Department of Energy

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

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Fiscal Year 2008 Update
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SECTION 1 – Three Year Rolling Timeline Overview

1.1 INTRODUCTION

The Three Year Rolling Timeline (TYRT) is required under the President's Management Agenda (PMA) real property initiative. 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 FY 2003, the Department published its Real Property Asset Management Order (RPAM) which directed a holistic, life-cycle approach to real property management. To date, nearly 300 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 FY 2005, 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 FY 2005, all FIMS records were populated with the 23 Federal Real Property Council data elements and metrics. In FY 2006, 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 FY 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 FY 2007, the Department successfully implemented the FIMS data validation process and all sites

have performed a validation. Sites and Programs now perform annual, self-directed FIMS data validation assessments.
Finally, in FY 2007, 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.

In FY 2008, data elements were added to FIMS to track the Departments progress towards sustainability goals. Meeting Executive Order 13423 requires that by FY 2015 15 percent of the Department's buildings are sustainable.

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-wide Ten Year Site Plan (TYSP) is prepared 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. 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.

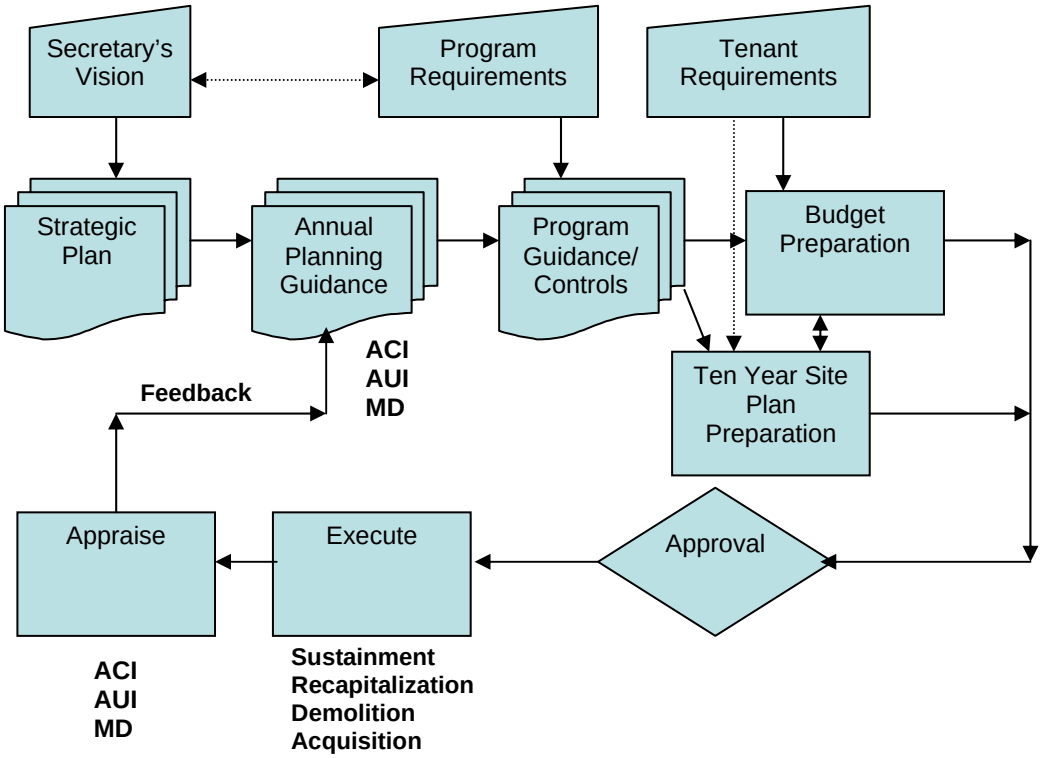

Figure (1): Department of Energy Facilities Planning Process

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. This assessment is done using the PMA and MA F&I Quarterly Performance Rating Evaluation Worksheet. 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 FY 2008 Update[1]

