



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

21 JUN 2011

FROM: HQ AFCESA/CEO
139 Barnes Drive, Suite 1
Tyndall AFB, FL 32403-5319

SUBJECT: **Engineering Technical Letter (ETL) 11-6: Utilities Reporting for Air Force Facilities**

1. Purpose:

1.1. Various Executive Orders (E.O.), the Energy Policy Act (EPAct) of 2005, and the Energy Independence and Security Act (EISA) of 2007 require the Air Force to reduce energy and water consumption, use renewable energy wherever practicable, and report on progress towards meeting mandated conservation goals. To fulfill these requirements, installations and major commands (MAJCOM) must track the cost and consumption of utilities (electricity, fuel oil, natural gas, steam and hot water, coal, propane, and liquefied petroleum gas), water, and renewable energy sources for all facilities, including military construction (MILCON) and minor construction.

1.2. Due to the complexity of determining what utility information to report and how to report it, this ETL provides technical guidance and establishes roles, responsibilities, and procedures to standardize utilities reporting for Air Force active duty, Reserve, and National Guard installations and activities.

2. Summary of Revisions. This ETL updates guidance in Air Force Energy Program Procedural Memorandum (AFEPPM) 96-3, *Defense Utility Energy Reporting System*, 1 June 1996, and should be thoroughly reviewed. Where a conflict exists, the guidance in this ETL governs.

3. Application. This ETL applies to Air Force facilities, including MILCON and minor construction. Air Force instruction (AFI) 32-1023, *Designing and Constructing Military Construction Projects*, establishes the scope, applicability, and authority of ETLs. **Requirements of this ETL are mandatory except as stated herein.** Requests for waivers must be submitted to HQ AFCESA/CENE.

3.1. Authority: Air Force policy directive (AFPD) 32-10, *Installations and Facilities*; Public Law (P.L.) 109-058, *Energy Policy Act of 2005*, 8 August 2005; Energy Independence and Security Act (EISA) of 2007; E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*; E.O. 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*; HQ USAF/A7C Policy Letter, *Energy Reporting Updates and Policy Revisions*, 5 April 2010.

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3.2. Effective Date: Immediately.

3.3. Intended Users: MAJCOM civil engineers (CE), energy managers (EM), and resource efficiency managers (REM); and base civil engineers (BCE), utility managers, asset managers, real property (RP) managers, and other personnel responsible for various aspects of utility reporting.

3.4. Coordination: MAJCOM CEs and EMs.

4. Responsibilities:

4.1. HQ USAF. HQ USAF provides the policy, guidance, oversight, and resources to ensure effective utility conservation strategy.

4.1.1. Air Force Energy Council. The Air Force Energy Council, co-chaired by the Air Force Vice Chief of Staff and the Under Secretary of the Air Force, is responsible for developing strategies and priorities and endorsing requirements, as well as providing oversight regarding attainment of the Air Force's energy priorities, goals, and objectives.

4.1.2. Integration Board. Subordinate to the Energy Council is the Integration Board, responsible for aligning investments to goals and objectives across the Air Force, and integrating and balancing energy investments.

4.1.3. Energy Colonels' Action Group. The Energy Council and the Integration Board are directly supported by the Energy Colonels' Action Group. The Energy Colonels' Action Group serves as the working group, disseminating information, tracking efforts, and providing a venue for steering group representatives to raise any issues that require collaboration.

4.1.4. Energy Steering Groups. Issues are addressed by five energy steering groups. Each steering group is chaired by a Headquarters Air Force (HAF) general officer/Senior Executive Service (GO/SES) and, with the exception of one steering group, is "championed" by a MAJCOM vice commander (see paragraph 4.1.4.2). The steering groups are responsible for developing energy goals, objectives, metrics, plans, and policies, as well as identifying energy initiatives and investments required to meet Air Force energy goals.

4.1.4.1. Infrastructure and Expeditionary Steering Group (IESG). Facility energy falls under the IESG, where HQ USAF/A7C is the chair. The chair helps garner Air Force corporate structure approval for energy investments. ACC/CV is the IESG MAJCOM Champion.

4.1.4.2. MAJCOM Champions. MAJCOM Champions lead efforts and coordinate with other MAJCOMs to meet energy requirements, including developing specific energy objectives, metrics, and requirements.

4.2. HQ AFCESA. A member of the IESG, HQ AFCESA advises HQ USAF and assists MAJCOMs and installations to develop plans and strategies to meet mandated utility goals. AFCESA is a member of the Energy Program Group (EPG), through which energy master strategies are developed and implemented. HQ AFCESA/CEN is home to the Air Force Facility Energy Center (AFFEC) and is charged with overseeing facility energy and water program execution. HQ AFCESA/CEX is responsible for overseeing expeditionary energy programs.

4.2.1. Data Management. HQ AFCESA/CENE is responsible for utility consumption reporting via the Air Force enterprise utility reporting system.

4.2.2. Data Consolidation and Analysis. HQ AFCESA/CENE consolidates MAJCOM data and analyzes Air Force energy and water consumption, square footage, and cost data to track program goals.

4.2.3. Annual Energy Management Report (AEMR) to Congress. Each fiscal year, HQ AFCESA/CENE prepares the Air Force's submission to the AEMR and submits it through HQ USAF/A7C, SAF/IEN, and the Office of the Secretary of Defense (OSD) to the Department of Energy (DOE).

4.2.4. Exclusions and Baseline Modifications. Some facilities qualify for exclusions (see paragraph 5.7 and Attachment 5). MAJCOM requests for exclusions or baseline modifications (see paragraph 5.8) will be reviewed by HQ AFCESA/CENE, and either approved and forwarded to HQ USAF/A7C for further action or disapproved and returned to the requesting MAJCOM.

4.2.5. Utility Reporting Guidance. HQ AFCESA/CENE is the office of primary responsibility (OPR) for the criteria in this ETL. As such, HQ AFCESA/CENE periodically reviews and evaluates applicable public law, E.O.'s, DOE guidance, and feedback from MAJCOM and installation EMs to ensure published guidance is current and adequately addresses the needs of the Air Force.

4.3. MAJCOMs. MAJCOMs develop plans to support Air Force goals and strategies, execute programs to achieve energy program mandates, evaluate MAJCOM and installation energy-related performance, provide inputs to HQ USAF for annual reports, and nominate their most successful units for energy awards.

4.3.1. MAJCOM steering groups will review energy and water consumption reports to ensure continued progress towards efficiency goals. Calculations used to determine progress towards energy and water efficiency goals are described in Attachment 4.

4.3.2. MAJCOM A7s will collect, validate, consolidate, and analyze installation utility data monthly.

4.3.3. MAJCOM EMs will ensure installations report in accordance with this ETL across the MAJCOM to ensure data credibility. MAJCOM EMs will submit final **monthly** reports electronically, including corrections to previously reported data, to HQ AFCESA/CENE not later than 45 days after the end of the month of consumption (or end of the established billing cycle).

4.4. Installations.

4.4.1. Base Civil Engineers. BCEs will provide oversight and support to their energy managers and utility managers, facilitating communication with the MAJCOM A7 and installation RP personnel, as required.

4.4.2. Energy Managers.

4.4.2.1. EMs will collect, consolidate, validate, input, and analyze installation energy and water usage data monthly to ensure compliance with Air Force goals. (See Attachments 1 and 2.) Calculations for determining progress towards these goals are described in Attachment 4. AFCESA will periodically distribute additional tools for analysis and calculating energy intensity to the field.

4.4.2.2. In addition, EMs will ensure data is available to the MAJCOM not later than 30 days after the end of the month of consumption (or end of the established billing cycle). This allows MAJCOMs time to complete, validate, and transfer their data to AFCESA in accordance with paragraph 4.3.3.

4.4.2.3. EMs will also work with their RP or asset management office to correctly determine all energy- and water-reportable RP assets by:

- identifying these assets within the Automated Civil Engineer System (ACES) Asset Management module and ensuring they are correctly flagged. (See Figure 1.)
- consulting leases, ingrats/outgrants, and host-tenant support agreements involving their installations' facilities. (Typically, this information will not change month-to-month unless there are changes in the number of tenants or in host-tenant agreements.)

4.4.3. Real Property (RP) Managers. RP managers will ensure installation square footage and the number of buildings in ACES RP are current, and provide reporting assistance to the installation EM as needed.

4.4.4. Asset Managers. Asset managers will work with their EMs to ensure the facility "Report" flag is activated for reportable facilities in the ACES Asset Management module. (See Figure 1.)

4.4.5. Energy Steering Group. Installation energy steering groups will review their utility reports to assess progress towards energy and water efficiency goals.

Installation energy steering groups may be chaired by either the installation wing commander or vice commander.

5. Requirements. Installations and MAJCOMs shall report utility consumption in accordance with this ETL and evaluate progress toward meeting Air Force energy and water conservation goals as analysis tools are made available. In general, the Air Force is required to track utilities consumed and paid for with Air Force funds. See Attachment 1 for specific guidance and exceptions to reporting various types of utilities and facilities.

5.1. Intensity Metric. Progress toward energy and water conservation goals is measured by the percent reduction in intensity. Intensity is defined as consumption divided by square footage. The greater the consumption per square foot, the higher the intensity. (See Attachment 4.) There are three different “levels” at which intensity is measured and reported:

- (1) Building: Consumption data can be gathered from meters at buildings (advanced meter reading [AMR]) and divided by the square footage of the buildings. This intensity information is used for benchmarking similar buildings across a large portfolio.

Note: This ETL does not address AMR.

- (2) Installation: For energy and water auditing and reporting, the Air Force considers an installation (base) to be a *facility*. (Reference EISA 2007, section 432). Consumption data may be gathered from utility bills, bulk purchases for central plants, fresh water sources, etc. Base EMs compile this consumption data with its associated square footage, then subtract “non-reportable” consumption and square footage. The net results are reported to the MAJCOM, HQ USAF/A7, and eventually to Congress.
- (3) Air Force: When all intensity data is compiled at the Air Force level, AFCESA/CENE subtracts the excluded facilities and determines the overall Air Force energy and water intensities.

