





# ***SE REGION ENERGY STRATEGY***

## **Modernization & Efficiency Projects Funded through Diverse Portfolio**

- ✓ Privatization of utility distribution systems
- ✓ Utility Modernization Program
- ✓ Performance contracting [ESPC/UESC] and pursuit of BPA financing

## **Aggressive Commodity Procurement to Reduce Costs**

- ✓ Evaluation of all utility contracts and alternative tariffs
- ✓ Peak shaving or higher voltage service, where appropriate

## **Improve Performance of Infrastructure to Reduce Consumption**

- ✓ Incorporate SPiRiT rating features, including energy efficiency, into the DD 1391
- ✓ Identify building commissioning and recommissioning
- ✓ Retrofit of existing equipment and systems, and improved O&M

## **Enhanced Communication and Staffing Support**

- ✓ Annual Energy Managers Forum
- ✓ SE Region Energy Program web site
- ✓ Promoting deployment of Resource Efficiency Managers

## **Detailed Planning**

- ✓ Long-Range Energy Management Plans at each SE Region installation
- ✓ Comprehensive energy assessments at selected installations



# ***DETAILED PLANNING GOALS***

Develop a long-range energy management plan for meeting the goals of EO 13123.

- ✓ Identify and prioritize cost-effective energy projects for funding via third party financing (ESPC, UESC, BPA), and/or government funding.
- ✓ Estimate impact on energy demand and consumption from building construction, demolition, renovation, utility modernization, O&M, and energy-specific retrofits.

Establish historical record of energy related activities at each installation.

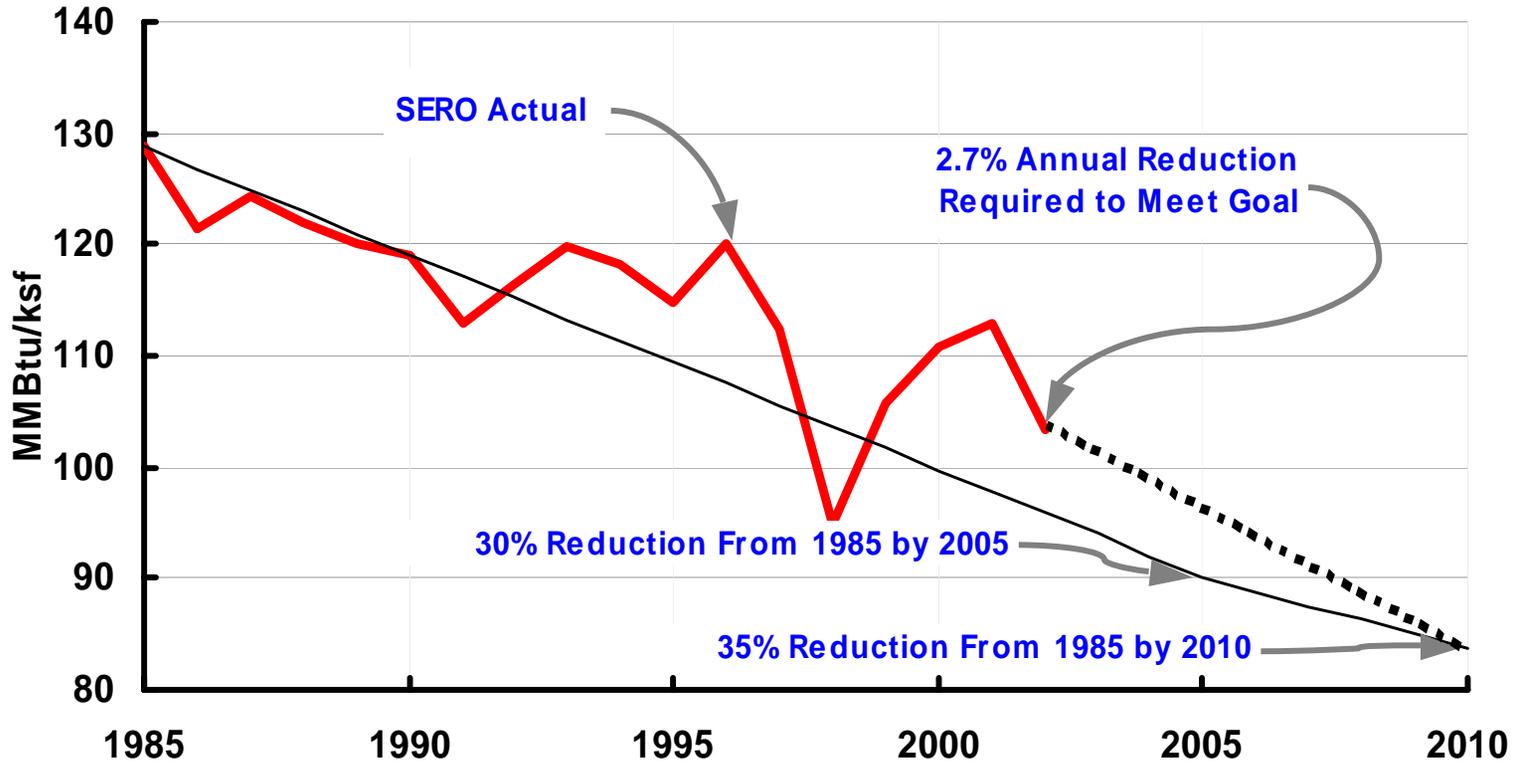
Provide the required input for the Army Annual Energy report.



