

Department of Energy

Three Year Rolling Timeline; Implementing the Goals and Objectives of Asset Management Plan



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Office of Engineering and Construction Management**

**Fiscal Year 2007 Update
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SECTION 1 – Three Year Rolling Timeline Overview

1.1 INTRODUCTION

The Three Year Rolling Timeline (TYRT) is required by the Federal Real Property Council. In general, the TYRT defines actions an Agency will take over the next three years to implement the Agency's Asset Management Plan (AMP). It is updated yearly, adding the next year's actions. The Department of Energy's TYRT is designed as a 'living-document' providing the strategies for implementing the Department's Real Property Asset Management Plan developed originally by Executive Order 13327. It establishes specific real property management improvement activities and outcomes as well as goals and targets aligned with the four key performance metrics defined by the Federal Real Property Council.

1.2 SUMMARY OF ACCOMPLISHMENTS

The Department of Energy has made significant progress in improvement of real property asset management. In 2003, the Department published its Real Property Management Order (RPAM) which directed a holistic, life-cycle approach to real property management. To date, nearly 250 DOE facility professionals have received formal training in RPAM, effectively internalizing its cradle-to-grave approach to real property management.

A key element of RPAM is the requirement for forward-looking, Ten Year Site Plans (TYSPs); the site and mission-specific blue-print for life-cycle management of site real property assets. All major DOE sites have an approved TYSP and because TYSPs are "living documents," they are formally updated each year within the overall budget process. The TYSP process, which requires written approval of the site plan at the Assistant Secretariat level, has generated unprecedented facility visibility.

In FY2005, the Department published its Asset Management Plan under the signature of the Deputy Secretary. This plan has been promulgated throughout the Department as the overall framework for the strategic management of the Department's Real Property Assets.

The Facilities Information Management System (FIMS), the Department's repository of real property information continues to improve. It now contains over 20,000 real property records each containing up to 200 discrete data fields. By the end of Fiscal Year 2005, all FIMS records were populated with the 23 Federal Real Property Council data elements and metrics. In FY06, the 24th data field addressing disposition was added. FIMS usage has reached a new high with an active user's group exceeding 350 real property professionals. Realizing the importance of maintaining the accuracy of the FIMS data, in 2005 the Department developed a standard, statistical validation process that can be applied at all sites. A formal training class was developed and the class has been taught in five offerings throughout the Department. In FY07, the Department successfully implemented the validation process and all sites have performed a validation. Sites and Programs now perform annual, self-directed data validation assessments.

Finally, in FY07, the General Accountability Office (GAO) report updating the high risk status of Federal Real Property contained no negative findings or recommendations to the Secretary of Energy. But, the report noted the Department of Energy:

- Established budget targets for real property management that align with industry standards
- Establishes funding lines to reduce Program maintenance backlogs.
- Stabilized deferred maintenance growth and has indications overall maintenance backlog is going down.

This update of the Three-Year Rolling Timeline builds on our success in real property management by identifying activities that encourage timely and accurate reporting of real property data, targeting the continued disposition of unneeded assets, looking for efficiencies in operating costs, focusing on long-term improvement to real property utilization and condition, and promoting sustainability in new construction and major renovations of existing buildings.

1.3 FACILITIES PLANNING PROCESS

The management of real property assets must take a corporate, holistic, and performance-based approach to real property life-cycle asset management that links real property asset planning, programming, budgeting, and evaluation to program mission projections and performance outcomes. Acquisitions, sustainment, recapitalization, and disposal should be balanced to ensure real property assets are available, utilized, and in a suitable condition to accomplish DOE's mission.

Figure (1) is the DOE facilities planning process. It begins with the DOE Strategic Plan and Asset Management Plan that establish the Secretary's long range vision for the Department. The near-term direction is contained in the Secretary's Annual Planning Guidance which covers a five-year time horizon and communicates specific requirements and expectations to the Programs. The Programs issue Program Guidance to sites containing specific site requirements and expectations based upon guidance from the Secretary and other sources. The site manager prepares the site-wide Ten Year Site Plan (TYSP) based on program guidance and locally identified requirements, including tenant requirements. The TYSPs are reviewed and approved by the responsible Lead Program Secretarial Office (LPSO). The LPSOs ensure that the TYSPs are consistent with the Integrated Facilities Infrastructure (IFI) Crosscut budget to ensure funding is available to execute the TYSP. The TYSP approval process serves as the communication vehicle to ensure that expectations and accountabilities are clearly delineated and understood. Ten Year Site Plans establish expectations against which outcomes can be measured and form the foundation for DOE's Real Property Asset Management Plan. TYSPs are kept current to reflect changing needs, priorities, and fiscal decisions. This is a dynamic, continuous process that provides documented opportunities for direction, planning, execution, feedback, and adjustment.

