 0 | 0.0% |
| Warehouse | 3 | 50.0% |
| Multi-family Common Areas | 0 | 0.0% |
| Miscellaneous | 2 | 0.0% |

**BPL78 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL78 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 1291 |
| Number of Participants | 10,144 |
| Gross kWh saved* | 3,309,876 |
| Gross kW demand reduction | 420 |
| Gross therms saved | -37,185 |
| Total Incentives** | $ 202,880,000 |
| Gross kWh/Measure | 326.29 |
| Gross kW/Measure | 0.04 |
| Gross Therms/Measure | -3.67 |
| Average Incentive $/Gross kWh | $61.295 |
| Average Gross kWh/project | 2,564 |
| Average Incentive/project | $157,149 |

*Including heating penalties

**not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 2,581,703 |
| Net kW demand saved | 328 |
| Net therms saved | -29,005 |
| Incentive $/Net kWh | $78.584 |
| Measure Lifetime (years) | 16 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 1,967 |
| Grocery | 2,291 |
| Healthcare Clinic | 7,299 |
| Hospital | 11,959 |
| Heavy Industry | - |
| Light Industry | 1,963 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 1,064 |
| Retail/Service | 1,889 |
| College/University | - |
| Warehouse | 1,168 |
| Multi-family Common Areas | 2,142 |
| Miscellaneous | 2,511 |
| **Total for entire program** | **2,564** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 8,766 | 1.25 | 1.30 | 1.00 | 0.016 | 100% |
| Grocery | 8,766 | 1.43 | 1.52 | 1.00 | 0.012 | 100% |
| Healthcare Clinic | 8,766 | 1.34 | 1.57 | 1.00 | 0.008 | 100% |
| Hospital | 8,766 | 1.35 | 1.69 | 1.00 | 0.011 | 100% |
| Heavy Industry | 8,766 | 1.03 | 1.06 | 1.00 | 0.008 | 100% |
| Light Industry | 8,766 | 1.03 | 1.06 | 1.00 | 0.008 | 100% |
| Hotel/Motel Common Areas | 8,766 | 1.15 | 1.51 | 1.00 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 8,766 | 1.15 | 1.51 | 1.00 | 0.022 | 100% |
| High School/Middle School | 8,766 | 1.23 | 0.74 | 1.00 | 0.017 | 100% |
| Elementary School | 8,766 | 1.21 | 1.33 | 1.00 | 0.019 | 100% |
| Restaurant | 8,766 | 1.34 | 1.65 | 1.00 | 0.023 | 100% |
| Retail/Service | 8,766 | 1.24 | 1.44 | 1.00 | 0.024 | 100% |
| College/University | 8,766 | 1.14 | 1.50 | 1.00 | 0.021 | 100% |
| Warehouse | 8,766 | 1.16 | 1.17 | 1.00 | 0.015 | 100% |
| Multi-family Common Areas | 8,766 | 1.34 | 1.57 | 1.00 | 0.015 | 100% |
| Miscellaneous | 8,766 | 1.24 | 1.46 | 1.00 | 0.014 | 100% |

| TRM-Defined Variables | |
|---|---|
| Existing Lamp Wattage | 35 |
| Efficient Lamp Wattage | 2 |

**BPL78 savings calculations are based on the IL Statewide TRM section 4.5.5 Commercial LED Exit Signs**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF

ΔTherms = ((WattsBase-WattsEE)/1000) * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Exit Sign** | $20.00 |

## Participation Projections

| | Inputs Based on Projected Participation | | | |
|---|---|---|---|---|
| Building Type | Number of Projects | Average Existing Lamp Wattage | Average Lamps/Project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 247 | 34 | 6.0 | 25.7% |
| Grocery | 19 | 34 | 6.0 | 13.0% |
| Healthcare Clinic | 106 | 33 | 20.0 | 0.0% |
| Hospital | 18 | 34 | 32.0 | 0.0% |
| Heavy Industry | - | - | - | 0.0% |
| Light Industry | 229 | 34 | 7.0 | 58.5% |
| Hotel/Motel Common Areas | - | - | - | 0.0% |
| Hotel/Motel Guest Rooms | - | - | - | 0.0% |
| High School/Middle School | - | - | - | 0.0% |
| Elementary School | - | - | - | 0.0% |
| Restaurant | 21 | 33 | 3.0 | 10.0% |
| Retail/Service | 246 | 32 | 6.0 | 24.3% |
| College/University | - | - | - | 0.0% |
| Warehouse | 106 | 33 | 4.0 | 63.3% |
| Multi-family Common Areas | 53 | 32 | 6.0 | 0.0% |
| Miscellaneous | 246 | 33 | 8.0 | 34.3% |

**BPL81 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL81 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 766 |
| Number of Participants | 25,864 |
| Gross kWh saved* | 6,267,132 |
| Gross kW demand reduction | 1,695 |
| Gross therms saved | -98,656 |
| Total Incentives** | $ 551,873 |
| Gross kWh/Measure | 242.31 |
| Gross kW/Measure | 0.07 |
| Gross Therms/Measure | -3.81 |
| Average Incentive $/Gross kWh | $0.088 |
| Average Gross kWh/project | 8,182 |
| Average incentive/project | $720 |

*Including heating penalties
**Not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 4,888,363 |
| Net kW demand saved | 1,322 |
| Net therms saved | -76,951 |
| Incentive $/Net kWh | $0.113 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 4,530 |
| Grocery | 5,895 |
| Healthcare Clinic | 1,087 |
| Hospital | - |
| Heavy Industry | 1,311 |
| Light Industry | - |
| Hotel/Motel Common Areas | 6,876 |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | - |
| Restaurant | 8,751 |
| Retail/Service | 10,805 |
| College/University | 5,695 |
| Warehouse | 873 |
| Multi-family Common Areas | 1,531 |
| Miscellaneous | 8,162 |
| **Total for entire program** | **8,182** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 3,088 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 3,650 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 4,207 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 2,629 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 2,935 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,293 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 3,198 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL81 savings calculations are based on the IL Statewide TRM section 4.5.5 (LED Bulbs and Fixtures)**

**The TRM defines the following energy savings calculation algorithms:**

$\Delta kWh = ((Wattsbase - WattsEE)/1000) * Hours * WHFe * ISR$

$\Delta kW = ((Wattsbase - WattsEE)/1000) * WHFd * CF * ISR$

$\Delta Therms = (((Wattsbase - WattsEE)/1000) * ISR * Hours * - IFTherms$

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt reduced** | $0.35 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 72 | 10 | 19 | 1.17 |
| Grocery | 69 | 13 | 20 | 1.13 |
| Healthcare Clinic | 19 | 11 | 25 | 0.19 |
| Hospital | 0 | 0 | 0 | 0 |
| Heavy Industry | 62 | 14 | 10 | 0.48 |
| Light Industry | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 57 | 10 | 28 | 1.32 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 |
| Restaurant | 60 | 10 | 27 | 1.37 |
| Retail/Service | 73 | 15 | 52 | 2.99 |
| College/University | 86 | 15 | 27 | 1.93 |
| Warehouse | 67 | 16 | 4 | 0.20 |
| Multi-family Common Areas | 62 | 14 | 4 | 0.19 |
| Miscellaneous | 84 | 13 | 29 | 2.06 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Office | 109 | 1.17 | 0.0% |
| Grocery | 9 | 1.13 | 0.0% |
| Healthcare Clinic | 7 | 0.19 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 8 | 0.48 | 0.0% |
| Light Industry | 0 | 0 | 0.0% |
| Hotel/Motel Common Areas | 8 | 1.32 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 0 | 0 | 0.0% |
| Restaurant | 91 | 1.37 | 0.0% |
| Retail/Service | 239 | 2.99 | 3.0% |
| College/University | 28 | 1.93 | 0.0% |
| Warehouse | 6 | 0.20 | 100.0% |
| Multi-family Common Areas | 4 | 0.19 | 0.0% |
| Miscellaneous | 257 | 2.06 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 72 | 10 | 19 | 1.17 | 109 | 0.0% | 3,088 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 127.92 | 1.25 | 1.30 | $ 44,773 | 493,782 | 109.76 | -6,320 | 4,530 |
| Grocery | 69 | 13 | 20 | 1.13 | 9 | 0.0% | 3,650 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 10.16 | 1.43 | 1.52 | $ 3,558 | 53,054 | 10.66 | -445 | 5,895 |
| Healthcare Clinic | 19 | 11 | 25 | 0.19 | 7 | 0.0% | 4,207 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 1.35 | 1.34 | 1.57 | $ 472 | 7,606 | 1.59 | -45 | 1,087 |
| Hospital | 0 | 0 | 0 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 62 | 14 | 10 | 0.48 | 8 | 0.0% | 2,629 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 3.87 | 1.03 | 1.06 | $ 1,355 | 10,485 | 3.65 | -81 | 1,311 |
| Light Industry | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 0 | 1.03 | 1.06 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Common Areas | 57 | 10 | 28 | 1.32 | 8 | 0.0% | 4,542 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 10.53 | 1.15 | 1.51 | $ 3,686 | 55,008 | 3.34 | -1,052 | 6,876 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 0 | 0 | 0 | 0 | 0 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 0 | 1.21 | 1.33 | $ - | 0 | 0 | 0 | 0 |
| Restaurant | 60 | 10 | 27 | 1.37 | 91 | 0.0% | 4,784 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 124.23 | 1.34 | 1.65 | $ 43,479 | 796,358 | 163.98 | -13,669 | 8,751 |
| Retail/Service | 73 | 15 | 52 | 2.99 | 239 | 3.0% | 2,935 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 713.74 | 1.23 | 1.43 | $ 249,809 | 2,582,503 | 845.24 | -50,276 | 10,805 |
| College/University | 86 | 15 | 27 | 1.93 | 28 | 0.0% | 2,588 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 54.05 | 1.14 | 1.50 | $ 18,916 | 159,454 | 45.40 | -2,937 | 5,695 |
| Warehouse | 67 | 16 | 4 | 0.20 | 6 | 100.0% | 4,293 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 1.22 | 1.00 | 1.00 | $ 427 | 5,239 | 0.85 | -79 | 873 |
| Multi-family Common Areas | 62 | 14 | 4 | 0.19 | 4 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0.77 | 1.34 | 1.57 | $ 269 | 6,123 | 0.90 | -69 | 1,531 |
| Miscellaneous | 84 | 13 | 29 | 2.06 | 257 | 0.0% | 3,198 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 528.94 | 1.24 | 1.46 | $ 185,129 | 2,097,520 | 509.69 | -23,682 | 8,162 |

