

Draft



**Facilities Asset Management Plan
Integrated Program Review Summary**

July 3, 2008

Pre-decisional

Executive Summary

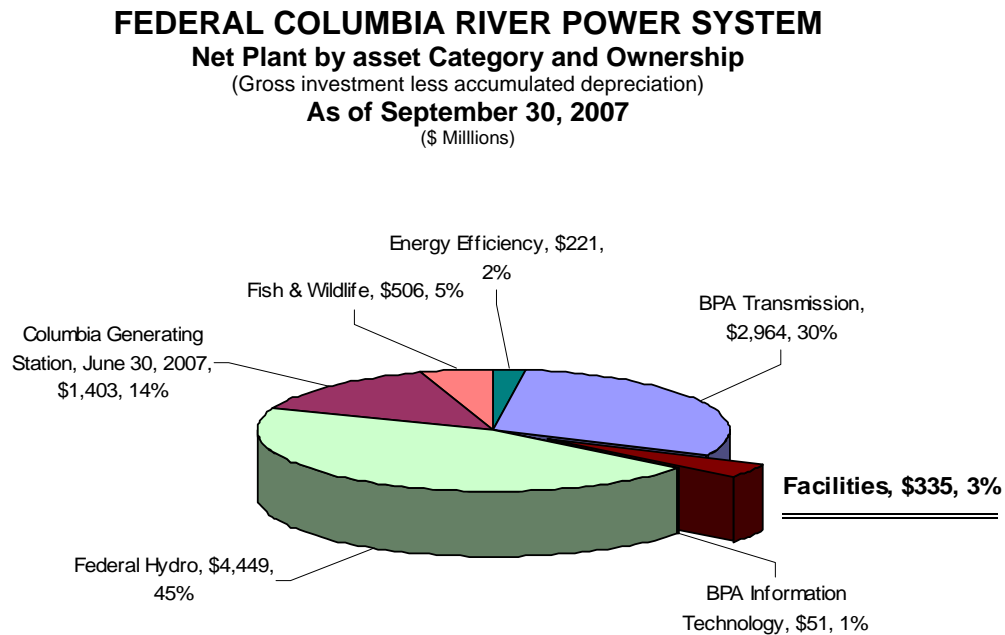
Overview

The Bonneville Power Administration owns an estimated 2.5 million square feet of non-electric facilities across Oregon, Washington, Idaho, Montana, and California. This includes approximately 930 buildings at 430 sites of critical infrastructure such as control centers, substation control houses, administrative offices, maintenance shops, and warehouses.

The Facilities Asset Management (FAM) organization is responsible for the planning and management oversight of these buildings, as well as fences, parking lots, sidewalks, roadways, and other non-electric structures. For the purpose of Asset Management, Facilities are defined as:

“Non-electric plant components including all site buildings, their associated mechanical, structural, and utility systems, surrounding grounds, and other fixed improvements upon the land within the sites controlled by the agency. Components that directly generate, transmit, or control marketed/high voltage power or station service are excluded as are electrical support systems for the control centers, and the initial funding and construction of new facilities/upgrades driven by transmission system needs.”

Facilities represent 3% of the Federal Columbia River Power System total net plant as shown in the figure below.



Current State

FAM was formed in 2006 to develop and execute an asset management program specific to BPA's non-electric facilities. In April 2007, FAM began a project to assess the condition of all BPA owned buildings. As a part of this process, each building and its associated architectural, electrical, and mechanical systems is being inventoried and inspected for deficiencies.

This database will become the official repository for facilities data and will be used to track the changing condition of each asset over time. To date, 526 buildings, equating to 88% of estimated total square footage, have been assessed with the assessments of the remaining buildings to be completed by the end of FY 08. A schedule for assessing other non-electric assets, such as fences, roadways, parking lots, water systems, and sewer systems will be developed over the next few years.

The result of this effort will be a comprehensive database of facilities assets containing information on the condition, primary use, size, and construction of each system. The assessment results are included in the funding levels under Condition Assessment Requirements and Renewals. Assessment results include:

- **Requirements:** Estimated costs to repair or replace building systems found to be malfunctioning, non-serviceable, or impacting the life safety of the occupants.
- **System Renewals:** Estimated costs to repair or replace facility systems found to be functioning, but based on an industry standard expected useful life, will require funding within the next ten years.

The condition assessment results reflect the impact of over 10 years of deferred maintenance. For example, systems with an expected life of 10 years are still in service 50 years after the original installation, many older assets do not comply with current life safety codes, and some mechanical systems are not meeting the needs of the occupants.

The decision to defer maintenance on non-electric facilities was a choice made to limit near term cost and to target funding to critical electric transmission programs. In many cases, minimal repairs and emergency replacements were performed on facilities only as needed to keep the non-electric facilities operational. The table below portrays the expense maintenance non-electric plant (NEP) program expenditures from the past two years and the forecast for FY 08.

Historical Expense NEP Program (\$000s)

	FY06	FY07	FY08 Projected
Ross Facilities O&M		\$2,734	\$3,248
Transmission Facilities NEP	\$9,372	\$5,615	\$5,800
Transmission Facilities Engineering NEP	\$215	\$90	\$90
Total	\$9,587	\$8,439	\$9,138

To date, the plan includes 118 site assessments resulting in more than 4200 requirements and 2000 system renewals. These requirements and system renewals have been identified to address deficiencies in condition, performance, codes, or aged components. It has been determined that approximately \$71 M (in today's dollars) is needed to address these requirements and system renewals as outlined in the table below.