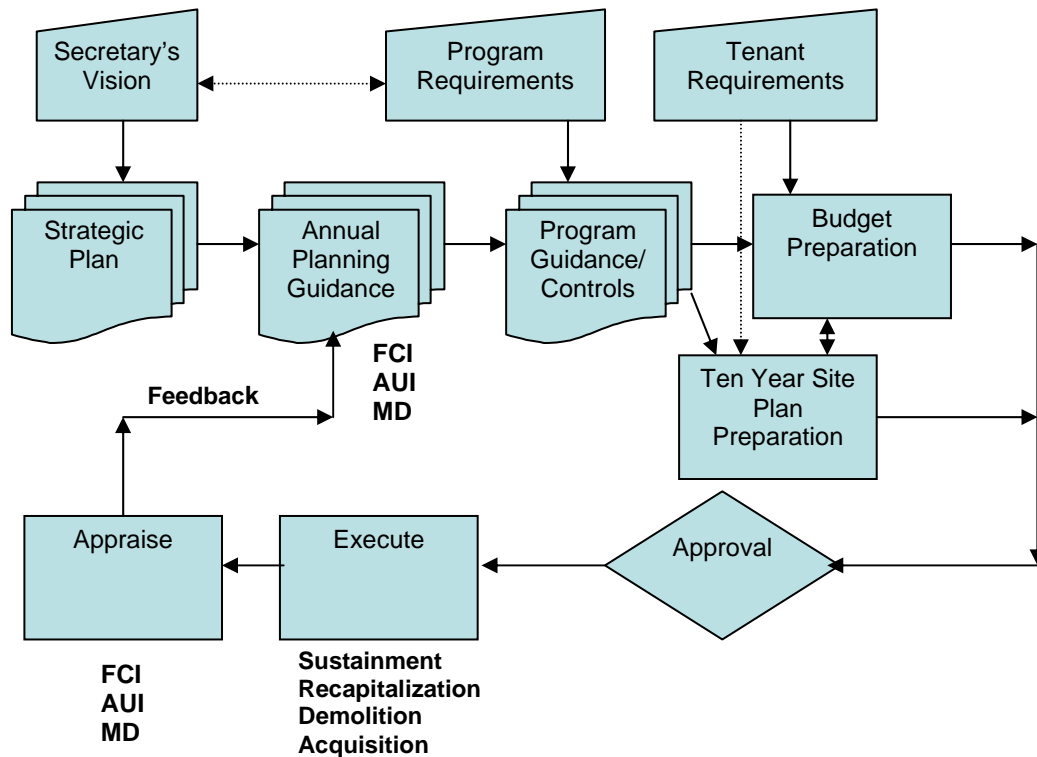


Figure (1): Department of Energy Facilities Planning Process

The IFI Crosscut budget exhibit, together with the Department facilities and infrastructure data, and TYSP are used in making reasoned and informed decisions on the management of its real property assets. They establish a baseline against which DOE can assess past facilities performance and make adjustments to improve future facilities performance.

1.4 PERFORMANCE MEASUREMENT FRAMEWORK

DOE has established a performance measurement framework in alignment with the Federal Real Property Council Guidelines that includes management information systems to collect and report on facilities data and numerical indicators to reflect portfolio-wide facilities status. Included in these measures are asset condition, asset utilization, and maintenance expenditures against quarterly budget targets. Lower tier measures are used by Programs to support assessment of mission specific requirements. Analysis of this data is used to assess outcomes against objectives and based on the results of this analysis, course corrections are made when warranted through input into the Secretary's planning guidance. Each Program is assessed quarterly to determine how they are meeting the goals of the Three Year Rolling Timeline and their responsibilities under the Real Property Management initiative of the PMA. The Deputy Secretary is provided quarterly reports of performance against targets. This process forms a continuous cycle of measurement, evaluation, and feedback.

1.5 DESIRED MANAGEMENT OUTCOMES AND ASSOCIATED MEASUREMENTS

Figure 2 identifies specific real property performance targets and desired outcomes. These targets are consistent with the Department of Energy Asset Management Plan as well as the Federal Real Property Council Guidance.

FRPC Performance Measures Matrix									
Performance Measures		Baseline	Actual	Target				Achieve Target	Comments
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Long Term		
Asset Utilization Index AUI = Operating/Not Usable Square Feet (NOU/OP) X Status Utilization / Sum of Operating and Shutdown RUSF	Office	92.39%	90.77%	91.00%	91.50%	92.00%	95.00%	2011	Excludes Closure Sites. ¹ Closure sites include: Mound, Fernald, Rocky Flats, Ashtabula, and Weldon Springs. Criteria: owned buildings and 501 Trailers. Operating use status codes 1, 2 and 6, Shutdown 3, 4, and 12)
	Warehouse	88.06%	89.01%	89.00%	89.00%	89.00%	89.00%	2007	
	Laboratory	89.62%	90.22%	90.00%	90.00%	90.00%	90.00%	2006	
	Hospital	87.19%	98.01%	98.00%	98.00%	98.00%	90.00%	2006	
	Housing	99.67%	99.28%	99.00%	99.00%	99.00%	99.00%	2006	
Disposition - Excess Elimination (\$RPV)		\$843M	\$788M	\$550M	\$1,100M	\$670M	-	-	Criteria: FIMS archive. Buildings, 501 trailers, and OSFs.
Asset Condition Index ACI = a - 1 - (Deferred Maintenance / Replacement Plant Value)	Mission Critical	0.959	0.973	0.973	0.974	0.975	0.980	2015	Criteria: All mission critical, mission dependent, and operating not mission dependent assets (status codes 1, 2, and 6). Includes owned buildings, 501 trailers and OSFs.
	Mission Dependent	0.945	0.929	0.930	0.935	0.940	0.950	2010	
	Not-Mission Dependent	0.961 ²	0.944	0.900	0.850	0.850	0.850	2008	
Asset Condition Index Department -Wide		0.957	0.959	0.959	0.960	0.961	0.965	2014	Criteria: Same as above.
Operating Costs - Energy Consumption (BTU/SF). 2005 Energy Policy Act. 20% reduction from 2003 baseline by 2015.		FY 2003 Baseline 260,521	235,676	250,099	244,889	239,679	208,416	2015	9.5% reduction from FY 2003 to FY 2006. Criteria: (total energy at a site energy consumed by excluded assets)/square feet of counted energy consuming assets.
Operating Costs - Energy Consumption (BTU/SF). EO 13423 3% annual reduction or 30% reduction by 2015.		FY 2003 Baseline 260,521	235,676	244,889	237,074	229,258	182,364	2015	Same as above.
Operating Costs-Sustainment and DM Reduction (\$/SF)		\$6.89	\$6.50	\$7.00	\$7.25	\$7.50	\$9.00	2014	National Academies of Science Recommends 2-4% of RPV which equates to \$9-18/SF. Criteria: FIMS "Actual Maintenance"/ GSF. Owned buildings and 501 Trailers.
Operating Costs - Operations (\$/SF)		\$1.10	\$1.24	\$1.30	\$1.35	\$1.35	\$1.35	2008	Criteria: Includes grounds, janitorial, pest control, refuse, recycling, and snow removal. Owned buildings and 501 Trailers.
High Performance and Sustainable Buildings (HPSB) Targets	Sustainable New Construction and Major Renovations (% of Total SQFT)	N/A	0.7%	0.8%	0.9%	1.1%	5.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable
	Sustainable Existing Buildings - Operations and Maintenance (% of Total SQFT)	N/A	N/A	N/A	0.2%	1.0%	10.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable
	Total	N/A	0.7%	0.8%	1.1%	2.1%	15.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable

¹ Closure sites are removed from AUI metrics because the management decision to dispose of the site has been made. The site is under decontamination and demolition. The sites are no longer in our active inventory.

² We report deferred maintenance for only safety, health and environmental deficiencies for assets in a shutdown mode (FASAB #6 assumes operating assets). Therefore, many of the shutdown assets have zero deferred maintenance and including them would improve.

Figure 2 – Real Property Performance Targets and Associated Measures
SECTION 2: Performance Measures

Actions taken in the Three-Year Timeline lead to meeting the goals and objectives of the Department's Asset Management Plan (AMP) to improve the Department's real property portfolio by aggressively pursuing activities that will lead to improved facility condition, disposal of excess and under utilized property, improve asset utilization and maintain the inventory at the right cost to ensure the department's multi-faceted mission is accomplished effectively and efficiently.

2.1 Asset Utilization

2.1.1 Improve Asset Utilization Index (AUI) – AUI is the Department's corporate measure of facilities and land holdings against requirements. AUI is the Department's equivalent to the FRPC "Utilization" measure. The index reflects the outcome from real property acquisition and disposal policy, planning, and resource decisions. The index is the ratio of the area of operating facilities or land holdings justified through annual utilization surveys (numerator) to the area of all operational and excess facilities or land holdings without a funded disposition plan (denominator). The AUI is derived from data in FIMS obtained from annual utilization surveys. The AUI improves as excess facilities are eliminated and consolidation increases the space utilization rate of the remaining facilities.

Asset Utilization Index (AUI) Targets ¹									
Performance Measures		Baseline	Actual		Long Term			Achieve Target	Comments
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Long Term		
Asset Utilization Index AUI = Operating Net Useable Square Feet (NUSF) X Status Utilization / Sum of Operating and Shutdown NUSF	Office	92.39%	90.77%	91.00%	91.50%	92.00%	95.00%	2011	Excludes Closure Sites. ¹ Closure sites Include: Mound, Fernald, Rocky Flats, Ashtabula, and Weldon Springs. Criteria: owned buildings and 501 Trailers. Operating use status codes 1, 2 and 6, Shutdown 3, 4, and 12)
	Warehouse	88.06%	89.01%	89.00%	89.00%	89.00%	89.00%	2007	
	Laboratory	89.62%	90.22%	90.00%	90.00%	90.00%	90.00%	2006	
	Hospital	87.19%	98.01%	98.00%	98.00%	98.00%	90.00%	2006	
	Housing	99.67%	99.28%	99.00%	99.00%	99.00%	99.00%	2006	

¹ Closure sites are removed from AUI metrics because the management decision to dispose of the site has been made. The site is under decontamination and demolition. The sites are no longer in our active inventory.

DOE Goals for Asset Utilization

The FRPC has assigned utilization guidelines for five categories of facilities. The Department has set AUI goals as shown in the table above. These targets were set based on FRPC guidelines and what is estimated to be fully utilized in each of the five categories based on DOE's space utilization experience. The Department is currently meeting established goals in all five categories. However, this is the Department's first report. The Department will use the data validation program discussed under **Action item 3.4 Facilities Data Validation** to continue the analysis and validation of the reported utilization data. Although DOE currently meets established goals, asset utilization will be monitored annually to ensure the Department stays within our goals. The Department has an extensive Deactivation and Decommissioning (D&D) program which is expected to dispose of about 10 million Square feet over the next three years which is expected to help maintain and possibly improve our current AUI.

2.1.2 Eliminate Excess and Underutilized Assets – Each year the Department reports to Congress square footage of facilities eliminated by sale, transfer, or demolition. The

Department has eliminated over 9M SF from FY02 to FY06 and has targeted elimination of additional excess as shown in the table below.

