Facilities Asset Management Plan

FY2009 – FY2018

Prepared for the Integrated Program Review

July 3, 2008

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Goals of Facilities Asset Management

- Identify facilities-related risks and their impact to the agency's mission
- Develop and implement a program that mitigates the risks for facilities
- Manage and operate facility assets at least life cycle cost to meet the following long term outcomes:
  - Agency business objectives
    - Optimize the management of facility assets through a cost-effective and strategic approach;
  - Performance and condition standards for assets
    - Set standards and address facility system reliability deficiencies and reduce facilities-related risks to the agency;
  - Energy efficiency standards
    - Identify and address energy efficiency issues which support the agency strategic objective of responsible environmental stewardship and aid in the compliance of Executive Order 13423; and
  - Safety and security standards
    - Place primary focus on life safety requirements in the initial years of the plan.

Strategy to Achieve Goals

- Assess current condition of assets
- Identify deficiencies ("requirements") and costs of actions to address them
- Prioritize requirements by the following factors
  - Requirement priority based on urgency (currently critical vs. recommended)
  - System ranking to the operation of the facility (roof vs. interior finishes)
  - Site criticality to the Transmission system
  - Asset ranking by function (control house vs. storage building)
- Collaborate with Transmission Services and other organizations to continue to develop FAM program

Current State - Facility Condition Assessments

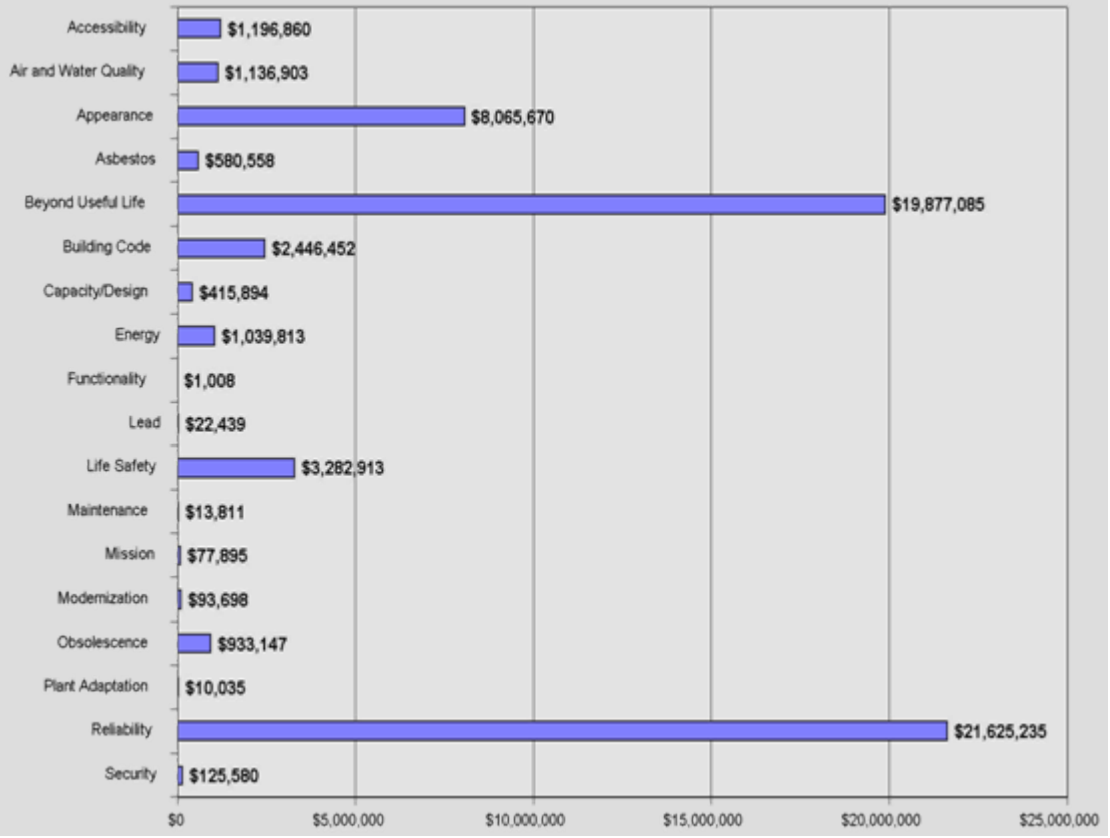
Over the past year, condition assessments were conducted on all buildings at 118 of the approximately 430 total sites. The purpose of the assessments was to determine the current condition of each building and its' associated components (facility systems). The work currently needed to repair or replace a system was identified and recorded as a requirement. The work associated with anticipated future replacements were recorded as system renewals.

