



e-FILING REPORT COVER SHEET

COMPANY NAME: **Portland General Electric**

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 2021 New Construction Budget Report RE 18**

Send the completed Cover Sheet and the Report in an email addressed to [PUC.FilingCenter@state.or.us](mailto:PUC.FilingCenter@state.or.us)

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 31, 2021

***Via Electronic Filing***

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

**RE: RE 18 Portland General Electric Company 2021 New Construction Budget Report**

Dear Filing Center:

Enclosed is Portland General Electric Company's filing for the New Construction Budget Report for the 2021 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, Manager, Revenue Requirement, at (503) 464 - 7488.

Sincerely,

*/s/ Jaki Ferchland*

Jaki Ferchland  
Manager, Revenue Requirement

JF/np  
Enclosure



## ELECTRIC COMPANY NEW CONSTRUCTION BUDGET FOR Portland General Electric Company

### GENERAL INSTRUCTIONS

- 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.
- 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 [http://www.puc.state.or.us/eFiling/eReports/efiling\\_report\\_cover\\_sheet\\_FM050.pdf](http://www.puc.state.or.us/eFiling/eReports/efiling_report_cover_sheet_FM050.pdf). Email both the report and the cover sheet to [PUC.FilingCenter@state.or.us](mailto:PUC.FilingCenter@state.or.us), 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:

- Project Description:** Include a brief technical specification of the project, ownership, if jointly owned, operating date, stage of construction, and other relevant information.
- 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.
- 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.
- 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:

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

<b>FULL NAME OF ELECTRIC COMPANY</b>			
Portland General Electric Company			
<b>ADDRESS: PO BOX OR STREET NUMBER</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP CODE</b>
121 SW Salmon St.	Portland	OR	97204
<b>CERTIFICATION: I CERTIFY THAT THE INFORMATION REPORTED IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.</b>			
<b>SIGNATURE</b>	<b>TITLE</b>	<b>DATE</b>	
/s/ Jim Ajello	Senior Vice President Finance, CFO	03.31.2021	

