



DEPARTMENT OF THE AIR FORCE

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OFFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR AF/A4C
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FROM: SAF/IEE
1665 Air Force Pentagon
Washington DC 20330-1665

SUBJECT: Measurement and Verification (M&V) for Energy Projects and Programs (FEMP M&V Guidelines: Measurement and Verification for Performance-Based Contracts Version 4.0, November 2015)

Background

Recent audits of the Air Force energy programs, including the Energy Savings Performance Contract (ESPC) program and the Energy Resilience and Conservation Investment Program (ERCIP), discovered systematic problems with administration and management. The recommendations of the General Accounting Office (GAO) audit and Department of Defense Office of the Inspector General (DoD OIG) reports found that the Air Force needed to establish or revise existing program guidance to evaluate program and project performance and savings.

In 2015, FEMP issued procedures and guidelines for the measurement and verification for performance-based contracts. The FEMP M&V Guidelines implemented the requirement for guaranteed savings required by Public Law 110-140. In 2018, the DoD Office of the Inspector General, Project No. D2018-D000RK-0121.000 (DODIG-2019-058) recommended the Air Force implement recommendations made in reports DODIG-2015-138 and DODIG-2016-087 to validate contractor-claimed energy savings. GAO-15-432 recommended that agencies consistently observe the contractors' measurement and verification activities, review the most recent measurement and verification reports, or certify that the reports were acceptable to the agency. This guidance implements the recommendations of DODIG reports and GAO-15-432.

Energy Savings Performance Contracts (ESPC) and Utility Energy Service Contracts (UESC) are powerful contracting vehicles to fund energy improvements in the absence of other funding sources. 42 USC Section 8287 allows agencies to take on debt to acquire energy conservation measures if the overall utility costs to the agency do not increase because of the contract and if any Government-incurred debt is secured by a contractor-guarantee of energy savings. 42 U.S.C. Section 8287 mandates that ESPCs include an annual energy audit of contractor energy savings using M&V techniques based on sound engineering and financial practices. Measurement and verification (M&V) by the contractor is required annually to ensure that the government receives the guaranteed savings in every year of the contract.

The Energy Resilience and Conservation Investment Program (ERCIP) is a subset of the defense-wide Military Construction (MILCON) program, and a critical element of the Department of Defense's (DoD's) strategy to improve the energy resilience, energy security, and energy efficiency of its fixed installations. Measurement and Verification plans for ERCIP projects are required as part of the DD 1391 document submittal package.

M&V Process

M&V is the process of measuring and verifying both energy and water cost savings realized as a result of an energy management, or an energy efficiency project. USAF requires that post-installation M&V is performed by the installation energy manager or other designated person for all ESPC, UESC, and ERCIP projects. M&V activities may include site surveys, energy measurements, metering of key variables, data analyses, calculations, quality assurance procedures, and reporting. Baseline adjustments may sometimes be required to account for changes unrelated to the Energy Conservation Measures (ECM) that affect energy use. Such adjustments may account for changes in weather, occupancy, or other factors between the baseline and performance periods. The purpose of adjustments is to express both baseline and post-installation energy under the same set of conditions.

M&V activities conducted by the contractor must be witnessed and logged. The log needs to include dates and times of measurements or other M&V activities, as witnessed by the appropriate government personnel, and any test or maintenance activities performed. For ESPC and UESC projects, the installation energy manager must validate the results of the annual M&V report provided by the contractor, for the lifetime of the contract. The contractor's report must be in accordance with the procedures and formats outlined in FEMP M&V Guidelines: Measurement and Verification for Performance-Based Contracts Version 4.0. For ERCIP projects, the installation energy manager or other designated person must submit a M&V plan before award and document post-construction verification activities, including inspections, measurements, and analysis for 5 years post project start. The status of all M&V activities for ESPC, UESC, and ERCIP projects must be updated in TRIRIGA on a quarterly basis. M&V status updates will be required at all quarterly AFCEC Program Management Reviews.

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