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COMPANY NAME:

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION?  No  Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type:  RE (Electric)  RG (Gas)  RW (Water)  RT (Telecommunications)  
 RO (Other, for example, industry safety information)

Did you previously file a similar report?  No  Yes, report docket number: RE 18

Report is required by:  OAR 860-027-0015

Statute

Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other

(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case?  No  Yes, docket number:

List Key Words for this report. We use these to improve search results.

Portland General Electric 2024 New Construction Budget RE 18

Send the completed Cover Sheet and the Report in an email addressed to [PUC.FilingCenter@puc.oregon.gov](mailto:PUC.FilingCenter@puc.oregon.gov)

Send confidential information, voluminous reports, or energy utility Results of Operations Reports to PUC Filing Center, PO Box 1088, Salem, OR 97308-1088 or by delivery service to 201 High Street SE Suite 100, Salem, OR 97301.



**Portland General Electric Company**  
121 SW Salmon Street • 1WTC0306 • Portland, OR 97204  
portlandgeneral.com

March 29, 2024

***Via Electronic Filing***

Public Utility Commission of Oregon  
PO Box 1088  
Salem, OR 97308-1088

**RE: RE 18 Portland General Electric Company 2024 New Construction Budget Report**

Filing Center:

Enclosed is Portland General Electric Company's filing for the New Construction Budget Report for the 2024 calendar year. This report is being provided per OAR 860-027-0015 and the PUC Report Filing requirements. No hardcopy will be submitted.

Should you have any questions, please call Jaki Ferchland, Senior Manager, Revenue Requirement, at (503) 464 - 7488.

Sincerely,

*/s/ Jaki Ferchland*

Jaki Ferchland  
Senior Manager, Revenue  
Requirement

JF/np  
Enclosure



**ELECTRIC COMPANY NEW CONSTRUCTION BUDGET FOR 2024**

**GENERAL INSTRUCTIONS**

1. Each energy utility operating within the State of Oregon and having gross operating revenues of \$50,000 or more per year is required to file a New Construction Budget annually on or before March 31<sup>st</sup> and report information on new construction, extensions, and new additions to property of the utility in accordance with Oregon Administrative Rule 860-027-0015.
2. The New Construction Budget Report should be completed and filed with the Public Utility Commission of Oregon Filing Center. Complete the e-Filing Report Cover Sheet found at <https://www.oregon.gov/puc/forms/Pages/default.aspx?wp6900=se:%22Report+Cover+Sheet%22>. Email both the report and the cover sheet to [PUC.FilingCenter@puc.oregon.gov](mailto:PUC.FilingCenter@puc.oregon.gov), no later than March 31<sup>st</sup>.


**PROJECT NARRATIVE**

For major projects (the three largest projects in terms of cost and all projects greater than \$10 million) a narrative supplying the following information is required:

1. Project Description: Include a brief technical specification of the project, ownership, if jointly owned, operating date, stage of construction, and other relevant information.
2. Need for the Project: Attach all prepared information documenting the need for the project, including the specific need the project is intended to fill. Economic comparisons with alternatives are to be attached. All the underlying assumptions of the economic analyses are to be specified.
3. Contingencies: Attach a listing of existing or potential future problems which might impact the final cost or successful completion and operation of the project, such as licensing problems, labor difficulties, litigation, etc.
4. Reconciliation with Prior Budget: Each successive year's budget can be expected to reflect differing estimates of project costs as the project progresses. For each major project, prepare a reconciliation with the prior budget's estimates and provide specific reasons for the changes.

In addition, please attach copies of prepared documentation or plans describing generation transmission, and general plant projects exceeding \$1,000,000 in total cost and for which construction will commence in the budget year. Information submitted should contain:

1. A Brief Project Description: Include the project function (e.g., production, transmission, distribution, general plant, thermal, hydro, or other), project identification.
2. Location: Include a starting and ending date.
3. Total budgeted cost.

<b>FULL NAME OF ELECTRIC COMPANY</b> Portland General Electric Company			
<b>ADDRESS: PO BOX OR STREET NUMBER</b> 121 SW Salmon Street	<b>CITY</b> Portland	<b>STATE</b> OR	<b>ZIP CODE</b> 97204
<b>CERTIFICATION: I CERTIFY THAT THE INFORMATION REPORTED IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.</b>			
<b>SIGNATURE</b>  <small>Joseph Trjick (Mar 29, 2024 13:41 PDT)</small>	<b>TITLE</b> SVP and CFO	<b>DATE</b> Mar 29, 2024	

**PROJECT NARRATIVE - Major Projects**

For major projects (the three largest projects in terms of cost and all projects greater than \$10 million) a narrative supplying the following information is required:

- 1 Project Description: Include a brief technical specification of the project, ownership, if jointly owned, operating date, stage of construction, and other relevant information.
- 2 Need for the Project: Attach all prepared information documenting the need for the project, including the specific need the project is intended to fill. Economic comparisons with alternatives are to be attached. All the underlying assumptions of the economic analyses are to be specified.
- 3 Contingencies: Attach a listing of existing or potential future problems which might impact the final cost or successful completion and operation of the project, such as licensing problems, labor difficulties, litigation, etc.
- 4 Reconciliation with Prior Budget: Each successive year's budget can be expected to reflect differing estimates of project costs as the project progresses. For each major project, prepare a reconciliation with the prior budget's estimates and provide specific reasons for the changes.