DOE Disposition Plan FY 2007 to FY 2009 ¹							
PRGM	Site	RPV			GSF		
		2007	2008	2009	2007	2008	2009
EM	BNL	\$42,464	\$0	\$0	619	0	0
EM	ETEC	\$8,507,677	\$0	\$0	28,152	0	0
EM	ETTP	\$292,699,363	\$816,961,669	\$254,144,039	1,514,582	4,162,404	1,281,908
EM	INL	\$6,493,574	\$170,726	\$6,676,136	20,377	624	14,570
EM	Moab	\$0	\$456,300	\$0	0	2,700	0
EM	Mound	\$20,925,628	\$0	\$0	160,268	0	0
EM	Paducah	\$452,839	\$5,716,773	\$436,892	5,632	8,000	3,390
EM	Portsmouth	\$2,484,966	\$360,671	\$0	22,640	3,286	0
EM	RL	\$70,660,096	\$50,905,516	\$0	233,131	239,893	0
EM	SRS	\$10,603,627	\$1,592,039	\$0	72,204	3,054	0
EM	Y-12	\$0	\$0	\$0	0	0	0
EM	WIPP	\$207,422	\$0	\$0	560	0	0
FE	Morgantown Office	\$54,917	\$0	\$0	192	0	0
FE	Pittsburgh Office	\$0	\$2,092,796	\$0	0	11,508	0
NE	INL	\$0	\$0	\$18,634,410	0	0	93,030
NNSA	Bettis Idaho	\$159,891	\$0	\$0	1,200	0	0
NNSA	Bettis Pittsburgh	\$29,266	\$1,084,317	\$126,128	296	6,491	1,200
NNSA	Knolls	\$2,852,000	\$1,435,000	\$176,000	33,160	10,307	720
NNSA	LANL	\$19,113,145	\$12,047,160	\$31,765,636	73,489	35,849	199,553
NNSA	LLNL	\$12,477,116	\$81,913,854	\$17,263,867	47,751	166,276	70,177
NNSA	Pantex Site Office	\$7,607,914	\$23,938,376	\$19,853,199	18,227	33,883	66,882
NNSA	SNL	\$13,985,192	\$70,391,289	\$9,172,526	45,906	144,203	32,010
NNSA	Y-12 Site Office	\$75,157,526	\$60,757,476	\$306,557,841	103,204	159,008	593,827
SC	ANL	\$200,091	\$1,994,484	\$0	1,116	4,896	0
SC	BNL	\$2,625,409	\$4,066,059	\$0	15,410	15,688	0
SC	LBNL	\$630,360	\$0	\$0	1,751	0	0
SC	ORNL	\$1,873,601	\$0	\$0	12,946	0	0
SC	SLAC	\$503,693	\$0	\$0	2,148	0	0
SC	FNAL	\$0	\$0	\$7,097,400	0	0	19,715
SC	ORISE	\$0	\$0	\$409,102	0	0	5,906
Total		\$550,347,778	\$1,135,884,506	\$672,313,177	2,414,961	5,008,070	2,382,888

¹This excess disposition plan is within current budget projections.

Summary of Excess Elimination by Program and Site

Attachment 1 provides a list of individual assets by Program and Site that are planned to be disposed of to meet the Department's objectives from FY07 – FY09. This disposition list will provide disposition by asset for all planned dispositions from FY 07-09.

Measure – Reduction of Non – Mission Dependent Assets

Targets have been established for the next two years to continue an aggressive program for disposing of excess property. Excess elimination is a major element of the Programs' TYSPs. The ultimate goal is to move the Department to the point where less than five percent of real property assets are under-utilized or excess.

Eliminating Excess Assets FY 02 to FY 09									
FY	Target For Elimination			Actual Eliminated			% of Target Eliminated (RPV)	Cost Avoidance/Yr Based on \$1.90/SF	Cumulative RPV of Assets Eliminated/Planned
	RPV	# Of Assets	GSF	RPV	# Of Assets	Gross Sq Feet			
FY 02	N/A	N/A	N/A	\$279,504,663	360	1,510,243	-	\$2,869,462	\$279,504,663
FY 03	N/A	N/A	N/A	\$312,082,353	393	1,129,342	-	\$2,145,750	\$591,587,016
FY 04	N/A	N/A	N/A	\$674,339,909	527	2,800,474	-	\$5,320,901	\$1,265,926,925
FY 05	N/A	N/A	N/A	\$1,029,311,442	473	4,111,764	-	\$7,812,352	\$2,295,238,367
FY 06	\$788,456,532	270	1,773,232	\$1,320,206,094	614	2,698,782	167%	\$5,127,686	\$3,615,444,461
FY 07	\$550,347,778	208	2,414,961					\$4,588,426	\$4,165,792,239
FY 08	\$1,135,884,506	173	5,008,070	-	-	-	-	\$9,515,333	\$5,301,676,745
FY 09	\$672,313,177	145	2,382,888	-	-	-	-	\$4,527,487	\$5,973,989,922

Real property inventory is managed to ensure that inventory which is not fully utilized or excess to identified needs is minimized through either reuse or disposal. The Department employs the following policies to identify, reuse, or dispose of under-utilized real property assets.

- Programs annually identify project/program/mission terminations.
- Programs and Sites identify under-utilized property in TYSP and FIMS.
- Programs include site specific disposal plans in their TYSP.
- The Department screens declared excess real property with other Programs to determine if property is needed.
- The responsible Program plans and programs the elimination of excess real property through reuse, demolition, disposal, transfer, or sale based on reducing risks and minimizing life-cycle costs.
- The Department offsets replacement and new construction square footage with elimination of excess square footage on a one-for-one basis.

Milestones

- **Update Annually** – During first quarter.

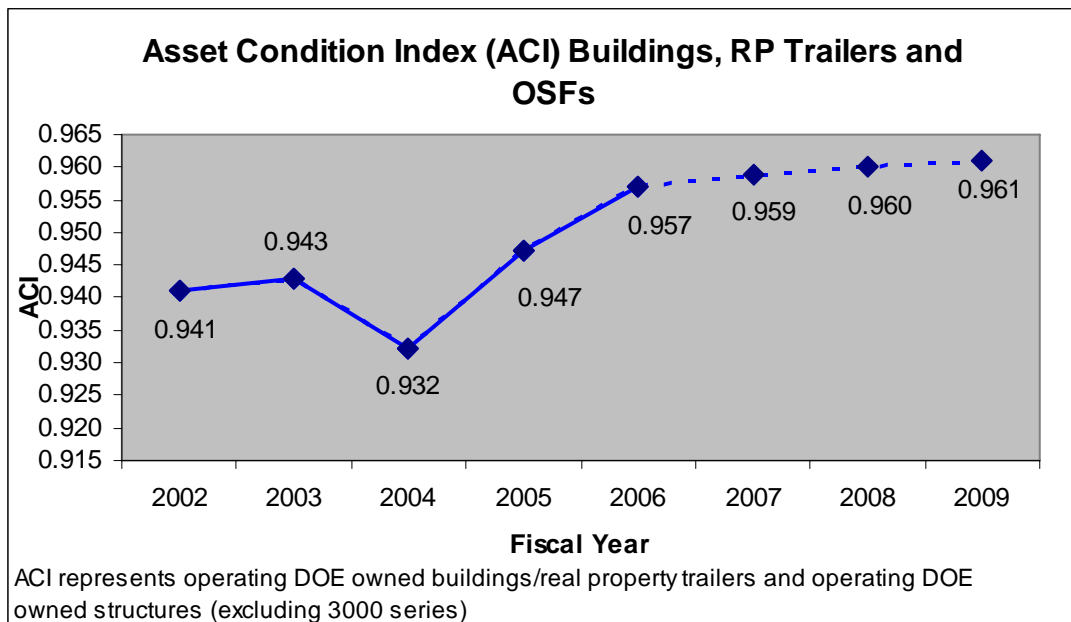
Results

- Disposal of excess and under-utilized assets.
- Improvement in AUI.