5.2. Potable and Industrial, Landscaping, Agricultural (ILA) Water. The baseline year for determining progress toward mandated intensity reduction goals for potable water, measured in millions of gallons per square foot (Mgal/sf), is 2007. For non-potable water (ILA), the baseline year is 2010 and progress is measured in gallons consumed (not intensity). Attachment 1 contains specific guidance for reporting potable and ILA water consumption.

5.3. Renewable Energy:

5.3.1. Generated On-site. Renewable energy generated from facility-owned projects must be reported monthly as energy consumed unless it meets the criteria in paragraph 5.3.2. Data must either be estimated or collected from meters and reported monthly as a separate production entry.

5.3.2. Generated On-site, Owned by Air Force, and Integral to Installation.

5.3.2.1. This category includes on-site renewable energy sources that are integrated into the installation's infrastructure (e.g., ground source heat pumps [GSHP], solar hot water systems, photovoltaic [PV] arrays, wind turbines), do not incur fuel costs, and are located on the installation side of the utility meter.

5.3.2.2. Energy produced by these projects:

- is *not* included in the energy intensity calculation, and must *not* be reported as energy *consumed*. Do not add this energy to consumption data (utility bills). These renewable sources help with the intensity metric.
- *is* counted toward the Air Force renewable energy generation metric and must be reported to AFCESA/CENR to include in the AEMR as energy *produced*, based on meter readings (preferable) or engineering estimates.

5.3.3. Purchased. Renewable energy purchases from sources not federally-owned will be reported monthly. This includes energy from sources located on-site, but purchased by the Air Force. The amount and cost of the renewable energy purchase must be reported as any other energy commodity, with the renewable energy type noted.

5.4. Green House Gases (GHG). Currently, installations and MAJCOMs are not required to report GHG emissions. GHGs are calculated internally within the AEMR reporting template, keying upon each installation's geographic location and its utility consumption as reported in the utility reporting database.

5.5. Tenants. Tenant utility data is often misreported. Generally, installation EMs should not report non-Air Force utility consumption. Some Air Force tenants report through their MAJCOM (i.e., Air National Guard). Most federal agency tenants report data through their parent agencies. Host installation EMs will ensure that tenants are reporting in accordance with their host-tenant agreement. Numerous special circumstances may apply; refer to Attachment 1 for examples and specific guidance. If in doubt about how to report, installation EMs should contact their MAJCOM EM or AFCESA/CENE for guidance. (See paragraph 5.7.1.1.)

5.6. Reporting Process. Beginning with fiscal year 2011, Air Force utility reporting will be accomplished using the Air Force Energy Reporting System (AFERS), an ACES module that interfaces with ACES RP. Each year, in the September-to-October timeframe, HQ AFCESA/CENE issues a separate data call to collect additional information needed for the AEMR.

5.6.1. Installations. Report data for Air Force utility (energy and water) consumption and cost by entering it into AFERS only after determining that the

Air Force is consuming and paying for the commodity. This often requires subtracting some cost and consumption from utility bills before entering the information. See paragraph 5.7.1.1.

- Ensure the AFERS “Report” flag is set for all reportable facilities (or reportable portions of facilities, as applicable) in ACES Asset Management (see Figure 1).
- Gather utility data for each commodity. (See Attachment 3 for commodity codes.) Use the installation’s utility bills, in-house meter readings, or estimates of utility use when a bill is not available or when other conditions preclude the use of a meter, for all reportable facilities included in the RP records (including geographically separated units [GSU]).

Note: Installations may use the sample form at Attachment 2 or a similar, locally developed form as a data-gathering tool.

- Gather information on commodities purchased to produce energy (e.g., coal). Report the commodity in the month purchased unless there is reliable monthly consumption data available.
- Gather renewable commodities data (see paragraph 5.3.2), ensuring renewables are counted only once.
- Validate square footage data using RP records (RCS: SAF-MII(AR) 7115, *Real Property Inventory Detail List*). Typically, this should not change month-to-month unless new buildings/facilities or host-tenant information has changed.

Note: Data for reportable facilities having beneficial occupancy that are not yet listed in ACES Asset Management may be entered manually in AFERS until ACES Asset Management is updated.

- Validate tenant reporting/inputs.
- Validate data for reasonableness (typically, $\pm 10\%$ vs. historical consumption, $\pm 10\%$ square feet) against prior year’s data.
- Input data into AFERS.
- Maintain consumption, cost, and square footage data for both assumed and OSD-approved exclusions (via spreadsheet). See paragraph 5.7.

Note: AFCESA reports exclusions and mobility substitute energy separately (as goal-excluded energy intensity and consumption) in the AEMR.

- Notify the MAJCOM when data entry is complete and has been submitted (in accordance with paragraphs 4.4.2.2 and 5.10.1); at year’s end, forward the installation’s list of exclusions and exclusion data to the MAJCOM. (Reference Attachment 5.)
- Use information to help achieve energy and water consumption goals.

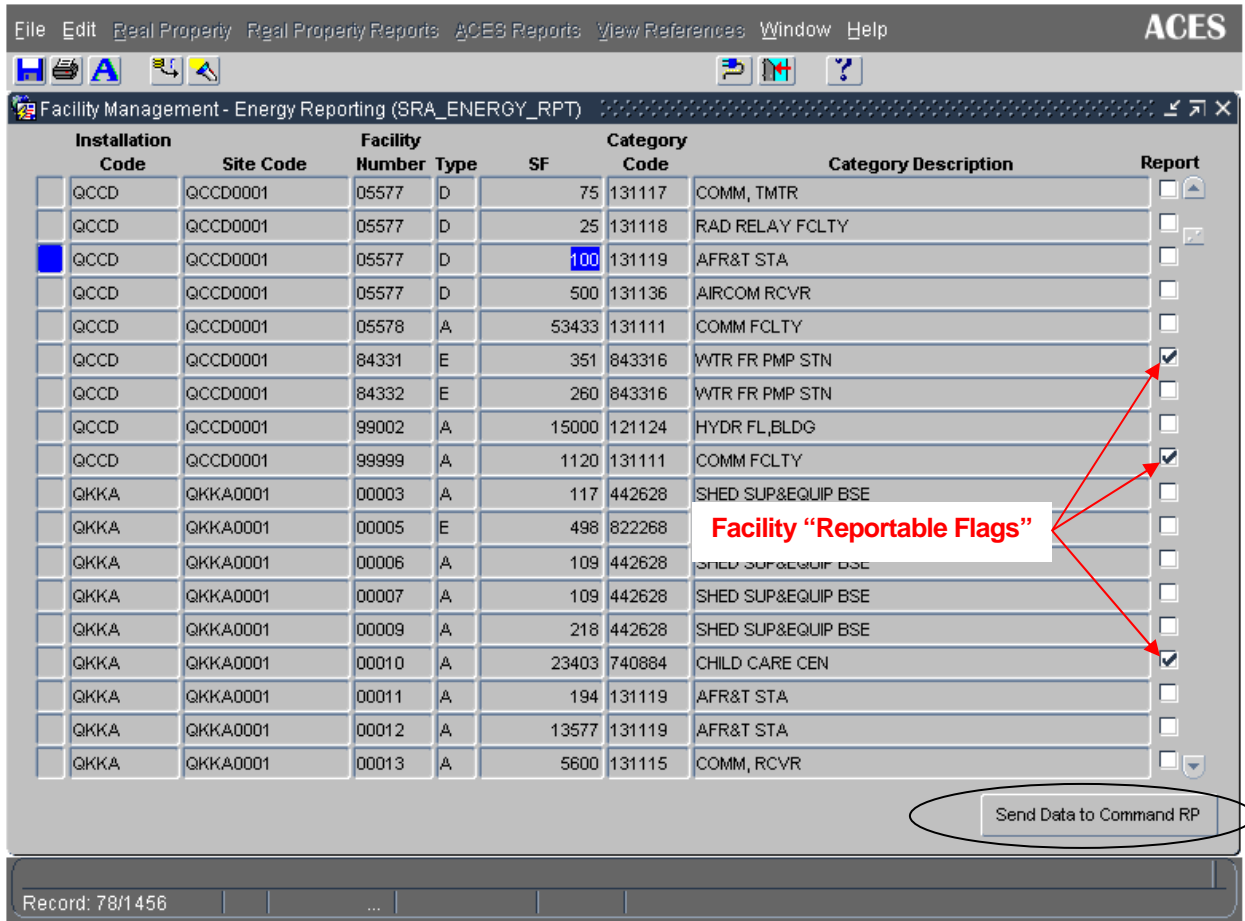


Figure 1. ACES Facility Management - Energy Reporting Screen

5.6.2. MAJCOMs:

- Review, analyze, validate, and approve data from installations.
- Address consumption or square footage anomalies with installations (typically, $\pm 10\%$ vs. historical consumption, $\pm 10\%$ square feet). Where anomalies exist, forward data and comments/explanations monthly to HQ AFCEA/CENE.
- Provide feedback to installations.
- Use information to program funds and projects to achieve energy and water conservation goals.

5.6.3. HQ AFCEA/CENE:

- Reviews, analyzes, and compares data to historical data.
- Reviews progress toward goals.
- Provides feedback to MAJCOMs.
- Provides monthly consumption and goal status to HQ USAF/A7C.
- Uses information to program funds to achieve energy and water conservation goals.
- Annually prepares the AEMR

5.7. Exclusions. Energy consumed by equipment or a building (such as a radar facility or data center) that cannot reasonably be reduced because of equipment function or mission requirements may be claimed as an exclusion to the energy intensity reduction goals. These exclusions must be reported in AFERS but tracked separately so that AFCESA can remove them from the goal-subject energy intensity metrics as part of the AEMR process and report them as *goal-excluded*.

FEMP guidance¹ defines three categories:

- (1) Non-reportable.
- (2) Assumed exclusions.
- (3) OSD-approved exclusions.

