

Major Capital Projects¹ - End-of-Project Target Performance

Q4 2021

Project	Description	Direct Capital (\$M) ²			In-Service Date	
		Authorized	Forecast	Actual ³	Authorized	Forecast
Transmission						
Ross - Schultz Fiber Replacement	Replace the obsolete and limited 36 strand fiber with standard 72 strand fiber.	\$ 34.0	\$ 39.0	\$ 31.3	09/15/18	12/21/22
MREDI VHF System Replacement	Replace and upgrade the existing VHF radio system.	\$ 96.2	\$ 94.0	\$ 52.6	09/01/26	12/22/25
Puget Sound Area Northern Intertie (PSANI)	Install a 500/230 kV transformer bank addition at Raver Substation.	\$ 67.0	\$ 65.6	\$ 63.2	03/31/21	08/20/21
Operational Multi-Gigabit Ethernet Transport (OMET)	Communications upgrade and replacement to ensure adequate capacity and compatibility for emerging requirements.	\$ 43.5	\$ 29.0	\$ 28.9	09/30/17	11/30/21
Spare Transformers for Hub Wind Sites	Add a spare 500/230 kV single phase transformer at John Day, Rock Creek, Slatt and Central Ferry substations.	\$ 23.8	\$ 23.8	\$ 22.6	04/01/19	05/27/22
Quenett Creek Substation L0380	Construct new substation and associated line work to serve additional N. Wasco PUD load.	\$ 44.9	\$ 52.8	\$ 46.0	06/24/22	06/24/22
Fairview Reactor and Transformer	Install a reactor to address high voltages on the Fairview 230 kV bus and replace an aging transformer.	\$ 14.3	\$ 13.7	\$ 12.4	12/31/22	12/31/21
Mission Critical IT Infrastructure	Completely replace the Dittmer Data Center IT infrastructure.	\$ 15.6	\$ 18.3	\$ 9.1	12/30/22	06/30/22
Anaconda-Dixon-Silverbow Transformer	Install a transformer at Dixon, move an existing transformer from Dixon to Anaconda and retire the transformer at Silver Bow.	\$ 14.0	\$ 6.2	\$ 6.1	12/31/20	09/01/23
Badger Canyon II	Interconnection for Badger Canyon II wind project.	\$ 24.5	\$ 19.2	\$ 1.3	03/11/22	10/27/23
Schultz-Wautoma 500kV Series Caps	Install series capacitors	N/A ⁴	N/A ⁴	\$ 0.7	03/31/22	01/31/23
Midway-Ashe 230kV Double Circuit	230kV double circuite transmission line from Midway to Ashe Tap	N/A ⁴	N/A ⁴	\$ 1.3	09/30/23	09/30/25
Richland-Stevens Drive 115kV Line	Rebuild existing 115kV transmission line, add additional line, rebuild substations	N/A ⁴	N/A ⁴	\$ 0.1	12/18/24	12/18/24
G0367 Avangrid Bakeoven 1 Wind Project	Interconnection for Avangrid wind project.	N/A ⁴	N/A ⁴	\$ -	09/01/22	09/01/22
Conkelley Substation Retirement	Retire the conkelley substation	N/A ⁴	N/A ⁴	\$ -	03/31/25	03/31/25
Steel Lines Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 33.7	\$ 40.6	\$ 40.6	09/30/21	09/30/21
Wood Pole Lines Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 33.7	\$ 38.8	\$ 38.8	09/30/21	09/30/21
Access Roads Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 22.5	\$ 24.0	\$ 24.0	09/30/21	09/30/21
Real Property Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 4.5	\$ 3.5	\$ 3.5	09/30/21	09/30/21
AC Substations Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 78.7	\$ 88.1	\$ 88.1	09/30/21	09/30/21
Line Ratings Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 4.3	\$ 1.5	\$ 1.5	09/30/21	09/30/21
DC Substations Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 22.5	\$ 26.2	\$ 26.2	09/30/21	09/30/21
System Telecommunications Sustain Program	Two-year asset replacement plan based on asset strategy analysis.	\$ 19.9	\$ 11.9	\$ 11.9	09/30/21	09/30/21
Power Systems Control Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 29.0	\$ 29.4	\$ 29.4	09/30/21	09/30/21
System Protection and Control Sustain Program	Two-year asset replacement plan based on asset strategy analysis.	\$ 33.7	\$ 20.5	\$ 20.5	09/30/21	09/30/21
Control Center Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 9.0	\$ 11.2	\$ 11.2	09/30/21	09/30/21
TEAP Tools Sustain Program FY20-21	Two-year asset replacement plan based on asset strategy analysis.	\$ 8.4	\$ 8.0	\$ 8.0	09/30/21	09/30/21