Performance Measures		Baseline	Actual	Target				Achieve Target	Comments
		FY 2005	FY 2007	FY 2008	FY 2009	FY 2010	Long Term		
Asset Utilization Index[2,8] AUI = (Sum of Utilized GSF for Asset Group/Sum of Total GSF for Asset Group)X100 ; Utilized GSF = Utilization (%) x GSF of asset	Office	91.37%	91.42%	91.70%	92.00%	92.50%	95.00%	2015	Excludes Closure Sites.[3] Closure sites Include: Mound, Fernald, Rocky Flats, Ashtabula, and Weldon Springs. Criteria: All owned buildings and 501 Trailers. Excludes Outgranted assets.
	Warehouse	87.10%	89.94%	88.50%	88.75%	89.00%	89.00%	2007	
	Laboratory	88.07%	86.81%	87.00%	90.00%	90.00%	90.00%	2006	
	Hospital	84.52%	99.86%	88.00%	89.00%	90.00%	90.00%	2007	
	Housing	99.64%	99.86%	99.00%	99.00%	99.00%	99.00%	2006	
Disposition - Excess Elimination ($RPV)[9]		$1,048M	$595M	$312M	$246M	$265M	-	-	Criteria: FIMS archive. Buildings, 501 trailers, and OSFs.
Asset Condition Index[2,8] ACI = 1 - (Deferred Maintenance / Replacement Plant Value)	Mission Critical	.951[4]	0.969	0.964	0.974	0.975	0.980	2015	Criteria: All operating assets (FIMS status codes 1, 2, and 6). Includes owned buildings, 501 trailers and OSFs. Excludes outgranted assets.
	Mission Dependent	.928[4]	0.935	.937	0.938	0.939	0.950	2015	
	Not-Mission Dependent	.938[4]	0.921	0.850	0.850	0.850	0.850	2008	
Asset Condition Index Department -Wide[5]		.946[4]	0.954	0.960	0.961	0.962	0.965	2014	Criteria: Same as above. Assumes Maintenance at Industry Standard Levels of 2-4% of Replacement Plant Value and continued funding of Deferred Maintenance Reduction Program.
Operating Costs - Energy Consumption (BTU/SF). EO 13423 3% annual reduction or 30% reduction by 2015[6]		FY 2003 Baseline 221,775	218,762	201,815	195,162	188,509	155,243	2015	14.9% reduction from FY 2003 to FY 2008. Criteria: Energy use subject to EO 13423 minus offset allowed for renewable energy purchases.
Operating Costs - Operations ($/SF)[7] FY 2007 Constant Dollars		$1.53	$1.53	$1.53	$1.53	$1.53	$1.53	2007	Criteria: Includes grounds, janitorial, pest control, refuse, recycling, and snow removal. Owned buildings and 501 Trailers.

[1]Program specific targets are tailored to the individual program's mission needs and may differ from the overarching DOE corporate targets shown above.

[2]For the Office of Science please see section 4.

[3] 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.

[4]Removed DOE outgranted assets from baseline and targets for consistency.

[5]Out Year goals will be reevaluated based on different maintenance trends, new government wide initiatives and pending recovery and reinvestment legislation.

[6]Baseline and targets provided by the Federal Energy Management Program (FEMP). FY 2003 baseline was revised downward from 265,120 Btu/SF due to the following reasons: 1) One site incorrectly reported electricity that it did not use in FY 2003, but had instead been used by the Air Force in its own facilities, 2) One site removed buildings from the FY 2003 baseline that should have been excluded because they contained metered process loads reported as excluded in later years, 3) One site corrected its baseline to remove process-related energy for humidity control in the production area from the buildings category to the excluded category where it had been reported in later years. All future year targets have been revised to reflect the lower energy intensity of the 2003 base year.

[7]Change baseline to FY 2007. FY 2007 better reflects inclusion of all operating costs. Targets in constant FY 07 dollars. DOE outgranted assets removed from baseline and targets as they were artificially lowering operations costs. FY 2008 inflation rate used 2.6%.

[8]Updated FY05 baseline to remove outgranted assets for consistancy across all years.

[9]Updated to reflect actual dispositions.

High Performance and Sustainable Buildings (HPSB) Status and Targets FY 2008 Update											
	Total Inventory		Candidate Inventory (b)		Sustainable Inventory Baseline (c)			Sustainable Inventory Targets (d)			
	Gross SF	Count	Gross SF	Count	Gross SF	Count	Percent (GSF)	Percent (GSF)			
	FY 2007		FY 2007		FY 2007			FY 2008	FY 2009	FY 2010	FY 2015
Owned Buildings	121,707,513	8951	83,399,424	4576	344,653	6	0.41%	TBD	TBD	TBD	TBD
Leased Buildings (a)	6,518,986	259	6,511,646	248	685,823	4	10.53%	TBD	TBD	TBD	TBD
Total (Owned + Leased)	128,226,499	9210	89,911,070	4824	1,030,476	10	1.15%	TBD	TBD	TBD	TBD
(a) Leased buildings include DOE and Contractor leases (no GSA provided space).											
(b) The candidate inventory excludes buildings against which the sustainable requirements do not apply (buildings that are shut down, owned & leased buildings under 1000 gross square feet and buildings that will be disposed of prior to FY 2015).											
(c) Sustainable Inventory Baseline for FY 2007 includes only LEED certified buildings.											
(d) Targets are in terms of SF meeting the Guiding Principles as a percentage of SF in the Candidate Inventory. Targets for FY 2009 through FY 2014 will be developed based on individual site implementation plans as reflected in the Ten Year Site Plans to be submitted in FY 2009.											