**BPL91 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL91 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 391 |
| Number of Measures | 14,523 |
| Gross kWh saved* | 21,072,205 |
| Gross kW demand reduction | 3,463 |
| Gross therms saved | -259,626 |
| Total Incentives** | $ 1,441,044 |
| Gross kWh/Measure | 1,450.95 |
| Gross kW/Measure | 0.24 |
| Gross Therms/Measure | -17.88 |
| Average Incentive $/Gross kWh | $0.068 |
| Average Gross kWh/project | 53,893 |
| Average Incentive/project | $3,686 |

*Including heating penalties
**Not including bonuses

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 16,436,320 |
| Net kW demand saved | 2,701 |
| Net therms saved | -202,508 |
| Incentive $/Net kWh | $0.088 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Office | 11,754 |
| Grocery | 9,458 |
| Healthcare Clinic | - |
| Hospital | - |
| Heavy Industry | 59,889 |
| Light Industry | 42,210 |
| Hotel/Motel Common Areas | - |
| Hotel/Motel Guest Rooms | - |
| High School/Middle School | - |
| Elementary School | 8,206 |
| Restaurant | - |
| Retail/Service | 23,833 |
| College/University | 28,677 |
| Warehouse | 122,526 |
| Multi-family Common Areas | - |
| Miscellaneous | 20,686 |
| **Total for entire program** | **53,893** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Office | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% |
| Grocery | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% |
| Healthcare Clinic | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% |
| Hospital | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% |
| Heavy Industry | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% |
| Light Industry | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% |
| Hotel/Motel Common Areas | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| Hotel/Motel Guest Rooms | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% |
| High School/Middle School | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% |
| Elementary School | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% |
| Restaurant | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% |
| Retail/Service | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% |
| College/University | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% |
| Warehouse | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% |
| Multi-family Common Areas | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% |
| Miscellaneous | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% |

**BPL91 savings calculations are based on the IL Statewide TRM sections 4.5.3 (High Performance and Reduced Wattage T8 Lamps and Fixtures) and 4.5.12 (T5 Fixtures and Lamps)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((Wattsbase-WattsEE)/1000) * ISR * Hours * -IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt reduced** | $0.35 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Office | 387 | 224 | 13 | 2.12 |
| Grocery | 341 | 227 | 10 | 1.14 |
| Healthcare Clinic | 0 | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 | 0 |
| Heavy Industry | 596 | 300 | 40 | 11.84 |
| Light Industry | 417 | 193 | 35 | 7.83 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 |
| Elementary School | 417 | 217 | 14 | 2.80 |
| Restaurant | 0 | 0 | 0 | 0 |
| Retail/Service | 417 | 219 | 22 | 4.35 |
| College/University | 355 | 215 | 58 | 8.10 |
| Warehouse | 666 | 281 | 64 | 24.67 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 |
| Miscellaneous | 561 | 387 | 23 | 4.01 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

| | Inputs Based on Projected Participation Projections | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncoaled buildings (WHFe=1) |
| Office | 8 | 2.12 | 0.0% |
| Grocery | 1 | 1.14 | 0.0% |
| Healthcare Clinic | 0 | 0 | 0.0% |
| Hospital | 0 | 0 | 0.0% |
| Heavy Industry | 68 | 11.84 | 88.6% |
| Light Industry | 110 | 7.83 | 79.1% |
| Hotel/Motel Common Areas | 0 | 0 | 0.0% |
| Hotel/Motel Guest Rooms | 0 | 0 | 0.0% |
| High School/Middle School | 0 | 0 | 0.0% |
| Elementary School | 2 | 2.80 | 0.0% |
| Restaurant | 0 | 0 | 0.0% |
| Retail/Service | 91 | 4.35 | 33.3% |
| College/University | 4 | 8.10 | 100.0% |
| Warehouse | 76 | 24.67 | 70.8% |
| Multi-family Common Areas | 0 | 0 | 0.0% |
| Miscellaneous | 31 | 4.01 | 47.4% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncoaled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 387 | 224 | 13 | 2.12 | 8 | 0.0% | 4,439 | 1.25 | 1.30 | 0.66 | 0.016 | 100% | 16.95 | 1.25 | 1.30 | $ 5,931 | 94,034 | 14.54 | -1,204 | 11,754 |
| Grocery | 341 | 227 | 10 | 1.14 | 1 | 0.0% | 5,802 | 1.43 | 1.52 | 0.69 | 0.012 | 100% | 1.14 | 1.43 | 1.52 | $ 399 | 9,458 | 1.20 | -79 | 9,458 |
| Healthcare Clinic | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,095 | 1.34 | 1.57 | 0.75 | 0.008 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Hospital | 0 | 0 | 0 | 0 | 0 | 0.0% | 6,038 | 1.35 | 1.69 | 0.75 | 0.011 | 100% | 0 | 1.35 | 1.69 | $ - | 0 | 0 | 0 | 0 |
| Heavy Industry | 596 | 300 | 40 | 11.84 | 68 | 88.6% | 5,041 | 1.03 | 1.06 | 0.89 | 0.008 | 100% | 805.12 | 1.00 | 1.01 | $ 281,792 | 4,072,446 | 721.44 | -32,469 | 59,889 |
| Light Industry | 417 | 193 | 35 | 7.83 | 110 | 79.1% | 5,360 | 1.03 | 1.06 | 0.92 | 0.008 | 100% | 860.86 | 1.01 | 1.01 | $ 301,301 | 4,643,134 | 801.92 | -36,914 | 42,210 |
| Hotel/Motel Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,311 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| Hotel/Motel Guest Rooms | 0 | 0 | 0 | 0 | 0 | 0.0% | 777 | 1.15 | 1.51 | 0.21 | 0.022 | 100% | 0 | 1.15 | 1.51 | $ - | 0 | 0 | 0 | 0 |
| High School/Middle School | 0 | 0 | 0 | 0 | 0 | 0.0% | 4,311 | 1.23 | 0.74 | 0.22 | 0.017 | 100% | 0 | 1.23 | 0.74 | $ - | 0 | 0 | 0 | 0 |
| Elementary School | 417 | 217 | 14 | 2.80 | 2 | 0.0% | 2,422 | 1.21 | 1.33 | 0.22 | 0.019 | 100% | 5.60 | 1.21 | 1.33 | $ 1,960 | 16,411 | 1.64 | -258 | 8,206 |
| Restaurant | 0 | 0 | 0 | 0 | 0 | 0.0% | 3,673 | 1.34 | 1.65 | 0.80 | 0.023 | 100% | 0 | 1.34 | 1.65 | $ - | 0 | 0 | 0 | 0 |
| Retail/Service | 417 | 219 | 22 | 4.35 | 91 | 33.3% | 4,719 | 1.24 | 1.44 | 0.83 | 0.024 | 100% | 396.20 | 1.16 | 1.29 | $ 138,669 | 2,168,792 | 425.30 | -44,872 | 23,833 |
| College/University | 355 | 215 | 58 | 8.10 | 4 | 100.0% | 3,540 | 1.14 | 1.50 | 0.56 | 0.021 | 100% | 32.40 | 1.00 | 1.00 | $ 11,341 | 114,707 | 18.15 | -2,409 | 28,677 |
| Warehouse | 666 | 281 | 64 | 24.67 | 76 | 70.8% | 4,746 | 1.16 | 1.17 | 0.70 | 0.015 | 100% | 1,874.59 | 1.05 | 1.05 | $ 656,105 | 9,311,966 | 1377.27 | -133,452 | 122,526 |
| Multi-family Common Areas | 0 | 0 | 0 | 0 | 0 | 0.0% | 5,950 | 1.34 | 1.57 | 0.75 | 0.015 | 100% | 0 | 1.34 | 1.57 | $ - | 0 | 0 | 0 | 0 |
| Miscellaneous | 561 | 387 | 23 | 4.01 | 31 | 47.4% | 4,576 | 1.24 | 1.46 | 0.66 | 0.014 | 100% | 124.42 | 1.13 | 1.24 | $ 43,546 | 641,256 | 102.00 | -7,971 | 20,686 |

**BPL93 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPL93 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 20 |
| Number of Participants | 252 |
| Gross kWh saved* | 224,108 |
| Gross kW demand reduction | 27 |
| Gross therms saved | 0.00 |
| Total Incentives** | 9,404 |
| Gross kWh/Measure | 889.32 |
| Gross kW/Measure | 0.11 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $ 0 |
| Average Gross kWh/project | $11,205.385 |
| Average Incentive/project | 470 |

**including heating penalties*

***not including bonuses*

| | |
|---|---|
| NTG ratio | 78% |
| Net kWh saved | 174,804 |
| Net kW demand saved | 21 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.054 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Refrigerated Cases | 9,949 |
| Freezer Cases | 11,744 |
| **Total for entire program** | **11,205** |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 26% |
| Spill Over | 3% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| Building Type | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate |
| Refrigerated Cases | 5,802 | 1.29 | 1.29 | 0.69 | 0.000 | 100% |
| Freezer Cases | 5,802 | 1.50 | 1.50 | 0.69 | 0.000 | 100% |

**BPL93 savings calculations are based on the IL Statewide TRM section 4.5.5 (LED Bulbs and Fixtures)**

**The TRM defines the following energy savings calculation algorithms:**

ΔkWh = ((Wattsbase-WattsEE)/1000) * Hours *WHFe*ISR

ΔkW = ((Wattsbase-WattsEE)/1000) * WHFd*CF*ISR

ΔTherms = (((WattsBase-WattsEE)/1000) * ISR * Hours *- IFTherms

**Where:**

| | | |
|---|---|---|
| Wattsbase | Collected | Wattage of existing lighting |
| WattsEE | Collected | Wattage of efficient lighting |
| Hours | TRM | Annual hours of operation |
| WHFe | TRM | Waste Heat Factor to account for cooling effects on energy |
| ISR | TRM | In Service Rate |
| WHFd | TRM | Waste Heat Factor to account for cooling effects on power |
| CF | TRM | Coincidence Factor |
| IFTherms | TRM | Factor to account for increased heating load (gas heating) |