The list of exclusions submitted with the most recent AEMR may be viewed on the Air Force Facility Energy/Utility Program Community of Practice (CoP).

5.7.1. Reporting:

5.7.1.1. Non-reportable (“Do Not Report” column, Attachment 1). Buildings or facilities where the Air Force does not pay the utility bills are not reported. Installation EMs must subtract consumption and associated square footage and cost from their installation’s total utility bill before entering the remaining reportable data into AFERS.

(a) Installations. Do **not** report consumption, cost, or square footage in AFERS for:

- Privately owned buildings located on Air Force property; e.g., fast food restaurants, credit union buildings, and privatized family housing, unless the Air Force pays for utilities and is not reimbursed.
- Buildings with fully-serviced leases (utility cost included in lease). Tenants report energy consumption through their own chains of command.
- Other non-reportable buildings/facilities (e.g., commissaries).

5.7.1.2. Assumed Exclusions. Built assets not qualified as Air Force buildings or processes that are driven by mission and operational requirements which wouldn’t necessarily respond to energy conservation/reduction measures may be excluded from the energy intensity goals. These assumed exclusions must be coordinated with AFCECA/CENE so they can be reported properly for the AEMR.

(a) MAJCOMs:

- Identify their assumed exclusions and coordinate with AFCESA/CENE before installations enter associated data into AFERS.
- At the end of each fiscal year, forward a summary listing of their assumed exclusions to AFCESA as part of the AEMR process.

¹*Guidelines Establishing Criteria for Excluding Buildings from the Energy Performance Requirements of Section 543 of the National Energy Conservation Policy Act as Amended by the Energy Policy Act of 2005, 27 January 2006*

(b) Installations. After exclusions have been coordinated by the MAJCOM with AFCESA/CENE, **report** consumption, cost, and square footage (where applicable) in AFERS.

(c) Assumed exclusions include:

- Built assets that consume facility energy yet are not classified as buildings, e.g., airfield lighting, street lighting, pumps. While DOE allows exclusion for these structures, AFCESA/CENE considers them to offer significant opportunities for energy savings and requires reporting of the energy consumed. Generally, there is no facility square footage associated with these assets, so no square footage is to be reported. (Pavement square footage is never reported.) See Attachment 1.
- Facility energy used to supply power and heat to aircraft or other vehicles supplied with utility-provided energy (e.g., auxiliary power units).
- Buildings where energy consumption is significantly skewed due to decontamination, decommissioning and disposal, or major renovation. **Note:** You can claim these as an assumed exclusion only during fiscal year(s) when consumption is skewed.
- Leased space where the Air Force pays for only part of the energy, the space makes up only part of a building, or the expiration on the lease limits energy conservation measures.
- Separately metered energy-intensive loads driven by mission/operational requirements where energy conservation measures cannot be applied. This assumed exclusion generally involves mission-related equipment either separate from or within buildings, such as: health-care equipment, energy/steam generation or transmission plants, transmitters, other electronic installations, unmanned aircraft system (UAS) “cockpits,” or permanent tent facilities used for training. **Note:** Square footage is usually not associated with this type of equipment (see Attachment 1).
 - Per FEMP guidance, mobility substitute energy (MSE) is a subset of this assumed exclusion category. MSE equipment consumes energy in lieu of actually operating a vehicle. Examples include flying a simulator mission versus flying an airplane for training or using an engine block heater versus running the vehicle to keep the engine from freezing.

5.7.1.3. OSD-approved Exclusions. This category covers buildings (four walls and a roof) and building systems, not included in assumed exclusions, which meet the following four criteria for excluding a building from the energy reduction goals. Examples could include data centers, paint hangars, or unmanned aerial vehicle (UAV) operations centers.

- 1) Energy conservation measures are impracticable due to energy intensiveness or national security function.
- 2) All Federally-required energy management reports have been completed and submitted.
- 3) The Agency (Air Force) has achieved compliance with all energy efficiency requirements.
- 4) All practicable, life cycle cost-effective projects at the subject buildings have been implemented.

(a) Installations: Report consumption, cost, and square footage in AFERS in accordance with paragraph 5.6.1 and Attachment 1.

(b) MAJCOMS: At the end of each fiscal year, forward a summary listing of their OSD-approved exclusions' data with associated rationales to AFCESA prior to preparation of the AEMR.

5.7.1.3.1. Requests for OSD-ATL Approval. Installations may forward requests for exclusions not previously claimed (before FY11) through their MAJCOMs to HQ AFCESA/CENE. (Use Attachment 5 as a guide.) HQ AFCESA/CENE will review requests and forward to HQ USAF/A7 for coordination; HQ USAF/A7 will staff requests to OSD-ATL for review and final approval. Once approved, consumption, cost, and square footage must be tracked and reported in accordance with paragraphs 5.6.1 and 5.7.1.3. The list of OSD-approved exclusions submitted with the most recent Air Force AEMR may be viewed on the Air Force Facility Energy/Utility Program CoP.

Note: To enable data reporting for exclusions, installation EMs must set the AFERS "Report" flag in the Asset Management module in ACES for all assumed and OSD-ATL approved excluded buildings/facilities (see Figure 1).

5.8. Baseline Modifications:

5.8.1. Modifications to baseline energy and water intensity data may be made only with OSD-ATL approval. Any request for modification must be submitted through the MAJCOM to HQ AFCESA/CENE, along with supporting documentation.

Note: DOE (through OSD-ATL) is the final approval authority for all baseline modifications.

5.8.2. As a general rule, installation-level baseline change requests will not be forwarded for approval. Only "global" baseline changes that might significantly alter the Air Force-level intensity metric will be considered.

5.9. Joint Basing, Base Re-Alignment and Closure (BRAC) Actions, and New Construction MILCON:

5.9.1. Gaining Installations/MAJCOMs.

5.9.1.1. The gaining installation:

- Assumes responsibility for reporting utility consumption of the acquired installation, starting with the acquired installation's full operating capability (FOC).
- Treats gained facilities as if they were new construction MILCON, adding the square footage and utilities consumption data, starting with the FOC date, until such time as a baseline change is submitted and approved.
- Identifies any Department of Defense (DOD) -approved exclusions already claimed by the losing activity (e.g., Army, Navy).

5.9.1.2. In addition, gaining MAJCOMs/installations are responsible for obtaining historical/baseline data from losing installations. Installation EMs should consult their RP records to determine the status of facilities and identify the site codes needed for reporting.

5.9.2. Losing Installations.

5.9.2.1. The losing installation:

- Transfers historical information to the gaining installation
- Treats lost facilities as demolition, removing square footage and utilities information on the effective FOC date.

5.9.2.2. HQ AFCESA/CENE will assess whether a baseline change is needed upon analysis of joint-base data.

5.10. Reporting Schedule:

5.10.1. Installations. Installations shall report in AFERS **monthly**, providing their data no later than 30 days after the end of the month of consumption (or end of the established billing cycle). (Example: Report the May billing on or before 30 June.)

5.10.2. MAJCOMs. MAJCOMs shall review their installations' data inputs **monthly**, validating and approving the data within AFERS not later than 45 days after the end of the month of consumption (or end of the established billing cycle). (Example: Data due from the installations to the MAJCOMs by 30 June must be reported by the MAJCOMs to AFCESA/CENE on or before 15 July.)

5.10.3. HQ AFCESA/CENE. HQ AFCESA/CENE briefs progress toward goals to HQ USAF/A7C monthly. After the end of each fiscal year, HQ AFCESA/CENE consolidates the data submitted by the MAJCOMs, prepares the AEMR, and submits it through HQ USAF/A7 to the Deputy Under Secretary of Defense for Installations and Environment (DUSD(IE)) on or before the date specified by DUSD, typically during the final week of November. HQ AFCESA will post the

final OSD-approved version on the Air Force Facility Energy/Utility Program CoP and notify the MAJCOMs.

5.11. Software. Installations will report FY11 data beginning 4 April 2011 using AFERS.

5.12. Training. An online training course for AFERS will be available in July 2011. All EMs and personnel responsible for utilities data input (including contractors) must complete AFERS training and receive certification from AFCESA/CENE within 45 days of assumption of duties and prior to entering data into AFERS.

6. Points of Contact. Recommendations for improvements to this ETL are encouraged and should be forwarded to the Energy Conservation Branch Chief, HQ AFCESA/CENE, 139 Barnes Drive, Suite 1, Tyndall AFB, FL 32408-5319, DSN 523-6222, commercial (850) 283-6222, FAX DSN 523-6219; or the Utility Reporting Database Manager, HQ AFCESA/CENE, 139 Barnes Drive, Suite 1, Tyndall AFB FL 32408-5319, DSN 523-6517, commercial (850) 283-6517, FAX DSN 523-6219, e-mail AFCESAReachbackCenter@tyndall.af.mil.

KASS W. LARSON, Capt, USAF
Acting Chief, Operations & Programs Support Div.

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1. Reporting Energy and Water Consumption
 2. Sample Installation Reporting Form
 3. Energy and Water Product Codes, Typical Btu Content, and Units
 4. Calculating Energy and Potable Water Intensities and Cumulative Percent Reductions for Meeting Air Force Energy Intensity Reduction Goals
 5. Exclusion Request Process
 6. References
 7. Acronyms
 8. Key Terms
 9. Distribution List

This attachment answers frequently asked questions. In general, report data for utility (energy and water) consumption and cost by entering it into AFERS only after determining that the Air Force owns or leases the facility that uses the energy/water, that the Air Force is paying for it, and that the energy/water is not being reported by some other means (tenant or other federal agency). Often, this requires subtracting cost and consumption from utility bills before entering the information. The following table lists common situations. Do not report utility data not used by the Air Force.

