

SAS Instructions for Completion of Energy & Sustainability (E&S) Record Card

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GENERAL

1. The Purpose of the E&S Record Card is to report project compliance with both federal sustainability mandates and with Customer policies.
2. E&S Record Card is required for each:
 - a. New non-Air Force facility over 5000 sf.
 - b. New non-Air Force facility over \$2.5 million.
 - c. Major renovation (as defined by UFC 1-200-02) of non-Air Force facility over 5000 sf.
 - d. All other repairs, renovations, alterations of a non-Air Force facility with cost greater than \$2.5 million for that facility.

Instructions below are for each applicable facility in the project.

Air Force projects require Air Force MILCON Sustainability Requirements Reporting Scoresheet instead of E&S Record Card.

3. **IMPORTANT:** Portions of the E&S Record Card report compliance with EPA Act, EISA, EO13514, EO13423 and the Guiding Principles for Leadership in High Performance and Sustainable Buildings MOU. Some of the baselines and targets used in the E&S Record Card **do not necessarily reflect current criteria and requirements**. Current requirements are contained in UFC 1-200-02 current version and local supplementary guidance (SAS Design Manual and Specific Instructions).
4. Obtain excel spreadsheet at <http://www.sas.usace.army.mil/About/DivisionsandOffices/EngineeringDivision/EngineeringDesignCriteria.aspx> .
5. Light green cells are for user input. Light blue cells are calculated or imported automatically from data entered elsewhere. See below for additional instructions for each tab.
6. Project Definition Report (PDR) Developer: Prepare Record Card and include in the PDR. Provide original (excel file) to SAS Project Manager at completion of PDR.
7. Design-Build Request for Proposal (RFP) Preparer: Update previously developed Record Card to reflect RFP development, or, if PDR did not include one, develop original Record Card. If previous excel file cannot be obtained from the SAS Project Manager, create a new one. Provide original (excel file) to SAS Project Manager at completion of RFP. Include Design-Build contractor requirements indicated herein in the RFP and provide pdf of Record Card and these instructions as an appendix to the RFP. **IMPORTANT: ENSURE PA BLOCK ON BUILDING DATA TAB IS BLANK.**
8. Design-Build Selected Offeror: Update Record Card included as an appendix to the RFP to reflect the anticipated performance of the final accepted proposal. If previous excel file cannot be obtained from the SAS Project Manager, create a new one. Provide original (excel file) to SAS Project Manager at completion of negotiations prior to award.

9. Designer of Record (Design-Bid-Build and Design-Build): Update previously developed Record Card for each facility to reflect completed design or, if PDR/RFP did not include one, develop original Record Card and include it as an appendix to the Design Analysis at final design submittal. If previous excel file cannot be obtained from the SAS Project Manager, create a new one. Provide original (excel file) to SAS Project Manager at corrected final design completion. Include construction contractor requirements indicated herein in project specifications.
IMPORTANT: ENSURE PA BLOCK ON BUILDING DATA TAB IS BLANK.
 - a. Design-Bid-Build: In addition to final design requirements above, include Record Card in Concept Submittal (appendix to the Design Analysis) and provide original (excel file) to SAS Project Manager at concept design submittal.
10. Construction Contractor/Design-Build Contractor: Update previously developed Record Card for facility to reflect completed construction. If previous excel file cannot be obtained from the SAS Project Manager, create a new one. Provide original (excel file) to SAS Project Manager at building turnover/beneficial occupancy.
11. For facilities requiring E&S Record Card per item 2 above but are not new construction or major renovation: describe project scope in building description block (item 12 below), fill in all applicable cells based on project scope and indicate "N/A" for elements that are not part of the project scope. If project includes HVAC unit or system replacement, provide energy savings calculations. If project includes plumbing fixture replacements, provide water savings calculations.

ENERGY & SUSTAINABILITY RECORD CARD TAB (IN ADDITION TO GENERAL INSTRUCTIONS ABOVE):

12. PDR Preparer/RFP Preparer/DOR: Complete building description block.

BUILDING DATA TAB (IN ADDITION TO GENERAL INSTRUCTIONS ABOVE):

13. PDR Preparer/RFP Preparer/DOR:
 - a. Complete all general building information except RPUID and PA.
 - b. Indicate LEED rating tool and version in certification block (example "LEED NC v3"). Indicate LEED registration number when registered. If project will not seek LEED certification (does not meet LEED MPR), indicate "N/A" in the Certification, Received and Reg. Number blocks and add the following statement to the Building Description on the E&S Record Card tab: "Project does not meet LEED MPR and cannot obtain formal certification."
 - c. Indicate date of preparation/update in upper right block.
 - d. Obtain Installation Code from SAS Project Manager (Installation Real Property Office) if not listed below.
 - i. Fort Benning: 13077