MAJOR PRODUCTION PROJECTS								
PROJ. NO.	PROJ. TITLE	START DATE	EST. IN SERVICE DATE	PROJECT DESCRIPTION	NEED FOR PROJECT	CONTINGENCIES	RECONCILIATION W/ PRIOR BUDGET	PROJECT TOTAL <sup>(1)</sup>
P22449	Colstrip Capital Proj PPL	3/1/2004	12/31/2026	This project is for work related to the Colstrip power plant and based on the five year business plan agreed to by Colstrip's owners of which PGE has 20% ownership.	Maintain plant and meet obligations in five year business plan agreed to with Colstrip's other owners.	No risks above and beyond the standard risks of all construction projects were identified	\$38.2M decrease to 2024 budget amounts	\$ 84,339,136
P35172	PSES - Generation Fitness Fund	1/1/2012	12/31/2025	This project is to fund and approve known and emerging routine capital projects that are essential for maintaining fitness of PGE Generation plants.	Funds known and emerging routine capital projects that are small in nature but essential for maintaining PGE Generation Plants.	No risks above and beyond the standard risks of all construction projects were identified	\$16.0M decrease to 2024 budget amounts	\$ 28,873,390
P35959	WSH Structural/Reliability Upgrades	1/1/2015	12/31/2025	This five year program (2015-2020) program provides funding to enhance the capability of four West Side Hydro Powerhouses and other structures to withstand seismic hazards, improve plant reliability over the duration of the new FERC operating license, and address personnel safety issues during routine and extreme events.	While the powerhouses have been maintained and are structurally sound, none of them were built with seismic reinforcements introducing an undesirable level of risk of catastrophic failure in the event of a major Cascadia subduction seismic episode, or a nearby crustal earthquake. Due to the age and original design of the West Side Hydro facilities, there are numerous routine tasks that include an undesirable safety risk to plant personnel, such as removing debris from the trash racks and placing flashboards. Additionally, some components have far exceeded their original design/functional life and are in need of replacement.	No risks above and beyond the standard risks of all construction projects were identified.	\$2.3M decrease to 2024 budget amounts	\$ 47,100,766
P36116	Wind Generation Fitness Program	2/1/2016	12/31/2025	Scope of work will be developed as individual components fail and require replacement.	PGE has determined that renewal of the existing Service and Maintenance Agreement and Guaranteed Availability and Warranty Extension is no longer the most effective method for operating and maintaining the Biglow Canyon Wind Farm.	Biglow Canyon II & III consists of 141 turbines, establishing the Wind Generation Fitness Fund at \$4 million is based upon expected annual failure rates of the major components.	\$12.8M decrease to 2024 budget amounts	\$ 34,025,121
P36134	Hydro Control System Upgrade	8/1/2015	12/31/2025	The project replaces the control system at 8 power plants and related PLC's. The project also replaces key instrumentation and upgrades the HIM to meet EEMUA 201 Standard.	Existing hydro control systems were installed in the 1990s and have exceeded their end of life. Typical control system hardware starts to fail at ten years. The current setup also uses a dial up modem network which limits plant operations visibility and operations responses.	No risks above and beyond the standard risks of working within outage windows to manage impacts to plant operations.	\$13.5M decrease to 2024 budget amounts	\$ 22,724,846
P23528	Clackamas PME - Recreation, Aesthet	8/1/2005	12/31/2030	Rev 319 - Capital Call - May 2023  2023 Capital: \$1.2MM (no change) 2024 Capital: \$500k (\$450k increase) 2025 Capital: \$0 (\$75k decrease) Future Years: \$1MM (\$575k increase) Total Capital: \$11.33MM (\$945k increase)  The revision sees an increase in funds in 2024 (\$450k), decrease in funds in 2025 (\$75k), and increase in funds in future years (\$575k).  The increase in funds in both 2024 and future years is due to the escalating cost of construction of campgrounds and group camps. The quote for work being completed in in 2023/2024 came in significantly over anticipated (based on previous quotes) due to the supply chain shortages and increases in construction costs across the board over the past 2 years. The PM worked with the contractor to split the work in a place that made sense to keep the 2023 costs flat and push a significant amount of work (\$450k) to 2024. This decision was made to help Portfolio balance in both years. Future year cost increases have the same explanation, PGE is required to add another campground in the future, anticipated for 2040. That funding amount has been increased to \$1MM to better align it with the likely cost during that timeframe. This number will likely need to be right-sized again as we get closer to construction.  According to the PM the 2040 campground is the last remaining project in this Funding Project.	This project is a result of the RRMP as created by the Recreation and Aesthetics Working Group. The RRMP was created as a component of the Settlement Agreement Concerning the Relicensing of the Clackamas River Hydroelectric Project. It was incorporated into the new FERC License for the Clackamas River Hydroelectric Project as a license article.	No risks above and beyond the standard risks of working within outage windows to manage impacts to plant operations.	Not applicable. Project was not included in previous BOE	\$ 10,872,615
P36654	Generation Portfolio Blanket	1/1/2019	12/31/2028	Funding will be allocated from this Project to cover scope developed by projects progressing through the Planning and Execution gates.	Budget only Generation portfolio blanket used to fund separate projects	Risks are in the specific projects funding is allocated to.	\$5.2M decrease to 2024 budget amounts	\$ 20,448,003

P36836	BR - Beaver Modernization	4/1/2019	12/31/2026	The Beaver Modernization Project will upgrade the existing Beaver gas turbine combustion systems from a dual fuel system to a single fuel dry low NOx system to reduce the overall emissions for the plant as turbines are upgraded. The single fuel will be natural gas and the upgraded units will be prevented from operating on fuel oil as an alternative. The combustion upgrade will allow for greater operational flexibility while meeting PGE's commitment to reduced greenhouse gas emissions at the site.	<p>July 2023 BSG</p> <p>2023 Capital: \$27.3M (Increase of \$600K)  2024 Capital: \$29.6M (Decrease of \$1.2M)  2025-2027 Capital: \$66.0M (Decrease of \$7.3M)  Total Project Budget: \$145.9M (Decrease of \$7.9M)</p> <p>This revision is for an overall cost decrease of \$7.9M.</p> <p>The 2023 increase of \$500k addresses replacement of the Unit 2 second stage buckets following disassembly and inspection of the turbine section of that unit. The Unit 2 Parts Replacement project has been decreased in 2025 to reflect the replacement of these parts earlier than previously planned.</p> <p>The overall decrease is to address the removal of the generator stator rewinds that were previously included in the project, rotor rewinds remain in scope for units 1&amp;2, Asset Management performed a risk assessment and do not recommend stator rewinds as part of this project. This overall decrease is partially offset with an increase due to Unit 6 warranty work, additional information is provided below.</p> <p>Details by AWO:</p> <p>AWO 1x13036: BR: Unit 2 - Parts Replacement (No Change) - \$500K shift from 2025 to 2023 for replacement of Unit 2 second stage buckets. A new AWO is being created for this scope and will be placed in service this year.</p> <p>AWO xx11262: BR: DLN Upgrade Unit 6 (Increase of \$460K) - Increase associated with Unit 6 warranty work for labor, materials and contractor costs to return unit to service. After</p>	Yes	\$23.8M decrease to 2024 budget amounts	\$	33,574,400
P37509	Biglow I Wind Enhancement Program	12/15/2022	12/30/2028	Replace pad mount transformers, pitch and yaw systems, blade and main bearings, gearboxes, and generators on 13 turbines per year. Program will run from 2023-2028 (6 years).	<p>This revision request is for \$23.34M for 2024 Authorization to Spend, an increase of \$8M from current approved budget based on 2024 scope and targets finalization.</p> <p>This increase is mainly due to:</p> <p>Increase of 2024 construction costs for 13 turbines (\$5.1M). Construction contract has been finalized and purchase order is approved. Original estimate for the project was \$9M, but the actual costs from our best vendor proposal was \$14.1M. The original estimate was low compared to the cost to perform the scope.</p> <p>One XFMR delivery and installation deferred from 2023 to 2024 (\$0.3M)</p> <p>XFMR containment, disposal and crane handling costs (\$0.25M). This is a new item not included in the original budget. Containment is required due to the amount of transformers being replaced.</p> <p>An increase for the procurement of shrink discs when they became unusable after disassembly. (\$0.1M)</p> <p>Third party construction manager services (0.3M). This is a new item not included in the original budget. This is for daily onsite construction support as internal resources cannot be on site every day.</p>	No risks above and beyond the standard risks of all construction projects were identified	Not applicable, Project was not included in previous BOE	\$	14,805,287
P37511	Construct Clearwater Wind Farm	11/1/2022	1/4/2024	Clearwater Wind is a 775 MW Facility located in eastern Montana approximately 65 miles northeast of Colstrip, Montana. The project consists of 3 phases of which the second phase will be partially owned by PGE. The PGE owned portion will be a 208 MW wind farm consisting of (64) 2.8-127 MW turbines and (11) 2.5-116 MW turbines. PGE will also own the substation and O&M building for this phase of work. This project will be built by NextEra and then transferred to PGE under a Build Transfer Agreement (BTA). The project will start construction in May 2023 and achieve Substantial Completion in December 2023. NextEra will then manage the operation and maintenance of the wind farm for a period of 20 years under and O&M Agreement. The O&M Agreement will be a 20 year term with options for extensions and it will be on a Time and Material basis.	<p>PGE issued a 2021 All-Source RFP to make an important step in decarbonizing Oregon's grid. In accordance with the 2019 IRP Action plan and updated according to the Oregon Public Utility Commission's (OPUC) Order 21-320, this RFP will procure renewable energy and non-emitting dispatchable resources to meet identified 2025 capacity needs. The recent passage of HB 2021 by the Oregon State Legislature mandates and reinforces PGE's commitment to further decarbonize PGE's portfolio. PGE is committed to reduce our emissions by 80% by 2030 and procurements resulting from this 2021 All-Source RFP will provide necessary progress to meet this imperative.</p>	The bid from NextEra was to build this project using the same PGE Specs as were used for Wheatridge. As a result, any changes to the PGE specs since Wheatridge was built will be extra cost so a contingency was calculated for this by the RFP Team. In addition, the project is on a very tight schedule with limited float so any delays to PGE's obligation to Energize the project could delay the project into the winter months where limited work can be completed and delays will be incurred. Lastly, establishing a transmission psauto-4e in accordance with the transmission service agreements has not been completed yet and is dependent on both agreement from BPA and NWMT. Both of these issues could delay substation backfeed and turbine commissioning so contingency has also been added for these potential delays.	\$2.2M decrease to 2024 budget amounts	\$	420,085,767