**INSTRUCTIONS**

1. 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.
2. Major projects are defined as those projects having a total estimated cost to completion exceeding \$10 million.
3. 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.
4. Non-major project expenditures within each category should be aggregated and only the totals reported.
5. 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%	2026-12-31	\$105,937	\$10,000	\$-	\$-	\$-	\$-	\$-	\$-	\$115,937
P35172 PSES - Generation Fitness Fund		100%	2022-12-31	\$33,831	\$3,183	\$-	\$-	\$-	\$-	\$-	\$-	\$37,014
P35959 WSH Structural/Reliability Upgrades		100%	2022-10-31	\$46,653	\$288	\$2,093	\$-	\$-	\$-	\$-	\$-	\$49,034
P36116 Wind Generation Fitness Program		100%	2022-12-31	\$26,885	\$5,152	\$7,389	\$-	\$-	\$-	\$-	\$-	\$39,426
P36134 Hydro Control System Upgrade		100%	2023-12-31	\$17,918	\$3,517	\$6,172	\$2,928	\$-	\$-	\$-	\$-	\$30,535
P36167 FY: Repower Faraday Units 1-5		100%	2021-11-30	\$71,757	\$19,631	\$-	\$-	\$-	\$-	\$-	\$-	\$91,388
P36732 CY: Implement Carty Separation Plan		100%	2021-12-31	\$1,841	\$9,587	\$-	\$-	\$-	\$-	\$-	\$-	\$11,428
P36855 Wheatridge Renewable Enrgy Facility		100%	2020-12-04	\$-	\$15,841	\$-	\$-	\$-	\$-	\$-	\$-	\$15,841
<b>Non-Major Production Projects</b>				\$309,429	\$23,045	\$4,519	\$5,819	\$-	\$-	\$-	\$-	\$342,811
<b>Total Production Projects</b>				<b>\$614,250</b>	<b>\$90,245</b>	<b>\$20,174</b>	<b>\$8,746</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$733,415</b>
<b>Major Transmission Projects:</b>												
P36039 Harborton Reliability Project PH1		100%	2021-06-15	\$38,816	\$3,074	\$-	\$-	\$-	\$-	\$-	\$-	\$41,891
P36913 Trans. Line Clearance Mitigation		100%	2023-11-01	\$2,749	\$8,402	\$-	\$-	\$-	\$-	\$-	\$-	\$11,151
P37086 2021 T&D BSG Reserve		100%	2022-12-31	\$-	\$8,163	\$2,815	\$-	\$-	\$-	\$-	\$-	\$10,978
<b>Non-Major Transmission Projects</b>				\$177,805	\$21,726	\$1,863	\$-	\$-	\$-	\$-	\$-	\$201,394
<b>Total Transmission Projects</b>				<b>\$219,371</b>	<b>\$41,366</b>	<b>\$4,677</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$265,414</b>
<b>Distribution (See Instruction 3):</b>												
<b>Station Equipment</b>					\$116,489							
<b>Poles, Towers, and Fixtures</b>					\$30,597							
<b>Overhead Conductors and Devices</b>					\$48,370							
<b>Underground Conductors and Devices</b>					\$66,082							
<b>Underground Conduit</b>					\$2,150							
<b>Line Transformers</b>					\$9,581							
<b>Services</b>					\$36,084							
<b>Meters</b>					\$7,772							
<b>Street Lighting and Signal Systems</b>					\$8,541							
<b>Other: Land/Land Rights</b>					\$-							
<b>Total Distribution</b>					<b>\$325,666</b>							
<b>Major General Plant Projects:</b>												
P36101 Substation Communication Upgrade		100%	2022-12-31	\$30,466	\$4,468	\$1,623	\$-	\$-	\$-	\$-	\$-	\$36,557
P36394 Vintage Vehicle Replacement II		100%	2023-12-31	\$32,719	\$8,249	\$14,230	\$14,222	\$-	\$-	\$-	\$-	\$69,420
P36501 Integrated Operations Center - IOC		100%	2021-12-31	\$-	\$102,482	\$1,075	\$-	\$-	\$-	\$-	\$-	\$103,557
P36723 Field Area Network Project		100%	2024-01-04	\$7,225	\$4,317	\$-	\$-	\$-	\$-	\$-	\$-	\$11,542
P36879 Advanced Dist Mgmt Sys (ADMS) Phs 1		100%	2021-07-31	\$19,065	\$8,134	\$-	\$-	\$-	\$-	\$-	\$-	\$27,199
P37085 2021 Infrastructure Fitness Blanket		100%	2021-12-31	\$-	\$11,647	\$-	\$-	\$-	\$-	\$-	\$-	\$11,647
P37096 2021 IT Software Blanket		100%	2022-12-31	\$-	\$11,045	\$10,348	\$-	\$-	\$-	\$-	\$-	\$21,394
<b>Non-Major General Plant Projects</b>				\$675,575	\$24,852	\$4,755	\$-	\$-	\$-	\$-	\$-	\$705,183
<b>Total General Plant Projects</b>				<b>\$765,051</b>	<b>\$175,195</b>	<b>\$32,031</b>	<b>\$14,222</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$-</b>	<b>\$986,498</b>
<b>Total New Construction Budget</b>				<b>\$1,598,672</b>	<b>\$632,471</b>	<b>\$95,145</b>	<b>\$26,882</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,353,170</b>