Results Included in Draft FAM Plan

Approximately 4,200 requirements estimated at $61 M as illustrated in the chart on the right.

Approximately 2,000 system renewals estimated at $10 M

Funding Needs by Requirement Category* (Total = $61 M, real $)



Prioritization Process Step 1: Assess Condition and Identify Requirements

The condition assessment process included an inspection of each individual building system to identify deficiencies or "requirements". Requirement categories, priority levels, and representative examples of issues are listed in the table below.

Gray area highlights examples of issues FAM would address as a highest priority.

Requirement Priority
Assigned based on functionality of system, likelihood of failure and risk associated with deficiency.

Requirement Categories
Assigned based on type of deficiency.

	Currently Critical • 1 Year 1	**Potentially Critical** • 1-2 Years 2	**Neccessary - Not Yet Critical** • 3-5 Years 3	**Recommended Improvements** 4	**Grandfathered Codes** 5
Code Compliance • Accessibility • Building Code • Life Safety	Emergency Exit Lights Emergency Egress	Roof Access Ladder Safety Cages		ADA Compliance	Fire System Upgrades
Integrity • Appearance • Reliability • Beyond Rated Life	Damaged Roof HVAC System Failure Damaged Windows	Damaged Exterior Doors	Interior Paint Worn Carpeting		
Environmental • Air/Water Quality • Asbestos • Lead • PCB	Peeling Lead Paint Damaged Asbestos Panels	Damaged Asbestos Flooring	Worn Asbestos Vinyl Flooring		
Operations • Energy • Maintenance		Non Energy Efficient Windows		Energy Efficient Lighting	
Functionality • Mission • Modernization • Plant Adaptation • Obsolescence • Capacity				HVAC Upgrades	

Prioritization Process Step 2: Link Requirements and Rank Systems

Requirements identified during the condition assessments were entered into a database and linked to a building system. To ensure the most critical issues are addressed first, the building systems were ranked based on their criticality to the protection of building occupants, protection of power system equipment, and the level of risk associated with a failure. Examples of systems in each category and priority level are listed in the table below.

Gray area highlights examples of systems FAM would repair or replace as a highest priority.

System Category	System Priority				
	Priority 1	**Priority 2**	**Priority 3**	**Priority 4**	**Priority 5**
Substructure, Shell, Interior Const, Special Const,& Finishes	Roof Exterior Doors	Exterior Walls Stairs		Foundations	Interior Walls Interior Finishes Ceilings
Electrical, Plumbing, & Fire Protection	Domestic Water Emergency Light & Power	Branch Wiring Lighting Equipment	Restroom Fixtures Drinking Fountains	Roof Drainage	Natural Gas Distribution
Communications & Security	Security Alarm & Detection	Public Address			
Heating, Ventilation, & Air Conditioning	Heat/Cool Units Controls	Gas Supply	Air Distribution Exhaust Fans		
Equipment & Conveying Systems		Elevators Wheelchair Lifts	Warehouse Equipment	Kitchen Equip Central Vacuum	Vehicle Lifts Power Washing
Site Development, Utilities, & Site Const	Fences / Gates	Site Lighting	Parking Lots Water Supply	Sidewalks	Landscaping

Prioritization Process Step 3: Group and Rank Assets

Within the facility asset category, the buildings were grouped into five classes and ranked by criticality to the power system. The table below illustrates the priority level of each asset grouping and lists the types of assets in each group.