P37600	Install Diesel Particulate Filters	3/27/2023	9/30/2024	This project will install Diesel Particulate Filters on generators that have general air permits. This general permit applies to 59 generators at 41 sites making up 79,53MW's. The work will be performed by Pacific Power Group with major equipment supplied by Rypos and DCL America Inc.	The Oregon DEQ has revised the requirements for their General ACDP Type 18 (Electric Power Generators) permit which now requires the Installation of Diesel Particulate Filters (DPF). 59 generators do not have this equipment which amounts to 79,53 MW of Dispatchable Standby Generation (DSG). Generators with a general permit that do not have DPF's will not be allowed to be used for non-emergency use such as PGE's Dispatchable Standby Generation program. If nothing is done PGE will lose 79.53 MW of CRO and 19.22 MW of FFR which will need to be replaced.	No risks above and beyond the standard risks of all construction projects were identified	Not applicable, Project was not included in previous BOE	\$	22,610,000
P37670	Biglow I/III wind enhancement Prog	6/15/2023	12/31/2034	Replace pad mount transformers and vaults, inverters, capacitors, gearboxes, and generators on 13 turbines per year. Program will run from 2024-2034 (11 years), 2024 will also include replacing blade and main bearings on 13 turbines. It will then be determined after analyzing these assets if they need to be included in the years going forward.	Biglow Phase II & III were constructed with Siemens 2.3MW turbines and have specific asset health issues associated with asset age, which is unique to this turbine platform. Equipment requiring replacement include pad mount transformers and vaults, inverters, capacitors, generators, and gearboxes, 2024 also includes replacing the main and blade bearings 13 turbines. These assets will then be analyzed to determine if they need to be replaced every year going forward.	No risks above and beyond the standard risks of all construction projects were identified	Not applicable, Project was not included in previous BOE	\$	23,640,035

**MAJOR TRANSMISSION PROJECTS**

PROJ. NO.	PROJ. TITLE	START DATE	EST. IN SERVICE DATE	PROJECT DESCRIPTION	NEED FOR PROJECT	CONTINGENCIES	RECONCILIATION W/ PRIOR BUDGET		
P36039	Harborton Reliability Project PH1	7/1/2015	8/31/2024	This project will consolidate Harborton Substation equipment into one physical security perimeter, install a second distribution power transformer, rebuild the 115kV yard to a breaker and one half configuration and install a new breaker and one half 230kV yard with a bulk power transformer. This project will also reroute five 230kV lines into Harborton substation, reconfigure and reconductor 115kV circuits at Rivergate, St Helens and Trojan	Harborton Substation is a distribution service island, with no feeder redundancy to other substations; the loss of a transformer requires PGE to roll a mobile substation, resulting in lengthy outages for customers. The loss of the Rivergate WVR1 bulk power transformer, 230kV bus or 115kV bus can cause low voltage and loading concerns on PGE's and PACW's North Portland systems.	Project requires acquisition of right of ways for routing 230kV lines into Harborton, which will require cutting trees in Forest Park. Finding an acceptable solution may require funding to meeting stakeholder requirements to mitigate impacts.	Not applicable, Project was not included in previous BOE	\$	50,955,053
P36666	Build Evergreen Substation	10/1/2018	12/31/2025	This revision requests initial planning funds for Evergreen-Shute Lines 1&2 and requests initial planning funds and long lead materials for new distribution scope within the Evergreen Substation.  Construct the new Evergreen substation for additional transmission capacity. The new substation will have both 230kV and 115kV yards. The Harborton-Horizon 230kV line (currently under construction) will loop into the new substation, creating a Evergreen-Harborton 230kV line and a Evergreen-Horizon 230kV line. The Shute-West Union 115kV line (currently under construction) will loop into the new substation, creating a Evergreen-Shute 115kV line and a Evergreen-West Union 115kV line. The existing Shute-Sunset #2 115kV line will be disconnected from Shute and extended to Evergreen, creating a Evergreen-Sunset 115kV line. Two new bulk power transformers (230/115kV) will be installed to provide bulk power system capacity for load growth in the Hillsboro area. Two 115kV capacitor banks will also be installed for voltage support.	This is part of the larger Hillsboro Reliability Project, which is a strategic project incorporating work among four different Funding Projects.  The need for additional distribution capacity at Evergreen is driven by projected load growth in the area, including several new large data centers planned in the area. Current projections indicate that the distribution capacity at Shute substation may be depleted by 2025. The Evergreen substation project can provide the underserved load requirements through the addition of this scope.	This revision includes \$1.5M in contingency, which is a reduction of \$1.5M from the previous budget. This reflects the use of contingency to support: * \$220K for the purchase of a battery enclosure that was not included in the estimate, this is required to address a drop in voltage as a result of the yard size with the added distribution yard scope. * \$97K used to purchase 6 additional switches to support a phased energization plan. This phasing was not included in the project estimate and is a result of scheduling needs to meet peak load demands needed in the summer of 2024. * \$675K used to purchase 5 additional 138kV circuit breakers and fund an increase in pricing from the manufacturer. * \$190K for increased quantity of VT's from the cost estimate, and price increased from the manufacturer. * \$100K for additional material needs including hiring an inspector for transformers, minor engineering change orders, and FR3 oil. * \$274K for increased quantity of circuit breakers on special order, which were not included in the estimate.	Increase of \$19,4M to 2024 budget amount.	\$	54,329,009
P36916	Harborton Reliability Ph2 - 115KV	8/19/2019	12/31/2026	The Harborton Phase 2 project will allow PGE to mitigate compliance risks. The installation of the 230kV lines and the reconfiguration and reconductor of the 115kV lines between Harborton and Canyon reduces the risk of outages on this 115kV source to our Key Customers, which is currently routed through heavily forested areas.	No change from 2022 Capital Call Submittal =====	The project maintains \$537K in contingency with \$150K in 2023 and \$387K in 2024.  The Harborton Phase 2 project will allow PGE to mitigate compliance risks. The installation of the 230kV lines and the reconfiguration and reconductor of the 115kV lines between Harborton and Canyon reduces the risk of outages on this 115kV source to our Key Customers, which is currently routed through heavily forested areas.	Not applicable, Project was not included in previous BOE	\$	12,666,871
P37046	T&D Asset Relocation	1/1/2021	12/31/2025	The project is dependent on municipal road widening projects and scope is largely unknown until those projects are submitted for design and construction.	This is an ongoing project with funding based on historical spending levels and forecasted needs.  This project will complete capital work required by distribution and transmission asset relocations. This work will address municipal requests related to road improvement and public works projects throughout PGE's service territory.	No risks above and beyond the standard risks of all construction projects were identified	Not applicable, Project was not included in previous BOE	\$	20,885,902