# SE REGION GLIDE PATH PERFORMANCE



(THROUGH FY 2002)\*

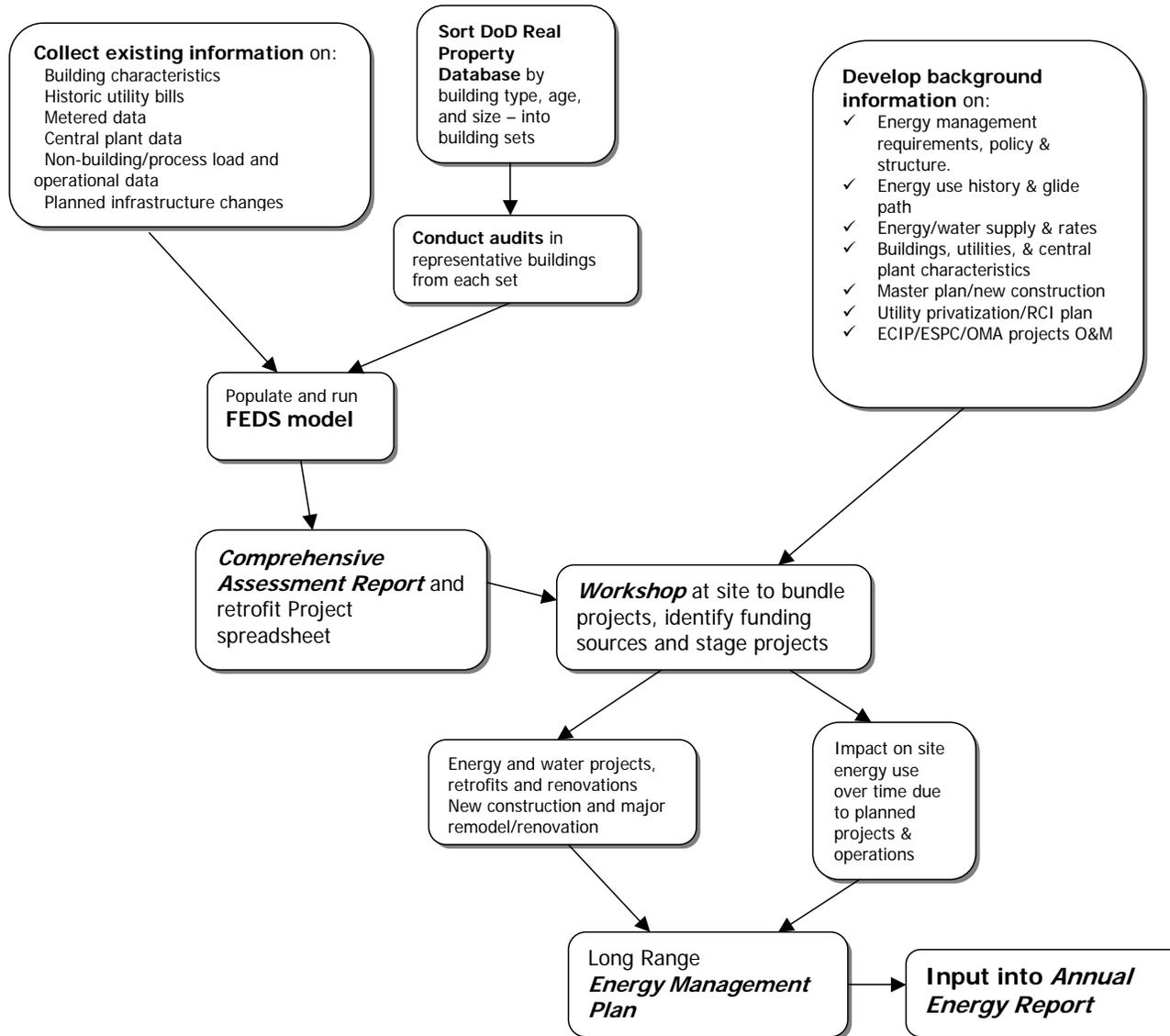


SERO Energy Reduction Glide Path

\* Excludes Holston AAP, Milan AAP, Mississippi AAP, and Sunny Point



# LONG-RANGE PLANNING PROCESS





# ***LONG-RANGE ENERGY MANAGEMENT PLANS***



Each installation will be requested to develop a Long-Range Energy Management Plan, with SE Region-defined content and requirements, that:

- ✓ Lays out a detailed approach for compliance with EO 13123.
- ✓ Identifies potential funding sources as well as unfunded requirements for energy projects.
- ✓ Addresses energy management organization, incentives and training.
- ✓ Provides data and information for input into the Annual Energy Report.
- ✓ Describes energy infrastructure upgrades and enhancements.
- ✓ Provides historical record of glide path progress, projects, energy and water consumption, and building stock, etc.

To be aggregated to a SE Region-level plan that projects

- ✓ SE Region-level glide path
- ✓ Resources needed to meet EO 13123 goals.



# **COMPREHENSIVE ENERGY ASSESSMENT GOALS**



- ✓ Establish baseline for installation energy consumption and costs.
- ✓ Identify and prioritize cost-effective energy projects for funding via third party financing (ESPC, UESC, BPA), and/or government funding.
- ✓ Estimate impact on energy demand and consumption from building construction, demolition, renovation, utility modernization, O&M, and energy-specific retrofits.
- ✓ Provide input for Installation Long-Range Energy Management Plans.



# ***ASSESSMENT APPROACH***

- ✓ Collect information on real property, energy systems, energy consumption and prices, and planned infrastructure changes through 2010.
- ✓ Identify about 30 buildings to collectively represent all buildings at a site.
- ✓ Conduct walk-through audits of each representative building.
- ✓ Characterize central energy plant and thermal distribution system performance for each site.