2.2 Asset Condition Index

The Department's real property assets are vital to the accomplishment of its mission. Real property assets are an enabler that cuts across all of DOE's activities. The index is calculated using the following formula: $1 - (\text{Deferred Maintenance} / \text{Replacement Plant Value})$. Quality facilities are required to provide a safe workplace that support mission requirements. The Department will ensure adequate infrastructure funding. There are two components of infrastructure funding: sustainment - to maintain real property inventory from deteriorating and recapitalization - to address deferred maintenance backlog and improve conditions.

- Sustainment consists of maintenance and repair activities necessary to keep the inventory of facilities in good working order. Sustainment includes regularly scheduled maintenance and anticipated major repairs or replacement of components that occur periodically over the expected service life of the facilities. Lack of sufficient levels of sustainment can result in a reduction in service life, increasing deferred maintenance and declining ACI.
- Facilities eventually wear out or become outdated and incapable of supporting mission needs. These facilities will be replaced, recapitalized, or disposed of if excess to needs. Recapitalization extends the service life of facilities or restores lost service life and consists of alterations and betterments needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Recapitalization investments do not sustain facilities and will, therefore, be complemented by an effective sustainment program to protect the facility.
- Increasing sustainment funding and reducing the inventory of operating facilities over the last several years has stopped the decreasing ACI trend, and improved ACI in FY 05. By ensuring adequate sustainment funding is directed toward infrastructure, reducing deferred maintenance through a recapitalization program and improving the quality of facilities data, it is expected that ACI will stabilize or improve over time. See ACI Chart below.



Attachment 2 provides a list of major maintenance, repair, and deferred maintenance reduction projects estimated to cost \$5M and over by Program and Site planned to be funded from FY 07 – FY09 to improve the Department's ACI. It is likely that some of these projects will change based on FY 2008/9 budget decisions. This attachment will be updated in 4th quarter each year based on revisions to TYSPs and budget decisions.

2.2.1 Improve Asset Condition - The Department has implemented a funding/budgeting strategy to provide a funding profile to improve the Asset Condition Index (ACI) of DOE mission critical facilities from 0.959 to 0.980.

- The Department's goal is to link mission dependency with the asset condition index to ensure those real property assets that are most closely related to mission accomplishment are properly maintained. The Department has set the following goals for ACI as related to mission dependency.
 - Mission critical assets greater than .98
 - Mission dependent greater than .95
 - Not mission dependent greater than .85.

Milestones

- **4Q FY07** – Use the ACI prediction model to evaluate FY09 – FY13 Program budget submissions. Estimate ACI in outyears based on sustainment funding and deferred maintenance reduction program. **See Action item 2.2.1.2 Utilize a Facilities Recapitalization/Renewal Strategy.**
- **2Q FY08** – Based on FY 2007 FRPP data, use a forward-looking ACI prediction model that considers at a minimum; current conditions, anticipated deterioration of assets, demolition, new construction, accelerated deterioration due to maintenance deferral, inflationary pressures and planned funding. Establish ACI targets in conjunction with the Programs.
- **4Q FY08** – Update program specific ACI targets, based on sustainment funding and backlog reduction program.

Results

- Targeted ACI based on Mission Dependency.
- Targets scarce budget dollars on those real property assets that are most critical to mission accomplishment.

Measure - ACI Targets Based on Mission Dependency

DOE Asset Condition Index (ACI) Targets									
Performance Measures		Baseline	Actual					Achieve Target	Comments
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Long Term		
Asset Condition Index ACI = 1 - (Deferred Maintenance / Replacement Plant Value)	Mission Critical	0.959	0.973	0.973	0.974	0.975	0.980	2015	Criteria: All mission critical, mission dependent, and operating not mission dependent assets (status codes 1, 2, and 6). Includes owned buildings, 501 trailers and OSFs.
	Mission Dependent	0.945	0.929	0.930	0.935	0.940	0.950	2010	
	Not-Mission Dependent	0.961 ²	0.944	0.900	0.850	0.850	0.850	2008	
Asset Condition Index Department -Wide		0.957	0.959	0.959	0.960	0.961	0.965	2014	Criteria: Same as above.

¹We report deferred maintenance for only safety, health and environmental deficiencies for assets in a shutdown mode (FASAB #6 assumes operating assets). Therefore, many of the shutdown assets have zero deferred maintenance and including them would impro

Benchmarking with NACUBO, the Department has established ACI targets based on mission dependency. For mission critical assets the target exceeds NACUBO's recommendation of a .95 ACI for a facility to be in "good" condition. Mission dependent facilities will be targeted for an ACI of 95 which corresponds to a NACUBO rating of "good". Note, not mission dependent assets will be targeted for an ACI of greater than .85 which corresponds to a NACUBO rating of "poor". Not mission dependent will be essentially funded for environmental, safety and security requirements until they can be disposed of. Using this funding strategy it is believed the Department can improve the condition of those assets most important to mission accomplishment without a budget increase. It is expected these targets can be arrived at by redirecting sustainment funds, disposing of excess assets, consolidating under-utilized facilities and improving the accuracy of the Department's facility data.