Requirements and System Renewal Estimated Costs (\$M's, real)

Totals (real 2008 dollars)	
Requirements: Deferred Maintenance	\$57
Requirements: Grandfathered Code Issues	\$4
System Renewals	\$10
Total	\$71

Of the \$61 M total estimated requirement costs listed above:

- More than half of the total costs are associated with addressing high priority issues that need attention within the next 3 years and are associated with systems critical to personnel safety and transmission operations.
- Over \$3M of the total cost is needed to address life safety issues that do not meet current code.
- Approximately \$22 M has been identified to correct reliability issues on systems and equipment that are inadequate or have exhibited failures.

In addition, the assessments indicate approximately 44% of BPA's facility systems currently exceed their expected useful life. Although age is not a reason unto itself to replace an asset or system, it is a forward indicator of condition. If the age profile of the systems is not managed, BPA will be at risk of future system failures. As a result, long-term funding in this plan includes an allowance of \$10 M to address known age-related system renewals as each facility system reaches 150% of its expected service life.

Strategy

The goal of Facilities Asset Management is to identify facilities-related risks and their impact to the agency's mission; develop and implement a program that mitigates risks; and operate and manage BPA's 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 addressing life safety requirements in the initial years of the plan

Using the results of the condition assessment, a strategy was developed to logically address the identified requirements and system renewals which included the backlog of deferred work. The development of a prioritization tool and testing of various scenarios has been completed and takes into account 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; and
- Asset ranking by function (control house vs. storage building).

This multi-layered process aids in the development of an asset plan that focuses on ensuring the most urgent work is performed on the highest ranked systems at the most critical facilities.

Results of the prioritization process put life safety issues at the top of the list to be addressed in FY 09 as well as critical reliability issues that need immediate attention. Reliability issues will continue to be addressed in FY 10 and FY 11, with the remainder of the backlog of identified requirements to be completed by FY 17. Going forward, a strategy of consistent preventative maintenance as well as timely, cost-effective system replacements are built into this plan to provide a sound approach to protecting the value of BPA's facilities.

Risk Mitigation

The prioritization process has also been developed to focus on mitigating risks associated with facility assets, which have been identified as:

Operational Risks

- Failures in structures or systems which impact the operation of the transmission system
- Interruption of business operations
- 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

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.

Plan

With this strategy in mind, the Facilities Asset Management Plan includes funding for:

- Transmission Services' base operations and maintenance of field facilities
- Workplace Services' operations and maintenance for Ross Facilities
- Expense and capital funding to address requirements and renewals
- Placeholder for currently unassessed assets and new future assets
- Seismic hardening studies for facilities and a placeholder for resulting projects
- Construction of new facilities assets
- Decommissioning of abandoned assets
- Portland headquarters and commercial leasehold improvements
- Placeholder for facility-related Business Resilience initiatives; and
- Facilities-related security enhancements, managed and budgeted by Security and Transmission.

Recommended expense and capital funding for these initiatives are as follows:

Expense Plan for Facilities, FY 09 - FY 18 (nominal \$000s)

	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	\$14,835	\$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 O&M costs for new Bldg Projects	\$142	\$1,149	\$2,875	\$821	\$838	\$854	\$872	\$889	\$907	\$925	\$10,272
Total NEP Expense Plan	\$13,996	\$26,046	\$28,055	\$20,310	\$20,729	\$21,158	\$21,598	\$22,046	\$22,507	\$22,977	\$219,422

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	\$29,042
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	\$60,663	\$23,490	\$23,598	\$23,708	\$23,820	\$5,956	\$6,095	\$6,238	\$6,384	\$195,210

Expense Plan for Security, FY 09-FY 17 (nominal \$000s)

Project	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	Total
Maintenance of Security Systems at HQ	\$30	\$30	\$30	\$31	\$31	\$32	\$32	\$33	\$34	\$283
Maintenance of Security Systems at Ross	\$60	\$60	\$60	\$61	\$62	\$64	\$65	\$66	\$68	\$566
Alarm Monitor Station at Ross	\$20	\$20	\$20	\$20	\$21	\$21	\$22	\$22	\$23	\$189
Maintenance of Security Systems at Field	\$472	\$494	\$513	\$525	\$538	\$550	\$561	\$573	\$584	\$4,810
Mobile Security Equipment	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$500
Expense Total	\$632	\$654	\$673	\$687	\$702	\$717	\$730	\$744	\$759	\$6,348

Capital Plan for Security, FY 09-FY 17 (nominal \$000s)

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	Totals
Security Level 2 Enhancements at Field Sites	\$4,339	\$4,402	\$4,914	\$5,248	\$5,605	\$5,986	998			\$31,492
Security Enhancements at Ross	\$150	\$200	\$200							\$550
Security Enhancements at HQ	\$500	\$500	\$700	\$700	\$400	\$400	\$400	\$400	\$400	\$4,800
Total	\$4,989	\$5,102	\$5,814	\$5,948	\$6,005	\$6,386	\$1,398	\$400	\$400	\$36,442