

## ATTACHMENT J-9

### POST-INSTALLATION REPORT OUTLINE

**Contract #/ Modification #:** (include as appropriate)

**Post-Acceptance Performance Period Dates Covered:** \_\_\_\_\_ to \_\_\_\_\_

#### **J-9.1 EXECUTIVE SUMMARY**

**J-9.1.1 Project Background** - Provide an overview of project background, including:

- A. Contract #/ Modification # (as appropriate)
- B. Dates of relevant contract modifications
- C. Post-acceptance performance period dates covered
- D. Project acceptance date (actual or expected)

#### **J-9.1.2 Brief Project and ECM Descriptions**

- A. Provide an overview what was done and how savings are generated.
- B. Note any changes in project scope between the awarded contract (including any relevant contract modifications) and as-built conditions.

**J-9.1.3** Proposed and expected energy and cost savings for Year 1 of the post-acceptance performance period

- A. Include Section J-9.1.3 C, Table 1 - Proposed Annual Savings Overview.
- B. Compare expected savings for first performance year to first year guaranteed cost savings. State whether guarantee is expected to be fulfilled for first year.

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in annual report. The proposed savings for each ECM are included in TO-4 of the contract.

**C. Table 1 - Proposed Annual Savings Overview**

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)**	Total energy and water cost savings, Year 1 (\$/yr)	Other energy-related O&M cost savings, Year 1 (\$/yr)	Total cost savings, Year 1 (\$/yr)
Total savings									

**Notes**

MBtu=10<sup>6</sup> Btu.

\*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.

\*\*If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

**D. Table 2 - Expected Savings Overview for 1st Performance Year**

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

ECM	Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)*	Natural gas savings (MBtu/yr)**	Water savings (gallons/yr)	Other energy savings (MBtu/yr)**	Total energy and water cost savings, Year 1 (\$/yr)	Other energy-related O&M cost savings, Year 1 (\$/yr)	Total cost savings, Year 1 (\$/yr)
Total savings									

**Notes**

MBtu=10<sup>6</sup> Btu.

\*Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.

\*\*If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).

**E. Table 3 - Guaranteed Cost Savings for First Performance Year**

[Note: Guaranteed cost savings are defined in schedule TO-1 (final)]

First Year Guaranteed Cost Savings: \$
--

#### **J-9.1.4 Energy, Water, and O&M Rate Data**

- A.** Detail energy and water rates used to calculate cost savings for this period.
- B.** Provide post-acceptance performance period rate adjustment factors for energy, water, and O&M cost savings, if used.
- C.** Report actual energy and water rates at site for same period (optional).

#### **J-9.1.5 Savings Adjustments**

- A.** Provide summary of any energy and/or cost savings adjustments required between awarded contract (including any relevant contract modifications) and as-built conditions.
- B.** Describe the impact in changes between the proposal (including any relevant contract modifications) and as-built conditions based on post-installation M&V results.

#### **J-9.1.6 Implementation Period Savings**

- A.** Provide a summary of Implementation period savings, if applicable.
- B.** Provide overview of how Implementation period savings are calculated.

#### **J-9.1.7 Status of Rebates, Incentives or Credits - Include if applicable.**

- A.** Provide a summary of the source of any third-party rebates or incentives provided on this project.
- B.** Provide status of any third-party rebates or incentives.

### **J-9.2 ECM-SPECIFIC M&V ACTIVITIES AND EXPECTED FIRST YEAR SAVINGS**

Develop section for each ECM.

#### **J-9.2.1 Overview of ECM, M&V Plan, and Savings Calculation for ECM**

- A.** Summarize the scope of work, location, and how cost savings are generated. Describe source of all savings including energy, water, O&M, and other (if applicable).

- B.** Provide an overview of M&V activities for ECM. Explain the intent of M&V plan, including what is being verified.
- C.** Provide an overview of Savings Calculation Methods for ECM. Provide a general description of analysis methods used for savings calculations.

#### **J-9.2.2 Installation Verification**

- A.** Detail any changes between awarded contract (including any relevant contract modifications) and as-built conditions.
- B.** Provide details of energy and cost savings impact from changes between awarded contract (including any relevant contract modifications) and as-built conditions based on post-installation M&V results. Include Section J-9.2.2.C, Table 4 - Impact to Energy and Cost Savings from Changes between proposal and As-built Conditions for each ECM.