REPORTING ENERGY AND WATER CONSUMPTION

Buildings/Structures - General			Report Value in AFERS?		
Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
AAFES, AAFES-leased facilities	Yes		<ul style="list-style-type: none"> Report consumption, cost, and square feet for AAFES facilities in both CONUS and OCONUS. 	E,W,C,sf	
Aircraft sheltered area (e.g., non-hangars, covered apron parking)	Yes		<ul style="list-style-type: none"> Report consumption and cost, but not sq ft. 	E,W,C	

¹RCS: SAF-MII(AR) 7115, *USAF Real Property Inventory List*

²Typically requires measuring or estimating EWC, then subtracting from utility bill totals

Note 1: E=Energy; W=Water; C=Cost; sf=square feet.

Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
	Yes	No			
Airfield lighting	Yes		<ul style="list-style-type: none"> Report consumption and cost, but not sq ft. 	E,W,C	
Air Force-owned facilities, occupied, using energy or water, and not yet listed in RP records		No	<ul style="list-style-type: none"> Newly constructed Air Force-owned facilities accepted by the Air Force for beneficial occupancy must be reported. Enter sq ft data manually into AFERS until reflected in ACES RP. Bases and MAJCOMs should review monthly to prevent double-counting. Consult any applicable written agreements to verify reporting responsibility. 	E,W,C,sf	
Banks, credit unions	Yes		<ul style="list-style-type: none"> If the Air Force pays utilities, report consumption, cost, and sq ft. 	E,W,C,sf	
		No	<ul style="list-style-type: none"> Verify lease or host-tenant agreement. If the Air Force pays utilities, report consumption, cost, and sq ft. 	E,W,C,sf	
		No	<ul style="list-style-type: none"> Verify lease or host-tenant agreement. If the Air Force does not pay utilities, do not report. 		X
Commissaries and other Defense Commissary Agency (DeCA) facilities	Yes		<ul style="list-style-type: none"> Do not report. DeCA pays its utility bills and separately reports facility energy-related data. Unless documented otherwise by written agreement, installations should not pay DeCA's utility bill or report their consumption. 		X

¹RCS: SAF-MII(AR) 7115, *USAF Real Property Inventory List*

²Typically requires measuring or estimating EWC, then subtracting from utility bill totals

Note 1: E=Energy; W=Water; C=Cost; sf=square feet.

Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Construction contractor power (Examples: MILCON, MAJCOM, S/R&M)	N/A		<ul style="list-style-type: none"> If metered and included in contract, costs should be reimbursed or directly charged to the MILCON contractor. Do not report cost, consumption, or sq ft. <p>Note: MILCON projects typically get temporary meters. Consumption/cost is considered contract overhead, has already been paid and accounted for, and may require subtracting from the utility bill if a separate bill is not issued.</p>		X
			<ul style="list-style-type: none"> If the Air Force is paying for the electricity/water and not being reimbursed, report consumption, cost, and sq ft. 	E,W,C,sf	
DODD schools (CONUS)		No	<ul style="list-style-type: none"> Do not report consumption, cost, and sq ft. 		X
DODD schools (OCONUS)	Yes		<ul style="list-style-type: none"> Consult host-tenant agreement; verify reporting responsibility. If the Air Force pays the utility bill, report consumption, cost, and sq ft. 	E,W,C,sf	
Dormitories, bachelor quarters	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. 	E,W,C,sf	
Excluded buildings/structures	Yes		<ul style="list-style-type: none"> Though “excluded” buildings and structures are not subject to energy intensity goals, they are NOT exempt from reporting. Consumption and sq ft for excluded facilities must still be reported monthly in AFERS. At the end of the fiscal year, using lists of excluded facilities provided by each MAJCOM, AFCESA will remove the associated data and report it along with MSE as goal-excluded energy intensity. Consumption/square footage data for excluded facilities are included in monthly AFERS reporting, but also identified separately each year by the MAJCOMs. 	E,W,C,sf	

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Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
FAA facilities	Yes		<ul style="list-style-type: none"> Consult with RP for written agreements between the FAA and the Air Force. If the Air Force pays utilities and is not reimbursed, report. 	E,W,C,sf	
	Yes		<ul style="list-style-type: none"> If the FAA reimburses the Air Force, consult written agreements to verify that the FAA reports. 		X
Facilities – Air Force Reserve Command (AFRC)	Yes		<ul style="list-style-type: none"> Report when AFRC is the host or pays the utility bill 	E,W,C,sf	
	Yes		<ul style="list-style-type: none"> Where AFRC is the tenant and does not pay the utility bill, host reports; AFRC does not report. 		X
Facilities – Air National Guard (ANG)	Yes		<ul style="list-style-type: none"> ANG MAJCOM reports all ANG facilities (due to state in-kind payments and reimbursement process). 	E,W,C,sf	
Geographically separated units (GSU)	Yes		<ul style="list-style-type: none"> If the Air Force pays the bill, report consumption, cost, and sq ft. 	E,W,C,sf	
		No	<ul style="list-style-type: none"> If the Air Force pays the bill, report consumption, cost, and sq ft. 	E,W,C,sf	
Golf courses, other Morale, Welfare, & Recreation (MWR) activities	Yes		<ul style="list-style-type: none"> See “MWR,” page 5 of this attachment. A golf course includes club house and associated facilities with energy costs. 	E,W,C,sf	
GSA/other government facilities (DOD and non-DOD)	Yes		<ul style="list-style-type: none"> Consult with RP written agreements. Report if the Air Force pays the utility bill. 	E,W,C,sf	
		No	<ul style="list-style-type: none"> Consult RP written agreements. Do not report if the Air Force does not pay the utility bill. 		X

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Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
	Yes	No			
Hospitals	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. 	E,W,C,sf	
Housing, non-privatized (military family housing [MFH])	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft under "Housing" in AFERS. Includes leased family housing. 	E,W,C,sf	
Housing, privatized (MFH and associated privately owned support facilities)		No	<ul style="list-style-type: none"> Do not report. <p>Note: Ensure all privatized family housing utility usage is removed from the report, including street lighting, contractor housing office, and common landscape irrigation.</p>		X
Housing scheduled to be privatized in the future	Yes		<ul style="list-style-type: none"> Housing scheduled for privatization in the future that has been previously approved by OSD-ATL for exclusion is not required to be reported. 		X
Ingrants, outgrants	Yes		<ul style="list-style-type: none"> Do not report if the Air Force does not pay the utility bill. 		X
Joint base	Yes		<ul style="list-style-type: none"> Lead agency reports. Treat as if facilities were new construction MILCON and add consumption and sq ft. Do not adjust baseline. (AFCEA will determine if a baseline adjustment is required.) 	E,W,C,sf	
MWR facilities	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft in CONUS and OCONUS. 	E,W,C,sf	
On-base facility where the Air Force does not receive the utility bill, e.g., Government of Japan on-base facility	Yes		<ul style="list-style-type: none"> Do not report consumption, cost or sq ft. 		X

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Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Open area energy/water use (parking lots, roadways, sports fields, pathway lighting, marquees, runways, taxiways, ramps, and airfields) and exterior lighting	Yes		<ul style="list-style-type: none"> Report consumption and cost, but not sq ft. 	E,W,C	
Post office	Yes		<ul style="list-style-type: none"> Consult with RP for written agreements between the USPS and Air Force. If the Air Force pays utilities and is not reimbursed, report. 	E,W,C,sf	
	Yes		<ul style="list-style-type: none"> If USPS reimburses the Air Force, consult written agreements to verify that USPS reports. 		X
Radar buildings and remote radar sites (RRS)	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. Exclusions must be coordinated with AFCESA prior to entering into AFERS. 	E,W,C,sf	
RRS on approved exclusion list	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. Excluded facilities' energy use is reported separately (goal-excluded energy intensity) in the AEMR. 	E,W,C,sf	
RRS living quarters – remote location	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. Living quarters are not considered part of radar site facilities and do not qualify for exclusion. 	E,W,C,sf	
Reimbursable facilities (federal) reporting separately (e.g., FAA)	Yes		<ul style="list-style-type: none"> Do not report. 		X
Reimbursable facilities (DOD) not reporting separately	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft. 	E,W,C,sf	

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Note 1: E=Energy; W=Water; C=Cost; sf=square feet.

Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
	Yes	No			
Reimbursable facilities (non-DOD), including cell towers		No	<ul style="list-style-type: none"> Do not report. 		X
Structures not fully enclosed, such as outside parking garages and aircraft external covered parking areas, which consume essentially only lighting energy yet are classed as buildings (same as open space)	Yes		<ul style="list-style-type: none"> Report consumption and cost, do not report sq ft. 	E,W,C	
Temporary facilities (e.g., trailers)		No	<ul style="list-style-type: none"> Report consumption and sq ft. MAJCOMs must track how much of their sq ft is temporary for use in analyzing energy conservation measures and effectiveness. AFCESA does not regularly collect this information as part of the AEMR process, but does collect it when required. 	E,W,C,sf	
Tenants	Yes		<ul style="list-style-type: none"> If not reimbursed, report consumption, cost, and sq ft. Consult host-tenant agreement. 	E,W,C,sf	
		No	<ul style="list-style-type: none"> Verify written host-tenant agreement. Do not report. 		X
Tents, Permanent		No	<ul style="list-style-type: none"> Report consumption, cost, and sf. May qualify for assumed exclusion as mission-related exclusion. If so, coordinate with MAJCOM and AFCESA/CENE. 	E,W,C,sf	

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Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Unoccupied, closed facilities, scheduled for demolition	Yes		<ul style="list-style-type: none"> There are two categories of excess property: caretaker status (little or no energy used) and mothball status (typically, RP Condition Code 3). A facility in caretaker status is scheduled for demolition. A mothballed facility is not being used but might be reused in the future. In both cases, little or no energy is being used and they should not be reported. Resume reporting for a mothballed facility when the facility is returned to use. Stop reporting consumption, cost, and sq ft when a building is empty and is only consuming enough energy to mitigate damage (e.g., freeze, mold) or when it goes into "Excess Property" status on the 7115 Real Property report; remove it from AFERS. 		X
Leased/Licensed by Air Force				Report Value in AFERS?	
Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Government-owned, contractor-operated (GOCO)	Yes		<ul style="list-style-type: none"> The Air Force does not provide utilities separately (reverse of a fully serviced lease). Do not report consumption, cost, or sq ft. 		X
On- or off-base facility	N/A		<ul style="list-style-type: none"> Do not report if tenant pays bill and reports the energy use. 		X
	N/A		<ul style="list-style-type: none"> Report if the Air Force pays the bill. 	E,W,C,sf	

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²Typically requires measuring or estimating EWC, then subtracting from utility bill totals

Note 1: E=Energy; W=Water; C=Cost; sf=square feet.