Priority Level	Asset Grouping	Asset Type	
1	Utility	Control Center Data Center	Control House Microwave
2	Utility	Control House Control/Maintenance Relay House	Microwave Engine Generator Buildings
3	Office, Maintenance and Special Purpose	Office - Guard Station Storage - Fuel and Haz Mat Maintenance HQ Office - Business Critical	Storage - Special Maintenance Shop Administration Meter Houses
4	Storage	Other - Pump House Office - Classroom / Training Site Utility Storage General	Material & Equipment Vehicle Transportation Research
5	Other	Oil House Other Rental	Untanking Tower Abandoned

Prioritization Process Results: Plan Work by Asset and System Priority

The result of the prioritization process is an asset plan that will address the most critical requirements as a priority. The table below illustrates the requirement funding levels associated with each asset priority level at each system priority level as detailed on the previous slides.

Requirement Funding by Asset Priority and System Priority
(real $000,000's , Total = $61M)

Asset Priority (by Grouping)	Roof Heat/Cool Fencing 1	Walls Wiring Elevators 2	Fixtures Air Dist Parking 3	Foundations Kitch Equip Sidewalks 4	Int Finishes Landscape Gas Dist 5
Other 5	$0.89	$0.89	$0.41	$0.08	$0.26
Storage 4	$2.47	$1.89	$0.25	$0.02	$0.41
Office, Maintenance, Special Purpose 3	$12.01	$5.45	$2.93	$0.51	$3.56
Utility 2	$0.40	$0.48	$0.13	$0.04	$0.18
Utility 1	$7.60	$7.50	$3.60	$0.38	$4.80

System Priority (w/ Examples)

Focus placed on critical requirements linked to critical systems at highest priority assets.

1 2 3 4 5 6

Execution of Strategy

FY 09: Focus on highest priority safety code upgrades and reliability requirements at assets most critical to personnel and transmission system

FY 10, 11: Continued focus on reliability requirements across sites

FY 12-17: Resolve remainder of deferred maintenance and update assets to meet current codes

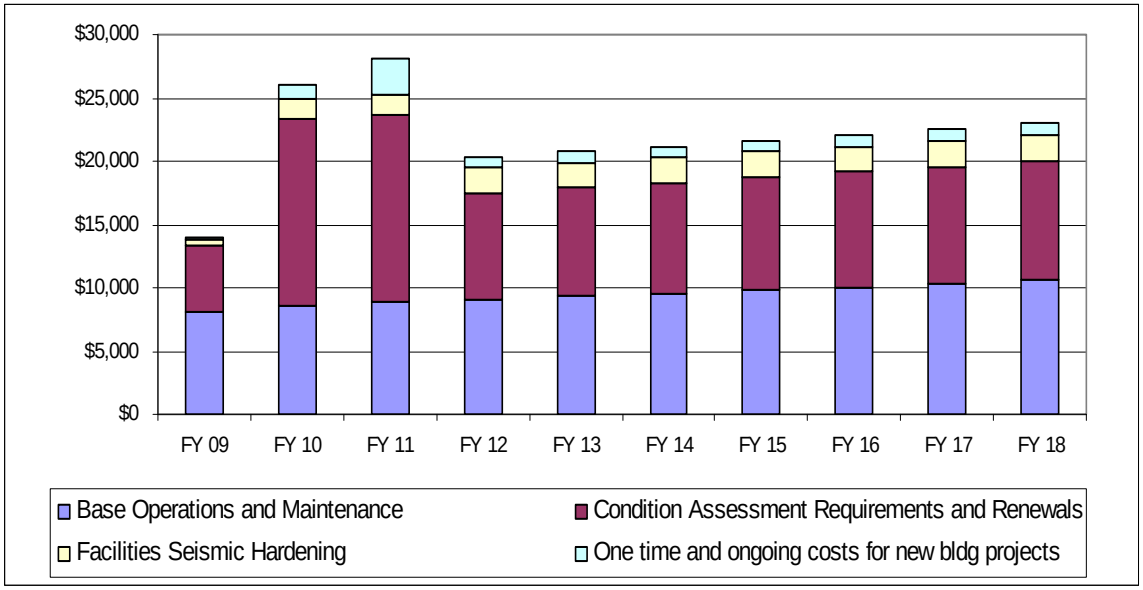
FY 17, 18: Address facility system renewals at 150% of original expected service life

