

Major Capital Projects¹ - End-of-Project Target Performance

Q3 2011

Project	Description	Direct Capital \$M ²			In-Service Date	
		Target	Forecast	Actual ³	Target	Forecast
Transmission						
Spacer Damper Replacement Program (FY08-12)	Replace all spring type double and triple bundle spacer-dampers on the 500 kV system.	\$ 65.2	\$ 49.0	\$ 38.0	9/30/12	9/30/12
California - Oregon AC Intertie Addition Project	Upgrade California-Oregon AC Intertie to improve transfer capability, decrease congestion and improve stability.	\$ 47.7	\$ 50.0	\$ 48.5	5/31/11	5/27/11
Spectrum Relocation (3G 1710-1755 MHz Project)	Vacate radio frequencies as required by P.L. 108-494.	\$ 48.6	\$ 43.8	\$ 23.5	3/31/13	3/31/13
Land Acquisition and Rebuilds (Access Roads)	Includes road improvements in or near transmission corridors.	\$ 15.5	\$ 19.0	\$ 13.6	9/30/10	12/31/12
500 kV Spare Transformer Project	Acquire 5 spares and relocate 2 existing transformers that will be used as spares. The spares will be placed strategically across the system.	\$ 33.6	\$ 28.0	\$ 11.7	9/30/11	12/31/11
FY10 - TEAP Fleet Equipment Replacement Program	Heavy duty and specialized vehicle replacement program for FY10, FY11 and part of FY12.	\$ 29.6	\$ 24.1	\$ 8.5	3/31/12	9/30/12
Lower Mid-Columbia 230 kV Project	Increase capacity between Vantage/Wanapum and Midway.	\$ 11.5	\$ 11.9	\$ 11.6	5/1/11	7/31/12
Redmond 230 - 115 kV Transformer Addition	Install an additional transformer at the Redmond substation.	\$ 12.0	\$ 13.8	\$ 10.7	11/1/11	11/1/11
#KC SONET Phase II Spur Healing	Complete the digital microwave and radio conversion in Oregon.	\$ 18.0	\$ 17.6	\$ 6.5	10/1/12	12/15/14
#NC Analog Microwave Replacement	Complete the digital microwave and radio conversion in NW Washington.	\$ 13.6	\$ 7.9	\$ 1.5	9/1/13	12/31/13
Alvey Substation 500 kV Shunt Reactor	Add a 500 kV shunt reactor for voltage stabilization.	\$ 10.9	\$ 10.5	\$ 0.2	4/30/12	12/1/11
West of McNary Reinforcement - Group 1	West of McNary reinforcement project - group 1	\$ 246.5	\$ 144.5	\$ 128.5	12/31/12	2/1/12
NEPA - I-5 Corridor Reinforcement	Conduct NEPA study, preliminary engineering and design.	\$ 45.0	\$ 45.0	\$ 12.5	1/31/13	1/11/13
NEPA - Big Eddy - Knight	Conduct NEPA study, preliminary engineering and design.	\$ 16.7	\$ 16.7	\$ 14.1	9/30/11	9/30/11
Condon Wind Voltage Control	Install ring bus, transformer bank and breaker to control voltage fluctuations on the DeMoss-Fossil-Maupin 69kV line.	\$ 9.4	\$ 10.6	\$ 5.5	5/31/11	11/2/11
DC RAS Upgrade	Replace the DC RAS controllers at Celilo with upgraded units at the Ross and Munro control centers.	\$ 11.8	\$ 11.0	\$ 1.5	11/30/13	11/30/13
Ostrander 500-230 kV Transformer Bank Addition	Replace transformer bank at McLoughlin with a new transformer bank at Ostrander.	\$ 18.9	\$ 20.3	\$ 2.7	11/30/11	11/30/11
Synchrophasor Project	5-year effort to acquire, install, test, and implement synchronized Wide Area Measurement (WAM) and control technology at BPA.	\$17.2 to \$18.1	\$ 17.4	\$ 1.7	Achieve FY11 items in workplan	Currently on track
Wood Pole Line Sustain Program FY10 - FY13	Implement a stable, sustained wood pole replacement program. The four year plan includes cumulative cost and work plan completion targets.	\$43.4 to \$54.2 for FY10 - FY11	\$ 48.5	\$ 37.5	Achieve 90% to 100% of workplan and 120 miles	93% of workplan and 111 miles