FY 2007 Candidate Inventory		
Building Category	**Buildings**	**Square Footage**
Total DOE Owned Building Inventory	8,951	121,707,513
Subtract Shutdown	-440	-15,339,313
Subtract Excess (by 2015)	-189	-2,533,286
Subtract Less than 1000 sqft	-3,481	-1,183,013
Subtract Outgranted Facilities	-265	-19,252,477
Total	**4,576**	**83,399,424**

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.

FRPC Performance Measures Matrix FY 2008 Update[1]									
Performance Measures		Baseline	Actual	Target				Achieve Target	Comments
		FY 2005	FY 2007	FY 2008	FY 2009	FY 2010	Long Term		
Asset Utilization Index[2,8] AUI = (Sum of Utilized GSF for Asset Group/Sum of Total GSF for Asset Group)X100 ; Utilized GSF = Utilization (%) x GSF of asset	Office	91.37%	91.42%	91.70%	92.00%	92.50%	95.00%	2015	Excludes Closure Sites.[3] Closure sites Include: Mound, Fernald, Rocky Flats, Ashtabula, and Weldon Springs. Criteria: All owned buildings and 501 Trailers. Excludes Outgranted assets.
	Warehouse	87.10%	89.94%	88.50%	88.75%	89.00%	89.00%	2007	
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	Housing	99.64%	99.86%	99.00%	99.00%	99.00%	99.00%	2006	
[1]Program specific targets are tailored to the individual program's mission needs and may differ from the overarching DOE corporate targets shown above.									
[2]For the Office of Science please see section 4.									
[3] 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.									
[8]Updated FY05 baseline to remove outgranted assets for consistancy across all years.									

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 13M SF from FY 2002 to FY 2007 and has targeted elimination of additional excess as shown in the table below.

DOE Disposition Plan FY 2008 to FY 2010[1]						
	RPV			GSF		
	2008	2009	2010	2008	2009	2010
Total per FY	$312,272,791	$246,473,302	$264,664,276	782,388	788,440	640,308
Total FY 08 to FY 10	$823,410,369			2,211,136		
[1]This excess disposition plan is within current budget projections.						

Summary of Excess Elimination

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 FY 2008 – FY 2010. This disposition list will provide disposition by asset for all planned dispositions from FY 2008 -2010.

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.

FY 2008 Department of Energy Disposition Summary - Buildings, Trailers and OSFs - FY 2009 Status as of February 17, 2009									
FY	Target			Actual Eliminated			% of Target Eliminated (RPV)	Cost Avoidance/Yr Based on $1.90/SF	Cumulative RPV of Assets Eliminated
	RPV	# Of Assets	GSF	RPV	# Of Assets	Gross Sq Feet			
FY 02	N/A	N/A	N/A	$322,545,118	379	1,533,715	-	$2,914,059	$322,545,118
FY 03	N/A	N/A	N/A	$313,800,817	420	1,140,524	-	$2,166,996	$636,345,935
FY 04	N/A	N/A	N/A	$678,724,838	536	2,878,328	-	$5,468,823	$1,315,070,773
FY 05	$1,029,311,442	473	4,111,764	$1,047,538,247	488	4,101,396	102%	$7,792,652	$2,362,609,020
FY 06	$788,456,532	270	1,773,232	$1,352,580,138	625	2,800,679	172%	$5,321,290	$3,715,189,158
FY 07	$550,347,778	208	1,414,961	$595,332,143	243	1,568,969	108%	$2,981,041	$4,310,521,301
FY 08[1]	$312,272,791	114	782,388	$1,029,579,616	219	1,418,007	330%	$2,694,213	$5,340,100,917
FY 09	$246,473,302	151	788,440	$48,647,839	54	72,177	20%	$137,136	$5,388,748,756
FY 10	$264,664,276	216	640,308						
TOTAL FY02 - FY10	-	-	-	$5,388,748,756	2,964	15,513,795			
TOTAL FY05 - FY10	$3,191,526,121	1,432	9,511,093	$4,073,677,983	1,629	9,961,228	-	$18,926,333	$5,388,748,756
[1]Includes $383 million from the sale of Weeks Island that was not planned for FY 2008.									