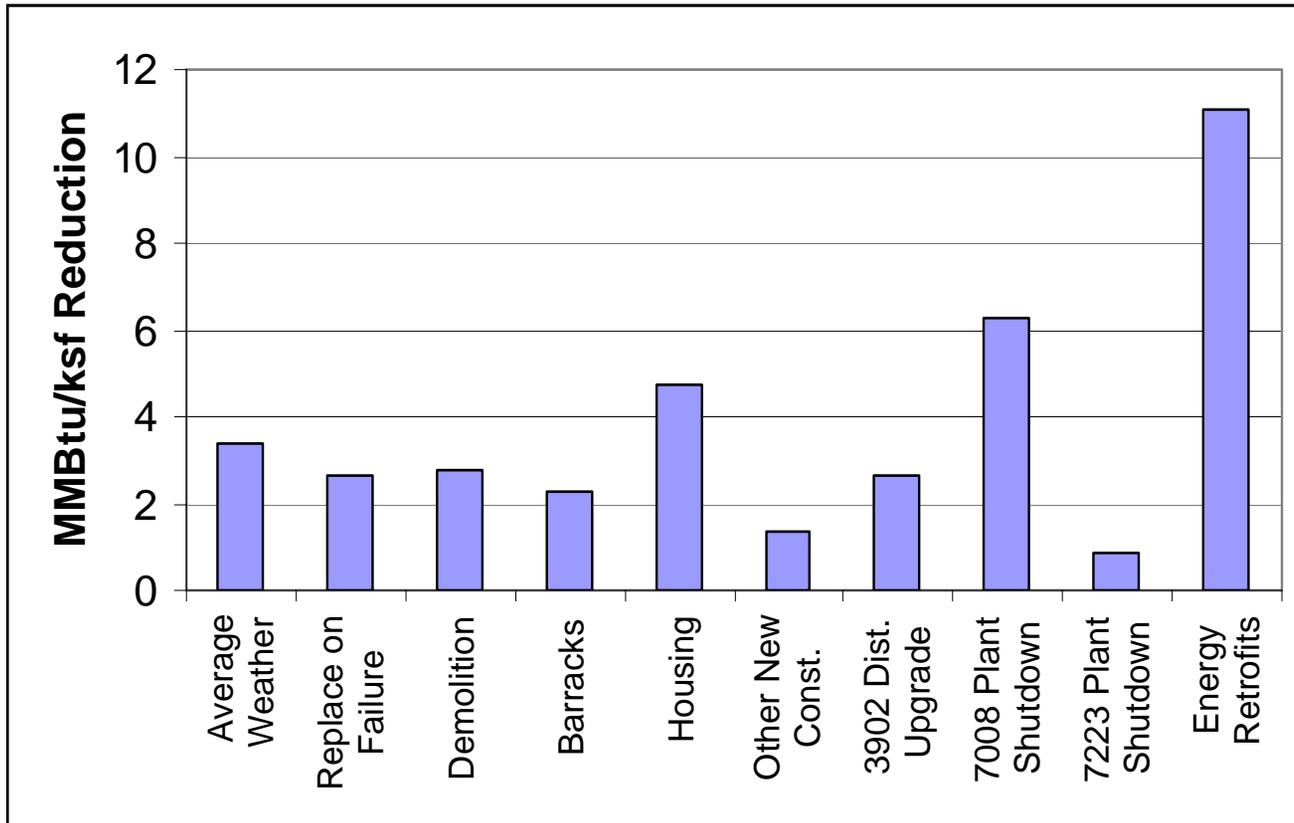
# **ASSESSMENT APPROACH** *(CONTINUED)*



- ✓ Estimate exterior lighting and water pumping requirements and other non-building loads.
- ✓ Develop site energy model using FEDS and calibrate the model to match recent year energy consumption.
- ✓ Identify life-cycle cost-effective retrofit opportunities.
- ✓ Evaluate impact of prospective changes to energy infrastructure one-at-a-time.