2.2.1.1 Budget Adequate Sustainment Funding - The Department realizes one of the key elements of maintaining a good quality facility portfolio is proper sustainment funding. The Department will budget sustainment of operating real property assets at the National Research Council recommended level of two to four percent of Replacement Plant Value (RPV). Where a substantial deferred maintenance backlog exists, a recapitalization program will be developed as described in **Action Item 2.2.1.2 Utilize a Facilities Recapitalization/Renewal Strategy**.

- Since FY 2002 the department has increased sustainment funding from 1.34 to 1.90 percent. The near term goal is to increase sustainment to two percent of RPV and avoid deferred maintenance growth. Benchmarking with the National Research Council (NRC) led to adapting their recommendation of two to four percent of RPV. DOE has determined that targeting sustainment funding on mission dependency to ensure scarce sustainment dollars are spent on those assets most important to mission accomplishment will have the least impact on resources. Non-operating facilities will be sustained to ensure compliance with environmental, safety, health, and security standards.
- Since 2002, increased sustainment funding has stabilized deferred maintenance and ACI as shown in the **ACI graph on page 8**.

- Achieving sustainment of two percent of RPV does not necessarily require a budget increase. It is expected that this target can be arrived at by redirecting funds into sustainment, disposing of excess facilities and consolidating under-utilized facilities.
- Asset Condition Targets have been set based on benchmarking with the National Association of College and University Business Officers (NACUBO). NACUBO has identified an ACI of .95 as Good, an ACI of .90 as fair, and an ACI below .90 as poor. DOE has established a target of .98 for mission critical assets, .95 for mission dependent assets, and .85 for not mission dependent assets.

Milestones

- **4Q FY07** – Review and analyze Integrated Facilities and Infrastructure (IFI) crosscut budget against sustainment targets to ensure adequate funding is budgeted to support the Department’s plan to improve overall facility condition. Utilize Facilities Management and Information System (FIMS) data and proposed maintenance funding to determine if maintenance funding as a percent of RPV is between the DOE target of two to four percent. Issue Program Budget Decisions to Programs who have not adequately funded maintenance in their budget submissions to bring funding issues to DOE senior leadership’s attention. Review FIMS data with Programs. Ensure RPV and DM data is accurate, up-to-date and reflects current conditions. Utilizing accurate FIMS data is essential to calculate required sustainment funding.
- **2Q FY08** – Incorporate real property requirements and issues into the Departmental Planning Guidance for FY 2010-2014 budget development. Planning and budget guidance will be developed yearly to ensure Program IFI crosscut budget submissions provide all required information necessary to allow Facility and Infrastructure to analyze the Program’s budget submissions to ensure adequate levels of funding have been identified to sustain DOE’s real property assets.
- **2Q FY08** – Establish individual program performance targets for sustainment funding as a percent of RPV in conjunction with **Action item 3.1 Evaluate Sustainment Model for DOE Facilities**.

Results

- Ensures resources are aligned with the Department’s real property plan and the plan is aligned with available resources.
- Encourages more consistent and uniform sustainment funding. Stabilize the overall condition of the Department’s real property portfolio as indicated by ACI.

2.2.1.2 Utilize a Facilities Recapitalization/Renewal Strategy – If a Program’s ACI is below the Department’s target ACI, the Program will develop a recapitalization strategy to improve the condition of their facilities and apply principles of sustainability in major renovations. This will keep DOE facilities modern and relevant in an environment of changing standards and missions.

- Recapitalization requirements are in addition to sustainment activities (i.e., maintenance and repair) and consist of alterations and betterments to replace or modernize existing facilities.

- Recapitalization activities are traditionally funded by General Plant Projects (GPPs), Institutional General Plant Projects (IGPPs), or line item projects.
- Programs will evaluate the relative importance and contributions of all real property assets to mission accomplishment. A holistic systems approach will be used to identify those facilities and infrastructure assets that directly contribute to the accomplishment of the assigned mission or mitigation of environment, safety, and health issues. Mission critical and mission dependent assets are those that are essential to mission accomplishment and, if not available, would adversely impact the mission. The mission dependency determination will be based upon program assigned mission requirements.
- The Department has developed a recapitalization model to help assess resource requirements to meet the Department's goals for ACI.

Milestones

- **4Q FY07** - Use ACI prediction model to evaluate FY 09 – FY 13 Program budget submissions to establish deferred maintenance reduction programs.
- **2Q FY08** – Use ACI prediction model to assist programs in budget preparation. Modify program specific ACI targets, if necessary. Include targets in the FY 10 planning and programming budget guidance.
- **3Q FY08** – Assess IFI cross cut budgets against Program targets.

Results

- Provides DOE senior leadership objective visibility of facilities and infrastructure condition targets. ACI is calculated quarterly.
- Provides leadership information to make informed management decisions.
- Aligns Asset Management Plan, five year budget and Ten Year Site Plans.
- Ensures adequate resources are available to execute the Department's Strategic Plan and Asset Management Plan.
- Allows tracking of progress towards condition targets.

2.3 Manage Operating Costs

2.3.1 Actions To Manage Operating Costs - Annual operating and maintenance cost as defined by the FRPC consists of recurring maintenance and repair costs, utilities, cleaning and janitorial costs, and roads and grounds maintenance costs. Recurring maintenance and repair cost is reported in the Facilities Information Management System at the constructed asset level for buildings, trailers, and other structures and facilities. Energy consumption data is collected at the site level. Facilities services cost is collected at the site level but is not currently segregated from other operating costs. The Department will report actual costs at the constructed asset level where available and allocate site level costs to the constructed asset level where actual asset-level costs are not available. Collection of this data will enable DOE to look across its portfolio to assess the efficiency and effectiveness of facilities operations and identify opportunities to reduce operating costs.

