

# Major Capital Projects<sup>1</sup> - End-of-Project Target Performance

Q2 2023

Project	Description	Direct Capital (\$M) <sup>2</sup>			In-Service Date	
		Authorized	Forecast	Actual <sup>3</sup>	Authorized	Forecast
<b>Transmission</b>						
Ross - Schultz Fiber Replacement	Replace the obsolete and limited 36 strand fiber with standard 72 strand fiber.	\$ 34.0	\$ 44.3	\$ 35.1	09/15/18	11/29/24
MREDI VHF System Replacement	Replace and upgrade the existing VHF radio system.	\$ 96.2	\$ 102.4	\$ 69.3	09/01/26	02/27/26
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.	\$ 21.4	\$ 23.1	\$ 23.2	04/01/19	06/30/23
Quenett Creek Substation L0380	Construct new substation and associated line work to serve additional N. Wasco PUD load.	\$ 44.9	\$ 58.5	\$ 46.3	06/24/22	03/14/25
Fairview Reactor and Transformer	Install a reactor to address high voltages on the Fairview 230 kV bus and replace an aging transformer.	\$ 14.3	\$ 16.3	\$ 16.3	12/31/22	12/31/22
Mission Critical IT Infrastructure	Completely replace the Dittmer Data Center IT infrastructure.	\$ 22.5	\$ 22.3	\$ 20.7	06/30/23	07/31/23
Badger Canyon II	Interconnection for Badger Canyon II wind project.	\$ 24.5	\$ 20.2	\$ 3.0	03/11/22	12/30/24
Schultz-Wautoma 500kV Series Caps	Install series capacitors	\$ 52.9	\$ 49.4	\$ 12.4	03/15/24	03/15/24
Midway-Ashe 230kV Double Circuit	230kV double circuit transmission line from Midway to Ashe Tap	\$ 31.2	\$ 37.9	\$ 4.7	09/30/23	12/01/25
Richland-Stevens Drive 115kV Line	Rebuild existing 115kV transmission line, add additional line, rebuild substations	\$ 12.4	\$ 11.3	\$ 2.5	12/18/24	12/18/25
G0367 Avangrid Bakeoven 1 Wind Project	Interconnection for Avangrid wind project.	\$ 14.6	\$ 16.9	\$ 16.8	09/01/22	06/02/23
Conkelley Substation Retirement	Retire the Conkelley substation	\$ 29.6	\$ 29.6	\$ 3.4	09/30/25	09/30/25
Columbia Basin Hydroelectric Generating Facility	To interconnect 500 MW to BPA's transmission system at the Grand Coulee 500 kV switchyard.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	07/30/26	07/30/26
Ross Station Service	Replacement of the Ross Substation Service	\$ 13.2	\$ 11.4	\$ 2.0	06/30/24	06/30/24
Carlton Sub PCB Bus Tie Addition	Add PCB and bus ties to the Carlton Substation	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.9	06/30/23	08/30/24
South Tri-Cities Reinforcement	Execute the South Tri-Cities Reinforcement (including building of new Webber Canyon substation)	\$ 112.0	\$ 87.3	\$ 2.2	03/30/25	09/28/25
Big Eddy Station Service	Replacement of the Big Eddy substation station service	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.5	03/01/25	03/14/25
Longview Transformer Bank Addition	To install a new 230/115 kV Longview Transformer, bus breaker, and upgrade disconnects.	\$ 12.2	\$ 11.1	\$ 10.3	12/23/22	10/27/23
Longhorn Substation	Build new Longhorn Substation	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 4.9	12/31/24	06/17/25