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Transmission - Continued						
Steel Lines Sustain Program FY11 - FY13	Implement a stable, sustained steel line replacement program. The four year plan includes cumulative cost and work plan completion targets.	\$5.6 to \$7.0 for FY11	\$ 6.5	\$ 1.8	Achieve 90% to 150% of workplan	100%
System Protection and Control (SPC) Sustain Program FY11 - FY13	Implement a stable, sustained SPC replacement program. The four year plan includes cumulative cost and work plan completion targets.	\$6.1 to \$7.6 for FY11	\$ 6.4	\$ 1.1	Achieve 90% to 100% of workplan	100%
Control Replacement COI Series Capacitors	Replace the protection and control systems for the series capacitor banks for the California-Oregon Intertie.	\$ 15.7	\$ 15.1	\$ 0.0	3/30/14	3/30/14
Ross - Schultz Fiber Replacement	Replace the obsolete and limited 36 strand fiber with standard 72 strand fiber.	\$ 34.0	\$ 34.0	\$ -	9/15/17	9/15/17
#DC Microwave Analog Spur Replacement	Complete the digital microwave and radio conversion in Northeast Washington.	\$ 39.5	\$ 39.5	\$ 0.0	8/30/17	8/30/17
Central Oregon Transformer Addition	Install a second 500/230 kV transformer bank at BPA's Ponderosa substation.	\$ 29.1	\$ 25.3	\$ 0.4	10/31/13	7/29/13
Central Ferry to Lower Monumental (Little Goose Area Reinforcement)	Construct a 38 mile 500 kV transmission line between Central Ferry and Lower Monumental substations.	\$ 90.0	\$ 87.5	\$ 6.1	12/31/13	12/31/13
Celilo Mercury Containment and Abatement	Contain and abate the mercury contamination at the Celilo Converter Station.	\$ 10.8	\$ 10.8	\$ 2.4	5/31/13	5/31/13
Central Ferry Generation Interconnection	Generation interconnection request G0284. Construction of a new 500/230 kV substation and related fiber communications additions and upgrades.	\$ 98.4	\$ 81.3	\$ 51.2	5/30/12	12/30/11 for line work TBD for fiber

Federal Hydro

Grand Coulee and Hungry Horse SCADA Replacement	Replace SCADA systems at Grand Coulee and Hungry Horse.	\$ 46.8	\$ 46.8	\$ 19.3	9/30/15	9/30/15
Grand Coulee Exciter Replacement	Replace 6 original excitation units in Powerhouse 3.	\$ 20.9	\$ 19.9	\$ 8.3	11/30/13	11/30/13
Grand Coulee Transformer Replacement (G19, G20)	Replace 2 banks (6 single phase transformers) in the third powerhouse, units G19 and G20.	\$ 54.1	\$ 29.5	\$ 21.5	11/30/13	11/30/13
Grand Coulee Left Powerhouse Transformer Replacement	Replace transformer banks K1, K5, K7, K8 and purchase one spare transformer bank.	\$ 43.7	\$ 15.7	\$ 2.4	10/31/14	10/31/14
Grand Coulee Pre Overhaul - Winding Replacement G19, G20	Replace the stator core and windings on units G19 and G20.	⁴ N/A	⁴ N/A	\$ 0.2	5/31/13	7/30/13