P37302	Horizon-Keeler BPA #2 230kV Line	12/1/2021	8/11/2024	<p>PGE's Line Design Engineering will be exploring various routing and design options for a new 230 kV line connecting PGE's Horizon Substation To BPA's Horizon Substation, The new Horizon-Keeler #2 230kV line currently has no planned route,</p> <p>With the planning funding we will be able to start the following activities:</p> <ul style="list-style-type: none"> <li>- Design Criteria: PGE's engineers will explore various structure types and framing scenarios to develop a design criteria specific to the needs of this project.</li> <li>- Routing Study: PGE will commission a routing options study to determine the viable routes and determine which route(s) are the least impactful given a wide range of criteria.</li> <li>- Environmental: Begin the desktop studies based off the routing analysis to find any environmental concerns/constraints.</li> <li>- Survey: Acquire ground and LIDAR survey at pinch points and along route(s) to determine viability of routing and the design alternative viability.</li> </ul>	<p>This project aims to construct a second Horizon-Keeler BPA #2 230 kV line using 2156 ACSS conductor. The line will terminate on a new position constructed by BPA (at PGE's cost) at BPA's Keeler substation. It also installs a new breaker at the Horizon substation for the new line.</p> <p>PGE requires this line to serve new load and maintain compliance with NERC standards.</p>	<p>This project maintains \$581K in contingency to support engineering and equipment orders.</p>	<p>Increase of \$4.6M to 2024 budget amount.</p>	\$	16,102,992
P37757	Build Evergreen Substation Phase 3	7/1/2023	12/31/2025	<p>Phase 3 of the Evergreen Substation Project completes the full distribution buildout by adding WJ4 and WJ5 to two open bays of the substation. Install (2) 115-35kV transformers, (2) 35kV switchgears, (3) 115kV circuit breakers, (4) 35.5 capacitor banks, (4) 115kV 3000A switches, and (2) transformer position racks</p>	<p>The need for additional distribution capacity at Evergreen is driven by projected load growth in the area, including several new large data centers planned in the area. Current projections indicate that the distribution capacity at Shute substation may be depleted by 2025. The Evergreen substation project can provide the underserved load requirements through the addition of this scope.</p>	<p>\$405K in 2024 contingency to cover planning gate material risks. Amount based on internal planning gate Feasibility cost estimate.</p>	<p>Not applicable, Project was not included in previous BOE</p>	\$	10,619,933
P39011	Transmission Delivery Grow - Reserv	11/10/2023	12/31/2030	<p>This budget only funding project covers the Capital funding of Inside the Target Transmission Delivery projects,</p>	<p>This project is for budget only and is for Transmission Delivery projects that PGE expects to fund. These projects will come before the Transmission and Distribution (T&amp;D) Business Sponsor Group (BSG) for authorization individually and on a rolling basis. These projects may request initial planning funds and/or execution funds. Projects will be subject to gating guidelines as specified in PGE processes, where assessments for readiness, project risks, and reasonable costs are validated. As projects come before the BSG and are authorized, this reserve funding project will be correspondingly reduced.</p>	<p>No risks above and beyond the standard risks of all construction projects were identified</p>	<p>Not applicable, Project was not included in previous BOE</p>	\$	22,951,586

MAJOR GENERAL PLANT PROJECTS							
PROJ. NO.	PROJ. TITLE	START DATE	EST. IN SERVICE DATE	PROJECT DESCRIPTION	NEED FOR PROJECT	CONTINGENCIES	RECONCILIATION W/ PRIOR BUDGET
P36101	Substation Communication Upgrade	2016-01-01	6/30/2025	This project will replace the communications all PGE substations with new equipment. This project is in response to telephone companies phasing out the equipment currently in use in 2020, putting at risk the ability to communicate with substations if the currently equipment breaks and replacement parts are no longer available.	The current state functionally is adequate, However, the telephone companies are discontinuing the types of circuits that utilities have historically used for the data and voice connections into substations. Some vendors have already stopped these services.  Communication infrastructure must be replaced before service is discontinued or contact with substations will be lost. This is a compliance, safety, and reliability issue.	Resource availability to perform the work	Increase of \$21.7M to 2024 budget amount,  \$ 76,980,253
P36394	Vintage Vehicle Replacement II	2017-05-01	12/31/2030	The budget reflects Fleet's efforts to identify and support replacing vehicles that have exceeded their life expectancy or costs of repairs is excessive.	An aging fleet (both vehicle age and miles/hours) presents potential reliability and efficiency risks. Delays in vehicle and equipment replacement could cause increased operating costs, crew downtime, and decreased confidence in vehicles and equipment.	This project is subject to manufacturer's lead-times and requires coordination with vendors and management of costs to estimated timeline. Change Management: When purchasing new vehicles and equipment with upgrades to technology currently in use, operator familiarization training will be required. Ongoing training is provided by crew foremen.	\$57.0M decrease to 2024 budget amounts  \$ 46,221,082
P36723	Field Area Network Project (FAN)	11/21/2018	1/4/2025	This project will implement the Field Area Network (FAN), wireless communication network that connects field sensors and control devices throughout the electrical distribution system to the Integrated Operations Center. The FAN is designed to efficiently connect technologies such as Distribution Automation, SCADA, Demand Response, Microgrid control integration of energy resources, transportation electrification, AMI, streetlight control and a range of other field data communication	A FAN provides the fundamental backbone to allow communication and visibility within the distribution network	Over time, additional sensor locations will be identified and added to the FAN	\$1.7M decrease to 2024 budget amounts  \$ 18,348,521
P37096	IT Software Blanket	1/1/2021	12/31/2025	This project is budget only and is for IT Software PGE expects to fund in 2020. Funding will be allocated from this blanket project to individual projects as detailed estimated are completed and work is ready to begin.	Given the difficulty in accurately estimated the cost and timing of projects before they have been fully vetted and scoped, PGE has experienced variances to both the original approved capital spend and timing of the spend.	Risks are in the specific projects funding is allocated to.	Increase of \$7.3M to 2024 budget amount,  \$ 18,309,233