Note 2: Do not report sf for non-potable water.

Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
On-base facility where the Air Force does not receive the utility bill; originally an Air Force facility now occupied by another tenant (non-Air Force, federal, or non-federal)	Yes		<ul style="list-style-type: none"> Do not report sq ft or energy use if tenant is reporting. 		X
Leased to Air Force				Report Value in AFERS?	
Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
On- or off-base facilities	Yes		<ul style="list-style-type: none"> Report consumption, cost, and sq ft if the Air Force pays the bill without reimbursement. 	E,W,C,sf	
Facility with fully-serviced lease, on base (e.g., Army, Navy, and host is responsible for energy bills)		No	<ul style="list-style-type: none"> Do not report. 		X
Off-base non-federal facility -- Air Force tenant receives no energy bills		No	<ul style="list-style-type: none"> Do not report. 		X

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Note 2: Do not report sf for non-potable water.

Mobility Substitute Energy (MSE)				Report Value in AFERS?	
Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Flight simulators	Yes		<ul style="list-style-type: none"> Flight simulators: Report consumption. MSE consumption is reported as goal-excluded energy intensity in the AEMR. Sq ft is not reported. Flight simulator buildings: When the flight simulator accounts for 60% or more of building energy consumption, the entire energy consumption of the building is counted as MSE. 	E,C	
Vehicle battery charging		No	<ul style="list-style-type: none"> Include electricity for vehicle battery charging as MSE. 	E	
Engine block heaters		No	<ul style="list-style-type: none"> Report consumption and cost as MSE. Square footage does not apply to engine block heaters. 	E	
On-site Power Production				Report Value in AFERS?	
Item	Discussion			Report	Do Not Report ²
Fuels for backup generators and kWh produced	<ul style="list-style-type: none"> Report fuel cost and Btu into the generator if the electricity is used to replace or supplement electricity supplied by a utility provider. Report in the month of purchase. 			E,C	
On-base backup generators, peaking generators	<ul style="list-style-type: none"> Report consumption and cost, using MBtu into generator. For cost per MBtu, except for feed stock cost, do not include utility plant or system operation and maintenance. 			E,C	
On-site power and/or steam production	<ul style="list-style-type: none"> Report consumption/cost, using MBtu input, not MBtu output. Use commodity (feed stock) cost only when calculating cost per MBtu. 			E,C	

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Note 2: Do not report sf for non-potable water.

Exclusions		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
Excluded buildings, structures, and equipment	<ul style="list-style-type: none"> Bases report consumption, cost, and sq ft (do not report sq ft for MSE). MAJCOMs/Installations: Do not remove exclusions from the utility reporting database (AFERS). MAJCOMs and bases must track approved exclusions separately. HQ AFCESA/CENE will deduct exclusions and report them in the AEMR as goal-excluded energy, along with MSE. 	E,W,C,sf	
Renewable Energy (RE)		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
RE owned by the Air Force, produced and consumed on-base	<ul style="list-style-type: none"> This energy “makes the fenceline meter spin more slowly.” It is not included in the installation’s energy intensity calculation. 		X
Renewable Energy Credits (REC)		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
REC accounting	<ul style="list-style-type: none"> RECs must not be reported since no energy is actually consumed with the purchase of a REC. RECs are accounted for in the annual energy reduction goals but are not reported or tracked through the utility reporting database. 		X

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Note 2: Do not report sf for non-potable water.

Square Footage		Report Value in AFERS?		
Square feet to report	<ul style="list-style-type: none"> Ensure the AFERS "Report" flag is set for all reportable facilities (or reportable portions of facilities, as applicable) in ACES Asset Management. When manual input is required, determine square footage from the 7115 Real Property report or a best estimate if not yet on the 7115 report. 	sf		
Technology		Report Value in AFERS?		
Item	On Real Property 7115? ¹	Discussion	Report	Do Not Report ²
Base-wide central plants, thermal storage, district heating	Yes	<ul style="list-style-type: none"> Apply Btu and energy cost to the central plant. If the central plant serves MFH, then report the portion used by housing under "Housing" in AFERS. <p>Note: Buildings served by a central plant will show lower-than-actual energy usage.</p>	E,C	
Data processing centers, industrial processing facilities	Yes	<ul style="list-style-type: none"> Report consumption, cost, and sq ft. May be eligible for assumed exclusion. 	E,W,C,sf	
Outdoor (e.g., parking ramps, ball fields, running paths)	Yes	<ul style="list-style-type: none"> Report consumption and cost. Do not report sq ft. 	E,C	
Outdoor lighting attached to buildings	No	<ul style="list-style-type: none"> If lighting is used for building entry, attached to a building, or used to light a walkway that is part of a building, then report the lighting load (consumption and cost) as part of the building consumption. Sq ft does not apply; do not report. 	E,C	

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Units – Energy		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
Btu for oil, natural gas, propane	<ul style="list-style-type: none"> Use Btu content as listed on monthly utility bill. Report in the month of purchase. 	E	
Utility-Related		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
Late fees	<ul style="list-style-type: none"> Include late fees, in the month billed, as a utility expense. Bases and MAJCOMs should track late fees for additional reporting. 	Yes	
Electricity for potable water pumps, booster pumps	<ul style="list-style-type: none"> Report with facility energy. 	E	
Retroactive utility charges, rate adjustments	<ul style="list-style-type: none"> Report in month billed. Examples of retroactive charges include rate adjustments, fuel cost adjustments, and retroactive charges for usage in prior months. 	Yes	
Stores of multiple months of fuel (e.g., propane, heating oil)	<ul style="list-style-type: none"> Unless there is a reliable method for determining usage, report the amount/cost of fuel purchased in the month billed. <p>Note: Resultant apparent “spikes” in reported consumption are typical/expected but should be explained in AFERS’s “Rationale” text box.</p>	E,C	
Time period for reporting (“month”)	<ul style="list-style-type: none"> Use information from utility bills that applies to the consumption month, not the date the bill was prepared or date bill was paid. Installations will report monthly using established billing cycles. For example, the May report may be the bill from 16 April to 15 May. 		

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Item	Discussion	Report	Do Not Report ²
Utility facility charges, UESC or ESPC payments	<ul style="list-style-type: none"> Utility facility charges (UFC) and service charges are from the local utility, e.g., substation, transformer, underground work, and maintenance, that are either separately billed or a line item on a bill. Facility service charges should not be reported. 		X
Variances/FY03 Baseline/Excluded Facilities		Report Value in AFERS?	
Changes, adjustments to FY03 baseline (e.g., something was included or excluded in error)	<ul style="list-style-type: none"> Requires AFCESA and OSD-ATL approval. Report cost, consumption, and square footage for excluded facilities. Do not subtract data for excluded facilities. AFCESA deducts exclusions (and MSE) and reports them as goal-excluded energy intensity in the AEMR. 	E,W,C,sf	
Vehicle-Related		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
Charging electric batteries for golf carts	<ul style="list-style-type: none"> Report as MSE in AFERS. 	E,C	
Electricity for vehicle battery charging	<ul style="list-style-type: none"> Report as MSE in AFERS. 	E,C	
Electricity for vehicle gasoline or diesel stations	<ul style="list-style-type: none"> Report as facility energy in AFERS. 	E,C,sf	
Natural gas and propane for vehicles	<ul style="list-style-type: none"> Do not report gas compressor energy or cost of vehicle natural gas stations. 		X

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Note 2: Do not report sf for non-potable water.

Water		Report Value in AFERS?	
Item	Discussion	Report	Do Not Report ²
Potable water	<ul style="list-style-type: none"> • Report all potable water purchased from a utility (water) provider. • Report all “fresh” water (e.g., well, streams) that is treated and added to the domestic (“for human consumption”) system. If previously reported as potable, continue to report as potable water, including the following (counts against the 2007 water intensity goal instead of the 2010 ILA [industrial, landscape, agricultural] goal): <ul style="list-style-type: none"> – Potable water used for landscaping, irrigation and golf courses, HVAC, process systems, water from base wells, and all other potable water sources and applications. – Well water that was originally non-potable and treated to become potable. – Potable water treated with chemicals for a process application that becomes non-potable (reported as potable because the original source water was potable). 	W,C,sf	
Industrial, landscaping, and agricultural (ILA)	<ul style="list-style-type: none"> • The DOD definition of ILA includes all water consumed on base that was not previously captured as potable water (and also reported in the 2007 potable water baseline). • ILA includes naturally occurring water (e.g., lake, well, river water that is not treated [“fresh”]) used in an ILA application -- for the Air Force, typically “L”). • ILA also includes any non-potable water metered by and purchased from a third party. 	W,C,sf	
Recycled, reused, reclaimed (3R) water	<ul style="list-style-type: none"> • 3R water is potable water that has been consumed, captured and then used again, and was originally reported as potable. • Re-used potable water is “free;” do not report consumption, cost, or sf. 		X

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Note 2: Do not report sf for non-potable water.