**C. Table 4 - Impact to Energy and Cost Savings from Changes between Awarded Contract and As-built Conditions for Each ECM**

Total energy savings (MBtu/yr)	Electric energy savings (kWh/yr)	Electric energy cost savings, Year 1 (\$/yr)	Electric demand savings* (kW/yr)	Electric demand cost savings, Year 1 (\$/yr)	Natural gas savings (MBtu/yr)**	Natural gas cost savings, Year 1 (\$/yr)	Water savings (gallons/yr)	Water cost savings, Year 1 (\$/yr)	Other energy savings (MBtu/yr)**	Other energy cost savings, Year 1 (\$/yr)	Other energy-related O&M cost savings, Year 1 (\$/yr)	Total cost savings, Year 1 (\$/yr)
Proposed												
Expected												
Variance												
<b>Notes</b> MBtu = 10 <sup>6</sup> Btu. *Annual electric demand savings (kW/yr) is the sum of the monthly demand savings. **If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).												

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in the annual M&V report. The proposed savings for each ECM are included in TO-4 of the contract.

**D.** Describe implementation period savings (if applicable). Include date ECM was in effect, and reference acceptance documentation.

**E.** Detail savings calculations for implementation period savings.

**J-9.2.3 Post-Installation M&V Activities Conducted** - Detail measurements, monitoring, and inspections conducted in accordance with M&V plan (include all that apply for each one):

**A.** Measurement equipment used.

**B.** Equipment calibration documentation.

**C.** Dates/times of data collection or inspections, names of personnel, and documentation of Government witnessing.

**D.** Details to confirm adherence to sampling plan.

**E.** Include all post-installation measured values. Include periods of monitoring and durations and frequency of measurements. (Use appendix and electronic format as necessary). Include description of data format (headings, units, etc.).

**F.** Describe how performance criteria have been met.

**G.** Detail any performance deficiencies that need to be addressed by ESCO or agency.

**H.** Note impact of performance deficiencies or enhancements on generation of savings.

**J-9.2.4 Expected Savings Calculations and Methodology**

**A.** Provide detailed description of analysis methodology used. Describe any data manipulation or analysis that was conducted prior to applying savings calculations.

**B.** Detail all assumptions and sources of data, including all stipulated values used in calculations.

**C.** Include equations and technical details of all calculations made. (Use appendix and electronic format as necessary.) Include description of data format (headings, units, etc.).

**D.** Details of any baseline changes or savings adjustments made.

**E.** Detail energy and water rates used to calculate cost savings.

1. Provide post-acceptance performance period energy and water rate adjustment factors, if used.
  2. Report actual energy and water rates at site for same period (optional).
- F.** Detail expected savings for this energy conservation measure for first year. Include J-9.2.6.D, Table 5 - Expected Year 1 Savings for ECM.

**J-9.2.5 Details of O&M Savings (if applicable)**

- A.** Describe source of savings.
- B.** Describe verification activities.
- C.** Provide post-acceptance performance period O&M cost savings adjustment factors, if applicable.

**J-9.2.6 Details of other savings (if applicable)**

- A.** Describe source of savings.
- B.** Describe verification activities.
- C.** Provide post-acceptance performance period adjustment factors, if applicable.

Note: Expected savings are prediction for first year based on post-installation M&V activities. Verified savings for first year of post-acceptance performance period will be documented in the annual report. The proposed savings for each ECM are included in Schedule TO-4 of the contract.

**D. Table 5 - Expected Year 1 Savings for ECM**

[Include all applicable fuels/commodities for project, e.g., electric energy, electric demand, natural gas, fuel oil, coal, water, etc.]

Total energy use (MBtu/yr)	Electric energy use (kWh/yr)	Electric energy cost (\$/yr)	Electric demand* (kW/yr)	Electric demand cost (\$/yr)	Natural gas use (MBtu/yr)**	Natural gas cost (\$/yr)	Water use (gallons/yr)	Water cost (\$/yr)	Other energy use (MBtu/yr) **	Other energy cost (\$/yr)	Other energy- related O&M costs (\$/yr)	Total costs (\$/yr)
Baseline use												
Post-installation use												
Savings												
<p><u>Notes</u>            MBtu = 10<sup>6</sup> Btu.            *Annual electric demand savings (kW/yr) is the sum of the monthly demand savings.            **If energy is reported in units other than MBtu, provide a conversion factor to MBtu for link to cost schedules (e.g., 0.003413 MBtu/kWh).</p>												