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Federal Hydro						
Hungry Horse Crane Replacements	Replace two powerhouse bridge cranes, forebay gantry crane, machine shop crane and valve house crane.	\$ 17.1	\$ 18.2	\$ 5.4	08/01/23	08/01/23
Libby Intake Gantry Crane	Replace Intake Gantry Crane	\$ 12.8	\$ 12.8	\$ 1.7	11/30/22	11/30/22
Grand Coulee and Hungry Horse SCADA Replacement	Replace SCADA systems at Grand Coulee and Hungry Horse.	\$ 51.9	\$ 70.6	\$ 70.3	03/28/16	11/30/22
Grand Coulee Transformer Replacements G11-	Replace 24 single-phase transformers in the Right Powerhouse.	N/A ⁴	N/A ⁴	\$ 0.8	03/20/19	01/31/26
Grand Coulee - Keys Pump Generating Station - Reliability	Replacements and upgrades to maintain current station capability.	\$ 66.3	\$ 66.3	\$ 33.3	09/30/24	03/31/24
Grand Coulee Firehouse	Build a stand-alone fire station to replace the facility currently housed in the pump-generating plant.	\$ 15.1	\$ 17.6	\$ 11.0	05/14/18	12/31/21
Grand Coulee Left and Right Powerhouse Cranes	Replace the four bridge cranes in the left and right powerhouses.	N/A ⁴	N/A ⁴	\$ 0.6	07/30/20	06/30/23
Grand Coulee Third Powerhouse Roof	Replace the third powerhouse roof, including seismic, lighting and safety upgrades.	\$ 14.2	\$ 15.4	\$ 9.9	12/31/20	12/31/21
Chief Joseph CO2 System Replacement	Replace and upgrade the CO2 fire protection system.	\$ 10.9	\$ 10.1	\$ 9.7	04/30/21	06/30/21
Chief Joseph Intake Gantry Crane	Replace the intake gantry crane	\$ 19.2	\$ 19.2	\$ 1.1	01/31/23	01/31/23
Chief Joseph Station Service Units	Rehabilitate the Station Service units.	N/A ⁴	N/A ⁴	\$ 1.8	09/30/24	09/30/24
McNary Governor Replacement	Upgrade the 14 governors in the McNary powerhouse with digital controls.	\$ 21.2	\$ 20.8	\$ 3.2	02/22/24	09/30/25
McNary Exciters Upgrade	Replace the exciters to ensure reliability and support the other electrical powertrain upgrades.	\$ 25.6	\$ 23.2	\$ 1.1	08/24/24	09/30/25
McNary Powerhouse Controls Upgrade	Replace the generally original controls to improve reliability and performance.	\$ 17.2	\$ 14.9	\$ 4.2	05/26/24	07/30/25
McNary Turbine Design and Replacement	Replace turbine runners 1 - 14 and rewind units 5, 13 and 14.	\$ 533.1	\$ 498.5	\$ 13.8	10/07/33	06/30/31
McNary Intake Gantry Crane 5	Replace the 1953 vintage intake gantry crane. Upgrade the hoist capability to match current needs.	N/A ⁴	N/A ⁴	\$ 6.1	03/08/22	10/31/22
John Day Turbine Hub Upgrades	Rebuild and upgrade up to five turbine runner hubs. Four additional hubs may be rebuilt under a future amendment to this project.	\$ 40.9	\$ 34.2	\$ 17.8	06/30/19	07/17/22
John Day Control Room Fire Protection	Upgrade fire protection, ventilation and egress paths in the control room and powerhouse.	N/A ⁴	N/A ⁴	\$ 3.4	11/14/23	10/01/23
John Day Trashracks	Replace and refurbish the trashracks	\$ 19.5	\$ 19.5	\$ 0.8	04/15/26	04/15/26
John Day STS Crane	Replace the submerged traveling screens crane	\$ 14.4	\$ 14.4	\$ 1.0	12/02/22	12/02/22
The Dalles Transformer Replacements	Replace 7 transformer banks - TA, T1, T3, T5, T6, T7, T8	\$ 41.9	\$ 37.0	\$ 37.1	07/02/20	06/04/21
The Dalles Emergency Gantry Crane Replacement	Replace the emergency intake gantry crane.	\$ 19.4	\$ 26.1	\$ 4.6	02/01/23	09/01/23
Bonneville Powerhouse 1 Main Unit Breakers and Station Service	Replace oil-filled original equipment breakers and reconfigure and modernize the station service.	\$ 46.4	\$ 36.5	\$ 38.4	03/15/19	10/01/23
Bonneville Powerhouse 1 Trashracks	Replace and refurbish the trashracks in Powerhouse 1	N/A ⁴	N/A ⁴	\$ 0.6	09/02/25	09/02/25
Lower Granite DC System and LV Switchgear	Upgrade DC system, governor oil pump system and low voltage switchgear.	\$ 11.9	\$ 9.6	\$ 10.2	09/25/23	09/30/22