Total Investment Plan - Expense

In addition to addressing requirements, the investment plan also includes expense funding for:

- Continued base maintenance
- Placeholders for unassessed sites, contingency, and emergencies
- Placeholders for facility-related business resilience initiatives, including seismic hardening studies and implementation of facilities hardening program
- One time and ongoing expense costs for new building projects

Total Funding by Year and by Expense Type
(Total = $219M, nominal $)



Expense Plan for Facilities, FY 09 - FY 18 (Nominal $000's)

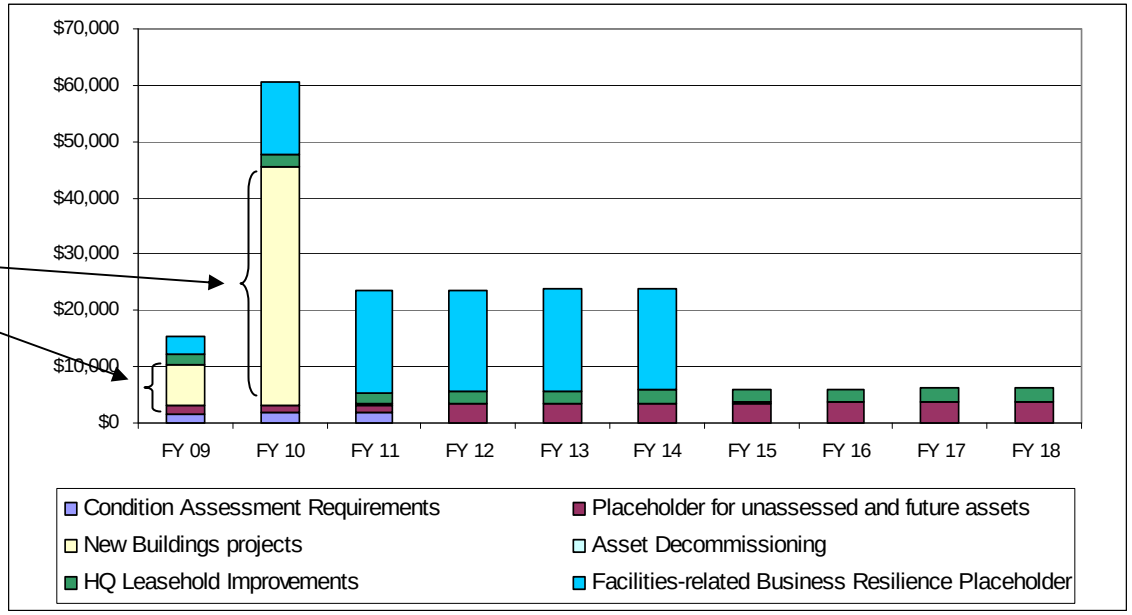
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Base Operations and Maintenance	$8,080	$8,559	$8,846	$9,073	$9,307	$9,548	$9,794	$10,046	$10,305	$10,570	**$94,128**
Condition Assessment Requirements and Renewals	$5,274	$14,838	$14,834	$8,416	$8,584	$8,756	$8,932	$9,111	$9,295	$9,482	**$97,522**
Facilities Seismic Hardening	$500	$1,500	$1,500	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	**$17,500**
One time and ongoing costs for new Bldg Projects	$142	$1,149	$2,875	$821	$838	$854	$872	$889	$907	$925	**$10,272**
Total Facilities Expense Plan	**$13,996**	**$26,046**	**$28,055**	**$20,310**	**$20,729**	**$21,158**	**$21,598**	**$22,046**	**$22,507**	**$22,977**	**$219,422**

Total Investment Plan - Capital

Capital Plan Includes:

- Condition assessment requirements
- Proposed New Building projects: Tri-Cities Maint HQ ($12M), Idaho Falls Maint HQ ($612k) and Dittmer Annex ($36M)
- Facilities-related Business Resilience placeholder for construction of possible new facilities (i.e. EOC)

Total Funding by Year and by Type of Capital Work
(Total = $195M, nominal $)



Capital Plan for Facilities, FY 09 to FY 18 (Nominal $000s)

