

## Capital Projects Anticipated to be Submitted for Agency Approval

April 1 to September 30, 2009

Project Title	Business Unit	Total Cost \$Millions	Project Description
Load, Obligation and Resource Analyzer	Information Technology	\$ 5.5	Holds forecasts of loads and load categories, after-the-fact data, contracts and obligations and has the ability to manipulate data as needed so alternative scenarios can be evaluated.
Data Center Modernization	Information Technology	\$ 13.6	Upgrades data center resources to establish a highly available environment on modern operating systems and hardware while reducing power consumption, cooling needs, floor space and system footprint.
Data Storage Modernization	Information Technology	\$ 12.1	Architects and implements storage to support operations and business continuity. Introduces tiered storage, improved management practices, and improves backup and recovery. Implements storage architecture that serves the agency at least until FY2020.
#KC SONET Project Continuation : Phase II - Spur Healing	Transmission	\$ 18.0	Replaces analog connections from the Marion, Ponderosa, Sand Springs, Adel, and Santiam sites with digital connections to the main digital communication rings established in Phase I.
MW Analog Replacement (Puget, Capitol Peak, Rainier Area), #NC00	Transmission	\$ 14.5	This project is part of the continuing effort to replace the analog MW system with either fiber optic cable or digital radios. The analog radio system has reached its expected life and its associated spare parts are no longer available. This project covers the Puget Area, Capitol Peak Area and Rainier Area.
Walla Walla - Tucannon River No. 1, 115kV Line Rebuild	Transmission	\$ 10.9	Transmission Line Rebuild. The Walla Walla-Tucannon River No. 1, 115kV line is 47 miles long and contains 295 wood structures (642 poles). This line was built in 1941.
RAS DC Upgrade (CCGO)	Transmission	\$ 11.1	This project, the DC RAS (Remedial Action Schemes) upgrade, will replace DC RAS Controllers A & B, located at Celilo, with new individual controllers at Dittmer and Munro Control Centers. It will replace old DC RAS transfer trip (TT) equipment with new equipment, using digital communications and digital compatible TT equipment where possible.
DeMoss-Fossil 115 kV Line Upgrade	Transmission	\$ 8.1	Construct a 115 kV ring bus at DeMoss Substation. Install a new transformer bank and breaker along with a grounding bank at Fossil Substation. Install a microwave radio system at Fossil Substation as well as a SCADA RTU. Mitigates voltage problems due to the Condon Wind project
FY10 Large Generation Interconnection Agreement (LGIA) projects	Transmission	\$ 35.0	Various LGIA projects that will have signed agreements and that must be started in FY09 or FY10 and must get completed no later than 12/31/2010.
Chief Joseph Turbine Replacement (6 units)	Federal Hydro	\$ 79.0	Replaces the remaining 6 turbine runners in the family of 16 units at Chief Joseph Dam. The first 10 runner replacements are underway. The new design improves efficiency over the existing runners.
The Dalles Governor Replacement	Federal Hydro	*	Replaces the governor controls for all units at The Dalles Dam using state-of-the-art digital technology, thereby improving reliability and responsiveness.
John Day Bridge Crane Rehabilitation	Federal Hydro	*	Replaces deteriorated bridge crane rails and rehabilitates the controls and drive systems on two cranes serving the powerhouse. Various inspections will be completed along with any necessary work, and life-safety code improvements will also be done.

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Fire Protection - John Day, Bonneville, The Dalles	Federal Hydro	*	Upgrades to the fire detection systems for the occupied spaces within the powerhouse, the HVAC system and the emergency egresses, with the final phase possibly refurbishing and/or upgrading fire suppression systems for main unit generators.
Ice Harbor Turbine Design	Federal Hydro	*	Demonstration of an innovative design process for turbine runner replacements that will attempt to maximize juvenile fish passage through turbines. Will result in the installation and testing of up to 2 new turbine runners at Ice Harbor Dam.
Hills Creek Runner Replacement	Federal Hydro	*	Replaces badly deteriorated/cracked turbine runners at Hills Creek to improve long-term reliability, reduce risk of catastrophic failure and simplify runner maintenance.
Grand Coulee TPP Governor Replacement	Federal Hydro	*	Replaces the governor controls for all units in Grand Coulee's Third Power Plant using state-of-the-art digital technology, thereby improving reliability and responsiveness.
Lower Snake River Plants Exciter Replacements	Federal Hydro	*	Replace 12 aging, main unit generation excitation systems at three Lower Snake River Dams, namely Lower Granite, Little Goose and Lower Monumental with state-of-the-art static technology, thereby improving reliability and responsiveness
Grand Coulee G1 - G9 Transformer Replacement	Federal Hydro	*	Purchase and delivery of some number of transformers and their installation spread over time to replace old transformers, up to 27 single phase tanks. Current transformers range in condition and age; this project will target replacement of those banks of transformers in the worst condition, based on FCRPS's equipment condition index using its assessment methodology.
Black Canyon - New Unit	Federal Hydro	*	Design and construction of a new single unit powerhouse next to the existing powerhouse at Black Canyon Dam, and purchase and install a new generating unit within the new powerhouse. Capacity of new unit not yet determined, but will be able to reduce "above turbine capacity" spills at the dam.

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