**PROJECT NARRATIVE - Major Projects**

For major projects (the three largest projects in terms of cost and all projects greater than \$10 million) a narrative involving 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	2004-03-01	2026-12-31	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	2021 projects include, but aren't limited to: -Colstrip #3 Overhaul -Colstrip #3 & #4 Dry Waste Disposal -Montana DEQ AOC/ARO Activities	\$ 116,537,280
P35172	PSES - Generation Fitness Fund	2012-01-01	2022-12-31	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	2021 fitness projects include, but aren't limited to: -CY: Replace Steam Turbine Valves -NF: Install Concrete Weir Walls -PW: Upgrade CTG Flux Monitoring -PW: PW2 Generator Breaker Reliability Improvements	\$ 38,047,750
P35959	WSH Structural/Reliability Upgrades	2015-01-01	2022-10-31	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.	2020 budget was reduced due to overall COVID reductions 2021 budget reflects shifts of funding and includes Harriet Lake access improvements	\$ 49,210,323
P36116	Wind Generation Fitness Program	2016-02-01	2022-12-31	The scope of the Wind Generation fitness program includes replacement of in service equipment failures at Biglow Canyon and Tucannon Wind Farms that cannot wait until the next budget cycle to be addressed. This includes gearboxes, generators, main bearings and blades.	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.	2020 budget was reduced due to overall COVID reductions. 2021 budget reflects what the Biglow and Tucannon expect to purchase (gearboxes, generators, main bearings and blades) to operate the facility	\$ 39,177,121
P36134	Hydro Control System Upgrade	2015-08-01	2023-12-31	This project will upgrade the control systems for generation and fish handling facilities at Pelton Round Butte and West Side Hydros. The new systems will be integrated into the plant information system for archiving and data mining of off-normal operating conditions.	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.	Increases are due to increased engineering costs, internal labor costs, and property taxes	\$ 30,342,618
P36167	FY: Repower Faraday Units 1-5	2015-11-23	2021-11-30	This project will remove the hundred year old Faraday Units and replace them with three new vertical units. This will make the Faraday Powerhouse a new modern, reliable powerhouse and is anticipated to improve seismic resiliency and reduce maintenance costs.	This upgrade will increase plant reliability and efficiency, and reduce plant O&M costs. A new unit will also reduce unplanned outages and provide a more reliable and predictable outage schedule, especially important for PGE's participation in the Western Energy Imbalance Market.	In-water work required approval from environmental regulators and are limited to low-flow times of year. Unexpected and unseasonal high flows can delay or impact the construction schedule.	Increase in construction costs and shift of project schedule	\$ 91,388,237
P36732	CY: Implement Carty Separation Plan	2019-01-02	2021-12-31	This project will study and implement changes to provide backup power to the Carty plan and move required systems to full Carty control.	Carty relied on several Boardman systems for operations. With Boardman ceasing production in 2020, Carty needs to be decoupled from Boardman.	Project must be complete by the time Boardman ceases production.	Not applicable (project was not included in previous BOE).	\$ 11,428,071
<b>MAJOR TRANSMISSION PROJECTS</b>								
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	2015-07-01	2021-06-15	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).	\$ 53,792,771
P36913	Trans. Line Clearance Mitigation	2019-10-01	2023-11-01	This project will design and install replacement for transmission poles that have identified clearance violations.	PGE has published standards for clearance transmission pole clearance requirements at maximum operating temperatures. An inspection identified poles that are in violation of these standards that require correction	Ongoing inspection program may continue to identify poles that did not previously have clearance violations but now do and require correction.	Not applicable (project was not included in previous BOE).	\$ 11,150,932
P37086	2021 T&D BSG Reserve	2021-01-01	2022-12-31	This project is budget only and is for Transmission and Distribution 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.	Not applicable (project was not included in previous BOE).	\$ 109,394,812
<b>MAJOR GENERAL PLANT PROJECTS</b>								
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	2022-12-31	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.	Resource availability to perform the work	Increase due to increase in labor rates, equipment and outside engineering/project support	\$ 36,502,203
P36394	Vintage Vehicle Replacement II	2017-05-01	2023-12-31	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.	2021 budget reflects increased overheads	\$ 69,013,866