Item	Discussion	Report	Do Not Report ²
Baseline years	<ul style="list-style-type: none"> • 2007 is the base year for all reportable potable water, including well water. • 2010 is the base year for reportable non-potable water. A methodology for establishing this baseline has not yet been developed. • Adjustments to a baseline require AFCESA and OSD-ATL approval. 		
Base well water production; water from springs, streams, or lakes	<ul style="list-style-type: none"> • Report as potable water if treated and part of the domestic system. 	W,C,sf	
	<ul style="list-style-type: none"> • Report as ILA if not treated and used for landscape irrigation or industrial processes. 	W,C	
Closed-loop water systems – water is lost or consumed	<ul style="list-style-type: none"> • If water is lost or consumed then report only the water that is lost/consumed. • An example of a closed-loop water system is pumping water from a lake, using it for cooling, and returning it to the lake. 	W,sf	
Closed-loop water systems – no water is lost or consumed	<ul style="list-style-type: none"> • If no water is lost then the water is not reported. 		X
Water leaks	<ul style="list-style-type: none"> • Water leaks are treated as consumption of water. 	W,C	
Water system operations	<ul style="list-style-type: none"> • Electricity used by water pumps is reported as part of base general energy consumption. Pump maintenance, water purification supplies, and water system maintenance is not included in reported water cost. 		X
Water square feet reporting	<ul style="list-style-type: none"> • There are no exclusions for water intensity reporting. Report total base building square footage, including facilities “excluded” for energy consumption. 	sf	

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Miscellaneous			Report Value in AFERS?		
Item	On Real Property 7115? ¹		Discussion	Report	Do Not Report ²
Ground control stations		No	<ul style="list-style-type: none"> Report consumption, cost, and sq ft. Note: MAJCOMs/installations may request an exclusion using the exclusion request process (see Attachment 5).	E,C,sf	

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SAMPLE INSTALLATION REPORTING FORM

Site: _____
Month: _____ Year: _____

UTILITIES					Notes: 1 MWh = 1,000 kWh 1 barrel = 42 gallons 1 kcf = 1,000 cf Default Btu content per unit shown: Change to billed Btu content when available.
Energy Type	Units	Consumption	Cost (Thou. \$)	Btu Content	
Coal, anthracite	Short tons			25,400,000	
Coal, bituminous	Short tons			24,580,000	
Coke	Short tons			25,380,000	
Electricity	MWh			3,413,000	
Fuel oil, distillate	U.S. barrels			5,825,000	
Fuel oil, residual	U.S. barrels			6,287,000	
Fuel oil, mixed	U.S. barrels			6,000,000	
Fuel oil, reclaimed	U.S. barrels			5,000,000	
Natural gas	kcf			Varies w/altitude	
Propane, LPG, butane	Gal			95,500	
Purchased steam, MBtu hot water, chilled	Pounds			Varies w/temperature, pressure	
Other					

WATER		Facility/Industrial		Irrigation		Agricultural	
		Cost	MGal	Cost	MGal	Cost	MGal
Potable	Purchased						
	Produced						
Non-potable	Purchased						
	Produced						

Water = (1 MGal = 1,000,000 Gallons) (Report to 3 decimal places)

+++Estimating Non-Metered Water+++

Facility = [Personnel on base 8 hrs/day = ___ gal/day/person] +

[Personnel on base 24-hr/day basis = ___ gal/day/person]

Irrigation/Agricultural = Count sprinkler heads, well output per hour, or any other method to provide a reliable estimate.

SEWER	Cost	kgal	Sewer = (1 kgal = 1,000 gallons) (Report to <u>3 decimal places</u>) (7.48 gal = 1 cf) Identify Other in Notes area.
Sewer treated on-base			
Sewer treated off-base			
Septic			
Other			

+++Estimating Non-Metered Sewer+++

Assume 80% of facility water + other sources as appropriate.
Use zero cost for septic or similar systems.

ALTERNATIVE ENERGY SOURCES (INCLUDING RENEWABLES)	Onsite Produced (Constructed >1/1/99)		Onsite Produced (Constructed <1/1/99)		Offsite Produced		Renewable Energy Credits (RECs)	
	Cost	MBtu	Cost	MBtu	Cost	MBtu	Cost	MBtu
Biomass								
Geothermal (electricity)								
Geothermal (heat)								
GSHP								
Hydroelectric								
Hydroelectric, new								
Landfill gas								
Photovoltaic								
Refuse-derived fuel								
Solar - Heating								
Solar - Hot water								
Wind								
Other #1								
Other #2								

(1 MBtu = 0.293 Mwh) & (3.413 MBtu = 1 MWh) & (1 MWh = 1,000 kWh) (Report MBtu to 3 decimal places)

Solar heating replaces HVAC or other heat source.
Solar hot water is used for domestic water needs.
GSHP is estimate of how many MBtu were saved by using ground source heat pumps.

Square Footage (x 1,000 sf):

Number of Buildings:

Notes: (Exclusions, mobility, other irregularities or change of utility/service provider)

Submitted By:

Date:

Note: Local installation tracking of RECs is optional.

ENERGY AND WATER PRODUCT CODES, TYPICAL BTU CONTENT, AND UNITS

<u>Product</u>	<u>Code</u>	<u>Btu Content</u>	<u>Reporting Units</u>
Coal, Anthracite	ANC	25,400,000 Btu/short ton	Short tons
Coal, Bituminous	COL	24,580,000 Btu/short ton	Short tons
Coke	COK	25,380,000 Btu/short ton	Short tons
Electricity	ELC	3,413,000 Btu/MWH	Megawatt hours (MWh)
Fuel Oil, Distillate	FSD	5,825,000 Btu/barrel	U.S. barrels
Fuel Oil, Residual	FSR	6,287,000 Btu/barrel	U.S. barrels
Fuel Oil, Mixed	FSX	6,000,000 Btu/barrel	U.S. barrels
Fuel Oil, Reclaimed	FOR	5,000,000 Btu/barrel	U.S. barrels
Natural Gas	NAG	Varies with altitude	Thousand cubic feet (kcf)
Propane/LPG/Butane	PPG	95,500 Btu/gallon	Gallons
Purchased Steam, MBTUs Hot Water, Chilled Water	SHW	Varies with temperature and pressure	Report in pounds
Biomass	BIO		MBtu
Geothermal (Heat)	GEO	Varies with temperature	MBtu
Geothermal (Electricity)	GLC	3,413 Btu/kWh	Kilowatt hours (kWh)
Hydroelectric, New Hydroelectric	HYD	3,413 Btu/kWh	Kilowatt hours (kWh)
Landfill Gas	LFG	3,413 Btu/kWh	kWh
Photovoltaic	PHO	3,413 Btu/kWh	Kilowatt hours (kWh)
Refuse-Derived Fuel	RDF	6,000,000 Btu/short ton	Short tons
Renewable Replacement -eligible Energy	RRE	3,413 Btu/kWh	kWh
Solar Thermal	SOL	1,000,000 Btu/MBtu	MBtu
Wind Power	WND	3,413 Btu/kWh	Kilowatt hours (kWh)
Water, Agricultural*	A	None	Million gallons
Water, Industrial*	I	None	Million gallons
Water, Landscaping*	L	None	Million gallons
Water Non-potable	nPWT	None	Million gallons
Water, Potable	PWT	None	Million gallons
Water, Recycled	RWT	None	Million gallons

*Displayed underneath PWT tree in AFERS initial release.

Note 1: Report purchased chilled water as SHW.

Note 2: Within AFERS, commodity Btu content must be derived and entered from the invoice.

**CALCULATING ENERGY AND POTABLE WATER INTENSITIES
AND
CUMULATIVE PERCENT REDUCTIONS
FOR
MEETING AIR FORCE ENERGY INTENSITY REDUCTION GOALS**

I. Energy Intensity Calculation. The Air Force is required to report two energy intensity measurements: goal-subject energy intensity and goal-excluded energy intensity. HQ AFCESA/CENE calculates and reports goal-excluded energy intensity for the Air Force based upon the approved excluded facilities list and installation/MAJCOM reporting for those facilities. (Visit the Air Force Facility Energy/Utility Program CoP to view the list of exclusions submitted with the most recent AEMR.)

A. Goal-subject energy intensity is calculated by determining the reportable energy and dividing by the gross square footage of the reportable facilities.

$$E_i = \frac{E_r}{GSF_r}$$

Where:

E_i = Energy intensity (MBTU/GSF_r [in thousands])

E_r = Energy consumed that is reportable

GSF_r = Gross square footage for all reportable facilities as reported in the Air Force RP inventory records (see Attachment 1)

Determining reportable energy consumption requires determining the total energy consumed and then adjusting for: energy that is exempt; energy reported by other means (e.g., tenants); mobility substitute energy; and energy consumed by buildings scheduled for demolition (see Attachment 1).

$$E_r = (Electrical + FO + NG + LPG + Coal + Purchased Steam + E_{Exc} + Other) - (E_{Tenants} + E_{Mob} + E_{Demo})$$

Where:

All units are converted to Btu.

Electrical = Electrical energy billed

Note: Electrical energy produced on base by a non-renewable source is reported by the product used to produce the electricity, and not as electricity. For example, a coal-fired electrical plant on base would report only the coal used to produce the electricity, not the electricity produced.

FO = Fuel oil purchased

NG = Natural gas

LPG = Liquefied propane gas

Coal = Coal

Purchased steam = Purchased steam

E_{Exc} = Exclusions

Other = Fuel oil reclaimed + refuse-derived fuel + photovoltaic (if not reported as electrical)

E_{Tenants} = energy reported by tenants separately through their federal agency or MAJCOM (FAA, ANG, AFR, Army, etc.). **Note:** Avoid double-reporting. Verify against real estate records, host-tenant agreements and ingrant/outgrant agreements.

E_{Mob} = Mobility substitute energy (MSE). See Attachment 8, "Key Terms."

E_{Demo} = Energy associated with minimally or non-occupied buildings scheduled for demolition. In many cases, this energy is negligible and can be assumed as zero; however, the square footage must also be removed from the GSF_r to ensure accurate E_I calculations.

GSF_r = Gross square footage reportable (see Attachment 1)

B. Goal-excluded energy intensity (AFCESA calculates and reports for the Air Force):

$$E_{I_{ex}} = E_{ex} / GSF_{ex}$$

Where:

$E_{I_{ex}}$ = energy intensity of excluded facilities (MBTU/ GSF_{ex} [in thousands])

E_{ex} = energy consumed by excluded facilities which includes approved mobility substitute energy (MSE) and excluded facilities

GSF_{ex} = square footage of all excluded facilities (Visit the Air Force Facility Energy/Utility Program CoP to view the list of exclusions submitted with the most recent AEMR.)