## Incentive Level

| | |
|---|---|
| **Incentive per Watt reduced** | $0.35 |

## Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | | |
|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project* |
| Refrigerated Cases | 114 | 19 | 14 | 1.33 |
| Freezer Cases | 138 | 26 | 12 | 1.35 |

*This value is (Wattsbase-WattsEE)/1000 in the savings algorithm

## Participation Projections

| | Inputs Based on Projected Participation | | |
|---|---|---|---|
| Building Type | Number of Projects | Average kW reduced per project | % of kW reduction in uncooled buildings (WHFe=1) |
| Refrigerated Cases | 6 | 1.33 | 0.0% |
| Freezer Cases | 14 | 1.35 | 0.0% |

## Full Calculations

| | Project-Level Inputs | | | | Inputs Based on Projected Participation | | TRM-Defined Variables | | | | | | Results | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Average existing fixture wattage (W) | Average efficient fixture wattage (W) | Average number of fixtures per project | Average kW reduced per project | Number of Projects | % of kW reduction in uncooled buildings (WHFe=1) | Hours of operation | Cooled building WHFe | Cooled building WHFd | Coincidence Factor | IFTherms | In Service Rate | Program kW reduced | Weighted WHFe | Weighted WHFd | Incentives | kWh Saved | kW reduced | Therms penalty | kWh saved PER PROJECT |
| Office | 114 | 19 | 14 | 1.33 | 6 | 0.0% | 5,802 | 1.29 | 1.29 | 0.69 | 0.000 | 100% | 7.98 | 1.29 | 1.29 | $ 2,792 | 59,697 | 7.10 | 0 | 9,949 |
| Grocery | 138 | 26 | 12 | 1.35 | 14 | 0.0% | 5,802 | 1.50 | 1.50 | 0.69 | 0.000 | 100% | 18.89 | 1.50 | 1.50 | $ 6,612 | 164,411 | 19.55 | 0 | 11,744 |

**BPC20 Model to predict annual program performance based on anticipated participation distribution**

### Program Performance Totals for Measure BPC20 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 15 |
| Number of Participants | 15 |
| Gross kWh saved* | 174,675 |
| Gross kW demand reduction | 10 |
| Gross therms saved | 0 |
| Total Incentives** | $ 32,189 |
| Gross kWh/Measure | 11,645.00 |
| Gross kW/Measure | 0.63 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.184 |
| Average Gross kWh/project | 11,645 |
| Average Incentive/project | $2,146 |

*Including heating penalties
**Not including bonuses

| | |
|---|---|
| NTG ratio | 44% |
| Net kWh saved | 77,381 |
| Net kW demand saved | 4 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.416 |
| Measure Lifetime (years) | 15 |

| Average Gross kWh saved PER PROJECT | |
|---|---|
| Building Type | Proposed |
| College/University | 4,779 |
| Grocery | - |
| Heavy Industry | - |
| Hotel/Motel | - |
| Light Industry | 23,858 |
| Medical | 32,348 |
| Office | 480 |
| Restaurant | - |
| Retail/Service | 10,179 |
| School(K-12) | - |
| Warehouse | 10,018 |
| Miscellaneous | 7,532 |
| **Total for entire program** | **11,645** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 57% |
| Spill Over | 0% |
| Non-SO | 1% |

### TRM Algorithm and Defined Variables

| | TRM-Defined Variables |
|---|---|
| **Building Type** | **Hours of operation** |
| College/University | 4,216 |
| Grocery | 5,840 |
| Heavy Industry | 3,585 |
| Hotel/Motel | 6,872 |
| Light Industry | 2,465 |
| Medical | 6,871 |
| Office | 1,766 |
| Restaurant | 4,654 |
| Retail/Service | 3,438 |
| School(K-12) | 2,203 |
| Warehouse | 3,222 |
| Miscellaneous | 4,103 |

| | TRM-Defined Variables | | | | | |
|---|---|---|---|---|---|---|
| | Hot Water Pump | Chilled Water Pump | Constant Volume Fan | Air Foil/Inlet Guide Vanes | Forward Curved Fan, with Discharge Dampers | Forward Curved Inlet Guide Vanes |
| Energy Savings Factor (ESF) | 0.482 | 0.432 | 0.535 | 0.227 | 0.179 | 0.092 |
| Demand Savings Factor (DSF) | 0 | 0.229 | 0.348 | 0.13 | 0.136 | 0.03 |

### Incentive Level

| | |
|---|---|
| **Incentive per hp controlled** | $100.00 |

### Project-Level Breakdown of kW Reduced

| | Project-Level Inputs | | |
|---|---|---|---|
| **Building Type** | **Average Motor Efficiency** | **Average Motor Load Factor** | **Average Motor Capacity (hp)** |
| College/University | 0.96 | 0.74 | 5.2 |
| Grocery | - | - | - |
| Heavy Industry | - | - | - |
| Hotel/Motel | - | - | - |
| Light Industry | 0.95 | 0.65 | 68.1 |
| Medical | 0.96 | 0.74 | 17.0 |
| Office | 0.93 | 0.68 | 3.7 |
| Restaurant | - | - | - |
| Retail/Service | 0.90 | 0.74 | 13.6 |
| School(K-12) | - | - | - |
| Warehouse | 0.96 | 0.74 | 18.8 |
| Miscellaneous | 0.94 | 0.74 | 6.5 |

### Participation Projections

| | Projected Participation | | | | | |
|---|---|---|---|---|---|---|
| **Building Type** | Hot Water Pump | Chilled Water Pump | Constant Volume Fan | Air Foil/Inlet Guide Vanes | Forward Curved Fan, with Discharge Dampers | Forward Curved Inlet Guide Vanes |
| College/University | 1 | 1 | - | 1 | - | - |
| Grocery | - | - | - | - | - | - |
| Heavy Industry | - | - | - | - | - | - |
| Hotel/Motel | - | - | - | - | - | - |
| Light Industry | - | 1 | - | 1 | 1 | - |
| Medical | 1 | - | - | - | - | - |
| Office | - | - | - | - | 1 | 1 |
| Restaurant | - | - | - | - | - | - |
| Retail/Service | - | - | 1 | - | 1 | - |
| School(K-12) | - | - | - | - | - | - |
| Warehouse | 1 | - | - | - | - | 1 |
| Miscellaneous | - | 1 | 1 | - | - | - |

| BPC20 savings calculations are based on the IL Statewide TRM section 4.4.17 (Variable Speed Drives for HVAC) | | |
|---|---|---|
| **The TRM defines the following energy savings calculation algorithms:** | | |
| ΔkWh = kWconnected*Hours*ESF | | |
| ΔkW = kWconnected*DSF | | |
| kWconnected = HP * 0.746 * LF /eff | | |
| **Where:** | | |
| HP | Collected | Horsepower of connected equipment |
| LF | Collected | Load factor of connected equipment |
| eff | Collected | Motor efficiency of connected equipment |
| ESF | TRM | Energy Savings Factor |
| DSF | TRM | Demand Savings Factor |
| Hours | TRM | Annual hours of use |

### Full Calculations

| | Project-Level Inputs | | | Inputs Based on Projected Participation | | | TRM-Defined Variables | Results | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Building Type** | **Motor Efficiency** | **Motor Load Factor** | **Motor Capacity (hp)** | **Participation** | **Average Energy Savings Factor** | **Average Demand Savings Factor** | **Hours of operation** | **kW Connected** | **kWh Saved** | **kW Saved** | **Incentives** | | **Average kWh Saved per Project** |
| College/University | 0.96 | 0.74 | 5.18 | 3 | 0.380 | 0.120 | 4,216 | 2.98 | 14,336 | 0.36 | $ | 1,553 | 4,779 |
| Grocery | 0 | 0 | 0 | 0 | - | - | 5,840 | - | - | - | $ | - | - |
| Heavy Industry | 0 | 0 | 0 | 0 | - | - | 3,585 | - | - | - | $ | - | - |
| Hotel/Motel | 0 | 0 | 0 | 0 | - | - | 6,872 | - | - | - | $ | - | - |
| Light Industry | 0.95 | 0.65 | 68.12 | 3 | 0.279 | 0.165 | 2,465 | 34.65 | 71,574 | 5.72 | $ | 20,435 | 23,858 |
| Medical | 0.96 | 0.74 | 16.96 | 1 | 0.482 | - | 6,871 | 9.77 | 32,348 | - | $ | 1,696 | 32,348 |
| Office | 0.93 | 0.68 | 3.66 | 2 | 0.136 | 0.083 | 1,766 | 2.00 | 959 | 0.17 | $ | 731 | 480 |
| Restaurant | 0 | 0 | 0 | 0 | - | - | 4,654 | - | - | - | $ | - | - |
| Retail/Service | 0.90 | 0.74 | 13.59 | 2 | 0.357 | 0.242 | 3,438 | 8.29 | 20,358 | 2.01 | $ | 2,718 | 10,179 |
| School(K-12) | 0 | 0 | 0 | 0 | - | - | 2,203 | - | - | - | $ | - | - |
| Warehouse | 0.96 | 0.74 | 18.81 | 2 | 0.287 | 0.015 | 3,222 | 10.83 | 20,036 | 0.16 | $ | 3,763 | 10,018 |
| Miscellaneous | 0.94 | 0.74 | 6.47 | 2 | 0.484 | 0.289 | 4,103 | 3.80 | 15,064 | 1.10 | $ | 1,294 | 7,532 |

# BPLD1 Model to predict annual program performance based on anticipated participation distribution

## Program Performance Totals for Measure BPLD1 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 4 |
| Number of Units | 269 |
| Number of Measures | 269 |
| Gross kWh saved | 453,264 |
| Gross kW demand reduction | 335.95 |
| Gross therms saved | 0 |
| Total Incentives* | $ 14,782 |
| Gross kWh/Measure | 1,686.50 |
| Gross kW/Measure | 1.25 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.033 |
| Average Gross kWh/project | 113,316 |
| Average Incentive/project | $3,695 |

**Not including bonuses- also the incentive is often likely to be capped by project cost for this measure*

| | |
|---|---|
| NTG ratio | 83% |
| Net kWh saved | 377,569 |
| Net kW demand saved | 280 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.039 |
| Measure Lifetime (years) | 15 |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 18% |
| Spill Over | 0% |
| Non-SO | 1% |