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Grand Coulee Pre Overhaul - Crane Rehabilitation	Complete refurbishment of the six third power plant cranes.	\$ 23.4	\$ 23.4	\$ 2.3	12/31/12	12/31/12
Grand Coulee Pre Overhaul - High Voltage Cable Replace.	Install overhead, high-voltage cables to transfer power from the third power plant.	\$ 46.7	\$ 46.7	\$ 1.9	12/31/12	12/31/12
Grand Coulee Pre Overhaul - Materials Storage Building	Construct a storage building to create the space needed in the third power plant.	\$ 10.2	\$ 6.5	\$ 1.1	2/28/13	1/31/13
Chief Joseph Turbine Runner Replacement for Units 5 - 14	Replace 10 turbine runners with more efficient and reliable units	\$ 111.0	\$ 98.5	\$ 34.3	9/30/15	9/30/15
Chief Joseph Turbine Runner Replacement, Units 1 - 4, 15 - 16	Replace the turbine runners and rehabilitate the turbines on units 1 - 4, 15 - 16.	\$ 62.9	\$ 62.9	\$ -	4/1/17	4/1/17
The Dalles Station Service Improvements	Install 2 new station service transformers and reconfigure existing units to a "base load" standby source.	\$ 21.1	\$ 22.8	\$ 21.9	9/30/11	9/30/11
The Dalles Powerhouse Roof Replacement	Replace the entire powerhouse roof.	\$ 7.0	\$ 7.0	\$ 0.2	10/30/12	10/30/12
The Dalles Powerhouse Governor Upgrade	Upgrade of the governors with digital controls and replacement of associated components.	⁴ N/A	⁴ N/A	\$ 0.6	9/30/14	9/30/14
McNary Unit 1-4, 7-12 Stator Winding Replacement	Replace stator windings that are over 50 years old.	\$ 80.0	\$ 80.0	\$ 25.8	12/31/14	12/13/14
Bonneville PH2 Station Services Replacement	Upgrade Powerhouse 2 station service with new transformers and switchgear.	⁴ N/A	⁴ N/A	\$ 5.3	5/31/13	5/31/13
Bonneville PH1 Tailrace Gantry Crane Replacement	Replace the Bonneville Powerhouse 1 tailrace gantry crane and crane rails.	\$ 8.2	\$ 8.2	\$ 6.0	9/30/11	9/30/11
Ice Harbor Turbine Runner Replacement	Replace the poor condition turbine runners in units 2 & 3 and incorporate a more fish-friendly design.	\$ 68.4	\$ 68.4	\$ 5.0	7/31/15	7/31/15
Lower Snake Exciter Replacement	Replace 6 exciters at Little Goose, 3 at Lower Monumental and 3 at Lower Granite.	\$ 12.9	\$ 12.9	\$ 0.4	2/27/13	2/27/13
John Day Powerhouse Bridge Crane Rehabilitation	Replace obsolete equipment on and provide improvements to the two 375 ton Ederer bridge cranes.	\$ 10.7	\$ 9.4	\$ 9.4	9/30/11	4/18/11
John Day Governor Upgrade	Upgrade of the governors with digital controls and replacement of associated components.	⁴ N/A	⁴ N/A	\$ -	9/23/14	9/23/14
Hills Creek Powerhouse Turbine and Unit Rehabilitation	Replace turbine runners and generator windings on units 1 and 2 at Hills Creek.	\$ 24.1	\$ 24.1	\$ 1.1	8/12/14	8/12/14
Black Canyon Third Generating Unit	Add a third generating unit at Black Canyon. The capacity of the unit will be between 10 and 15 MW.	⁴ N/A	⁴ N/A	\$ 1.9	12/31/14	12/31/14
Palisades Turbine Rehabilitation and Runner Replacement	Replace the turbine runners and rehabilitate the turbines on the four Palisades units.	\$ 28.8	\$ 28.8	\$ 0.2	5/31/16	5/31/16
Dexter Spillway Gate Rehabilitation	Rebuild the seven Tainter spillway gates at Dexter.	\$ 18.0	\$ 18.0	\$ 7.1	9/15/13	9/30/12
Big Cliff Spillway Gate Rehabilitation	Rebuild the three Tainter spillway gates at Big Cliff.	⁴ N/A	⁴ N/A	\$ 0.1	12/30/13	12/30/13

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IT						
RODS Replacement Project	Develop, build and deploy hardware and software to replace the current RODS functionality.	\$ 14.9	\$ 14.8	\$ 8.2	9/30/12	9/30/12
Transmission Asset System (TAS)	Develop a single, comprehensive database and associated tools for asset management.	\$ 10.2	\$ 9.8	\$ 8.9	7/31/11	7/31/11
Data Center Modernization	Modernize system hardware, software, and support tools for the data centers at Headquarters, Ross and Munro	\$ 13.4	\$ 37.0	\$ 18.3	4/28/12	9/30/12
Data Storage Modernization	Implement a new data storage architecture and replace existing storage hardware components, while adding software applications for system monitoring, alerting and capacity planning.	\$ 13.4			9/30/12	

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