P36653	Budget Only: Services BSG Reserves	1/1/2019	12/31/2029	P36653 is a budget placeholder, and not an actual project. The funds associated with P36653 have been allocated to the active project (P37201) OCLC Project.	Rev 120 May 2022 2022 Capital \$0,0M  The OCLC Project (P37201) was approved to move into planning gate and use the \$1.5M in Services BSG reserve for planning activities related to the design for the OCLC.	No risks above and beyond the standard risks of all construction projects were identified	Not applicable, Project was not included in previous BOE	\$	24,673,727
P37266	Reedville Substation Rebuild	8/1/2021	11/30/2026	The Reedville Substation Rebuild project will include the following:  Substation: - Build a new 115kV, 6-position GIS ring bus - 3 Line terminals - 3 Transformer terminals - Replace the existing three distribution transformers with new 115/13kV, 50 MVA transformers - Replace the existing open-air distribution box structure with 3000A metal-clad enclosed switchgear - Replace the existing open-air distribution capacitor banks with enclosed capacitor banks - Replace the existing control enclosure with a new control enclosure - Additional animal mitigation as required - Feeder exit getaway replacement  Transmission - Modify existing transmission drops into Reedville - New 2.25 mile transmission line along Kinnaman Rd (becomes Murrayhill-Reedville ) on existing 3 phase distribution line, Removal of 0.7 miles of existing transmission (Murrayhill-Reedville), About 18 poles to top to distribution. - New 0.13 miles transmission line along Blanton St (becomes Reedville-St Marys) on existing 3 phase distribution line  Distribution: - Replace all 5 115kV underground feeder cables and include DTS monitoring equipment and fiber installation - Replace all of the existing air-insulated pad switches with Vista switches. - Move Reedville-Augusta 13kV feeder to new Reedville	This rebuild project was prompted upon a recent animal-caused outage at WR3. The modernized equipment will increase reliability to our customers. The GIS equipment will provide optimal animal risk protection reducing the probability of an animal related outage. By adding a third transmission source the project will remove the single mode failure transmission risk.	15% contingency exists for the major equipment identified in this initial funding request. Contingency for the remaining planning gate activities will be determined.	Increase of \$3.2M to 2024 budget amount,	\$	16,381,042

**PROJECT NARRATIVE - Projects with Total Budget > \$1M**

In addition, please attach copies of prepared documentation or plans describing generation transmission, and general plant projects exceeding \$1,000,000 in total cost and for which construction will commence in the budget year. Information submitted should contain:

- 1 A Brief Project Description: Include the project function (e.g., production, transmission, distribution, general plant, thermal, hydro, or other), project identification.
- 2 Location: Include a starting and ending date.
- 3 Total budgeted cost.

PROJ. NO.	PROJ. TITLE <sup>[2]</sup>	START DATE	EST. IN SERVICE DATE	FUNCTIONAL CLASS	PROJECT DESCRIPTION	PROJECT TOTAL
P36649	Budget Only: Customer BSG Reserves	1/1/2019	12/31/2025	Intangible & General Plant	This Budget only project is for Inside the Target Customer projects that PGE expects to fund. Individual projects will be reviewed on a rolling basis.	\$ 2,620,974
P37061	OH FITNES Transmission	7/1/2020	12/31/2030	Transmission Plant	This project is to design and complete transmission pole replacements identified through the Overhead FITNES inspection program.	\$ 7,619,522
P37093	Facilities Management Fitness	11/1/2020	12/31/2030	Intangible & General Plant	The Facilities Management Fitness program is for the ongoing maintenance and preservation of PGE facility buildings and associated infrastructure. This work is vital to the upkeep of our various facilities as the buildings age and require critical work to keep our buildings safe and functional, while reducing potential O&M repair	\$ 4,134,291
P35149	Colstrip Transmission NW Energy	4/1/2012	12/31/2024	Transmission Plant	The 2024 request for PGE's responsibility of costs to the Colstrip 500kV transmission line and associated transmission facilities, based on the last known forecast from Northwestern Energy.	\$ 3,259,216
P35212	Misc. Pumps, Valves, Motors	10/1/2011	12/31/2025	Production	Miscellaneous Pumps, Valves, Motors, etc for Thermal Plants (Beaver, Coyote & Port Westward, Wind & WSH)(Formerly P23260)	\$ 1,508,399
P35217	Generation Cap Tools & Lab Equip	1/1/2012	12/31/2026	Intangible & General Plant	This is an on-going program that provides funding for instruments purchases supporting maintenance and construction activities, upgrade older equipment with modern designs, replace failed test equipment, and provide new diagnostic tools for substation or powerplant analysis and troubleshooting for PGE owned generation (excluding co-owned facilities). This project excludes IT products such as computers & monitors. Also excluded from this funding project are handheld tools, which should be charged to O&M.	\$ 5,502,513
P35484	Repl Trans Structures & Insulators	5/21/2012	12/31/2028	Transmission Plant	Replacements are identified through routine inspection conducted by a combination of PGE reliability technicians and by third party inspections. These inspections are carried out to identify potentially hazardous conditions as well as degrading components that will lead to reliability issues. All these issues are reviewed by Transmission Maintenance Engineering and then prioritized through remaining strength analysis, industry best practices, PGE standards, and regulatory requirements. While hazardous conditions require immediate intervention to mitigate safety issues, the most common of the repairs are those where degradation is present. Those items are then evaluated further with priority and location on the line to determine the optimum scope of work that can safely be completed within a line shutdown duration. This grouping maximizes the work that can be completed during one mobilization and is the most cost-effective way to mitigate issues while complying with	\$ 6,504,238
P35565	PSES - Generation Site Paving	1/1/2013	12/31/2024	Production	Planned 2024 scope of work includes additional improvements on the Pelton Ram Road, other than the intersection with Hwy 26 which has been further deferred, and paving needs at the Eastern Thermal plants.	\$ 3,981,865
P35591	As-Built Drawings - Generation	10/1/2012	12/31/2025	Production	To provide consistent and timely accounting for capitalizing contract service costs for as-built work. Where PGE	\$ 6,917,687
P36089	Transm Full Pole Inspct & Replace	1/1/2016	12/31/2025	Transmission Plant	Inspect Replace 115/230KV Failed Transmission Poles as a result of Full Pole Inspection & Correction - Boron	\$ 5,774,869
P36285	PurchaseT&D - Tools & Lab Equipment	11/1/2016	12/31/2024	Intangible & General Plant	On-going program to purchase tools, equipment and portable electrical instruments that are required to perform normal construction and/or repair work. In 2017, the existing capital tools project was split between Generation and T&D. This project represents the T&D portion of the project only.	\$ 4,373,057
P36408	Parks Fitness Fund	1/1/2018	12/31/2028	Production	There are a large number of small capital improvement jobs at our various recreation sites. If not for this specified fund it is likely that improvements at recreations facilities would likely take a lower priority and not be completed. Prior years experience without the fund proved that and the fund has been in use and useful ever since.  This revision sees no change from previously approved, but does extend the project through 2028 to accurately reflect the anticipated annual allotment of this fund through the five year planning window. This project will	\$ 1,183,345
P36412	Incremental Added Vehicles	5/1/2017	12/31/2030	Intangible & General Plant	PGE Incremental Added Vehicles. Purchase additional vehicles and equipment as needed in support of PGE's Strategic Direction.	\$ 4,300,064
P36424	FY: Upgrade Div Dam Infrastructure	1/1/2018	9/30/2025	Production	Modernization of the Div Dam infrastructure will ensure reliable operation of the Faraday powerhouse and volitional fish passage via the North Fork fish ladder.  Increased planning request driven by higher than anticipated contract engineering/design bids. Project team will work to reduce 2024 funding requirement when negotiating payment terms for long lead materials to be delivered in 2025.	\$ 2,079,750
P36449	PRB: Upgrade Governors & Exciters	2/1/2018	12/31/2024	Production	Replacing Governors and Exciters on all PRB units. The Governors and Exciters are fully depreciated. The existing Governors and Exciters are obsolete. Spare parts are no longer manufactured for the Exciter and must be custom manufactured for the Governors. This puts the plant at a higher risk of extended unit outages.	\$ 3,057,956
P36582	Substation FITNES 2019-2021	10/1/2018	9/30/2024	Distribution Plant	The program includes the replacement of circuit breakers, switches, regulators, arresters, batteries and chargers, potential devices, cap bank switches, operating technology devices and other systems. The program also maintains an adequate inventory of spare substation equipment. See the attached document for outlining the approved substation systems covered under the FITNES program.	\$ 5,723,820