P36501	Integrated Operations Center - IOC	2017-11-01	2021-12-31	Operations of PGE's Transmission, Distribution, and Generation systems are changing at a fast pace. Construction of a new Integrated Operations Center creates the necessary foundation to deliver on new operational technologies, manage the grid of the future, and provide operational resiliency in the event of a major disaster.	3WTC was constructed in a high liquefaction area with the potential of being uninhabitable after a major earthquake. The Readiness Center is setup to accommodate only a few critical functions not all of the 24/7 departments residing at the new Operations Center. The Integrated Grid Roadmap initiatives will require departments to quickly adapt to how work is performed in the future. The space limitations of 3WTC are making it difficult to adapt quickly to new technologies. The building is at capacity and does not have space to accommodate expansion of PGE's operational departments.	The Operations Center layout needs to be designed to accommodate future implementation of the Distribution Management System which will significantly change how we manage the distribution system for our customers. This will change the roles and responsibilities for several departments requiring close evaluation to our current and future processes. The Operations Center needs to be designed so there is room to expand in order to adapt processes and add people when new technologies are deployed.	Shift in timing of budgeted contingency	\$	103,520,641
P36723	Field Area Network Project	2018-11-21	2024-01-04	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	Not applicable (project was not included in previous BOE).	\$	11,541,821
P36879	Advanced Dist. Mgmt. Sys(ADMS) Phis 1	2019-08-05	2021-07-31	Phase one will implement a Distribution Management System (DMS) with fault isolation service restoration on a minimum of three circuits. The primary functions of the DMS will focus on monitoring, predicting and operating distribution devices below the substation, updating the Outage Management System, monitoring integrated grid systems and operating equipment on the distribution system. It will collect real time information from distribution substations, feeder and customer devices and integrate existing and future distribution automation schemes, distributed energy resources and distributed standby generation resources.	In the current state of the Integrated Grid, PGE does not monitor or have visibility of the devices below the substation. As we modernize the grid, by implementing and installing new devices on the distribution circuits, it is imperative for us to monitor and operate those devices optimally and safely. Furthermore, the proliferation of customer wonders will necessitate a modularized system to achieve these functions.	Condensed timeline for implementation. Potential Staffing constraints from Business and IT. Significant change management challenges, union negotiations for Repair Dispatch roles. Dependent on Distribution Automation and Field Area Network to achieve full benefits Dependent on clean GIS data, to facility an accurate impedance model of our distribution system. Dependent on business process changes in both Grid Operations and Utility Operations. <u>Dependent on IOC Project timeline.</u>	Shifting of software testing and resource hiring from 2020 to 2021	\$	27,200,484
P37085	2021 Infrastructure Fitness Blanket	2021-01-01	2021-12-31	This project is for emerging infrastructure replacement of aging servers, storage, networks, desktops, and cybersecurity infrastructure. Funding will be allocated from this blanket to three sub-blankets: Desktop Fitness/Vintage, Network, and Server Storage. Individual projects will then be funded by the sub-blankets.	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.	2021 Projects funding from blanket in include, but aren't limited to: -Desktop Fitness -Network Fitness -Server Storage Fitness	\$	11,647,422
P37096	2021 IT Software Blanket	2021-01-01	2021-12-31	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.	2021 Projects funding from blanket in include, but aren't limited to: -Customer Digital Programs -Supply Chain Management Transformation -Advanced Distribution Management System Phase 1 -Physical Access Control System	\$	21,045,491

**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
P22723	Pelton/Round Butte PME - Aquatic Re	2005-01-01	2025-12-31	Production	This project is a requirement of the FERC license for the Pelton Round Butte Project. Completion of the project is necessary for compliance with the terms and conditions of the license relating to aquatic resources. This work is required to maintain compliance with the terms of the Water quality certifications and the incidental take statements and biological opinions issued pursuant to the <u>Endangered Species Act</u> .	\$ 1,103,938
P22771	PRB PME - Habitat Fund	2005-01-01	2025-12-31	Intangible & General Plant	This project is a requirement of the FERC license for the Pelton Round Butte Project. Completion of the project is necessary for compliance with the terms and conditions of the license relating to mitigation funding. This fund will be used to support resource protection measures for project-related impacts not otherwise covered by specific license conditions, including projects that enhance and improve wetland, riparian, and riverine habitats, and riparian aquatic and terrestrial species connectivity that may be affected by the continued operation of the project.	\$ 1,145,375
P35228	Clackamas PME Road Fund	2011-07-01	2026-12-31	Production	This project is a requirement of the FERC license for the Clackamas license. The requirement is to improve various roads in the vicinity of PGE facilities located in the Mt Hood National Forest.	\$ 1,243,414
P36649	Budget Only: Customer BSG Reserves	2019-01-01	2021-12-31	Distribution Plant	This Budget only project is for Inside the Target Customer projects that PGE expects to fund in 2019-2021. Individual projects will be reviewed on a rolling basis.	\$ 7,231,717
P36653	Budget Only: Services BSG Reserves	2019-01-01	2021-12-31	Intangible & General Plant	This Budget only project is for Inside the Target Business Continuity projects that PGE expects to fund in 2019-2021. Individual projects will be reviewed on a rolling basis.	\$ 4,700,000
P36654	Generation Portfolio Blanket	2019-01-01	2022-12-31	Production	This Budget only project is for Inside the Target Generation projects that PGE expects to fund in 2019-2021. Individual projects will be reviewed on a rolling basis.	\$ 6,524,722
P36891	2020-2022 CRG Reserve	2020-01-01	2022-12-31	Intangible & General Plant	This budget only funding project acts as the CRG reserve to allocate funding out to emerging projects that require funding or provide incremental funding to planned projects that need additional funding due to changes in scope or schedule.	\$ 7,200,000
P37046	T&D Asset Relocation	2021-01-01	2025-12-31	Distribution Plant	This funding project moves the Road Widening construction work out of the System Blanket, P35924 AWO 1000004546, and into its own funding project for better visibility and forecasting. Project includes emerging distribution asset relocation for public works.	\$ 6,627,122
P37047	Joint Pole Construction	2021-01-01	2025-12-31	Distribution Plant	This funding project moves the Joint Pole construction work from the System Blanket, P35924 AWO 1000004550, into its own funding project for better visibility and forecasting. Project includes pole replacement and other capital make ready work for license attachments.	\$ 4,923,607
P37048	Outage or Emergency Replacement	2021-01-01	2025-12-31	Distribution Plant	This funding project moves the outage and damage related work from the System Blanket, P35924 AWO 1000004547 and AWO 1000004550, into its own funding project for better visibility and forecasting. Project includes restoration work required to replace or perform capitalized repairs on various pieces of equipment due to unanticipated failures of any distribution equipment related to outage work. Equipment typically replaced by this program includes distribution transformers, pole replacements, switch replacements, reclosers, etc.	\$ 6,898,614
P37049	Line Crew Truck Stock Materials	2021-01-01	2025-12-31	Distribution Plant	This funding project moves the line crew truck stock out of the System Blanket, P35924 AWO 1000004549, into its own funding project for better visibility and forecasting. Project includes materials are categorized as capital equipment necessary in order to facilitate the efficient repairs to be performed by PGE in the replacement, reinforcement, and refurbishment of the electrical distribution and transmission systems.	\$ 1,445,850
P37061	OH FITNES Transmission	2020-07-01	2030-12-31	Transmission Plant	This project is to design and complete transmission pole replacements identified through the Overhead FITNES inspection program.	\$ 4,301,898
P37093	Facilities Management Fitness	2020-11-01	2023-12-31	Intangible & General Plant	This project is for the ongoing maintenance and preservation of PGE facility buildings and associated infrastructure.	\$ 4,440,000
P37094	Replace SCADA RTU with SER	2021-01-01	2021-12-31	Transmission Plant	As part owner of transmission with Bonneville Power Administration and PacifiCorp on the California Oregon Intertie Transmission Line, PGE is required to share costs on all upgrades. The current model of analog SER/SCADA will no longer be compatible with the new digital communications which are being installed. The analog system is becoming obsolete and replacement parts are <u>hard to purchase</u> .	\$ 1,153,175
P37095	SCADA Replacement - Grizzly Sub	2021-01-01	2021-12-31	Intangible & General Plant	As part owner of transmission with Bonneville Power Administration (BPA) and PacifiCorp on the California Oregon Intertie Transmission Line, PGE is required to share costs on all upgrades. BPA as majority owner, proposes a SCADA replacement at Grizzly substation to improve communications abilities.	\$ 1,844,239