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

- **Annually:** Sites conduct annual utilization analysis for their site.
- **Annually:** Sites Update the Estimated Disposition Year in FIMS.
- **Quarterly:** OECM will provide OMB disposition update.

Results

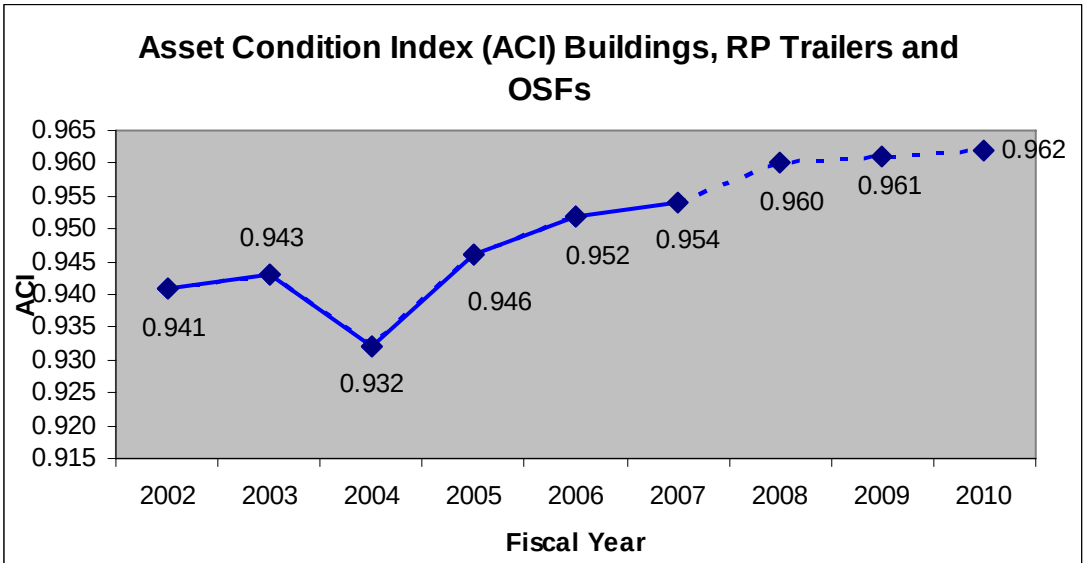
- Disposal of excess and under-utilized assets.
- Improvement in AUI.

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 – (Deferred Maintenance / Replacement Plant Value). Quality facilities are required to provide a safe workplace that support mission requirements. The Department will request 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.



ACI represents operating DOE owned buildings/real property trailers and operating DOE owned structures (excluding 3000 series)

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 08 – FY10 to improve the Department's ACI. It is likely that some of these projects will change based on FY 2009/10 budget decisions. This attachment will be updated 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.

- Program specific mission dependency targets are tailored to the individual program's mission needs and may differ from the overarching DOE corporate mission dependency targets shown above.

Milestones

- **4Q FY08** – Use the ACI prediction model to evaluate FY10 – FY14 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 FY09** – Update major maintenance and repair projects list. Projects over $5M.
- **3Q FY09** – 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 FY09** – Update program specific ACI targets, based on sustainment funding, backlog reduction program, and individual program mission needs.

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

FRPC Performance Measures Matrix FY 2008 Update[1]									
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[1]Program specific targets are tailored to the individual program's mission needs and may differ from the overarching DOE corporate targets shown above.									
[2]For the Office of Science please see section 4.									
[4]Removed DOE outgranted assets from baseline and targets for consistency.									
[5]Out Year goals will be reevaluated based on different maintenance trends, new government wide initiatives and pending recovery and reinvestment legislation.									
[8]Updated FY05 baseline to remove outgranted assets for consistancy across all years.									