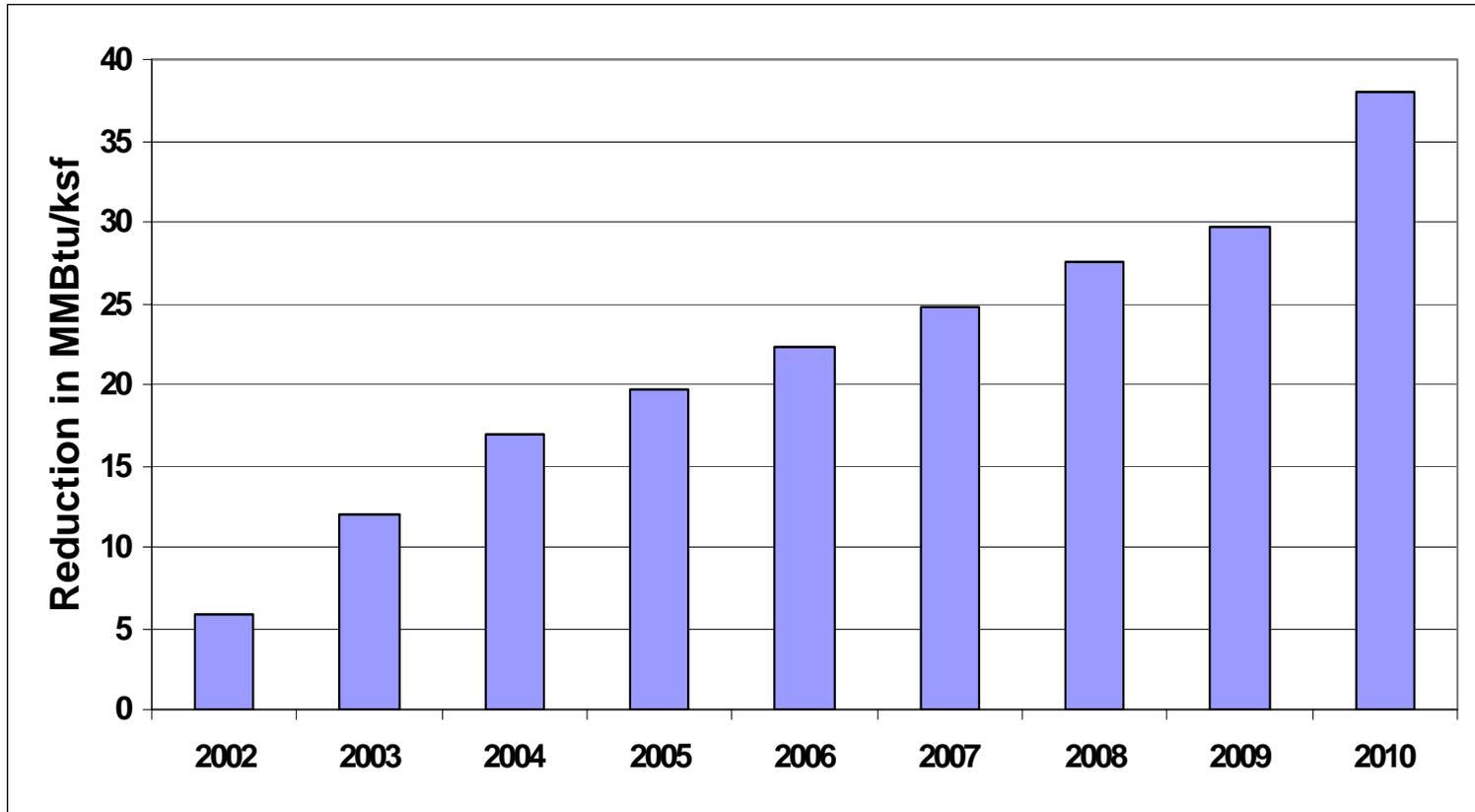


# COMPONENT IMPACTS FORT CAMPBELL





# ***COMBINED CUMULATIVE IMPACTS FORT CAMPBELL***





# ***SUMMARY FEDS RESULTS FORT CAMPBELL***

<b>Retrofit Technology</b>	<b>Installed Capital Cost, \$</b>	<b>Annual Energy Savings, MMBtu</b>	<b>Net Present Value, \$</b>
Slab on Grade Foundation Perimeter Insulation	1,682,419	48,192	718,671
Boiler Automatic Electric Damper	94,226	21,548	683,529
Gas Boiler	247,231	11,590	208,553
Add Natural Gas Furnace to Existing Heat Pump plus Dual-Fuel Controls	326,339	-6,443	128,443
Service Hot Water Retrofits	216,096	46,324	3,146,243
CFLs	1,065,222	29,543	5,513,775
Electroluminescent Exit Sign	667,507	12,726	4,380,264
T-8 Fluorescents	7,488,717	35,331	6,110,664
Attic or Ceiling Insulation	414,737	13,319	400,036
Totals	12,202,494	212,130	21,290,178



# ***ENERGY PLANNING WORKSHOP***



An energy planning workshop will be conducted at each SE Region installation after the comprehensive assessment to:

- ✓ Bundle energy efficiency measures into logical projects.
- ✓ Consider appropriate choices for project funding/financing.
- ✓ Establish a time phased plan for project implementation.



# ***SCHEDULE***

Comprehensive Energy Assessments

August 2003 to April 2004

Energy Planning Workshops

October 2003 to September 2004

Draft Energy Management Plans

November 2003 to December 2004