## FOOTNOTES

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- [1] Schedule B Prior years represent 2003-2019. Strategic project prior year data are October 2019 board approved; Base Business project data are actuals.
- [2] Schedule B Current year data are October 2019 board approved and tie to the approved 2020 Operating Plan & Budget. These budgets are subject to change with future Board of Directors approval.
- [3] Schedule B Based on Budget Year +1 forecast with all other future years trended for inflation by Global Insight Chained Price Index - Public Utilities (Q4 2019) with the exception of Major Projects which forecasts at the time of the Operating Plan & Budget was established.
- [4] Schedule B Total does not necessarily equal total project cost in Project Narrative section because projects are reported here by Functional Category and exclude AFUDC.
- [5] Schedule B Major projects often include work defined in multiple Functional Classes (Production, Transmission, General/Intangible). Major Projects listed under each Functional Category have the majority of costs in that category. Each section includes only the amounts with that classification, with the remainder rolled into the Non-Major Project sections of the other functional
- [6] Schedule B Includes only the Non-Major Projects for the current Budget Year and subsequent four years.
- [7] Schedule B Presents data based on all 2020 Distribution projects, including the major Production, Transmission, and General Plant projects listed.
- [1] Project Narratives Total is comprised of: Prior Year amounts are Working Forecast; Current Year amounts are BOD approved; Future Year amounts of approved multi-year projects, BOD approved. While these are the same parameters used to calculate Schedule B totals, these numbers won't directly correlate because (a) the Schedule B form only shows the Functional Class totals, and (b) Schedule B applies a chained price multiplier for future year
- [2] Project Narratives Includes those projects that have a total approved budget of greater than \$1M and less than \$10M; projects with >\$10M are included in the Major Projects sections. Additionally, only those projects with budget in the Budget Year and none in the year prior are included here, as an approximation of those which 'commence in the budget year'.