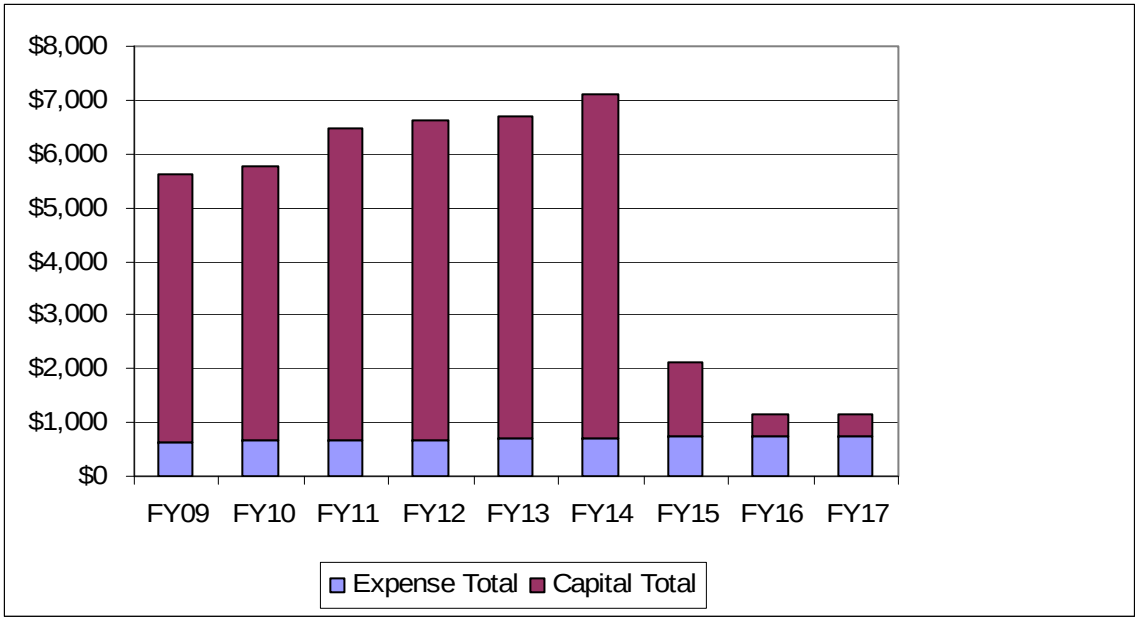
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Condition Assessment Requirements	$1,709	$1,744	$1,778								**$5,231**
Placeholder for unassessed and future assets	$1,400	$1,428	$1,457	$3,300	$3,366	$3,433	$3,523	$3,616	$3,711	$3,809	**$29,043**
New Buildings projects	$7,221	$42,299									**$49,520**
Asset Decommissioning		$100	$100	$100	$100	$100	$100	$100	$100	$100	**$900**
HQ Leasehold Improvements	$1,927	$2,093	$2,155	$2,198	$2,242	$2,287	$2,333	$2,379	$2,427	$2,475	**$22,516**
Facilities-related Business Resilience Placeholder	$3,000	$13,000	$18,000	$18,000	$18,000	$18,000					**$88,000**
Total Capital Plan	**$15,257**	**$60,664**	**$23,490**	**$23,598**	**$23,708**	**$23,820**	**$5,956**	**$6,095**	**$6,238**	**$6,384**	**$195,210**

Total Investment Plan – Security Enhancements

Security Plan includes:

- Maintenance of existing security systems
- Security infrastructure enhancements at HQ and Ross.
- Level 2 enhancement program at select field sites

Total Funding by Year and by Expense vs. Capital
(Capital Total = $36M, Expense Total = $6M, nominal $)



Expense and Capital Plan for Security, FY 09-FY 17 (Nominal $000s)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	Total
Expense Total	$632	$654	$673	$687	$702	$717	$730	$744	$759	$6,348
Capital Total	$4,989	$5,102	$5,814	$5,948	$6,005	$6,386	$1,398	$400	$400	$36,442

Risks and Uncertainties

- Risks and uncertainties to executing this plan:

