

Howard County EPC
Phase II Proposal

Measurement and Verification Plan

ECMs	Proposed M&V Method - Whole Program ^a	Proposed M&V Overview
Upgrade Lighting & Controls	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Optimize Vending Machine Operation	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Provide Green Roof	Not an ECM	No savings are attributed to the measure, no M&V is proposed
Solar Thermal & PV Applications	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Daylight Harvesting	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Chiller replace/repair	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Cooling Tower VSD Drives	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Chilled Water valves	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Chilled water pump VSD	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
EMCS Tridium upgrade	Not an ECM	No savings are attributed to the measure, no M&V is proposed
EMS upgrades	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Replace AHU, RTU and/or Condensing Unit	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Demand Control Ventilation CO2	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
AHU, RTU VSD	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.

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ATC controls for Unit Heaters	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Intelli-hood Controls	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
HW Reset Schedule	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
HW Pump retrofit	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Hot water pumps VSD	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Boiler Replacement	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
DDC Controls for RTU Setback	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Upgrade Building Envelope	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Window Film	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.
Pipe insulation	C	Based on utility meter reconciliation with adjustments to: (1) number of billing days, (2) weather, (3) occupancy changes, (4) operational changes, (5) area (square foot) changes, etc.

^a Proposed Option C is not building specific, but it is for the whole program