## TRM Deemed Values

| TRM-Deemed Values | | |
|---|---|---|
| Savings per PTAC unit controlled or room controlled | | |
| kWh savings | kW reduction | Therm savings |
| 1687 | 1.25 | 0.0 |

BPLD1 savings calculations are based on the IL Statewide TRM section 4.4.8 (Guest Room Energy Management (PTAC & PTHP))

The TRM deems all savings values as shown to the left. Note that an average of 3/4-ton and 1-ton units was used to determine the per-unit savings

## Incentive Level

| Incentive per unit installed |
|---|
| $55.00 |

## Participation Projections

| Number of projects | Number of GREM units per project | Participation in GREM units |
|---|---|---|
| 4 | 67 | 269 |

## Full Calculations

| Total Program annual savings | | |
|---|---|---|
| kWh savings | kW reduction | Therm savings |
| 453,264 | 335.95 | - |

| Total program incentives |
|---|
| $ 14,782 |

**BPR33 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPR33 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 18 |
| Number of Participants | 144 |
| Gross kWh saved* | 390,125 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 0 |
| Total Incentives** | $ 11,520 |
| Gross kWh/Measure | 2,709.20 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.030 |
| Average Gross kWh/project | 21,674 |
| Average Incentive/project | $640 |

*Including heating penalties
**not including bonuses

| | |
|---|---|
| NTG ratio | 83% |
| Net kWh saved | 324,974 |
| Net kW demand saved | 0 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.035 |
| Measure Lifetime (years) | 12 |

| Control Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Humidity-based | 21,674 |
| Conductivity-based | - |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 18% |
| Spill Over | 0% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | |
|---|---|---|---|---|
| Building Type | Coincidence Factor | Energy Savings Factor | Bonus Factor | In Service Rate |
| Humidity-based | 0.00 | 0.55 | 1.36 | 100% |
| Conductivity-based | 0.00 | 0.70 | 1.36 | 100% |

**BPR33 savings calculations are based on the IL Statewide TRM section 4.6.3 (Door Heater Controls for Cooler or Freezer)**

**The TRM defines the following energy savings calculation algorithms:**

$\Delta kWh = kWbase * NUMdoors * ESF * BF * 8276$

**Where:**

| | | |
|---|---|---|
| kWbase | TRM | connected load kW for typical reach-in refrigerator or freezer door and frame with a heater |
| ESF | TRM | Energy savings factor |
| BF | TRM | Bonus Factor |
| NUMdoors | Collected | Number of reach-in refrigerator or freezer doors controlled by sensor |

## Incentive Level

| | |
|---|---|
| Incentive per Control | $80.00 |

## Project-Level Breakdown of kW Reduced

| Project-Level Inputs | | |
|---|---|---|
| Building Type | Average number of controls per project | kW base |
| Humidity-based | 8 | 0.413 |
| Conductivity-based | 0 | 0.195 |

## Participation Projections

| Inputs Based on Projected Participation | |
|---|---|
| Building Type | Number of Projects |
| Humidity-based | 18 |
| Conductivity-based | 0 |

**BPR34 Model to predict annual program performance based on anticipated participation distribution**

## Program Performance Totals for Measure BPR34 in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 51 |
| Number of Participants | 357 |
| Gross kWh saved* | 456,313 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 0 |
| Total Incentives** | $ 28,560 |
| Gross kWh/Measure | 1,278.19 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 0.00 |
| Average Incentive $/Gross kWh | $0.063 |
| Average Gross kWh/project | 8,947 |
| Average Incentive/project | $560 |

*Including heating penalties
**not including bonuses

| | |
|---|---|
| NTG ratio | 83% |
| Net kWh saved | 380,109 |
| Net kW demand saved | 0 |
| Net therms saved | 0 |
| Incentive $/Net kWh | $0.075 |
| Measure Lifetime (years) | 12 |

| Control Type | Average Gross kWh saved PER PROJECT |
|---|---|
| Humidity-based | 8,947 |
| Conductivity-based | - |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 18% |
| Spill Over | 0% |
| Non-SO | 1% |

## TRM Algorithm and Defined Variables

| | TRM-Defined Variables | | | |
|---|---|---|---|---|
| Building Type | Coincidence Factor | Energy Savings Factor | Bonus Factor | In Service Rate |
| Humidity-based | 0.00 | 0.55 | 1.19 | 100% |
| Conductivity-based | 0.00 | 0.70 | 1.19 | 100% |

| BPR34 savings calculations are based on the IL Statewide TRM section 4.6.3 (Door Heater Controls for Cooler or Freezer) | | |
|---|---|---|
| **The TRM defines the following energy savings calculation algorithms:** | | |
| ΔkWh = kWbase * NUMdoors * ESF * BF * 8276 | | |
| **Where:** | | |
| kWbase | Collected | connected load kW for typical reach-in refrigerator or freezer door and frame with a heater |
| ESF | TRM | Energy savings factor |
| BF | TRM | Bonus Factor |
| NUMdoors | Collected | Number of reach-in refrigerator or freezer doors controlled by sensor |

## Incentive Level

| | |
|---|---|
| Incentive per Control | $80.00 |

## Project-Level Breakdown of kW Reduced

| Project-Level Inputs | | |
|---|---|---|
| Building Type | Average number of controls per project | kW base |
| Humidity-based | 7 | 0.224 |
| Conductivity-based | 0 | 0.092 |

## Participation Projections

| Inputs Based on Projected Participation | |
|---|---|
| Building Type | Number of Projects |
| Humidity-based | 51 |
| Conductivity-based | 0 |

**BPWH4 Model to predict annual program performance based on anticipated participation**

## Program Performance Totals for Measure BPWH4 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 6 |
| Number of Participants | 1 |
| Gross kWh saved* | 0 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 1,246 |
| Total Incentives** | $ 2,700 |
| Gross kWh/Measure | 0.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 1,246.00 |
| average Incentive $/Gross Therm | $2.167 |
| average Gross Therm/project | 208 |
| average Incentive/project | $450 |

**not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower*

| | |
|---|---|
| Therms NTG ratio | 80% |
| Net kWh saved | 0 |
| Net kW demand saved | 0 |
| Net therms saved | 997 |
| Incentive $/Net Therm | $2.709 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross Therms saved per project by Building Type |
|---|---|
| Assembly | - |
| Education - Primary/Secondary | 248 |
| Education - Post Secondary | 178 |
| Grocery | - |
| Health/Medical - Hospital | - |
| Lodging - Hotel | - |
| Manufacturing - Light Industrial | 140 |
| Office - >60,000 sq-ft | - |
| Office - <60,000 sq-ft | - |
| Restaurant - Fast Food | 218 |
| Restaurant - Sit Down | 166 |
| Retail | - |
| Storage | - |
| Multi-Family | - |
| Other | 296 |

## Net-to-Gross Ratio

| Therm NTG components | |
|---|---|
| Free Ridership | 40% |
| Spill Over | 20% |
| Non-SO | 0% |

## TRM Algorithm and Defined Variables

| Building Type | Energy Savings (therms/unit) |
|---|---|
| Assembly | 185 |
| Education - Primary/Secondary | 124 |
| Education - Post Secondary | 178 |
| Grocery | 191 |
| Health/Medical - Hospital | 297 |
| Lodging - Hotel | 228 |
| Manufacturing - Light Industrial | 140 |
| Office - >60,000 sq-ft | 164 |
| Office - <60,000 sq-ft | 56 |
| Restaurant - Fast Food | 109 |
| Restaurant - Sit Down | 166 |
| Retail | 105 |
| Storage | 150 |
| Multi-Family | 119 |
| Other | 148 |

BPWH4 savings calculations are based on the IL Statewide TRM section 4.3.1 (Storage Water Heater)

The TRM deems all savings values as shown to the left

## Incentive Level

| | |
|---|---|
| **Incentive per unit** | $300 |

## Participation Projections

| Inputs Based on Projections | | |
|---|---|---|
| **Building Type** | **Participation** | **Average Units per Project** |
| Assembly | - | - |
| Education - Primary/Secondary | 1 | 2 |
| Education - Post Secondary | 1 | 1 |
| Grocery | - | - |
| Health/Medical - Hospital | - | - |
| Lodging - Hotel | - | - |
| Manufacturing - Light Industrial | 1 | 1 |
| Office - >60,000 sq-ft | - | - |
| Office - <60,000 sq-ft | - | - |
| Restaurant - Fast Food | 1 | 2 |
| Restaurant - Sit Down | 1 | 1 |
| Retail | - | - |
| Storage | - | - |
| Multi-Family | - | - |
| Other | 1 | 2 |

## Full Calculations

| | Inputs Based on Projections | | TRM-Defined Variables | Results | |
|---|---|---|---|---|---|
| **Building Type** | **Participation** | **Average Units per Project** | **Energy Savings (therms/unit)** | **Total Annual Therms Saved** | **Total Incentives** |
| Assembly | - | - | 185 | - | - |
| Education - Primary/Secondary | 1 | 2 | 124 | 248 | $600 |
| Education - Post Secondary | 1 | 1 | 178 | 178 | $300 |
| Grocery | - | - | 191 | - | - |
| Health/Medical - Hospital | - | - | 297 | - | - |
| Lodging - Hotel | - | - | 228 | - | - |
| Manufacturing - Light Industrial | 1 | 1 | 140 | 140 | $300 |
| Office - >60,000 sq-ft | - | - | 164 | - | - |
| Office - <60,000 sq-ft | - | - | 56 | - | - |
| Restaurant - Fast Food | 1 | 2 | 109 | 218 | $600 |
| Restaurant - Sit Down | 1 | 1 | 166 | 166 | $300 |
| Retail | - | - | 105 | - | - |
| Storage | - | - | 150 | - | - |
| Multi-Family | - | - | 119 | - | - |
| Other | 1 | 2 | 148 | 296 | $600 |

**BPWH5 Model to predict annual program performance based on anticipated participation**

## Program Performance Totals for Measure BPWH5 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 3 |
| Number of Participants | 5 |
| Gross kWh saved* | 0 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 1,254 |
| Total Incentives** | $ 1,500 |
| Gross kWh/Measure | 0.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 251 |
| average Incentive $/Gross Therm | $1.196 |
| average Gross Therm/project | 418 |
| average Incentive/project | $500 |