II. Energy Intensity Reduction Calculation. Progress toward energy efficiency goals is calculated by dividing the net difference in energy intensity between the baseline year and the comparison year by the energy intensity for the baseline year. This yields the cumulative percent reduction (CPR):

$$CPR = \frac{E_{I(by)} - E_{I(cy)}}{E_{I(by)}}$$

Where:

$E_{I(by)}$ = energy intensity for the baseline year

$E_{I(cy)}$ = energy intensity for the comparison year

III. Water Intensity Calculation. Guidance from the DOE for reporting water intensity under E.O. 13514 is under development and will be posted on the Air Force Facility Energy/Utility Program CoP. In the interim, calculate water intensity by dividing water usage by square footage of facilities. **Note:** There are no exclusions for water consumption.

$$W_I = \frac{W_p}{(GSF_r + GSF_{ex})}$$

Where:

W_I = water intensity (gallons/gross square footage)

W_p = water consumed (includes purchased and produced from on-base production wells) (see Attachment 1)

GSF_r = Calculated the same as GSF_r for energy in Section I.A above -- gross square footage reportable (see Attachment 1)

GSF_{ex} = Calculated the same as GSF_{ex} for energy in Section I.A above -- gross square footage of all excluded facilities (Visit the Air Force Facility Energy/Utility Program CoP to view the list of exclusions submitted with the most recent AEMR.)

IV. Water Intensity Reduction Calculation. Progress toward water efficiency goals is calculated by dividing the net difference in water intensity between the baseline year and the comparison year by the water intensity for the baseline year. This yields the cumulative percent reduction (CPR):

$$CPR = \frac{W_{I(by)} - W_{I(cy)}}{W_{I(by)}}$$

Where:

$W_{I(by)}$ = water intensity for the baseline year

$W_{I(cy)}$ = water intensity for the comparison year.

EXCLUSION REQUEST PROCESS

MAJCOMs/Installations (see Figure A5.1):

1. Identify the facility to be excluded, its physical properties (including gross square footage), and whether or not it is metered.
2. Provide complete justification for excluding the facility, referencing appropriate DOE rules.
3. If not metered, provide method and basis for estimating energy consumption for each type utility used.
4. Provide an energy audit of the facility. This should indicate little or no additional potential energy savings opportunities due to mission requirement or other reasons. These reasons should be explained in detail as part of the audit.
5. Submit this data to HQ AFCESA/CENE along with the current fiscal year energy consumption and cost to date with an estimate of the consumption and cost for the remainder of the fiscal year.

HQ AFCESA/CENE:

6. Reviews and approves/disapproves the exclusion request. If AFCESA/CENE approves the request, the request is forwarded to HQ USAF/A7 for review and then forwarded to OSD-ATL for final approval. If HQ AFCESA/CENE disapproves the request, the submitting MAJCOM will be notified and the package will be returned with appropriate feedback/remarks.

HQ USAF/A7:

7. Reviews and approves/disapproves the exclusion request. If approved, the request is forwarded to OSD-ATL for final approval. If disapproved, the request is returned to HQ AFCESA/CENE who notifies and returns the request to the MAJCOM.

OSD-ATL:

8. Reviews and approves/disapproves the exclusion request. This action represents the final action on the exclusion package. OSD-ATL will notify HQ USAF/A7 and HQ AFCESA/CENE of the action taken.

HQ AFCESA/CENE:

9. Informs the requesting MAJCOM of the OSD-ATL decision regarding the request. Bases will continue to report energy and square footage for their excluded facilities; HQ AFCESA/CENE excludes the data from the AEMR and lists all OSD-approved exclusions in a separate section of the AEMR.

Date:

Bldg #	Base	Energy Load Description	FY20XX Energy Used MBtu	FY 2003 Energy Used MBtu - Baseline Year	Facility Space Thousand SF (ksf)	Rationale
856	XXXX	Data Servers	36,138	29,861	193	Data Centers supporting worldwide DOD Operations
857	XXXX	Data Servers	24,744	23,846	115	Data Centers supporting worldwide DOD Operations
889	XXXX	Data Servers	17,842	0	52	Data Centers supporting worldwide DOD Operations

Metered:

If not metered, list estimate method:

Results of facility energy audit:

Figure A5.1. Sample Exclusion Request Summary

Justification for this action: These facilities are data-processing centers providing worldwide IT support. Over the last several years, IT data-processing equipment has increased significantly at two buildings, and the completion of the third building dedicated to data-processing equipment has significantly increased the energy consumption. The upward trend in energy consumption will continue due to the increased worldwide demand for data-processing support. Energy consumption for these three buildings has already increased significantly over the FY09 amount.

REFERENCES

Public Law (P.L.)

P.L. 95-619, *National Energy Conservation Policy Act of 1978*, November 9, 1978

P.L. 109-058, *Energy Policy Act of 2005*, August 8, 2005

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ058.109

P.L. 110-140, *Energy Independence and Security Act of 2007*, December 19, 2007

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ140.110

United States Code (U.S.C.)

Title 10 U.S.C. Subtitle A, Part IV, Chapter 173, Subchapter I, "Energy Security Activities," Sections 2911 through 2918

<http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=BROWSE&TITLE=10USCSA&PDFS=YES>

Title 42 U.S.C. Section 8287, "Authority to enter into contracts"

<http://www.gpo.gov/fdsys/pkg/USCODE-2009-title42/pdf/USCODE-2009-title42-chap91-subchapVII-sec8287.pdf>

Executive Order (E.O.)

E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, 24 January 2007

<http://edocket.access.gpo.gov/2007/pdf/07-374.pdf>

E.O. 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, 5 October 2009

<http://edocket.access.gpo.gov/2009/pdf/E9-24518.pdf>

Department of Defense (DOD)

DOD Directive 4140.25, *DoD Management Policy for Energy Commodities and Related Services*, April 12, 2004

<http://www.dtic.mil/whs/directives/corres/pdf/414025p.pdf>

DOD Instruction 4170.11, *Installation Energy Management*, 9 September 2009

<http://www.dtic.mil/whs/directives/corres/pdf/417011p.pdf>

Air Force

Air Force Facility Energy/Utility Program Community of Practice (CoP)

<https://afkm.wpafb.af.mil/community/views/home.aspx?Filter=OO-EN-CE-A4>

AFI 90-1701, *Energy Management*

<http://www.e-publishing.af.mil/>

ETL 11-1, *Civil Engineer Industrial Control System Information Assurance Compliance*

http://www.wbdg.org/ccb/browse_cat.php?o=33&c=125

HQ USAF/A7C policy letter, *Energy Reporting Updates and Policy Revisions*, 5 April 2010

RCS: SAF-MII(AR) 7115, *USAF Real Property Inventory List*

AFEPPM 96-3, *Defense Utility Energy Reporting System*, 1 June 1996
<https://afkm.wpafb.af.mil/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-EN-CE-A4-6-4-4&Filter=OO-EN-CE-A4>

AFERS User Manual, 22 April 2011
<https://afkm.wpafb.af.mil/ASPs/DocMan/DocMain.asp?Filter=OO-EN-CE-A4&Tab=0&FolderID=OO-EN-CE-A4-21-1>

Department of Energy

Related legislation and current goals can be found at:

<http://www1.eere.energy.gov/femp/regulations/regulations.html>

Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423

http://www1.eere.energy.gov/femp/pdfs/epact05_fedrenewenergyguid.pdf

Establishing Baseline and Meeting Water Conservation Goals of Executive Order 13423

http://www1.eere.energy.gov/femp/pdfs/water_guidance.pdf

Providing Credit Toward Energy Efficiency Goals for Cost-Effective Projects Where Source Energy Use Declines But Site Energy Use Increases

<http://www1.eere.energy.gov/femp/pdfs/eoguidancedoc.pdf> (page 12)

Guidelines Establishing Criteria for Excluding Buildings from the Energy Performance Requirements of Section 543 of the National Energy Conservation Policy Act as Amended by the Energy Policy Act of 2005, 27 January 2006

http://www1.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf

ACRONYMS

3R	–	recycled, reused, reclaimed (water)
A	–	agricultural (non-potable water) (commodity code)
A7	–	MAJCOM civil engineer
AAFES	–	Army Air Force Exchange Service
ACC/CV	–	Air Combat Command, vice commander
ACES RP	–	Automated Civil Engineer System - Real Property
ACES	–	Automated Civil Engineering System
AEMR	–	Annual Energy Management Report
AFEPMP	–	Air Force Energy Program Procedural Memorandum
AFERS	–	Air Force Energy Reporting System
AFFEC	–	Air Force Facility Energy Center
AFI	–	Air Force instruction
AFPD	–	Air Force Policy Directive
AFR	–	Air Force Reserve
AFRC	–	Air Force Reserve Command
AMR	–	advanced meter reading
ANC	–	anthracite (commodity code)
ANG	–	Air National Guard
BCE	–	base civil engineer
BIO	–	biomass (commodity code)
BRAC	–	base realignment and closure
Btu	–	British thermal unit
CE	–	civil engineer
cf	–	cubic feet
COK	–	coke (commodity code)
COL	–	coal (commodity code)
CONUS	–	continental United States
CoP	–	Community of Practice
DeCA	–	Defense Commissary Agency
DOD	–	Department of Defense
DODD	–	Department of Defense Dependents (schools)
DOE	–	Department of Energy
DUSD(IE)	–	Deputy Undersecretary of Defense for Installations & Environment
E.O.	–	Executive Order
EISA	–	Energy Independence and Security Act
ELC	–	electricity (commodity code)
EM	–	energy manager
EPAct	–	Energy Policy Act
EPG	–	Energy Program Group
EPG	–	Energy Program Group
ESPC	–	energy savings performance contract
ETL	–	Engineering Technical Letter
EWC	–	energy, water, cost
FAA	–	Federal Aviation Administration
FOC	–	full operating capability
FOR	–	fuel oil reclaimed (commodity code)
FSD	–	fuel oil distillate (commodity code)
FSR	–	fuel oil residual (commodity code)
FSX	–	fuel oil mixed (commodity code)
FY	–	fiscal year