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Federal Hydro - continued						
Ice Harbor Turbine Runner Replacement	Replace poor condition turbine runners in units 1, 2 & 3 with a more fish-friendly design.	113.8	102.6	\$ 87.0	03/31/21	01/31/24
Ice Harbor Stator Winding Replacements	Replace the stator windings for units 1,2 and 3.	24.1	27.2	\$ 22.6	03/31/21	06/28/24
Detroit Transformers	Replace and relocate 6 transformers	N/A ⁴	N/A ⁴	\$ 1.1	12/02/24	12/02/24
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.	N/A ⁴	N/A ⁴	\$ 7.2	N/A	N/A
Foster Electrical Reliability Upgrades	Replace the station service distribution equipment, emergency generator and air compressors.	N/A ⁴	N/A ⁴	\$ 2.5	10/02/23	03/01/23
Foster Turbine and Generator Rehabilitation	Rehabilitate turbine and generators on two units.	N/A ⁴	N/A ⁴	\$ 2.0	09/11/24	09/11/24
John Day HVAC Upgrades	Upgrade the HVAC system and fire protection systems in the powerhouse	N/A ⁴	N/A ⁴	\$ 1.2	04/04/25	04/04/25
McNary Headgate System Rehabilitation	Rehabilitate the Headgate System and purchase bulkheads	N/A ⁴	N/A ⁴	\$ 2.2	05/30/31	05/31/31
McNary Isophase Bus	Replace the isophase bus	N/A ⁴	N/A ⁴	\$ 1.2	12/31/29	12/31/29
McNary Station Service Turbines	Rehabilitate the two station service turbines at the dam	N/A ⁴	N/A ⁴	\$ 1.0	10/31/23	10/31/23
Hills Creek Main Unit Breakers	Replace Main Unit Breakers at Hills Creek	N/A ⁴	N/A ⁴	\$ 3.3	11/01/23	11/01/23
Lower Monumental DC System and LV Switchgear Replacement	Replace the DC System and the LV Switchgear at Lower Monumenta	N/A ⁴	N/A ⁴	\$ 0.9	09/16/24	09/16/24
Grand Coulee K22 Transformer Replacement	Replace the bank of transformers associated with unit G22	N/A ⁴	N/A ⁴	\$ 0.9	04/30/25	04/30/25
Chief Joseph Units 1-16 Generator Rewinds	Rewind units 1-16	N/A ⁴	N/A ⁴	\$ 0.9	09/30/30	09/30/30
Chief Joseph 480V Station Power - SU1-4 MCC Boards	Upgrade 380V Station Power SU1-4 MCC Boards	N/A ⁴	N/A ⁴	\$ 0.4	09/09/23	09/09/23
Fish & Wildlife						
Steigerwald Floodplain Reconnection	Reconnect 900 acres of the Steigerwald Wildlife Refuge with the Columbia River.	22.7	22.7	\$ 8.6	11/30/22	03/31/22
Facilities						
Technical Services Building	Construct a new building to replace the North and South Ampere facilities	N/A ⁴	N/A ⁴	\$ 3.6	9/30/23	08/01/23

Summary		
Transmission	\$ 677.7	\$ 665.3
Federal Hydro	1,136.9	1,094.7
Fish & Wildlife	22.7	22.7
Facilities	-	-
Total	\$ 1,837.3	\$ 1,782.7

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