**not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower*

| | |
|---|---|
| Therms NTG ratio | 80% |
| Net kWh saved | 0 |
| Net kW demand saved | 0 |
| Net therms saved | 1,003 |
| Incentive $/Net Therm | $1.495 |
| Measure Lifetime (years) | 15 |

| Building Type | Average Gross Therms saved per project by Building Type |
|---|---|
| Assembly | 185 |
| Education - Primary/Secondary | - |
| Education - Post Secondary | 178 |
| Grocery | - |
| Health/Medical - Hospital | 891 |
| Lodging - Hotel | - |
| Manufacturing - Light Industrial | - |
| Office - >60,000 sq-ft | - |
| Office - <60,000 sq-ft | - |
| Restaurant - Fast Food | - |
| Restaurant - Sit Down | - |
| Retail | - |
| Storage | - |
| Multi-Family | - |
| Other | - |

## Net-to-Gross Ratio

| Therm NTG components | |
|---|---|
| Free Ridership | 40% |
| Spill Over | 20% |
| Non-SO | 0% |

## TRM Algorithm and Defined Variables

| Building Type | Energy Savings (therms/unit) |
|---|---|
| Assembly | 185 |
| Education - Primary/Secondary | 124 |
| Education - Post Secondary | 178 |
| Grocery | 191 |
| Health/Medical - Hospital | 297 |
| Lodging - Hotel | 228 |
| Manufacturing - Light Industrial | 140 |
| Office - >60,000 sq-ft | 164 |
| Office - <60,000 sq-ft | 56 |
| Restaurant - Fast Food | 109 |
| Restaurant - Sit Down | 166 |
| Retail | 105 |
| Storage | 150 |
| Multi-Family | 119 |
| Other | 148 |

BPWH5 savings calculations are based on the IL Statewide TRM section 4.3.1 (Storage Water Heater)

The TRM deems all savings values as shown to the left

## Incentive Level

| | |
|---|---|
| **Incentive per unit** | $300 |

## Participation Projections

| Inputs Based on Projections | | |
|---|---|---|
| **Building Type** | **Participation** | **Average Units per Project** |
| Assembly | 1 | 1 |
| Education - Primary/Secondary | - | - |
| Education - Post Secondary | 1 | 1 |
| Grocery | - | - |
| Health/Medical - Hospital | 1 | 3 |
| Lodging - Hotel | - | - |
| Manufacturing - Light Industrial | - | - |
| Office - >60,000 sq-ft | - | - |
| Office - <60,000 sq-ft | - | - |
| Restaurant - Fast Food | - | - |
| Restaurant - Sit Down | - | - |
| Retail | - | - |
| Storage | - | - |
| Multi-Family | - | - |
| Other | - | - |

## Full Calculations

| | Inputs Based on Projections | | TRM-Defined Variables | Results | |
|---|---|---|---|---|---|
| **Building Type** | **Participation** | **Average Units per Project** | **Energy Savings (therms/unit)** | **Total Annual Therms Saved** | **Total Incentives** |
| Assembly | 1 | 1 | 185 | 185 | $300 |
| Education - Primary/Secondary | - | - | 124 | - | - |
| Education - Post Secondary | 1 | 1 | 178 | 178 | $300 |
| Grocery | - | - | 191 | - | - |
| Health/Medical - Hospital | 1 | 3 | 297 | 891 | $900 |
| Lodging - Hotel | - | - | 228 | - | - |
| Manufacturing - Light Industrial | - | - | 140 | - | - |
| Office - >60,000 sq-ft | - | - | 164 | - | - |
| Office - <60,000 sq-ft | - | - | 56 | - | - |
| Restaurant - Fast Food | - | - | 109 | - | - |
| Restaurant - Sit Down | - | - | 166 | - | - |
| Retail | - | - | 105 | - | - |
| Storage | - | - | 150 | - | - |
| Multi-Family | - | - | 119 | - | - |
| Other | - | - | 148 | - | - |

**BPH4 Model to predict annual program performance based on anticipated participation**

### Program Performance Totals for Measure BPH4 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 36 |
| Number of Participants | 36 |
| Gross kWh saved* | 0 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 15,449 |
| Total Incentives** | $ 24,700 |
| Gross kWh/Measure | 0.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 429.151 |
| average Incentive $/Gross Therm | $1.599 |
| average Gross Therm/project | 429 |
| average Incentive/project | $686 |

*not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower

| | |
|---|---|
| NTG ratio | 80% |
| Net kWh saved | 0 |
| Net kW demand saved | 0 |
| Net therms saved | 12,360 |
| Incentive $/Net Therm | $1.998 |
| Measure Lifetime (years) | 20 |

| Boiler Type | Pressure Range (kBtu/hr) | Average Gross Therms saved per project by System Type |
|---|---|---|
| Hot Water | < 300 | 4,353 |
| Hot Water | 300 - 499 | 6,262 |
| Hot Water | 500 - 999 | 4,835 |
| Hot Water | 1,000 - 1,699 | - |
| Hot Water | 1,700 - 1,999 | - |
| Steam | < 300 | - |
| Steam | 300 - 499 | - |
| Steam | 500 - 999 | - |
| Steam | 1,000 - 1,699 | - |
| Steam | 1,700 - 1,999 | - |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 40% |
| Spill Over | 20% |
| Non-SO | 0% |

### TRM Algorithm and Defined Variables

| TRM-Defined Variables | | |
|---|---|---|
| **Boiler Type** | **Capacity range (kBtu/hr)** | **Baseline Efficiency** |
| Hot Water | < 300 | 82% |
| Hot Water | 300 - 499 | 80% |
| Hot Water | 500 - 999 | 80% |
| Hot Water | 1,000 - 1,699 | 80% |
| Hot Water | 1,700 - 1,999 | 80% |
| Steam | < 300 | 80% |
| Steam | 300 - 499 | 79% |
| Steam | 500 - 999 | 79% |
| Steam | 1,000 - 1,699 | 79% |
| Steam | 1,700 - 1,999 | 79% |

| | EFLH | | | | | |
|---|---|---|---|---|---|---|
| **Building Type** | Zone 1 (Rockford) | Zone 2 (Chicago) | Zone 3 (Springfield) | Zone 4 (Belleville) | Zone 5 (Marion) | **Weighted Average*** |
| Office - High Rise | 2,746 | 2,768 | 2,656 | 2,155 | 2,420 | **2,632** |
| Office - Mid Rise | 996 | 879 | 824 | 519 | 544 | **807** |
| Office - Low Rise | 797 | 666 | 647 | 341 | 329 | **624** |
| Convenience Store | 696 | 550 | 585 | 272 | 297 | **552** |
| Healthcare Clinic | 1,118 | 1,036 | 1,029 | 694 | 737 | **1,002** |
| Manufacturing Facility | 1,116 | 1,123 | 904 | 771 | 857 | **930** |
| Lodging Hotel/Motel/Multifamily | 2,098 | 2,050 | 1,780 | 1,365 | 1,666 | **1,791** |
| High School | 969 | 807 | 999 | 569 | 674 | **930** |
| Hospital | 2,031 | 1,929 | 1,863 | 1,497 | 1,800 | **1,843** |
| Elementary School | 970 | 840 | 927 | 524 | 637 | **878** |
| Religious Facility | 1,830 | 1,657 | 1,730 | 1,276 | 1,484 | **1,679** |
| Restaurant | 1,496 | 1,379 | 1,291 | 872 | 1,185 | **1,270** |
| Retail - Strip Mall | 1,266 | 1,147 | 1,151 | 732 | 863 | **1,115** |
| Retail - Department Store | 1,065 | 927 | 900 | 578 | 646 | **877** |
| College/University | 373 | 404 | 376 | 187 | 187 | **365** |
| Warehouse | 416 | 443 | 427 | 226 | 232 | **413** |
| Unknown | 1,249 | 1,163 | 1,130 | 786 | 910 | **1,106** |

*Weighted Average based on zoning participation in Participation Projections section

| BPH4 savings calculations are based on the IL Statewide TRM section 4.4.10 (High Efficiency Boiler) | | |
|---|---|---|
| **The TRM defines the following energy savings calculation algorithm:** | | |
| ΔtherM = EFLH * Cap * (EFFactual - EFFbase) / EFFbase / 100,000 | | |
| **Where:** | | |
| EFLH | TRM | Equivalent Full Load Hours for heating |
| EFFbase | TRM | Baseline boiler efficiency rating |
| Cap | Collected | Norminal heating input capacity boiler size for efficient unit |
| EFFactual | Collected | Efficient boiler efficiency rating |

### Incentive Level

| Capacity | Incentive |
|---|---|
| Up to 299 | $300 |
| 300-499 | $800 |
| 500-999 | $1,500 |
| 1,000-1,699 | $2,650 |
| 1,700-1,999 | $3,600 |

### Participation Projections

| Zone | Participation % of Whole |
|---|---|
| Zone 1 (Rockford) | 0% |
| Zone 2 (Chicago) | 17% |
| Zone 3 (Springfield) | 74% |
| Zone 4 (Belleville) | 9% |
| Zone 5 (Marion) | 0% |
| Total | 100% |

| | Hot Water Boilers | | | | |
|---|---|---|---|---|---|
| **Building Type** | Up to 299 | 300-499 | 500-999 | 1,000-1,699 | 1,700-1,999 |
| Office - High Rise | - | - | - | - | - |
| Office - Mid Rise | - | - | - | - | - |
| Office - Low Rise | 1 | - | 1 | - | - |
| Convenience Store | - | - | - | - | - |
| Healthcare Clinic | 2 | 3 | 1 | - | - |
| Manufacturing Facility | 2 | - | - | - | - |
| Lodging Hotel/Motel/Multifamily | - | - | - | - | - |
| High School | - | - | - | - | - |
| Hospital | - | - | - | - | - |
| Elementary School | 2 | - | - | - | - |
| Religious Facility | 5 | 4 | 2 | - | - |
| Restaurant | - | - | - | - | - |
| Retail - Strip Mall | - | - | - | - | - |
| Retail - Department Store | - | - | - | - | - |
| College/University | 2 | 2 | 2 | - | - |
| Warehouse | 1 | - | 1 | - | - |
| Unknown | 3 | 2 | - | - | - |

