## ATTACHMENT J-9

**POST-INSTALLATION REPORT OUTLINE**

**Contract #/Task Order#/Task #/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 #/Task Order #/Task #/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 final proposal (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.]

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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) |
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| Total savings |  |  |  |  |  |  |  |  |  |
| NotesMBtu=106 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) |
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|  |  |  |  |  |  |  |  |  |  |
| Total savings |  |  |  |  |  |  |  |  |  |
| NotesMBtu=106 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 final proposal (including any relevant contract modifications) and as-built conditions.

**B.** Describe the impact in changes between the final proposal (including any relevant contract modifications) and as-built conditions based on post-installation M&V results.

**J-9.1.6 Construction Period Savings**

**A.** Provide a summary of construction period savings, if applicable.

**B.** Provide overview of how construction period savings are calculated.

**J-9.1.7 Status of Rebates** - 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 final proposal (including any relevant contract modifications) and as-built conditions.

**B.** Provide details of energy and cost savings impact from changes between final proposal (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 Final Proposal and As-built Conditions for each ECM.

**C. Table 4 - Impact to Energy and Cost Savings from Changes between Final Proposal 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 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NotesMBtu = 106 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 construction period savings (if applicable). Include date ECM was in effect, and reference acceptance documentation.

**E.** Detail savings calculations for construction 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 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 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NotesMBtu = 106 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). |