gal	–	gallon
GEO	–	geothermal (heat) (commodity code)
GHG	–	greenhouse gas
GLC	–	geothermal (electricity) (commodity code)
GO	–	general officer
GOCO	–	Government-owned, contractor-operated
GSA	–	General Services Administration
GSHP	–	ground source heat pumps
GSU	–	geographically separated unit
HAF		Headquarters Air Force
HQ AFCESA	–	Air Force Civil Engineer Support Agency
HQ AFCESA/CEN	–	Air Force Civil Engineer Support Agency, Facility Energy Center Division
HQ AFCESA/CENE	–	Air Force Civil Engineer Support Agency, Energy Conservation Branch
HQ AFCESA/CENR	–	Air Force Civil Engineer Support Agency, Energy Rates and Renewables Branch
HQ AFCESA/CEX	–	Air Force Civil Engineer Support Agency, Readiness Support Division
HQ USAF/A7	–	Deputy Chief of Staff for Logistics, Installations & Mission Support
HQ USAF/A7C	–	The Office of the Civil Engineer
hrs	–	hours
HVAC	–	heating, ventilation, and air conditioning
HYD	–	hydroelectric (commodity code)
I	–	industrial (non-potable water) (commodity code)
IESG		Infrastructure and Expeditionary Steering Group
ILA	–	industrial, landscaping, agricultural
IT	–	information technology
kcf	–	thousand cubic feet
kgal	–	1,000 gallons
kWh	–	kilowatt hour
L	–	landscaping (non-potable water) (commodity code)
LFG	–	landfill gas (commodity code)
LPG	–	liquid propane gas (commodity code)
MAJCOM	–	major command
MBtu	–	million British thermal units (commodity code)
MFH	–	military family housing
Mgal	–	1,000,000 gallons
Mgal/sf	–	1,000,000 gallons per square foot
MILCON	–	military construction
MSE	–	mobility substitute energy
MWh	–	megawatt hour
MWR	–	Morale, Welfare, and Recreation
NAG	–	natural gas (commodity code)
nPWT	–	non-potable water (commodity code)
OCONUS	–	outside continental United States
OPR		office of primary responsibility
OSD	–	Office of the Secretary of Defense
OSD-ATL	–	Office of the Secretary of Defense - Acquisition, Technology, and Logistics
P.L.	–	public law
PHO	–	photovoltaic (commodity code)

PPG	–	LPG, propane, butane gas (commodity code)
PV	–	photovoltaic (commodity code)
PWT	–	potable water (commodity code)
RDF	–	refuse-derived fuel (commodity code)
RE	–	renewable energy
REC	–	renewable energy credit
REM	–	Resource Efficiency Manager
RP	–	real property
RRE	–	renewable replacement-eligible energy
RRS	–	remote radar sites
RWT	–	recycled water (commodity code)
S/R&M	–	sustainment, restoration, and modernization
SAF/IEN	–	Deputy Assistant Secretary of the Air Force, Energy
SES	–	Senior Executive Service
sf	–	square foot
SHW	–	purchased steam, MBtu hot water, chilled water (commodity code)
SOL	–	solar thermal (commodity code)
sq ft	–	square footage
Thou. \$	–	thousands of dollars
U.S.C.	–	United States Code
UAV	–	unmanned aerial vehicle
UESC	–	utility energy services contract
UFC	–	utility facility charges
USPS	–	United States Postal Service
WI	–	water intensity
WND	–	wind (commodity code)

KEY TERMS

ACES	Automated Civil Engineer System. Primary information system used by the Air Force civil engineer community for resource allocation, work planning, scheduling, tracking, and execution to support the operational mission.
ACES RP	ACES Real Property. Real property management module within ACES.
AFERS	Air Force Energy Reporting System. Used by Air Force energy and resources personnel to track and report utility consumption and intensity; replaced Defense Utility Energy Reporting System (DUERS) on 4 April 2011.
Beneficial occupancy	Occupancy of an uncompleted building, structure, or facility for its intended purpose under circumstances advantageous to the occupant and which produce relatively little interference with the builder in completing construction.
Covered building	A building that consumes a relatively high proportion of the energy of a facility. EISA 432 requires 75% of the energy of a facility to be audited for purposes of concentrating efforts on reducing energy consumption. In general, a covered building will be cost-effective to meter (benchmarked) part of the four-year energy audit cycle, and one where conservation investment may be of benefit.
Energy consumption	Energy used at a building or facility measured in terms of energy delivered to the building or facility (site-delivered Btu). Does not include generation and transmission losses for electricity and steam/chilled water.
Energy intensity	Ratio of energy consumed to square feet of a facility.
Energy-using covered building	A structure within a facility that has walls, roof, and floor, and consumes energy.
Excluded facility	Energy-intensive facilities exempt from intensity metrics in accordance with this ETL and DOE <i>Guidelines Establishing Criteria for Excluding Buildings</i> , 27 January 2006.
Facility, reportable	A building, structure, or other aspect, including utility systems, pavements, and land; includes groups of facilities at a single location or multiple locations managed as an integrated operation. For energy and water auditing and reporting, the Air Force considers an installation (base) to be a facility.

Federal building	Any building, structure, or facility, or part thereof, including the associated energy-consuming support systems, which is constructed, renovated, leased, or purchased, in whole or in part, for use by the federal government, and which consumes energy; such term also means a collection of such buildings, structures, or facilities and the energy-consuming support systems for such collection.
Gross square footage	The total area in a building for all floors to the outer surface of exterior walls, including elevator shafts, vertical penetrations, equipment areas, ductwork shafts, and stairwells; and excluding areas having less than a 6-foot 6-inch clear ceiling height, as typically reported in RP records.
Ingrants	Licenses, leases, permits, temporary or permanent easements, foreign base rights agreements, and treaties in which the Department of the Air Force gains an interest in, or control of, RP in less-than-fee ownership. Ingrant responsibility and authority at base level varies among the MAJCOMS.
Installation	RP in which the Air Force has an interest or jurisdiction. Installations also include RP the Air Force controls by agreement with foreign governments or through other rights, and portions of installations the Air Force does not own but acquires by lease, permit, or other written agreement.
Installation code	A four-letter alphabetic code which identifies the installation to MAJCOM and Air Staff levels and distinguishes one installation from another.
Lease	Document providing for exclusive possession of RP for a specified term in return for rent or other consideration to the owner. A lease can be co-use if specified in the lease agreement; otherwise, it is assumed to be exclusive.
Mobility substitute energy (MSE)	Utility energy that directly substitutes for mobility energy to achieve greater efficiency; alternatively, that energy which passes through the meter that does not supply the building. Examples include cold iron ships support, aircraft, ship and weapon systems, flight simulator energy use, central flightline aircraft power systems, and vehicles powered by natural gas or hydrogen gas.
Non-reportable facility	Applies to a RP facility for which utility consumption data is not collected or reported.

Outgrants	Leases, licenses, easements, permits, use agreements, joint-use agreements, and other agreements which change the government's interest in or control of RP, by conferring property rights to another government agency, non-federal entity (such as a state or local government), or a private party.
Renewable energy	Products used for operating buildings and the functions within them generated from renewable energy sources such as photovoltaic (PHO), solar thermal (SOL), wind power (WND), geothermal (heat) (GEO), geothermal (electricity) (GLC), and hydroelectric (HYD).
Renewable energy credit (REC)	Certificates issued by the government to a power company that uses environmentally friendly methods to generate electricity. RECs can in turn be traded and sold on the open market, providing an incentive to companies which produce "green" power.
Renewable replacement-eligible energy (RRE)	The RRE commodity code in AFERS, used to report/record energy from a source for which a replacement REC has been purchased.
Replacement REC	A REC purchased to replace a REC sold from a renewable project located on base.
Reportable facility	Any facility or structure with four walls and a roof that consumes a utility commodity described within this ETL. Includes semi-permanent tents.
Site	<p>A site as a physical location that is or was owned by, leased to, or otherwise possessed or used by the government, to include locations under the jurisdiction of DOD. A site is the sum of all RP assets at a specific location. A site may exist in one of three forms:</p> <ul style="list-style-type: none"> – Land only, where there are no facilities, and the land consists of one or more land parcels. – A facility or facilities only, where the underlying land is not owned or controlled by the government. A stand-alone facility can be a site. – Land and all the facilities, where the land consists of one or more contiguous land parcels.
Site code	Code programmatically assigned to the field when new sites are added to the system. The initial site code for an installation will be XXXX0001, where the XXXX equals the installation code and 0001 equates to the first site on that installation. For subsequent sites added for the installation, the 0001 will be incremented one at a time, i.e., if you add another site for your installation, it will be XXXX0002.

Source energy	The sum of the energy consumed at a facility to perform a specific function, such as space conditioning, lighting, or water heating, and the energy required to generate and deliver that energy, including, but not limited to, power generation, transmission, and distribution losses.
Square footage	The gross area of a building reported in the Air Force RP inventory records. (See also "Gross square footage.")
Utility energy	Energy used for operation of buildings (e.g., lights, HVAC, domestic hot water) and the functions within them (e.g., computers, copiers, office equipment), including electricity, coal, natural gas, and petroleum.
Water, agricultural	Non-potable water used for crop irrigation. The Air Force currently consumes no agricultural water.
Water, industrial	Non-potable water used in industrial applications. Does not include fire protection systems.
Water, landscaping	Non-potable water used for landscape irrigation.
Water, potable	Water fit for human consumption.
Water, source	Water in its natural state, prior to any treatment for drinking.
Water costs	Any legitimate cost that would be saved if water consumption is reduced.

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