*make sure to update the average capacity & efficiency if adding to previously empty categories

| | Steam Boilers | | | | |
|---|---|---|---|---|---|
| **Building Type** | Up to 299 | 300-499 | 500-999 | 1,000-1,699 | 1,700-1,999 |
| Office - High Rise | - | - | - | - | - |
| Office - Mid Rise | - | - | - | - | - |
| Office - Low Rise | - | - | - | - | - |
| Convenience Store | - | - | - | - | - |
| Healthcare Clinic | - | - | - | - | - |
| Manufacturing Facility | - | - | - | - | - |
| Lodging Hotel/Motel/Multifamily | - | - | - | - | - |
| High School | - | - | - | - | - |
| Hospital | - | - | - | - | - |
| Elementary School | - | - | - | - | - |
| Religious Facility | - | - | - | - | - |
| Restaurant | - | - | - | - | - |
| Retail - Strip Mall | - | - | - | - | - |
| Retail - Department Store | - | - | - | - | - |
| College/University | - | - | - | - | - |
| Warehouse | - | - | - | - | - |
| Unknown | - | - | - | - | - |

*make sure to update the average capacity & efficiency if adding to previously empty categories

| | | Inputs Based on Projections | |
|---|---|---|---|
| **Boiler Type** | **Capacity Range (kBtu/hr)** | **average Capacity** | **average Efficiency** |
| Hot Water | < 300 | 170.3 | 93.0% |
| Hot Water | 300 - 499 | 313.2 | 92.6% |
| Hot Water | 500 - 999 | 507.1 | 92.5% |
| Hot Water | 1,000 - 1,699 | 133.5 | 92.6% |
| Hot Water | 1,700 - 1,999 | 1,779.3 | 92.6% |
| Steam | < 300 | 160.0 | 90.7% |
| Steam | 300 - 499 | 323.0 | 90.7% |
| Steam | 500 - 999 | 519.9 | 90.7% |
| Steam | 1,000 - 1,699 | 1,033.5 | 90.7% |
| Steam | 1,700 - 1,999 | 1,779.3 | 90.7% |

### Full Calculations

| | | Inputs Based on Projected Participation | | | | TRM-Defined Variables | | Results | |
|---|---|---|---|---|---|---|---|---|---|
| **Boiler Type** | **Capacity range (kBtu/hr)** | **Number of Projects** | **Incentive** | **average Capacity** | **average Efficiency** | **Baseline Efficiency** | **average EFLH** | **Total Annual Therms Saved** | **Total Incentives** |
| Hot Water | < 300 | 18 | $300 | 170.33 | 93.0% | 82.0% | 1,061.06 | 4,352.66 | $5,400 |
| Hot Water | 300 - 499 | 11 | $800 | 313.18 | 92.6% | 80.0% | 1,151.17 | 6,262.15 | $8,800 |
| Hot Water | 500 - 999 | 7 | $1,500 | 507.13 | 92.5% | 80.0% | 875.00 | 4,834.61 | $10,500 |
| Hot Water | 1,000 - 1,699 | - | $2,650 | 133.51 | 92.6% | 80.0% | 0 | - | - |
| Hot Water | 1,700 - 1,999 | - | $3,600 | 1,779.25 | 92.6% | 80.0% | 0 | - | - |
| Steam | < 300 | - | $300 | 159.98 | 90.7% | 80.0% | 0 | - | - |
| Steam | 300 - 499 | - | $800 | 322.96 | 90.7% | 79.0% | 0 | - | - |
| Steam | 500 - 999 | - | $1,500 | 519.89 | 90.7% | 79.0% | 0 | - | - |
| Steam | 1,000 - 1,699 | - | $2,650 | 1,033.51 | 90.7% | 79.0% | 0 | - | - |
| Steam | 1,700 - 1,999 | - | $3,600 | 1,779.25 | 90.7% | 79.0% | 0 | - | - |

**BPH7 Model to predict annual program performance based on anticipated participation**

### Program Performance Totals for Measure BPH7 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 48 |
| Number of Participants | 51 |
| Gross kWh saved* | 34,323 |
| Gross kW demand reduction | 6 |
| Gross therms saved | 8,476 |
| Total Incentives** | $ 19,200 |
| Gross kWh/Measure | 673.00 |
| Gross kW/Measure | 0.12 |
| Gross Therms/Measure | 166.19 |
| average Incentive $/Gross Therm | $2.265 |
| average Gross Therm/project | 177 |
| average Incentive/project | $400 |

*not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower

| | |
|---|---|
| Therms NTG ratio | 80% |
| kWh NTG ratio | 101% |
| kW NTG ratio | 101% |
| Net kWh saved | 34,666 |
| Net kW demand saved | 6 |
| Net therms saved | 6,781 |
| Incentive $/Net Therm | $2.832 |
| Measure Lifetime (years) | 16.5 |

| Facility Type | Average Gross Therms saved per project by Facility Type |
|---|---|
| Office - High Rise | - |
| Office - Mid Rise | 139 |
| Office - Low Rise | 2,572 |
| Convenience Store | - |
| Healthcare Clinic | 159 |
| Manufacturing Facility | 186 |
| Lodging Hotel/Motel/Multifamily | - |
| High School | - |
| Hospital | - |
| Elementary School | - |
| Religious Facility | 2,639 |
| Restaurant | 468 |
| Retail - Strip Mall | 1,251 |
| Retail - Department Store | 146 |
| College/University | - |
| Warehouse | 62 |
| Unknown | 854 |

### Net-to-Gross Ratio

| | Therm NTG components | kWh NTG components | kW NTG components |
|---|---|---|---|
| Free Ridership | 40% | 0% | 0% |
| Spill Over | 20% | 0% | 0% |
| Non-SO | 0% | 1% | 1% |

### TRM Algorithm and Defined Variables

| TRM-Defined Variables | |
|---|---|
| Furnace Size | Baseline Efficiency |
| 40 - 140 kBtuh | 80% |
| 141 - 225 kBtuh | 80% |

| Building Type | Hours of Use | Coincidence Factor | EFLH Zone 1 (Rockford) | Zone 2 (Chicago) | Zone 3 (Springfield) | Zone 4 (Belleville) | Zone 5 (Marion) | Weighted Average* |
|---|---|---|---|---|---|---|---|---|
| Office - High Rise | 1,766 | 0.66 | 2,746 | 2,768 | 2,656 | 2,155 | 2,420 | **2,606** |
| Office - Mid Rise | 1,766 | 0.66 | 996 | 879 | 824 | 519 | 544 | **790** |
| Office - Low Rise | 1,766 | 0.66 | 797 | 666 | 647 | 343 | 329 | **604** |
| Convenience Store | 3,438 | - | 696 | 550 | 585 | 272 | 297 | **527** |
| Healthcare Clinic | 6,871 | 0.75 | 1,118 | 1,036 | 1,029 | 694 | 737 | **978** |
| Manufacturing Facility | 2,465 | - | 1,116 | 1,123 | 904 | 771 | 857 | **939** |
| Lodging Hotel/Motel/Multifamily | 6,872 | - | 2,098 | 2,050 | 1,780 | 1,365 | 1,666 | **1,784** |
| High School | 2,203 | 0.22 | 969 | 807 | 999 | 569 | 674 | **883** |
| Hospital | 6,871 | 0.75 | 2,031 | 1,929 | 1,863 | 1,497 | 1,800 | **1,822** |
| Elementary School | 2,203 | 0.22 | 970 | 840 | 927 | 524 | 637 | **842** |
| Religious Facility | 4,103 | - | 1,830 | 1,657 | 1,730 | 1,276 | 1,484 | **1,640** |
| Restaurant | 4,654 | 0.80 | 1,496 | 1,379 | 1,291 | 872 | 1,185 | **1,248** |
| Retail - Strip Mall | 3,438 | - | 1,266 | 1,147 | 1,151 | 732 | 863 | **1,084** |
| Retail - Department Store | 3,438 | - | 1,045 | 927 | 900 | 578 | 646 | **856** |
| College/University | 4,216 | 0.56 | 373 | 404 | 376 | 187 | 187 | **353** |
| Warehouse | 3,222 | - | 416 | 443 | 427 | 226 | 232 | **400** |
| Unknown | 4,103 | - | 1,249 | 1,163 | 1,130 | 786 | 910 | **1,084** |

*Weighted Average based on zoning participation in Participation Projections section

**BPH7 savings calculations are based on the IL Statewide TRM section 4.4.10 (High Efficiency Boiler)**

**The TRM defines the following energy savings calculation algorithm:**

ΔtherM = EFLH * Cap * [AFUEeff - AFUEbase] / AFUEbase / 100,000

ΔkWh = heating savings + cooling savings + shoulder season savings

ΔkW = ΔkWh / hours * CF

heating savings = 418 kWh

cooling savings if air conditioning = 263 kWh

cooling savings if no air conditioning = 175 kWh

shoulder season savings = 51 kWh

**Where:**

| | | |
|---|---|---|
| EFLH | TRM | Equivalent Full Load Hours for heating |
| hours | TRM | Hours per year |
| CF | TRM | Summer peak coincidence factor |
| AFUEbase | TRM | Baseline furnace annual fuel utilization efficiency rating |
| AFUEeff | Collected | Efficient furnace annual fuel utilization efficiency rating |
| Cap | Collected | Nominal heating input capacity furnace size |

### Incentive Level

| Capacity (kBtu/hr) | Incentive |
|---|---|
| 40 - 140 | $400 |
| 151 - 225 | $800 |