- ii. Fort Bragg: 37099
 - iii. Fort Gordon: 13355
 - iv. Fort Stewart: 13834
 - v. Fort Jackson: 45404
- e. Indicate all baselines and target savings.
- i. Annual Fossil Fuel Energy Usage: Use ASHRAE 90.1 2010 for Army and Army tenant new construction and major renovations. Use ASHRAE 90.1 2007 for all other projects.
 - ii. Annual Energy Demand: Use 12% target savings for Army and Army tenant new construction and major renovations with design for construction start prior to July 9, 2014. Use 30% target savings for all other new construction and major renovations. Use 20% target savings for all other projects.
 - iii. Obtain EISA fossil fuel (CBECS) savings target percentage from Energy & Sustainability Mandates Worksheet tab, Energy Efficiency in New Construction and Major Renovations topic.
 - iv. Water Demand Baseline and target: Use IPC 2006 baseline and 20% savings target for all new construction. For existing building with plumbing fixtures installed before 1994 use 160% IPC 2006 baseline and 20% savings target. For existing building with plumbing fixtures 1994 or later use 120% IPC 2006 baseline and 20% savings target.
 - v. Recycled Materials and Waste Diversion: Leave target blocks blank.
- f. Indicate POC contact information at bottom of page – POC is SAS Project Manager.
14. Designer of Record: Add all Baseline and Design Model numerical data at final design. Data is for building only – exclude site contribution. Include receptacle and process loads in baseline and design model energy calculations. Leave Baseline blocks blank for Non-Fossil, Non-Renewable Energy Usage section and Annual Energy Harvest section. Leave blocks that are not applicable to project scope blank.
15. Construction Contractor: Add RPUID number, PA, received LEED certification level and Waste Diversion Current data.
- a. Obtain RPUID and PA from Government (Installation Real Property Officer, SAS Project Manager).
 - b. ADD RPUID TO THE SECOND “BUILDING ADDRESS” LINE IN LEED ONLINE PROJECT IF LEED REGISTERED PROJECT.
 - c. Use weight or volume for all waste diversion units of measure. Data is for building only – exclude site contribution. Exclude demolition of other buildings.
 - d. Waste Creation Avoided is defined as “the amount of waste that would have been created under the status quo minus the new amount of waste created under the new strategy”.

ENERGY & SUSTAINABILITY MANDATES WORKSHEET TAB (IN ADDITION TO GENERAL INSTRUCTIONS ABOVE):

16. Designer of Record: Fill in green percentage blocks for completed design achievement.
- a. "Building Energy Intensity (Gross)":
 - i. If project attains 12% energy reduction using ASHRAE 90.1 2010 baseline, enter 100%. If not, follow instructions below (ii – iv).
 - ii. Convert design case sum of all sources annual energy demand (on Building Data tab) to kBtu/sf.
 - iii. Compare this to CBECS 2003 building type most similar and calculate percentage reduction from CBECS baseline. Obtain CBECS 2003 Overview table at <http://www.sas.usace.army.mil/About/DivisionsandOffices/EngineeringDivision/EngineeringDesignCriteria.aspx>.
 - iv. Compare % reduction to the milestones indicated (27% FY14, 30% FY15 and beyond). Fill in green compliance percentage block accordingly, using either 100% if goal is met or 0% if it is not met.
 - b. "Energy Efficiency in New Construction and Major Renovations": For EPA column indicate 100% if the maximum life-cycle cost effective energy reduction has been provided. Reduce the compliance percentage indication according to the amount determined LCC effective versus the amount provided. For EISA column:
 - i. If project attains 12% energy reduction using ASHRAE 90.1 2010 baseline, enter 100%. If not, follow instructions below (ii – iv).
 - ii. Convert design case Total Annual Fossil-Fuel Usage in kBtu (on Building Data tab) to kBtu/sf.
 - iii. Compare this to CBECS building most similar and calculate percentage reduction from CBECS baseline. Obtain CBECS 2003 overview table at <http://www.sas.usace.army.mil/About/DivisionsandOffices/EngineeringDivision/EngineeringDesignCriteria.aspx>.
 - iv. Compare % reduction to the milestones indicated (65% FY15-FY19, 80% FY20-24, etc). Fill in green compliance percentage block accordingly, using either 100% if goal is met or 0% if it is not met.
 - c. "Renewable Energy Generation": Indicate 100% compliance if renewable electricity is produced on site. Indicate "N/A" if renewable electricity is not produced on site.
 - d. "Renewable Energy Usage": For EPA column, indicate "N/A" (this is an agency goal, not a building goal). For EISA column, indicate 100% if the maximum life-cycle cost effective solar hot water heating (up to 30%) has been provided. Reduce the compliance percentage indication according to the amount determined LCC effective versus the amount provided.
 - e. "Fleet Vehicle Support": Indicate "N/A" if project is not a federal fleet fueling center. For federal fleet fueling center project, indicate 100% if goal is met or 0% if it is not met.
 - f. "High Performance Sustainable Buildings": Self-explanatory. Indicate 100% if project complies with applicable requirements.
 - g. "Advanced Metering and Measurement": For EPA column, indicate 100% if electricity is metered and connected to the direct digital control and utility monitoring and control system with capability as indicated in the EPA column. For EISA column, indicate 100%

if all building utilities (e.g. district hot and chilled water, electricity, natural gas, etc.) are metered and connected to the direct digital control and utility monitoring and control system. Indicate 0% for new construction and major renovations that do not comply.

- h. "Products and Equipment": Applicable to equipment and products included in building only (excludes GFGI and GFCI items). Indicate 100% if goal is met or 0% if it is not met.
17. Construction contractor: Update as needed for construction changes.

HPSB GUIDING PRINCIPLES COMPLIANCE WORKSHEET TAB (IN ADDITION TO GENERAL INSTRUCTIONS ABOVE):

18. General for this tab: See the HELP tab for description of each HPSB item. For the daylighting item "critical visual task" is defined at WBDG as office/classroom type work which involves reading printed text, entering data into computers, writing and drawing.
19. General for this tab: Several cells have drop-down menus with "yes", "no" or "maybe" options only. For all of these cells where the item is not applicable to the project scope of work, select "yes" and add the following statement to the Building Description on the E&S Record Card tab: "HPSB items that are not applicable to project scope of work have been tagged "yes" at the HPSB Guiding Principles Tab".
20. PDR Preparer: Fill in for expected design achievement.
21. Designer of Record: Fill in for completed design achievement and specified construction phase requirements.
22. Construction contractor: Update as needed for construction changes.

LEED CERTIFICATION WORKSHEET TAB (IN ADDITION TO GENERAL INSTRUCTIONS ABOVE):

23. Completion of this tab is not required.