  - Constraints on resources
    - Increased work load with existing staff
    - Contracting process workload
    - Impact to Supply Chain workload

  - Cost estimates
    - Cost estimates do not include building replacements. Estimates only include replacement in kind of building components (systems)
    - Cost estimates for replacement in kind may not meet current needs in all cases
    - Uncertain economies of scale through large contracts or equipment purchases
    - Impact from energy efficiency initiatives

  - Uncertainty of future agency FTE levels (including contractors)
    - May impact space requirements and strain facility systems capability

  - Accounting treatment
    - Scope of work may shift treatment from capital to expense or vice versa
    - Decision to replace rather than maintain may shift expense to capital

  - Lack of Computerized Maintenance Management System (CMMS)
    - Long term integrity of data

  - Emergency projects may require reprioritization of work

The facilities asset management program will evaluate risks annually and develop mitigation plans as part of the facility program and as projects move through the decision process.

Consequences of Not Funding

Poor facility condition increases vulnerability to risks:

- Operational Risks
  - Failures resulting in loss of transmission availability
  - Interruption of business operations or loss of IT data
- Hazard Risks
  - Potential for accidents or illnesses
  - Inability to withstand acts of nature
  - Promotes theft, vandalism, and terrorism
- Regulatory Risks
  - Failure to comply with security, safety, or environmental standards

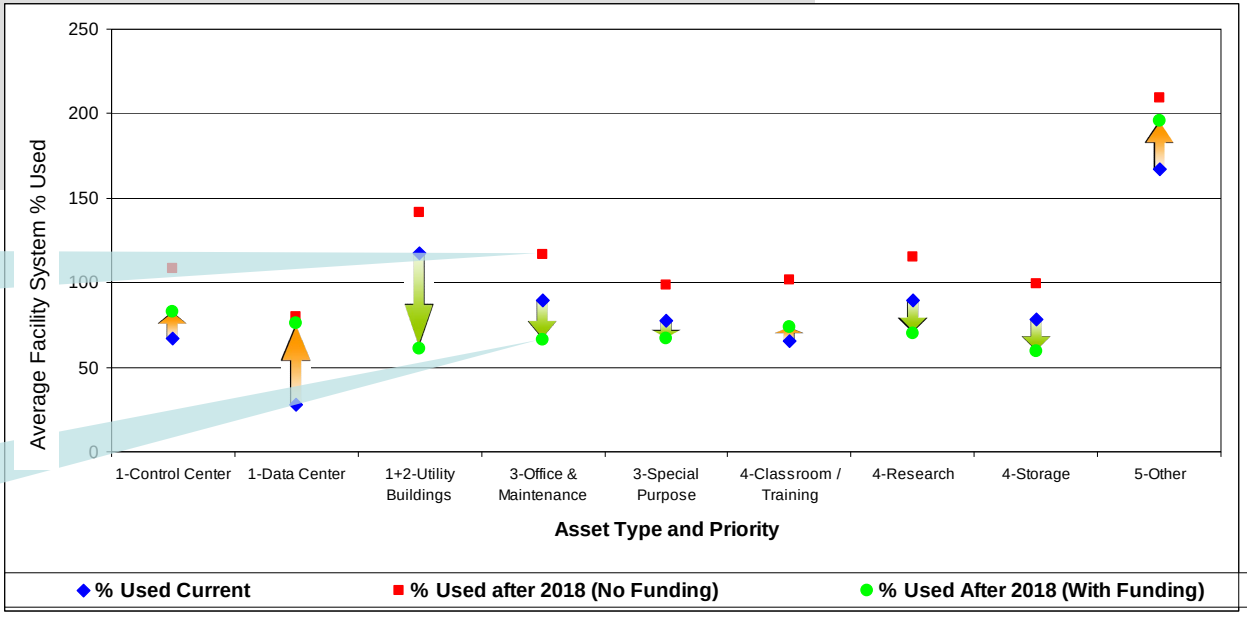
Reliability issue:

Water Heater deteriorating

Impact on Age of Facility Systems

For example, a 50 year old roof, with a service life of 40 years is 125% used.

Replace the roof, and the % used drops to 0%.



% Used = years in service ÷ years of expected service life