Schultz Raver Series Capacitors	Install new capacitors at the Schultz Substation	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	12/31/25	12/31/25
G0585 G0645 Crider Valley Wind and Solar	Build the Crider Valley Substation to interconnect 513MW of renewable energy (wind	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	12/31/25	01/00/00
Jones Canyon 230kV Shunt Reactor Replacement	Replace Jones Canyon 230kV shunt capacitor group 1	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 5.7	05/26/23	05/31/23
Grand Coulee 230 kV Current Limiting Reactor	To install a current limiting reactor at the GC 230 kV switchyard.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	11/30/25	11/30/25
McNary 230 kV Section Bay Addition L0481	To add a new 230 kV section bay at the McNary dam.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.5	01/30/24	12/27/24
McNary Paterson Tap 115kV Line L0405	To install a new 115kV bay at position 11 at McNary substation and installation of	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 3.7	09/30/24	09/30/24
Bridge Substation	To provide and install a new 230 kV line	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.1	08/30/24	08/30/24
Columbia Falls Kalispel-Kerr and Kalispel - Hot Springs	Install fiber optic cable between the Kalispell and Kerr substations, and 22 miles of	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	09/30/24	09/30/24
Steel Lines Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 46.8	\$ 32.5	\$ 22.1	09/30/23	09/30/23
Wood Pole Lines Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 64.4	\$ 53.7	\$ 32.8	09/30/23	09/30/23
Access Roads Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 28.3	\$ 43.8	\$ 20.7	09/30/23	09/30/23
Real Property Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 5.4	\$ 10.5	\$ 2.3	09/30/23	09/30/23
Subs AC Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 84.7	\$ 181.2	\$ 116.1	09/30/23	09/30/23
Line Ratings Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 4.0	\$ 6.1	\$ 3.5	09/30/23	09/30/23
DC Substations Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 4.0	\$ 12.1	\$ 4.5	09/30/23	09/30/23
System Telecommunications Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 44.5	\$ 33.1	\$ 16.9	09/30/23	09/30/23
Power Systems control (PSC) Sustain Program FY22-	Two-year asset replacement plan based on asset strategy analysis.	\$ 49.3	\$ 74.3	\$ 36.3	09/30/23	09/30/23
System Protection and Control (SPC) Sustain Program	Two-year asset replacement plan based on asset strategy analysis.	\$ 41.0	\$ 54.8	\$ 24.8	09/30/23	09/30/23
Control Center Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 10.8	\$ 24.4	\$ 12.1	09/30/23	09/30/23
TEAP Tools Sustain Program FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 2.0	\$ 3.4	\$ 1.7	09/30/23	09/30/23

