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ARCOS BULLITEN 2013-1

SUBJECT: SDD Memo and ASHRAE 189.1 Implementation

1. REFERENCE:

- a. Memorandum, ASA (IE&E), 27 Oct 10, Subject: Sustainable Design and Development Update (Environmental and Energy Performance)
 - b. ARCOS Bulletin 2011-1, Sustainability and Energy Efficiency
 - c. Memorandum, ASA (IE&E), 24 Aug 12, Subject: Energy Goal Attainment Responsibility for Installations.
 - d. Energy Independence and Security Act (EISA) of 2007, 19 Dec 07
2. This memorandum is to clarify the requirements listed in the Memorandum on Sustainable Design and Development Policy Update (SDD) and ASHRAE 189.1 for Army Reserve projects. In consultation with ARIMD, full compliance with ASHRAE 189.1 is not required. Only portions of ASHRAE 189.1 that are specifically listed in the SDD memo will be requirements for the Army Reserve program. While other portions of ASHRAE 189.1 are good measures and should be evaluated by PDT's on a project by project basis, they are not requirements.
3. Per the SDD memo, the following discusses ASHRAE 189.1 requirements for Army Reserve projects:
- a. Section 5 – Site Sustainability
 - i. Site Selection 5.3
 1. 5.3.1.1 Allowable Sites – Although not required to select sites that meet this criteria, this must be considered during the site selection activities. These sites must be highlighted during the ASIV process. Due to the function of an Army Reserve Center and the large land requirements, acquiring sites that meet this requirement will be difficult. Greenfield sites (20% or less previously developed with impervious surfaces) have numerous requirements related to access to mass transportation and community services. Greyfield (more than

20% previously developed impervious surfaces) or brownfield sites must be given preference over greenfield sites.

2. 5.3.1.2 Prohibited Development Activity – This section is a requirement. Projects that do not comply with this section will require an exception. These requirements include no site development on the following:

- Previously undeveloped land having an elevation lower than 5 ft above the 100-year flood
- Within 150 feet of any fish and wildlife habitat conservation area
- Within 100 feet of any wetland

Note that ASHRAE does not provide for mitigation of development within the “setbacks” from habitat areas or wetlands

- ii. 5.3.2 Mitigation of Heat Island Effect – 5.3.2.1 Site Hardscape and 5.3.2.2 Walls. The SDD memo does not address compliance with these sections. PDT’s should evaluate and document this section and comply to the maximum extent possible within PA and consideration of other project requirements.
- iii. 5.3.2.3 Cool Roofs – This section is a requirement.
- iv. 5.3.3 Reduction of Light Pollution – The SDD memo does not address compliance with this section. PDT’s should evaluate and document this section and comply to the maximum extent possible within PA and consideration of other project requirements.
- v. 5.4 Site Development (Prescriptive) & 5.5 (Performance). – The SDD memo states that project “should” comply with this requirement. PDT’s should evaluate and document this requirement and comply to the maximum extent possible within PA and consideration of other project requirements. Projects must comply with EISA 2007 Section 438.

b. Section 6 – Water Use Efficiency

- i. 6.3.1 Site Water Use Reduction – Projects are required to reduce outdoor potable water consumption by a minimum of 50% following guidance listed in Section 6.3.1. This section requires “a minimum of 60% of the area of the improved landscape shall be in bio-diverse planting of native plants and adapted plants other than turfgrass.”
- ii. 6.3.2.1 Building Water Use Reduction – Projects are required to reduce indoor potable water use by a minimum of 30% utilizing guidance from Section 6.3.2. However the SDD memo states that fixture selection “should” comply with ASHRAE 189.1. PDT’s should comply to the maximum extent possible while considering the overall function and operation\maintenance of the building. Compliance for kitchen equipment may not be practical or life cycle cost effective for Army Reserve projects.

- iii. 6.3.2.3 HVAC Systems and Equipment – This section requires condensate from AC units greater than 65k Btu/h and all steam systems to be recovered for re-use. The SDD memo does not address compliance with this section. Condensate recovery may not be practical for Army Reserve facilities. PDT's should evaluate and include if applicable.
 - iv. 6.3.3 Water Metering – Water metering, as well as other utility smart metering, is already a requirement on Army Reserve projects.
- c. Section 7 – Energy Reduction
- i. Energy Efficiency – All requirements listed in Section 7 as it relates to energy efficiency are applicable except as noted below.
 - ii. Renewable Energy Requirements – The SDD lists Renewable Energy Requirements per ASHRAE 189.1 beginning with the FY 15 program. The intent is to meet this requirement on a program wide basis taking advantage of projects where renewable energy is more feasible. PDT's should continue to consider the ASHRAE 189.1 renewable energy requirement and implement where practical and life cycle cost effective. Further guidance on renewable energy requirements will be issued for the FY 15 program.
 - iii. 7.3.2 On-Site Renewable Energy Systems – This section requires projects “provide for the future installation of on-site renewable energy systems...Building projects design shall show allocated space and pathways for installation of on-site renewable energy systems and associated infrastructure.” The SDD memo does not address compliance with this section. PDT's should evaluate and document this section and comply to the maximum extent possible within PA and consideration of other project requirements.
- d. Sections 8-10
- i. These sections of ASHRAE 189.1 are not requirements.
4. The SDD memo lists solar hot water requirements for new construction projects. This requirement has been further clarified per ASA memo, Energy Goal Attainment Policy for Installations. This memo states that per EISA, 30% of domestic hot water must be provided from solar hot water if life cycle cost effective. PDT's shall perform a life cycle cost analysis to determine the effectiveness of solar hot water. This memo shall supersede requirements listed in item #6 of ARCOS Bulletin 2011-1.
5. Exceptions – The “Exception Process” for noncompliance with the SDD initiatives is detailed in the memo. Projects shall comply with the SDD requirements to the maximum extent possible. For projects that do not comply, an exception request with justification will be prepared by COE and sent to ARIMD for signature. ARIMD will forward the exception request to ASA.

6. Due to several concerns, variable refrigerant flow (VRF) HVAC systems are not to be utilized on new Army Reserve projects effective with the FY 14 program. Projects with VRF systems in final design and construction should proceed with the installation of these systems. VRF systems can be considered on FFR projects if other alternatives are not feasible. VRF systems will be re-evaluated for implementation in the future. This memo shall revise item #7 of ARCOS Bulletin 2011-1 by removing reference to VRF systems.
7. These requirements are subject to change pending further guidance on the implementation of ASHRAE 189.1 by the Department of Army or others.

The point of contact for questions to this guidance is Brian Cash (502) 315-6851, Brian.Cash@usace.army.mil.

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