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's goal is to budget sustainment of operating real property assets at the National Research Council recommended level of two to four percent of Replacement Plant Value (RPV). The 2-4% RPV sustainment funding is an overarching Departmental corporate goal and that sustainment funding may vary by program depending upon the program's mission needs. 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 9**.
- 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). NACBO 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 FY08** – 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.
- **4Q FY08** – Submit OMB IFI Crosscut Budget if required.
- **2Q FY09** – Submit FY 2010 Congressional IFI Crosscut Budget, if required.
- **2Q FY09** – Incorporate real property requirements and issues into the Departmental Planning Guidance for FY 2011-2015 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 FY09** – Analyze results of the FY08 Federal Real Property Profile data reporting to include progress made under performance measures and achievement of interim targets. As appropriate, prepare a plan of actions and milestones based on the outcome of the analysis.
- **2Q FY09** – Analyze Program RPV and DM. Come to an agreement with OECM on the Program's RPV and DM based on FY 2008 snapshot. The agreed upon values for RPV and DM will be used in the FY 2011 budget cycle to calculate required sustainment and ACI respectfully.
- **2Q FY11** – Apply sustainment models to selected DOE buildings at the asset level. 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

- **2Q FY09** – Use ACI prediction model to assist programs in budget preparation. Modify program specific ACI targets, if necessary. Include targets in the FY 11 planning and programming budget guidance.
- **3Q FY09** – 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 tackles the rising deferred maintenance.

Measure – Reduction of Operating Costs

FRPC Performance Measures Matrix FY 2008 Update[1]

Performance Measures	Baseline	Actual	Target				Achieve Target	Comments
	FY 2005	FY 2007	FY 2008	FY 2009	FY 2010	Long Term		
Operating Costs - Energy Consumption (BTU/SF). EO 13423 3% annual reduction or 30% reduction by 2015[6]	FY 2003 Baseline 221,775	218,762	201,815	195,162	188,509	155,243	2015	14.9% reduction from FY 2003 to FY 2008. Criteria: Energy use subject to EO 13423 minus offset allowed for renewable energy purchases.
Operating Costs - Operations ($/SF)[7] FY 2007 Constant Dollars	$1.53	$1.53	$1.53	$1.53	$1.53	$1.53	2007	Criteria: Includes grounds, janitorial, pest control, refuse, recycling, and snow removal. Owned buildings and 501 Trailers.

[1]Program specific targets are tailored to the individual program's mission needs and may differ from the overarching DOE corporate targets shown above.

[6]Baseline and targets provided by the Federal Energy Management Program (FEMP). FY 2003 baseline was revised downward from 265,120 Btu/SF due to the following reasons: 1) One site incorrectly reported electricity that it did not use in FY 2003, but had instead been used by the Air Force in its own facilities, 2) One site removed buildings from the FY 2003 baseline that should have been excluded because they contained metered process loads reported as excluded in later years, 3) One site corrected its baseline to remove process-related energy for humidity control in the production area from the buildings category to the excluded category where it had been reported in later years. All future year targets have been revised to reflect the lower energy intensity of the 2003 base year.

[7]Change baseline to FY 2007. FY 2007 better reflects inclusion of all operating costs. Targets in constant FY 07 dollars. DOE outgranted assets removed from baseline and targets as they were artificially lowering operations costs. FY 2008 inflation rate used 2.6%.

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 FY08** - Establish reporting methods for the second (Proactive Maintenance) DOE real property effectiveness measure. Proactive Maintenance (PrM) = Preventive + Predictive Maintenance x 100 / Total Maintenance

- **2Q FY09** - Generate and analyze the first and second effectiveness measure. Provide to Programs for comparison and benchmarking.
- **3Q FY09** - Establish third effectiveness measure.
- **4Q FY09** - Establish guidance on reporting third effectiveness measure.
- **2Q FY10** - Generate and analyze first, second and third effectiveness 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) Status and Targets FY 2008 Update											
	Total Inventory		andidate Inventory (I		Sustainable Inventory Baseline (c)			Sustainable Inventory Targets (d)			
	Gross SF	Count	Gross SF	Count	Gross SF	Count	Percent (GSF)	Percent (GSF)			
	FY 2007		FY 2007		FY 2007			FY 2008	FY 2009	FY 2010	FY 2015
Owned Buildings	121,707,513	8951	83,399,424	4576	344,653	6	0.41%	TBD	TBD	TBD	TBD
Leased Buildings (a)	6,518,986	259	6,511,646	248	685,823	4	10.53%	TBD	TBD	TBD	TBD
Total (Owned + Leased)	128,226,499	9210	89,911,070	4824	1,030,476	10	1.15%	TBD	TBD	TBD	TBD
(a) Leased buildings include DOE and Contractor leases (no GSA provided space).											
(b) The candidate inventory excludes buildings against which the sustainable requirements do not apply (buildings that are shut down, owned & leased buildings under 1000 gross square feet and buildings that will be disposed of prior to FY 2015).											
(c) Sustainable Inventory Baseline for FY 2007 includes only LEED certified buildings.											
(d) Targets are in terms of SF meeting the Guiding Principles as a percentage of SF in the Candidate Inventory. Targets for FY 2009 through FY 2014 will be developed based on individual site implementation plans as reflected in the Ten Year Site Plans to be submitted in FY 2009.											