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Aircraft Replacement Sustain FY22-23	Two-year asset replacement plan based on asset strategy analysis.	\$ 7.0	\$ 14.2	\$ 0.9	09/30/23	09/30/23

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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	\$ 15.8	08/01/23	08/01/23
Libby Intake Gantry Crane	Replace Intake Gantry Crane	\$ 12.8	\$ 17.8	\$ 2.4	11/30/22	12/29/23
Grand Coulee Transformer Replacements G11-G18	Replace 24 single-phase transformers in the Right Powerhouse.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.9	03/20/19	01/31/26
Grand Coulee - Keys Pump Generating Station - Reliability	Replacements and upgrades to maintain current station capability.	\$ 66.3	\$ 72.1	\$ 37.3	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	\$ 11.4	05/14/18	12/31/22
Grand Coulee Left and Right Powerhouse Bridge	Replace the four bridge cranes in the left and right powerhouses.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.9	07/03/20	05/31/24
Chief Joseph Intake Gantry Crane	Replace the intake gantry crane	\$ 19.2	\$ 19.2	\$ 3.9	01/31/23	08/30/24
Chief Joseph Station Service Units	Rehabilitate the Station Service units.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 3.3	09/30/24	03/31/26
Chief Joseph Powerbus Units 1-16	Refurbish and replace portions of the power bus	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.9	12/01/25	12/01/25
McNary Governor Replacement	Upgrade the 14 governors in the McNary powerhouse with digital controls.	\$ 21.2	\$ 20.8	\$ 6.0	02/22/24	12/31/26
McNary Exciters Upgrade	Replace the exciters to ensure reliability and support the other electrical powertrain upgrades.	\$ 25.6	\$ 23.6	\$ 8.2	08/24/24	12/31/26
McNary Powerhouse Controls Upgrade	Replace the generally original controls to improve reliability and performance.	\$ 17.2	\$ 15.3	\$ 9.3	05/26/24	12/31/26
McNary Turbine Design and Replacement	Replace turbine runners 1 - 14 and rewind units 5, 13 and 14.	\$ 533.1	\$ 500.2	\$ 19.9	10/07/33	12/07/32
McNary Intake Gantry Crane 5	Replace the 1953 vintage intake gantry crane. Upgrade the hoist capability to match current needs.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 14.0	04/23/24	09/29/23
McNary Governor Mechanical System Rehab	Upgrade the governor mechanical system	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 3.3	10/31/25	10/31/25
McNary Levee Pumping Station Upgrades	Replace the existing pumps and electrical with new equipment at some or all 11 pumping plants.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	07/30/27	07/30/27
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	\$ 22.7	06/30/19	10/31/28
John Day Control Room Fire Protection	Upgrade fire protection, ventilation and egress paths in the control room and powerhouse.	\$ 13.3	\$ 12.6	\$ 7.6	11/14/23	10/01/23
John Day Trashracks	Replace and refurbish the trashracks	\$ 19.5	\$ 17.4	\$ 2.8	04/15/26	04/15/26
John Day STS Crane	Replace the submerged traveling screens crane	\$ 14.4	\$ 14.4	\$ 3.8	12/02/22	07/01/24
The Dalles Emergency Gantry Crane Replacement	Replace the emergency intake gantry crane.	\$ 19.4	\$ 26.1	\$ 16.2	02/01/23	12/20/23
Bonneville Powerhouse 1 Station Service (formerly also included main unit breakers)	Replace oil-filled original equipment breakers and reconfigure and modernize the station service.	\$ 46.4	\$ 36.5	\$ 43.1	03/15/19	07/12/22
Bonneville Powerhouse 1 Trashracks	Replace and refurbish the trashracks in Powerhouse 1	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 2.7	09/02/25	04/01/27
Bonneville Powerhouse 1 Main Unit Breaker	Replace the main unit breakers, as per the scope of the previous MUB and Station Service project.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.6	12/30/27	12/30/27
Lower Granite MU2 Blade Sleeve Upgrade	Upgrade each of the six blade packing sleeves on Main Unit 2.	\$ 11.6	\$ 9.1	\$ 0.5	09/30/25	12/31/26
Ice Harbor Turbine Runner Replacement	Replace poor condition turbine runners in units 1, 2 & 3 with a more fish-friendly design.	\$ 113.8	\$ 115.7	\$ 92.9	03/31/21	06/30/25
Ice Harbor Stator Winding Replacements	Replace the stator windings for units 1,2 and 3.	\$ 24.1	\$ 33.9	\$ 24.3	03/31/21	06/30/25
Detroit Transformers	Replace and relocate 6 transformers	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.6	12/02/24	09/01/26
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 <sup>4</sup>	N/A <sup>4</sup>	\$ 7.2	N/A	N/A
Foster Electrical Reliability Upgrades	Replace the station service distribution equipment, emergency generator and air compressors.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 3.5	10/02/23	04/05/24

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Foster Turbine and Generator Rehabilitation	Rehabilitate turbine and generators on two units.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 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 <sup>4</sup>	N/A <sup>4</sup>	\$ 1.8	04/04/25	04/04/25