P36838	RB: Replace Turbine Shutoff Valves	4/1/2019	1/15/2025	Production	Contracted services to perform the tunnel test dewater from November 2023 to January 2024 to allow for additional time to complete the spillway aerator construction. Funds added to 2024 to account for additional costs associated with a flood analysis of the Round Butte basin to determine weather-related risk exposure of the TSV project.	\$ 7,245,106
P36913	Transm Line Clearance Mitigation	10/1/2019	12/31/2027	Transmission Plant	TLCM plans to design and construct 300 transmission pole replacements that do not currently meet PGE's current clearance standards.	\$ 5,332,294
P37017	Facilities Upgrades-EV Readiness	3/1/2020	12/31/2025	Intangible & General Plant	The electrification of the Fleet is a necessary component to achieving the PGE goal of net-zero carbon	\$ 7,730,059
P37102	Customer BSG IT SW Blanket	5/1/2020	12/31/2023	Intangible & General Plant	This project is for BUDGET ONLY and is for Inside the Target digital experience software type projects that PGE expects to fund in 2020. These projects will come before the Customer Business Sponsor Group (BSG) for authorization individually and on a rolling basis after a Project Manager is assigned, estimates are near a 90% confidence level, business drivers have been revised based on updated cost assumptions, business benefits have been captured, and IT and business partners/sponsors accountable are listed. When projects come before the Customer BSG individually and are authorized, this blanket budgeting project will be correspondingly reduced. This BUDGET ONLY funding project will be managed and maintained by the IT	\$ 1,934,744
P37131	CTO Desktop Fitness	1/1/2021	12/31/2024	Intangible & General Plant	Scope of project includes end-of-life user devices and peripheral equipment; new devices may not necessarily be like for like but will have the same if not improved functionality. This blanket will also fund the hardware and labor for the expansion of our Microsoft Teams conference rooms. Scope decreasing with budget reduction April 2023, field laptops and conference room equipment budgets impacted specifically.	\$ 5,395,200
P37133	CTO Network Fitness	1/1/2021	12/31/2024	Intangible & General Plant	Project scope includes hardware and software required to run, grow, support, improve, and maintain the PGE corporate and energy networks that span all of PGE locations and support communication both internal and	\$ 5,499,572
P37135	Server Storage Fitness	1/1/2021	12/31/2024	Intangible & General Plant	Project scope includes all hardware, software and labor required to replace and/or update end of life systems within the corporate infrastructure as well as to accommodate for standard system growth. Budget does not include funding for infrastructure resources required for new applications/systems.  April 2023 reducing vintage hardware replacement scope, support for some portions of existing hardware can be more cost effectively extended, and two large projects are scheduled to release hardware upon completion of cloud migrations in Q3 and Q4. Risk does increase with this decision that larger capital purchase will be needed next year to replace bigger than anticipated end of life set of hardware should projects not go-live	\$ 4,298,400
P37241	Wildfire Mitigation-UAM	1/1/2022	12/31/2027	Transmission Plant	Scope includes: - Replacement of deteriorated wood poles in wildfire risk areas with ductile iron poles as these poles are impervious to rot, insects, and woodpeckers as well as being highly fire resistant. - Replacement of deteriorated wood crossarms in wildfire risk areas with fiberglass arms. - Replacement of transmission structures that are reported to be in bad order. - Inspection of distribution poles and 57KV poles in the wildfire zone and central Oregon. - Installation of a fire mesh retardant on poles during inspection. - Incidental O&M repairs during inspection.	\$ 1,135,383
P37344	Tech Refresh	3/7/2022	5/16/2024	Intangible & General Plant	There will be maintenance and upkeep requirements for the teams that support Maximo (Enterprise Work and Asset Management) and IQGeo (Grid Operations Tech Support). PGE will be able to transition some of the team members who support ARM to Maximo support instead.	\$ 2,688,420
P37354	T&D Storeroom Fitness	2/1/2022	12/31/2032	Intangible & General Plant	With the addition of new stores codes and the increased number of ductile iron poles brought in as stocked for several types of work, storerooms have been struggling to find space for material needed to serve customers.  Racking and shelving shall be installed to improve organization, and space utilization making material more readily available for crews to support our customers.  Improved organization, ease of access and process improvements will make storerooms more efficient in managing material and reduce costs for non-essential items such as slow-moving material.	\$ 1,980,000
P37359	Integrated Dist Planning Tools	2/1/2023	7/31/2024	Intangible & General Plant	The current tools that we use for distribution system planning is antiquated and is not setup to support the integrated distribution planning framework that PGE needs to move towards to support PGE's vision as it is laid out in DSP part 1 filing with the PUC. While the various tools and capabilities exists, a comprehensive review of the current set-up need to be performed and maturity of various analysis capabilities need to be improved to meet the future distribution planning needs. Current planning tools and systems are not setup for more extensive and frequent system level analysis that the engineering team will have to perform to meet the requirements in UM2005 DSP docket. This includes ability to utilize load/DER forecasts to generate system wide grid needs list, ability to publish system wide hosting capacity, develop near term and long-term plans and solutions for the distribution system. PGE needs to enable planning engineers with a proper toolset or system	\$ 1,500,000