Energy represents approximately one fourth of the Departments operating costs. Reducing energy costs will have the greatest impact on reducing overall operating costs. The Department has established an implementation plan for energy conservation and realization of the goals contained in E.O. 13123, Greening the Government Through Efficient Energy Management and E.O.13423, Strengthening Federal Environmental, Energy, and Transportation Management. The Department collects and monitors annual energy usage data on all facilities to track progress against energy reduction goals. The lack of meters for individual buildings imposes a constraint on the level of detail available. Only the high consumption process facilities are separately metered and therefore energy consumption data is collected on a site-wide basis, broken out between process and non-process facilities without a further subdivision by facility type. The Department has exceeded the goal of a 35 percent reduction in building energy consumption per square foot from the 1985 baseline, achieving a 51 percent reduction through FY 2004. The Department established a new annual goal of an additional three percent year-to-year reduction over the FY 2003 baseline starting in FY 2006 as required in E.O.13423.

It is expected that maintenance and repair will increase over the next several years as the Department more adequately funds sustainment and begins to tackle the rising deferred maintenance.

Measure – Reduction of Operating Costs

Operating Costs								Achieve Target	Comments
Performance Measures	Baseline	Actual					Long Term		
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009				
Operating Costs - Energy Consumption (BTU/SF). 2005 Energy Policy Act. 20% reduction from 2003 baseline by 2015.	FY 2003 Baseline 260,521	235,676	250,099	244,889	239,679	208,416	2015	9.5% reduction from FY 2003 to FY 2006. Criteria: (total energy at a site - energy consumed by excluded assets)/square feet of counted energy consuming assets.	
Operating Costs - Energy Consumption (BTU/SF). EO 13423 3% annual reduction or 30% reduction by 2015.	FY 2003 Baseline 260,521	235,676	244,889	237,074	229,258	182,364	2015	Same as above.	
Operating Costs-Sustainment and DM Reduction (\$/SF)	\$6.89	\$6.50	\$7.00	\$7.25	\$7.50	\$9.00	2014	National Academies of Science Recommends 2-4% of RPV which equates to \$9-18/SF. Criteria: FIMS "Actual Maintenance"/ GSF. Owned buildings and 501 Trailers.	
Operating Costs - Operations (\$/SF)	\$1.10	\$1.24	\$1.30	\$1.35	\$1.35	\$1.35	2008	Criteria: Includes grounds, janitorial, pest control, refuse, recycling, and snow removal. Owned buildings and 501 Trailers.	

In an effort to explore alternatives for measuring the efficiency of operations and maintenance, we are developing metrics to measure the efficiency and effectiveness program and site’s facilities operations and maintenance programs. We are sharing these metrics Department-wide in an effort to make all operations and maintenance more efficient.

Milestones

- **4Q FY07** - Establish process for reporting the first measure.

- **2Q FY08** - Generate measure and analyze (expect this to be an annual measure thereafter)
- **3Q FY08** - Establish second efficiency measure
- **4Q FY08** - Establish guidance on second measure reporting
- **2Q FY09** - Generate and analyze first and second measure.
- **3Q FY09** - Establish third efficiency measure
- **4Q FY09** - Establish guidance on third measure reporting.
- **2Q FY10** - Generate and analyze first, second and third measure.

2.4 High Performance and Sustainable Buildings

2.4.1 Improve Sustainability - New Federal drivers in the area of high performance and sustainable buildings (HPSB) directly impact DOE. Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, signed by the President on January 26, 2007, requires:

- New construction and major renovations of agency buildings will comply with the Guiding Principles set forth in the Memorandum of Understanding on Federal Leadership in HPSB
- Fifteen percent of the agency's existing building inventory at the end of fiscal year 2015 will incorporate the Guiding Principles.

The Guiding Principles set specific goals for integrated design usage, energy performance optimization, water protection and conservation, enhanced indoor environmental quality, and reduced environmental impact of materials. The goal of this EO is to implement these principles not only in new construction, but also in major renovations and existing buildings, resulting in numerous mission, energy security and environmental benefits, such as:

- reducing the total (life-cycle) ownership cost of facilities;
- improving energy efficiency and water conservation;
- providing safe, healthy, and productive built environments; and
- Enhancing sustainable environmental stewardship at DOE sites.

The following table shows how DOE plans to meet the EO requirements for sustainability.

Measure – Percent of High Performance and Sustainable Buildings

High Performance and Sustainable Buildings (HPSB) Targets									
Performance Measures		Baseline	Actual	Target				Achieve Target	Comments
		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Long Term		
High Performance and Sustainable Buildings (HPSB) Targets	Sustainable New Construction and Major Renovations (% of Total SQFT)	N/A	0.7%	0.8%	0.9%	1.1%	5.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable
	Sustainable Existing Buildings - Operations and Maintenance (% of Total SQFT)	N/A	N/A	N/A	0.2%	1.0%	10.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable
	Total	N/A	0.7%	0.8%	1.1%	2.1%	15.0%	2015	Executive Order 13423. 15% of building inventory by end of FY 2015 must be sustainable

Attachment 3 provides a listing of DOE buildings projects registered for LEED certification.

Milestones

- **4Q FY07** – Develop preliminary assessment of DOE’s programmatic framework for integrating sustainable design into new construction.
- **4Q FY07** – Update implementation plan for meeting the sustainable building requirements of Executive Order 13423 and establishing DOE as a Federal leader in sustainability.
- **1Q FY08** – Develop preliminary assessment of DOE’s programmatic framework for integrating sustainability into major renovations and existing buildings.
- **2Q FY08** – Develop metrics to measure compliance with the “Guiding Principles.”
- **3Q FY08** – Analyze a sampling of DOE’s building inventory to determine the current level of sustainable practices incorporated against the “Guiding Principles,” and develop cost estimates incorporating sustainability into the various types of DOE facilities.
- **4Q FY08** – Expand FIMS to include new fields for tracking and documenting compliance with the “Guiding Principles,” and develop reporting guidance for the field.
- **1Q FY09** – Report on sustainability metrics and track on a yearly basis.
- **2Q FY09** – Develop directives for existing facilities.