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Federal Hydro - continued						
McNary Headgate System Rehabilitation	Rehabilitate the Headgate System and purchase bulkheads	\$ 74.7	\$ 101.0	\$ 7.0	05/30/31	05/30/31
McNary Isophase Bus	Replace the isophase bus	\$ 46.1	\$ 69.5	\$ 1.7	12/31/29	12/31/29
McNary Station Service Turbines	Rehabilitate the two station service turbines at the dam	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 8.0	10/31/23	05/01/24
Hills Creek Main Unit Breakers	Replace Main Unit Breakers at Hills Creek	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 3.5	11/01/23	05/01/25
Lower Monumental DC System and LV Switchgear Replacement	Replace the DC System and the LV Switchgear at Lower Monumental	\$ 17.5	\$ 18.5	\$ 2.7	09/16/24	04/30/25
Grand Coulee K22 Transformer Replacement	Replace the bank of transformers associated with unit G22	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.9	04/30/25	04/30/25
Chief Joseph Units 1-16 Generator Rewinds	Rewind units 1-16	200.8	200.8	\$ 1.5	09/30/30	09/30/30
Chief Joseph 480V Station Power - SU1-4 MCC Boards	Upgrade 480V Station Power SU1-4 MCC Boards	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.1	09/29/23	12/31/24
John Day Turbine Runners and Generator Rewinds DESIGN	Replace turbines and rewind generators on a TBD number of units at John Day (design work only)	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 14.4	09/30/23	09/30/23
Little Goose System and LV Switchgear Replacement	Replace the DC System and the LV Switchgear at Little Goose	\$ 24.9	\$ 24.9	\$ 2.0	03/30/25	04/15/26
Chief Joseph Exciter Units 1-16	Replace exciters on units 1-16	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.6	09/30/25	09/30/26
McNary Drainage, Unwatering, and Equalization System Rehab	Rehab the DUE system at McNary	\$ 14.6	\$ 14.3	\$ 1.2	06/28/24	06/28/24
Anderson Turbine Runner Replacement	Replace the two turbine runners at Anderson Ranch.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 1.0	05/01/27	05/01/27
Ice Harbor Intake Gate Hydraulic System Upgrade	Upgrade the hydraulic system at Ice Harbor	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 0.7	06/30/25	06/30/25

Security						
Sno-King Sub Security Upgrades	To upgrade and enhance the security infrastructure at the Sno-King substation	\$ 5.8	\$ 4.7	\$ 1.6	9/30/23	9/29/23
Tacoma Sub Security Upgrades	To upgrade and enhance the security infrastructure at the Tacoma substation	\$ 11.0	\$ 9.4	\$ 0.6	9/30/23	9/29/23

Facilities						
Technical Services Building	Construct a new building to replace the North and South Ampere facilities	\$ 62.5	\$ 63.8	\$ 50.1	9/30/23	09/30/23
Vancouver Control Center	Design phase of a new building on the Ross Complex to replace Dittmer Control Center	\$ 45.0	\$ 37.2	\$ 16.4	5/11/26	09/30/26
Ross Ampere Demolition & Site Development	Demolition and removal of N/S Ampere, Untanking Tower, and decom Wash Rack facilities	\$ 27.9	\$ 25.2	\$ -	12/27/24	12/27/24
Ross HazMat Z-1255 Building Adaptive Reuse	Adaptive reuse renovations that will create workspaces necessary for full utilization of the existing facility.	\$ 9.9	\$ 9.9	\$ 2.2	9/30/23	12/29/23
Ross Chemistry and Calibration Lab	Provide a lifecycle replacement of the N and S Ampere facilities to improve workplace safety and efficiency, and reduce O&M.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ -	12/31/24	12/31/24

Fleet						
Fleet FY21-FY23	Fleet program capital asset purchases	\$ 27.3	\$ 21.5	\$ 15.0	9/30/23	09/30/23

Information Technology						
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Customer Billing Center Replacement (CBC)	The CBC is where the monthly bills for customers are handled, resulting in over \$4B annual revenue. System enhancements support production of timely and accurate bills.	N/A <sup>4</sup>	N/A <sup>4</sup>	\$ 5.5	10/31/23	11/30/24

Summary		
Transmission	\$ 928.1	\$ 1,085.9
Federal Hydro	\$ 1,409.6	\$ 1,433.7
Security	\$ 16.8	\$ 14.1
Facilities	\$ 145.3	\$ 136.1
Fleet	\$ 27.3	\$ 21.5
Information Technology	N/A <sup>4</sup>	N/A <sup>4</sup>
<b>Total</b>	<b>\$ 2,527.1</b>	<b>\$ 2,691.3</b>

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