P37381	BR-Cooling Tower Fill Replacement	5/1/2022	6/30/2024	Production	Portland General Electric (PGE) owns and operates a natural gas fired combined cycle power plant, known as the Beaver Generating Plant, in Clatskanie, Oregon. The plant includes six identical sets of Gas Turbines (GTs) and Heat Recovery Steam Generators (HRSGs), and one Steam Turbine Generator (STG). The plant is supported by a 3-cell mechanical draft counterflow concrete cooling tower manufactured by Research-Cottrell, Inc's, Hamon Cooling Tower Division.  The cooling tower was originally placed into operation in 1977. No major upgrades have been performed to the tower cells since initial operation and it continues to operate with the original fill, distribution piping, drift eliminators, and fan components.  Overall, the cooling tower has been in operation beyond its intended life and has been showing signs of extended deterioration. The fill, distribution piping, and drift eliminators are in an advanced state of disrepair. These components are cracking and routinely drop asbestos containing material (ACM) into the basin that must be cleaned with qualified workers each outage cycle. Distribution piping sprays are damaged and outdated.	\$	6,105,099
P37396	PGE Mobile Command Units	6/1/2022	12/31/2026	Intangible & General Plant	While PGE can't control Mother Nature. When an ice storm, high winds, torrential rain or any major event knocks out the power for hundreds of thousands of customers, a lot is at stake.  Mobile command units will allow PGE to enhance our capabilities in communication & restoration efforts by: 1. With utility management/CIMT on scene to coordinate resources & equipment needs immediately vs communication tree delays. 2. Better coordination with Fire/Agency/FEMA Command Centers in the field, as we can drop one of our units alongside their units.  This will ultimately provide accurate & timely ETR to customer and allow them to know we are in their area sending a message PGE cares & they are working hard to restore my power.	\$	1,489,000
P37417	PW2: Top End Engine Parts and Insta	6/15/2022	12/30/2024	Production	Purchase a full set of heads, pistons and liners to reduce outages from 4 to 8 weeks. These spares sets can be utilized on all 12 engines at the 20,000 and 40,000hr PMs. Additional to the rotating capital spares, this budget estimate has included labor, travel, and repair work that should be capitalized if possible. The yearly break out would be \$190k in 2022, \$6.3M in 2023 and \$380k in 2024.	\$	2,710,391
P37421	Foreign Utility Blanket	1/1/2023	12/31/2024	Transmission Plant	Replace various equipment at jointly owned facilities that have exceeded their useful and economic life and are no longer supported by the manufacturer. This project will replace the following equipment at the jointly owned Grizzly substation:	\$	8,744,400
P37439	PACS Program	10/20/2022	12/31/2030	Intangible & General Plant	Utilize newly developed security tiering levels to design and build security upgrades for PGE Tier 1 & 2	\$	4,000,000
P37447	Monitor Sub Rebuild (WVRP)	7/7/2022	11/30/2025	Transmission Plant	This project addresses reliability and capacity deficiencies for the Willamette Valley load pocket. The Willamette Valley 57 kV system is highly sensitive to the loss of any of the sources into the area, including the aging Monitor VBR1 230/57 kV bulk transformer, and experiences thermal overload and undervoltage conditions during next-worst-case outage contingencies. The single source configuration scenario is further worsened by industrial load growth in the area. As load increases in the Willamette Valley load pocket, thermal and voltage exceedances increase and more load must be dropped to resolve the identified violations.  Constructing the project allows PGE to operate under next-worst case outages scenarios within operational limits and creates capacity for approximately 50 MVA of future load growth in the region.	\$	9,462,929
P37460	BC: Upgrade Wind SCADA systems	7/1/2022	12/31/2026	Production	After the initial capital purchases, there will be ongoing costs to maintain the SCADA systems. This will take the form of a vendor service contract (SureService) as well as time and resources from PGE to maintain the	\$	2,007,699
P37466	EMS Upgrade Project	7/1/2022	12/20/2024	Intangible & General Plant	The scope includes purchasing the hardware, cabling, cable management, port blocks and updating the software layer on the VXrail to the current version. We will be switching from UCS to VXRail as the standard hardware platform for hosts in February 2023. As there is a push for automation, PGE will look to automate Virtual Machine (VM) builds and use tools for configuration of VM's by 4th quarter 2022. We will be upgrading the Terminal Servers and Comm Switches in November 2022. The next step is to upgrade the EMS application. This will include gathering all the enhancements that the business units need. This statement of work will be sent to the vendor. After an agreement with the vendor, the EMS upgrade will commence with the agreed upon enhancements. The duration of this project could take up to 18 months as supply chain issues for hardware purchases and vendor lead times are delayed. PGE will need to move devices out of the 3WTC 3rd floor data	\$	1,930,770
P37468	Harborton Reliability Ph2 - 230kV	8/19/2019	12/31/2026	Transmission Plant	The Harborton Reliability Project (HRP) furthers PGE's strategic plan and vision for the region by expanding the Harborton substation and reinforcing the 230 kV and 115 kV transmission systems. The Harborton substation will be PGE's northwest hub for bringing power in from the 230 kV transmission system and distributing it out to communities on both sides of the Willamette River.	\$	3,093,159
P37496	FY U6 Transformer Replacement Proj	12/1/2022	12/31/2024	Transmission Plant	The existing Faraday Unit 6 Transformer was originally installed in 1958 and is past its useful life. This transformer is required to operate the Faraday Unit 6 generator for the duration of Clackamas River Hydro license (through 2035) and beyond. This project will replace and relocate Faraday Unit 6 transformer to the	\$	2,990,600

P37510	Tucannon Wind Enhancement Program	12/15/2022	12/30/2024	Production	Tucannon was constructed in 2014 and has performed well. The project was built with Siemens 2.3 MW 108-meter blades, blades that today are known in the industry to experience cracking, delamination and leading-edge erosion issues. Tucannon today is experiencing site-wide blade issues due to a serial defect that we have been managing and need to mitigate the risk. Install blade strengthening retrofit (capitalization of this work is still being reviewed for capitalization policy)	\$	4,457,547
P37553	Faraday Road and Drainage Improv.	3/1/2023	6/30/2024	Production	This project will provide finished grades, drainage and access roads to the Faraday Unit 6, 7 and 8	\$	2,379,146
P37590	Pearl-Sherwood Upgrades	2/14/2023	6/1/2026	Transmission Plant	Consulting services to perform on-site wetland delineation, environmental surveys, and for PGE's quality assurance team to perform factory audits at two (2) conductor manufacturing facilities in India. The project utilizes a non-standard conductor type where the manufacturing process is technically challenging. Therefore, PGE must validate the vendor's manufacturing processes to ensure that the product will perform as required. The environmental survey work is necessary to facilitate transmission line design and structure spotting. The surveys must be completed before Summer 2023 to maintain the design schedule. The project has three parts: - Bifurcate BPA's Pearl-Sherwood 230kV Line into Pearl-Sherwood #1 and #2 230kV Lines - Bifurcate our McLoughlin-Pearl-Sherwood 230kV Line into Pearl-Sherwood #3 230kV and McLoughlin-Pearl-Sherwood 230kV Lines - Reconnector Pearl-Sherwood 230kV and McLoughlin-Pearl-Sherwood 230kV between Pearl and Sherwood"	\$	4,354,329
P37601	PW-3&4 Superheater Replacement	3/1/2023	6/5/2024	Production	This project is requesting to directly move into the execution gate, with preliminary work completed under P37372 (PW: HPSH 3&4 Replacement Study). This funding request provides for the tube bundle replacement fabrication, engineering and design development, construction to remove old tube sections and install new, as well as field services needed to complete outage work. 2024: Completion of fabrication and construction contract (\$4.4M). Internal labor, construction support services, and contingency (\$1.22M). Supply a replacement #3 and #4 superheater sections, remove the old sections from the HRSG, install the replacement sections. Any other sections of the HRSG are out of scope.	\$	6,099,273
P37664	RB: Spillway Cavitation Protection	4/1/2019	5/23/2024	Production	Last year the project technical advisor identified an issue with the original design of the Round Butte Spillway that causes it to be susceptible to catastrophic cavitation damage under moderate usage. To reduce this risk a passive aeration system is to be installed in late 2023.	\$	1,185,242
P37676	Workplace Strategy & Design Fitness	5/9/2023	12/31/2030	Intangible & General Plant	Workplace Fitness: Injuries and/or fines and litigation may result related to not addressing basic ergonomic principles and not meeting workplace accommodation issues. Injuries and lost work hours will result if unsafe furnishings are not removed or replaced. There could also be loss of productivity if appropriate work environment is not maintained.  3WTCDecommissioning: 3WTC 1 and 3WTC3 are no longer occupied by PGE and will be marketed to tenants. PGE is contractually obligated to remove assets from these suites no longer in use in 3WTC.  1WTC3: PGE to vacate half of the floor for build out of WTC tenant lounge to support leasing opportunities.	\$	2,327,944
P39003	Build Evergreen Phase 4	7/14/2023	11/16/2026	Transmission Plant	This project will install a third bulk 230/115kV transformer at Evergreen substation.	\$	1,662,651
P39020	DW-EHS Implementation	1/1/2024	10/31/2024	Intangible & General Plant	Deliver a cost-effective and supported Environmental Healthy and Safety (EHS) solution that provides a streamlined user experience and enables easy management within a nimble and scalable platform to meet our	\$	1,900,454
P39029	Rooftop Solar - FP	1/1/2024	12/31/2024	Intangible & General Plant	PGE needs to provide a seamless experience for customers who enroll in Rooftop Solar.	\$	2,101,797