Results

- Provides DOE senior leadership objective visibility of the Department’s progress in facility sustainability.
- Provides management information to make informed decisions.
- Incorporates sustainability into Departmental Guidance.
- Tracks progress towards sustainability targets.

SECTION 3: Other Initiatives to improve Real Property Asset Management

3.1 Establishing Sustainment Modeling –The adequacy of sustainment funding for DOE facilities is evaluated based on the National Academy of Sciences recommendation and industry standards of two to four percent of replacement plant value (RPV). The Department has benchmarked and evaluated various sustainment tools from public and private industry sources and is beginning the process of adding sustainment modeling into the planning and budget process to allow for more precise evaluation of the adequacy of facilities maintenance funding.

Milestones

- **1Q FY08** - Draft Departmental Guidance on a formal sustainment strategy.
- **2Q FY08** - Finalize guidance based on feedback from Programs and sites.
- **3Q FY08** –Perform pilot of sustainment modeling for site budget preparation.
- **2Q FY09** - Add elements of sustainment modeling to budget guidance and ten year site planning guidance.
- **4Q FY09** – Use sustainment modeling in Program-level budget reviews with other industry benchmarking tools.
- **2Q FY10** – Apply sustainment models to the majority of DOE buildings at the asset level and incorporate results within Ten Year Site Plans.

Results

- Moving from a general two to four percent sustainment model to a tailored sustainment model structured to the DOE portfolio will better align resources to the Department's portfolio.
- Sustainment modeling facilitates benchmarking and cost normalization at the Program, Site and portfolio level.

3.2 Update Ten Year Site Plans (TYSP) – The management of real property assets must take a corporate, holistic, and performance-based approach to real property life-cycle asset management that links real property asset planning, programming, budgeting, and evaluation to program mission projections and performance outcomes. Acquisitions, sustainment, recapitalization, and disposal must be balanced to ensure real property assets are available, utilized, and in a suitable condition to accomplish DOE missions. The TYSPs are the foundation for the integration of all aspects of real property asset management. TYSPs will be utilized to assess real property assets against delineated program requirements at each site. The plans will identify and prioritize real property asset projects and activities required to meet program mission requirements. TYSPs have been developed for each site which address how the site's real property assets will support the Department's Strategic Plan, the Secretary's 5-year planning guidance, and appropriate program guidance. The TYSP will also form the site level plan for implementation of the building sustainability requirements of Executive Order 13423. It must be a comprehensive site wide plan encompassing the needs of tenant activities and kept current to reflect current mission requirements and budget realities.

Milestones

- **3Q FY08** - Ten Year Site Plans will be updated to include data reported to the Federal Real Property Profile (FRPP) in Q1 FY2008.
- Site plans will include a prioritized list of real property investments used by program offices to support resource allocation decisions.
- TYSPs will be updated annually during the third quarter of each fiscal year to reflect updated data submitted to the Federal Real Property Profile (FRPP) as well as the results of the latest budget, including the President's budget, current budget as enacted and the prior year budget.
- **Update Annually** – In third quarter in conjunction with budget development to better determine resource allocations.

Results

- Assures integration of current facilities inventory data and strategic mission requirements into the life cycle planning process.
- Allows program budget decisions based on analysis of TYSPs and IFI Crosscut data.
- Increases reliability of facility data through use of data to support management decisions.
- Identifies underutilized and excess property and provides plan for disposal.

3.3 Generate Quarterly Real Property Report – Generate a quarterly summary of real property utilization, condition, and maintenance adequacy, planned versus actual by program and overall performance with the goals of the Three Year Rolling Timeline. Provide senior leadership current status of real property asset management initiatives. Provides timely feedback on how daily decisions affect infrastructure portfolio. Provide means to hold Programs accountable to achieving assigned targets.

Milestones

- **Quarterly Update** – Update real property summary quarterly.

Results

- Provides DOE senior leadership objective visibility of facilities and infrastructure condition, utilization, and maintenance expenditures.
- Promotes real property accountability at all levels of facility-ownership hierarchy.
- Provides visibility that resources targeted for real property maintenance are being spent on maintenance.
- Allows tracking of progress towards condition and utilization goals.
- Encourages timely and efficient expenditure of maintenance funds.
- Underscores corporate facilities and infrastructure goals and objectives.

3.4 Validate FIMS Data at Each Site Yearly – Validate FIMS data by site on a yearly basis. FIMS supports DOE's planning and budgeting process, provides accurate facilities data to support budget formulation and execution, provides data used for

computation and analysis of DOE's facilities performance measures: Asset Condition Index, Asset Utilization Index, Mission Dependency, and Operating Cost. FIMS data must be maintained as complete and current throughout the life cycle of real property assets, including real property related institutional controls. FIMS data is archived after disposal of real property assets to retain information on disposed assets. To verify accuracy of FIMS data a corporate data validation model is being used to allow both Site/field managers and Headquarters personnel to validate FIMS data and make improvements as necessary to ensure data is accurate.

Milestones

- **3Q FY07** - All sites have performed an internal data validation study.
- **3Q FY08** – Sites complete FY 2008 validations.
- **3Q FY09** – Sites complete FY 2009 validations.

Results

- Establish a consistent, repeatable, bottoms-up approach to quality assurance of facilities data used in day-to-day decision making.
- Encourage a culture of data accuracy and data-driven management decision-making throughout the real property value chain.
- Provide more accurate facilities data from which to establish benchmarks and trends thereby improving resource allocation and management decisions.
- Perform better risk analysis of management decisions through an understanding of data quality.
- Identify and target areas for improvement.

Target

- All major sites validated annually with OECM performing quality assurance validations at up to eight sites per year.