### Participation Projections

| Zone | Participation % of Whole |
|---|---|
| Zone 1 (Rockford) | 0% |
| Zone 2 (Chicago) | 25% |
| Zone 3 (Springfield) | 59% |
| Zone 4 (Belleville) | 16% |
| Zone 5 (Marion) | 0% |
| Total | 100% |

| | | Inputs Based on Projections | | | |
|---|---|---|---|---|---|
| Facility Type | Size Range | Participation | Average AFUE on new unit | Average Size (kBtuh) | Percentage of projects with Air Conditioning |
| Office - High Rise | 40 - 140 kBtuh | - | - | - | - |
| Office - Mid Rise | 40 - 140 kBtuh | 1 | 0.96 | 88.0 | 100.0% |
| Office - Low Rise | 40 - 140 kBtuh | 21 | 0.96 | 104.0 | 93.8% |
| Convenience Store | 40 - 140 kBtuh | - | - | - | - |
| Healthcare Clinic | 40 - 140 kBtuh | 1 | 0.98 | 74.5 | 50.0% |
| Manufacturing Facility | 40 - 140 kBtuh | 1 | 0.95 | 105.5 | 100.0% |
| Lodging Hotel/Motel/Multifamily | 40 - 140 kBtuh | - | - | - | - |
| High School | 40 - 140 kBtuh | - | - | - | - |
| Hospital | 40 - 140 kBtuh | - | - | - | - |
| Elementary School | 40 - 140 kBtuh | - | - | - | - |
| Religious Facility | 40 - 140 kBtuh | 10 | 0.95 | 86.4 | 100.0% |
| Restaurant | 40 - 140 kBtuh | 2 | 0.95 | 100.0 | 100.0% |
| Retail - Strip Mall | 40 - 140 kBtuh | 6 | 0.95 | 100.3 | 100.0% |
| Retail - Department Store | 40 - 140 kBtuh | 1 | 0.96 | 88.0 | 100.0% |
| College/University | 40 - 140 kBtuh | - | - | - | - |
| Warehouse | 40 - 140 kBtuh | 1 | 0.96 | 80.0 | - |
| Unknown | 40 - 140 kBtuh | 4 | 0.95 | 102.2 | 77.8% |
| Office - High Rise | 141 - 225 kBtuh | - | - | - | - |
| Office - Mid Rise | 141 - 225 kBtuh | - | - | - | - |
| Office - Low Rise | 141 - 225 kBtuh | - | - | - | - |
| Convenience Store | 141 - 225 kBtuh | - | - | - | - |
| Healthcare Clinic | 141 - 225 kBtuh | - | - | - | - |
| Manufacturing Facility | 141 - 225 kBtuh | - | - | - | - |
| Lodging Hotel/Motel/Multifamily | 141 - 225 kBtuh | - | - | - | - |
| High School | 141 - 225 kBtuh | - | - | - | - |
| Hospital | 141 - 225 kBtuh | - | - | - | - |
| Elementary School | 141 - 225 kBtuh | - | - | - | - |
| Religious Facility | 141 - 225 kBtuh | - | - | - | - |
| Restaurant | 141 - 225 kBtuh | - | - | - | - |
| Retail - Strip Mall | 141 - 225 kBtuh | - | - | - | - |
| Retail - Department Store | 141 - 225 kBtuh | - | - | - | - |
| College/University | 141 - 225 kBtuh | - | - | - | - |
| Warehouse | 141 - 225 kBtuh | - | - | - | - |
| Unknown | 141 - 225 kBtuh | - | - | - | - |

### Full Calculations

| | | Inputs Based on Projected Participation | | | | TRM-Defined Variables | | | | Results | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Facility Type | Size Range | Number of Projects | Average AFUE | Average Size | % With Air Conditioning | Baseline AFUE | average EFLH | Hours of Use | Coincidence Factor | Total Annual Therms Saved | Total Annual kWh Saved | Total kW Saved | Total Incentives |
| Office - High Rise | 40 - 140 kBtuh | - | - | - | - | 80.0% | 2,606 | 1,766 | .66 | - | - | - | - |
| Office - Mid Rise | 40 - 140 kBtuh | 1 | 96.0% | 88.0 | 100.0% | 80.0% | 790 | 1,766 | .66 | 139.07 | 721.00 | 0.27 | $400 |
| Office - Low Rise | 40 - 140 kBtuh | 21 | 95.6% | 104.0 | 93.8% | 80.0% | 604 | 1,766 | .66 | 2,572.06 | 15,039.94 | 5.62 | $8,400 |
| Convenience Store | 40 - 140 kBtuh | - | - | - | - | 80.0% | 527 | 3,438 | - | - | - | - | - |
| Healthcare Clinic | 40 - 140 kBtuh | 1 | 97.5% | 74.5 | 50.0% | 80.0% | 978 | 6,871 | .75 | 159.42 | 682.50 | 0.07 | $400 |
| Manufacturing Facility | 40 - 140 kBtuh | 1 | 95.0% | 105.5 | 100.0% | 80.0% | 939 | 2,465 | - | 185.74 | 721.00 | - | $400 |
| Lodging Hotel/Motel/Multifamily | 40 - 140 kBtuh | - | - | - | - | 80.0% | 1,784 | 6,872 | - | - | - | - | - |
| High School | 40 - 140 kBtuh | - | - | - | - | 80.0% | 883 | 2,203 | .22 | - | - | - | - |
| Hospital | 40 - 140 kBtuh | - | - | - | - | 80.0% | 1,822 | 6,871 | .75 | - | - | - | - |
| Elementary School | 40 - 140 kBtuh | - | - | - | - | 80.0% | 842 | 2,203 | .22 | - | - | - | - |
| Religious Facility | 40 - 140 kBtuh | 10 | 94.9% | 86.4 | 100.0% | 80.0% | 1,640 | 4,103 | - | 2,639.37 | 7,210.00 | - | $4,000 |
| Restaurant | 40 - 140 kBtuh | 2 | 95.0% | 100.0 | 100.0% | 80.0% | 1,248 | 4,654 | .80 | 467.89 | 1,442.00 | 0.25 | $800 |
| Retail - Strip Mall | 40 - 140 kBtuh | 6 | 95.3% | 100.3 | 100.0% | 80.0% | 1,084 | 3,438 | - | 1,250.76 | 4,326.00 | - | $2,400 |
| Retail - Department Store | 40 - 140 kBtuh | 1 | 95.5% | 88.0 | 100.0% | 80.0% | 856 | 3,438 | - | 146.01 | 721.00 | - | $400 |
| College/University | 40 - 140 kBtuh | - | - | - | - | 80.0% | 353 | 4,216 | .56 | - | - | - | - |
| Warehouse | 40 - 140 kBtuh | 1 | 95.5% | 80.0 | - | 80.0% | 400 | 3,222 | - | 61.93 | 644.00 | - | $400 |
| Unknown | 40 - 140 kBtuh | 4 | 95.4% | 102.2 | 77.8% | 80.0% | 1,084 | 4,103 | - | 853.58 | 2,815.56 | - | $1,600 |
| Office - High Rise | 141 - 225 kBtuh | - | - | - | - | 80.0% | 2,606 | 1,766 | .66 | - | - | - | - |
| Office - Mid Rise | 141 - 225 kBtuh | - | - | - | - | 80.0% | 790 | 1,766 | .66 | - | - | - | - |
| Office - Low Rise | 141 - 225 kBtuh | - | - | - | - | 80.0% | 604 | 1,766 | .66 | - | - | - | - |
| Convenience Store | 141 - 225 kBtuh | - | - | - | - | 80.0% | 527 | 3,438 | - | - | - | - | - |
| Healthcare Clinic | 141 - 225 kBtuh | - | - | - | - | 80.0% | 978 | 6,871 | .75 | - | - | - | - |
| Manufacturing Facility | 141 - 225 kBtuh | - | - | - | - | 80.0% | 939 | 2,465 | - | - | - | - | - |
| Lodging Hotel/Motel/Multifamily | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,784 | 6,872 | - | - | - | - | - |
| High School | 141 - 225 kBtuh | - | - | - | - | 80.0% | 883 | 2,203 | .22 | - | - | - | - |
| Hospital | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,822 | 6,871 | .75 | - | - | - | - |
| Elementary School | 141 - 225 kBtuh | - | - | - | - | 80.0% | 842 | 2,203 | .22 | - | - | - | - |
| Religious Facility | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,640 | 4,103 | - | - | - | - | - |
| Restaurant | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,248 | 4,654 | .80 | - | - | - | - |
| Retail - Strip Mall | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,084 | 3,438 | - | - | - | - | - |
| Retail - Department Store | 141 - 225 kBtuh | - | - | - | - | 80.0% | 856 | 3,438 | - | - | - | - | - |
| College/University | 141 - 225 kBtuh | - | - | - | - | 80.0% | 353 | 4,216 | .56 | - | - | - | - |
| Warehouse | 141 - 225 kBtuh | - | - | - | - | 80.0% | 400 | 3,222 | - | - | - | - | - |
| Unknown | 141 - 225 kBtuh | - | - | - | - | 80.0% | 1,084 | 4,103 | - | - | - | - | - |

## BPST2 and BPST1 Model to predict annual program performance based on anticipated participation

### Program Performance Totals for Measure BPST2 - including incentives from BPST1 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Applications | 10 |
| Number of Participants | 505 |
| Gross kWh saved* | 0 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 37,876 |
| Total Incentives** | $ 65,850 |
| Gross kWh/Measure | 0.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 75.00 |
| Average Incentive $/Gross Therm | $1.739 |
| Average Gross Therm/project | 3,788 |
| Average Incentive/project | $6,585 |

**not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower*

| | |
|---|---|
| NTG ratio | 90% |
| Net Therms saved | 0 |
| Net kW demand saved | 0 |
| Net therms saved | 34,088 |
| Incentive $/Net Therm | $1.932 |
| Measure Lifetime (years) | 6 |

| System Type | Pressure Range | Average Gross Therms saved by System Type PER PROJECT |
|---|---|---|
| Commercial HVAC | <15 PSIG | 3,788 |
| **Total for entire program** | | **3,788** |

### Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 10% |
| Spill Over | 0% |
| Non-SO | 0% |

### TRM Algorithm and Defined Variables

| | | TRM-Defined Variables | | | |
|---|---|---|---|---|---|
| Steam System | Pressure Range | Maximum Loss - S (lb/hr/trap) | Heat of Vaporization - Hv (btu/lb) | Boiler Efficiency - B (%) | Adjustment Factor - A |
| Commercial HVAC | <15 PSIG (typical) | 13.8 | 951 | 80% | 0.5 |

**BPST2 savings calculations are based on the IL Statewide TRM section 4.4.16 (Steam Trap Replacement or Repair)**

**The TRM defines the following energy savings calculation algorithm:**

Δtherm = S * (Hv/B) * Hours * A * L / 100,000

**Where:**

| | | |
|---|---|---|
| S | TRM | Maximum theoretical steam loss per trap (TRM deemed by collected steam system) |
| Hv | TRM | Heat of vaporization for steam (TRM deemed by collected steam system) |
| Hours | TRM | Annual operating hours (TRM deemed by collected heating zone) |
| B | TRM | Boiler efficiency (deemed for unknown as 80%) |
| L | Collected | Leaking and Blow-through rate - verified by AOE survey |

### Incentive Level

| Steam System | Pressure Range | Incentive per Trap Replaced |
|---|---|---|
| Commercial HVAC | <15 PSIG (typical) | $100.00 |
| Trap Survey | <15 PSIG (typical) | $30.00 |