FY 2007 Candidate Inventory		
Building Category	**Buildings**	**Square Footage**
Total DOE Owned Building Inventory	8,951	121,707,513
Subtract Shutdown	-440	-15,339,313
Subtract Excess (by 2015)	-189	-2,533,286
Subtract Less than 1000 sqft	-3,481	-1,183,013
Subtract Outgranted Facilities	-265	-19,252,477
Total	**4,576**	**83,399,424**

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

Milestones

- **4Q FY08** – Provide input to the Federal Energy Management Program (FEMP) in support of their annual submission of the High Performance Building Plan.
- **4Q FY08** – Expand the Facilities Information Management System (FIMS) with new fields to track and document compliance with Guiding Principles of E.O. 13423.
- **1Q FY09** – Report initial sustainability data to FRPP.
- **1Q FY10** – Report sustainability data to FRPP.

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

- **4Q FY08** – Begin pilot test of sustainment modeling at: Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and/or Lawrence Berkley National Laboratory.
- **3Q FY09** – Report outcomes of pilot modeling.
- **2Q FY10** - Add elements of sustainment modeling to budget guidance and ten year site planning guidance.
- **4Q FY10** – Use sustainment modeling in Program-level budget reviews with other industry benchmarking tools.
- **2Q FY11** – Apply sustainment models to selected 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

- **2Q FY09** - TYSP guidance. Review, comment and provide concurrence on OECM's TYSP Guidance.
- **3Q FY09** - Ten Year Site Plans will be updated to include data reported to the Federal Real Property Profile (FRPP) in Q1 FY2009.
- 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 Performance Rating – Generate a quarterly performance rating at the program level. Report will evaluate and assess relevant facilities and infrastructure measures, metrics and initiatives.

Milestones

- **Quarterly Update** – Update program quarterly performance rating.

Results

- Provides DOE senior leadership objective visibility of facilities and infrastructure measures, metrics and initiatives.
- 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 – 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

- **4Q FY08** – Sites complete all FY 2008 FIMS data validations.
- **1Q FY09** – Programs provide OECM the scheduled dates for FIMS data validations for all sites.
- **2Q FY09** – Sites complete scheduled 2nd quarter FY 2009 FIMS data validations.
- **3Q FY09** – Sites complete scheduled 3rd quarter FY 2009 FIMS data validations.
- **4Q FY09** – Sites complete scheduled 4th quarter FY 2009 FIMS Data 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.

SECTION 4: Mission Readiness Assessment Process

The Office of Science is implementing a Mission Readiness Assessment Process to determine whether the facilities and infrastructure at the ten DOE-SC national laboratories have the necessary capabilities required for the scientific missions assigned to them. This process provides the facility and infrastructure strategic planners with key information focused on capability and reliability requirements for current and anticipated research missions. This Mission Readiness Assessment Process, in concert with the Annual Lab Plans, provide SC management with a clear picture of the mission readiness of each laboratory business line, capability gaps, and the action plan to fill those gaps in the form of needed investments.

Implementation of the Mission Readiness Assessment Process does not diminish the need for maintaining accurate data within FIMS, but shifts the SC focus from maintenance metrics to a system that aligns asset capabilities with the requirements necessary to support cutting-edge research. In the Quarterly Assessments, the Office of Science's management of facilities and infrastructure will now be judged by how well our infrastructure is able to keep pace with changing research mission needs. Data for performance measures under Sections 2 and 3, including Maintenance Investment Index (MII), ACI, excess disposition, AUI, and operating expenses, will continue to be collected and provided; however, SC management of facilities and infrastructure will not be judged by these measures.

Milestones

- **3Q FY09** – Mission Readiness gap analysis included in 2009 Annual Lab Plans
- **4Q FY09** – Three labs will undergo peer reviews of their mission readiness implementation
- **4Q FY11** – All 10 SC labs will have undergone a peer review

Results

- Mission Readiness gap analysis included in 2009 Annual Lab Plans