

Guidance on New Construction under an Energy Savings Performance Contract

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This document provides guidance on the limitations on the use of an energy savings performance contract (ESPC) for the construction of a “new” building.

Guidance on “New” Construction under an Energy Savings Performance Contract

Subject: Limitations on the use of an energy savings performance contract (ESPC) for the construction of a “new” building.

Summary: In general, an ESPC must be used for the energy efficiency improvement and retrofit of existing Federal buildings. An ESPC may be used for the construction of “new” buildings under an ESPC only under limited circumstances:

- (1) Federal agencies may use an ESPC to finance energy or water conservation measures that provide incremental energy or water efficiency improvements to a design for construction of a planned “new” building.
- (2) Building construction under an ESPC is authorized where the construction is necessary for implementation, operation, and maintenance of an energy or water conservation measure.

Authority:

The ESPC authority provides that “a Federal agency may enter into contracts under this title solely for the purpose of achieving energy savings and benefits ancillary to that purpose.” 42 U.S.C. § 8287(a)(1). “Energy savings” for the purpose of an ESPC includes “a reduction in the cost of energy, water, or wastewater treatment . . . used in an existing federally owned building or buildings or other federally owned facilities.” *Id.* § 8287c(2)(A); 10 C.F.R. § 436.31 (2013).

The ESPC authority also provides that an ESPC must be for the implementation of one or more energy or water conservation measures. *See* 42 U.S.C. § 8287c(3); 10 C.F.R. § 436.31. The term “energy conservation measures” is defined as “measures that are applied to a Federal building that improve energy efficiency and are life cycle cost effective and that involve energy conservation, cogeneration facilities, renewable energy sources, improvements in operations and maintenance, or retrofit activities.” 42 U.S.C. § 8259(4); 10 C.F.R. § 436.31. The term “water conservation measure” is defined as a measure “that improves the efficiency of water use, is life-cycle cost-effective, and involves water conservation, water recycling or reuse, more efficient treatment of wastewater or stormwater, improvements in operation or maintenance efficiencies, retrofit activities, or other related activities, not at a Federal hydroelectric facility.” 42 U.S.C. § 8287c(4)(B).

Discussion:

Reductions in the cost of energy, water, or waste-water treatment under an ESPC must be realized in an existing Federally-owned building. The following discussion, however, sets forth two limited circumstances in which “new” construction may be contemplated under an ESPC.

I. Using an ESPC for Incremental Improvements to Building Designs

For the purpose of an ESPC, a Federal building is considered to be “existing” when there is a design for construction. This approach is consistent with the application of the regulatory energy efficiency requirements for new Federal buildings, which apply at the point at which there is a design for construction. See 10 C.F.R. Parts 433 and 435. An ESPC thus can be used for energy or water conservation measures that provide incremental energy or water efficiency improvements to that design for construction.

In an instance in which a Federal agency is at the design for construction stage of a building, the energy performance associated with that design constitutes the baseline for evaluating energy savings achieved under the ESPC. Energy savings is calculated by comparing the energy-related costs associated with the original facility design with the facility’s performance post-implementation of the energy or water conservation measures contemplated under the ESPC.

It is important to note that the building design that provides the baseline must reflect the energy efficiency requirements set forth in all applicable regulations, specific to each agency. Final determination of the baseline is the responsibility of each agency. The energy efficiency regulations are separated into regulations pertaining to commercial and multi-family high-rise residential buildings (10 C.F.R. Part 433) and those pertaining to low-rise residential buildings (10 C.F.R. Part 435). A Federal building that is either a commercial or multi-family high-rise residential building and for which design for construction began on or after August 10, 2012, but prior to July 9, 2014, must meet the energy efficiency level established under ASHRAE 90.1-2007, and to the extent lifecycle cost-effective, achieve energy consumption levels that are at least thirty percent more energy efficient than the same ASHRAE specifications. See 10 C.F.R. § 433.4(a)(2). A Federal building that is either a commercial or multi-family high-rise residential building and for which design for construction begins on or after July 9, 2014, must meet the energy efficiency level established under ASHRAE 90.1-2010, and to the extent lifecycle cost-effective, achieve energy consumption levels that are at least thirty percent more energy efficient than the same ASHRAE specifications. See *id.* § 433.4(a)(3). If the thirty percent reduction beyond the ASHRAE specifications is not lifecycle cost-effective, the facility must be designed to a level that maximizes lifecycle cost-effective energy efficiency, but at a minimum meets the efficiency level established under the respective version of ASHRAE 90.1. See *id.* § 433.4(c).

Federal buildings that are low-rise residential buildings and for which design for construction began on or after January 3, 2007, but before August 10, 2012, must meet the energy efficiency level established under the 2004 version of the International Energy Conservation Code (IECC), and if lifecycle cost-effective, achieve energy consumption levels that are at least thirty percent more energy efficient than the 2004 version of the IECC. See 10 C.F.R. § 435.4(a)(1). Federal buildings that are low-rise residential buildings and for which design for construction began on or August 10, 2012, must meet the energy efficiency level established under the 2009 version of the IECC, and if lifecycle cost-effective, achieve energy consumption levels that are at least thirty percent more energy efficient than the 2009 version of the IECC. See *id.* § 435.4(a)(2). If the thirty percent reduction beyond the IECC specifications

is not lifecycle cost-effective, the facility must be designed to a level that maximizes lifecycle cost-effective energy efficiency, but at a minimum meets the efficiency level established under the respective version of the IECC. *See id.* § 435.4(c).

To the extent that a Federal agency demonstrates energy or water conservation measures that provide incremental improvements in energy or water savings beyond the levels required by regulation, those incremental energy or water savings can be applied under an ESPC to finance the incremental costs of energy or water conservation measures that modify the original facility construction designs. The procedures for determining lifecycle cost-effectiveness are set forth at 10 C.F.R. 436.10 *et seq.*

II. Building Construction in Support of an Energy or Water Conservation Measure

Under certain circumstances, construction of a building is necessary for implementation of an energy or water conservation measure. For example, the ESPC statutory authority contemplates implementation of combined heat and power projects. *See* 42 U.S.C. §§ 8259(3), 8287c(2). Implementation of combined heat and power operations necessitates housing large equipment. To the extent that a Federal agency does not have an existing building capable of housing, operating, and maintaining this equipment, construction a new building may be necessary for project implementation. In this instance, a Federal agency may contemplate constructing a building to house the combined heat and power project if the entire operation reasonably can be characterized as an energy conservation measure. The energy savings resulting from the combined heat and power project would need to be realized in an existing Federally-owned building, but the combined heat and power project itself could be housed in a new building constructed under the ESPC. Under this example, construction of the new building may account for other factors that are necessary for operation of the combined heat and power project, including space for equipment and personnel necessary to operate, maintain, and repair the energy conservation measure. And, as discussed above, each energy conservation measure contemplated under an ESPC must comply with the four criteria specified in the statutory definition at 42 U.S.C. § 8259(4).