### Participation Projections

| | |
|---|---|
| **Total number of BPST2 Projects** | 10 |

| | | Inputs Based on Projected Participation | | | |
|---|---|---|---|---|---|
| Steam System | Pressure Range | Average Number of Traps per Project | Total Annual Program Traps | Leaking/Blow-through Rate - L (%)* | Annual Hours of Operation |
| Commercial HVAC | <15 PSIG (typical) | 50.50 | 505.00 | 27.0% | 3387 |
| Trap Survey | <= 15 PSIG | 51.17 | 511.67 | | |

*This rate is verified by conducting a survey in conjuction with the application for incentives (BPST4)

### Full Calculations

| | | Inputs Based on Projected Participation | | | TRM-Defined Variables | | | | | Results | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Pressure Range | Average Number of Traps per Project | Total Annual Program Traps | Leaking/Blow-through Rate - L (%) | Maximum Loss - S | Heat of Vaporization - Hv | Annual Hours of Operation | Boiler Efficiency - B | Adjustment Factor - A | Therms saved | Incentives | Therms saved per AVERAGE project | Incentive per AVERAGE project |
| Commercial HVAC | <15 PSIG (typical) | 50.5 | 505.0 | 27% | 13.8 | 951.00 | 3386.60 | 0.80 | 0.500 | 37875.56 | $ 50,500.00 | 3787.56 | $ 5,050 |
| Trap Survey | <15 PSIG (typical) | 51.167 | 511.7 | | | | | | | | $ 15,350.10 | | $ 1,535 |

**BPST5 and BPST4 Model to predict annual program performance based on anticipated participation**

## Program Performance Totals for Measure BPST5 - including incentives from BPST4 - in PY7 (6/1/2014-5/31/2015)

| | |
|---|---|
| Number of Projects | 12 |
| Number of Participants | 1,866 |
| Gross kWh saved* | 0 |
| Gross kW demand reduction | 0 |
| Gross therms saved | 877,020 |
| Total Incentives** | $ 301,778 |
| Gross kWh/Measure | 0.00 |
| Gross kW/Measure | 0.00 |
| Gross Therms/Measure | 470.00 |
| Average Incentive $/Gross Therm | $0.344 |
| Average Gross Therm/project | 73,085 |
| Average Incentive/project | $25,148 |

**not including bonuses. Also note that incentives are often limited by project costs, so total incentives paid may be lower*

| | |
|---|---|
| NTG ratio | 90% |
| Net Therms saved | 0 |
| Net kW demand saved | 0 |
| Net therms saved | 789,318 |
| Incentive $/Net Therm | $0.382 |
| Measure Lifetime (years) | 6 |

| System Type | Pressure Range | Average Gross Therms saved by System Type PER PROJECT |
|---|---|---|
| Commercial Dry Cleaners | <15 PSIG | 1,027 |
| Industrial Low Pressure | <15 PSIG | 23,039 |
| Industrial Med Pressure | 15-29 PSIG | 5,365 |
| Industrial Med Pressure | 30-74 PSIG | 7,600 |
| Industrial High Pressure | 75-124 PSIG | 12,612 |
| Industrial High Pressure | 125-174 PSIG | 17,613 |
| Industrial High Pressure | 175-249 PSIG | 5,829 |
| Industrial High Pressure | 250+ PSIG | - |

## Net-to-Gross Ratio

| NTG components | |
|---|---|
| Free Ridership | 10% |
| Spill Over | 0% |
| Non-SO | 0% |

## TRM Algorithm and Defined Variables

| | | TRM-Defined Variables | | | | |
|---|---|---|---|---|---|---|
| Steam System | Pressure Range | Maximum Loss - S (lb/hr/trap) | Heat of Vaporization - Hv (btu/lb) | Annual Hours of Operation | Boiler Efficiency - B (%) | Adjustment Factor - A |
| Commercial Dry Cleaners | | 38.1 | 889 | 2425 | 80% | 0.5 |
| Industrial Low Pressure | <15 PSIG | 13.8 | 950 | 7752 | 80% | 0.5 |
| Industrial Med Pressure | 15-29 PSIG | 12.7 | 944 | 7752 | 80% | 0.5 |
| Industrial Med Pressure | 30-74 PSIG | 19.0 | 927 | 7752 | 80% | 0.5 |
| Industrial High Pressure | 75-124 PSIG | 67.9 | 894 | 7752 | 80% | 0.5 |
| Industrial High Pressure | 125-174 PSIG | 105.8 | 868 | 7752 | 80% | 0.5 |
| Industrial High Pressure | 175-249 PSIG | 143.7 | 846 | 7752 | 80% | 0.5 |
| Industrial High Pressure | 250+ PSIG | 200.5 | 820 | 7752 | 80% | 0.5 |

**BPST5 savings calculations are based on the IL Statewide TRM section 4.4.16 (Steam Trap Replacement or Repair)**

**The TRM defines the following energy savings calculation algorithm:**

Δtherm = S * (Hv/B) * Hours * A * L / 100,000

**Where:**

| | | |
|---|---|---|
| S | TRM | Maximum theoretical steam loss per trap (TRM deemed by collected steam system) |
| Hv | TRM | Heat of vaporization for steam (TRM deemed by collected steam system) |
| Hours | TRM | Annual operating hours (TRM deemed by collected steam system) |
| B | TRM | Boiler efficiency (deemed for unknown as 80%) |
| A | TRM | Adjustment factor to account for actual vs theoretical loss |
| L | Collected | Leaking and Blow-through rate - verified by ADE survey |

## Incentive Level

| Steam System | Pressure Range | Incentive per Trap Replaced |
|---|---|---|
| Commercial Dry Cleaners | | $100.00 |
| Industrial Low Pressure | <15 PSIG | $100.00 |
| Industrial Med Pressure | 15-29 PSIG | $100.00 |
| Industrial Med Pressure | 30-74 PSIG | $150.00 |
| Industrial High Pressure | 75-124 PSIG | $200.00 |
| Industrial High Pressure | 125-174 PSIG | $300.00 |
| Industrial High Pressure | 175-249 PSIG | $400.00 |
| Industrial High Pressure | 250+ PSIG | $500.00 |
| Trap Survey Low Pressure | <= 15 PSIG | $30.00 |
| Trap Survey Med-High Pressure | > 15 PSIG | $50.00 |

## Participation Projections

| | |
|---|---|
| **Total number of BPST5 Projects** | 12 |

| | | Inputs Based on Projected Participation | | |
|---|---|---|---|---|
| Steam System | Pressure Range | Average Number of Traps per Project | Total Annual Program Traps | Leaking/Blow-through Rate - L (%)* |
| Commercial Dry Cleaners | | 8.00 | 96.00 | 25.0% |
| Industrial Low Pressure | <15 PSIG | 84.07 | 1008.81 | 43.2% |
| Industrial Med Pressure | 15-29 PSIG | 21.40 | 256.79 | 43.2% |
| Industrial Med Pressure | 30-74 PSIG | 20.63 | 247.62 | 43.2% |
| Industrial High Pressure | 75-124 PSIG | 9.94 | 119.22 | 43.2% |
| Industrial High Pressure | 125-174 PSIG | 9.17 | 110.05 | 43.2% |
| Industrial High Pressure | 175-249 PSIG | 2.29 | 27.51 | 43.2% |
| Industrial High Pressure | 250+ PSIG | 0.00 | 0 | 43.2% |
| Trap Survey Low Pressure | <= 15 PSIG | 32.00 | 384.00 | |
| Trap Survey Med-High Pressure | > 15 PSIG | 81.82 | 981.82 | |

**This rate is verified by conducting a survey in conjuction with the application for incentives*

## Full Calculations

| | | Inputs Based on Projected Participation | | | TRM-Defined Variables | | | | | Results | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Building Type | Pressure Range | Average Number of Traps per Project | Total Annual Program Traps | Leaking/Blow-through Rate - L (%) | Maximum Loss - S | Heat of Vaporization - Hv | Annual Hours of Operation | Boiler Efficiency - B | Adjustment Factor - A | Therms saved | Incentives | Therms saved per AVERAGE project | Incentive per AVERAGE project | |
| Commercial Dry Cleaners | | 8.0 | 96.0 | 25% | 38.1 | 889 | 2,425 | 0.80 | 0.500 | 12,321 | $ 9,600 | 1,027 | $ 800 | 116 |
| Industrial Low Pressure | <15 PSIG | 84.1 | 1008.8 | 43% | 13.8 | 950 | 7,752 | 0.80 | 0.500 | 276,467 | $ 100,881 | 23,039 | $ 8,407 | 247 |
| Industrial Med Pressure | 15-29 PSIG | 21.4 | 256.8 | 43% | 12.7 | 944 | 7,752 | 0.80 | 0.500 | 64,381 | $ 25,679 | 5,365 | $ 2,140 | 226 |
| Industrial Med Pressure | 30-74 PSIG | 20.6 | 247.6 | 43% | 19.0 | 927 | 7,752 | 0.80 | 0.500 | 91,205 | $ 37,142 | 7,600 | $ 3,095 | 331 |
| Industrial High Pressure | 75-124 PSIG | 9.9 | 119.2 | 43% | 67.9 | 894 | 7,752 | 0.80 | 0.500 | 151,147 | $ 23,845 | 12,612 | $ 1,987 | 1,142 |
| Industrial High Pressure | 125-174 PSIG | 9.2 | 110.1 | 43% | 105.8 | 868 | 7,752 | 0.80 | 0.500 | 211,353 | $ 33,016 | 17,613 | $ 2,751 | 1,728 |
| Industrial High Pressure | 175-249 PSIG | 2.3 | 27.5 | 43% | 143.7 | 846 | 7,752 | 0.80 | 0.500 | 69,947 | $ 11,005 | 5,829 | $ 917 | 2,288 |
| Industrial High Pressure | 250+ PSIG | 0.0 | 0.0 | 43% | 200.5 | 820 | 7,752 | 0.80 | 0.500 | - | $ - | - | $ - | #DIV/0! |
| Trap Survey Low Pressure | <= 15 PSIG | 32.0 | 384.0 | | | | | | | | $ 11,520 | | $ 960 | |
| Trap Survey Med-High Pressure | > 15 PSIG | 81.8 | 981.8 | | | | | | | | $ 49,091 | | $ 4,091 | |