**INSTRUCTIONS**

- Report size of major production projects only, and percent ownership, scheduled operating dates, and expenditures required to complete project for major production, transmission, and general plant projects.
- Major projects are defined as those projects having a total estimated cost to completion exceeding \$10 million.
- Under "Distribution," report specific line item expenditures for the budget year only. All expenditures for distribution following the budget year should be aggregated for the year and only total distribution expenditures reported for the period.
- Non-major project expenditures within each category should be aggregated and only the totals reported.
- Report all expenditures in thousands of dollars.

DESCRIPTION	SIZE	PERCENT OWNERSHIP %	SCHEDULED OPERATING DATE (MO / YR)	EXPENDITURES (B.Y. = BUDGET YEAR; B.Y.+ 1 = THE FIRST YEAR AFTER THE BUDGET YEAR, ETC.)						REQUIRED TO COMPLETE	TOTAL
				PRIOR TO B.Y.	B.Y.	B.Y. + 1	B.Y. + 2	B.Y. + 3	B.Y. + 4		
<b>Major Production Projects:</b>											
P22449 Colstrip Capital Proj PPL		100%	Dec-2026	\$74,852	\$8,875						\$83,727
Clackamas PME - Recreation, Aesthet		100%	Dec-2030	\$8,994	\$581						\$9,575
PSES - Generation Fitness Fund		100%	Dec-2025	\$24,654	\$3,696						\$28,350
WSH Structural/Reliability Upgrades		100%	Dec-2025	\$46,653	\$201						\$46,854
Wind Generation Fitness Program		100%	Dec-2025	\$26,885	\$7,140						\$34,025
Hydro Control System Upgrade		100%	Dec-2025	\$17,918	\$4,807						\$22,725
Generation Portfolio Blanket		100%	Dec-2028		\$20,448						\$20,448
BR: Beaver Modernization		100%	Dec-2026	\$0	\$33,574						\$33,574
Biglow I Wind Enhancement Program		100%	Dec-2028		\$14,805						\$14,805
Construct Clearwater Wind Farm		100%	Jan-2024	\$404,991	\$15,095						\$420,086
Install Diesel Particulate Filters		100%	Sep-2024		\$22,604						\$22,604
Biglow II/III wind enhancement Prog		100%	Dec-2034		\$23,640						\$23,640
<b>Non-Major Production Projects</b>				\$402,877	\$43,590						\$446,468
<b>Total Production Projects</b>				\$1,007,825	\$199,057						\$1,206,882
<b>Major Transmission Projects:</b>											
Harborton Reliability Project PH1		100%	Aug-2024	\$38,816	\$236						\$39,053
Build Evergreen Substation		100%	Dec-2025	\$3,223	\$51,088						\$54,312
Harborton Reliability Ph2 - 115kV		100%	Dec-2026	\$2,620	\$10,047						\$12,667
T&D Asset Relocation		100%	Dec-2025		\$11,908						\$11,908
Horizon-Keeler BPA #2 230kV Line		100%	Aug-2024		\$16,103						\$16,103
Build Evergreen Substation Phase 3		100%	Dec-2025		\$414	\$10,443					\$10,856
Transmission Delivery Grow - Reserv		100%	Dec-2030		\$22,952						\$22,952
<b>Non-Major Transmission Projects</b>				\$108,133	\$45,616	\$6,425	\$90				\$160,263
<b>Total Transmission Projects</b>				\$152,793	\$158,364	\$16,867	\$90				\$328,113
<b>Distribution (See Instruction 3):</b>											
Station Equipment				\$503,436							
Poles, Towers, and Fixtures				\$38,723							
Overhead Conductors and Devices				\$50,745							
Underground Conductors and Devices				\$2,103							

Underground Conduit				\$62,303							
Line Transformers				\$25,285							
Services				\$36,140							
Meters				\$11,508							
Street Lighting and Signal Systems				\$10,697							
Other:											
<b>Total Distribution</b>				<b>\$740,939</b>	<b>\$268,104</b>	<b>\$27,765</b>					<b>\$1,036,808</b>
<b>Major General Plant Projects:</b>											
Substation Communication Upgrade		100%	Jun-2025	\$30,466	\$17,000	\$17,393	\$12,822				\$77,681
Vintage Vehicle Replacement II		100%	Dec-2030	\$33,537	\$12,684						\$46,221
Budget Only: Services BSG Reserves		100%	Dec-2029		\$24,674						\$24,674
Field Area Network Project (FAN)		100%	Jan-2025	\$7,225	\$1,347	\$10,004					\$18,575
IT Software Blanket		100%	Dec-2025		\$18,309						\$18,309
Reedville Substation Rebuild		100%	Nov-2026		\$14,995						\$14,995
<b>Non-Major General Plant Projects</b>				<b>\$435,267</b>	<b>\$62,008</b>						<b>\$497,275</b>
<b>Total General Plant Projects</b>				<b>\$506,494</b>	<b>\$151,017</b>	<b>\$27,396</b>	<b>\$12,822</b>				<b>\$697,729</b>
<b>Total New Construction Budget</b>				<b>\$1,667,112</b>	<b>\$1,249,376</b>	<b>\$312,368</b>	<b>\$40,676</b>				<b>\$3,269,533</b>