



e-FILING REPORT COVER SHEET

COMPANY NAME: PORTLAND GENERAL ELECTRIC COMPANY

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: 18 (7)

Report is required by:  OAR  Statute ORS 757.105 and ORS 759.100  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 Company 2019 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**  
121 SW Salmon Street • Portland, Ore. 97204  
PortlandGeneral.com

March 29, 2019

***E-Filed only***

puc.filingcenter@state.or.us

Public Utility Commission of Oregon  
201 High St. SE, Suite 100  
PO Box 1088  
Salem, OR 97308-1088

Attn: Filing Center

**RE: Portland General Electric Company – 2019 New Construction Budget Report 18(7)**

Enclosed for filing is Portland General Electric Company's New Construction Budget Report for the 2019 calendar year. This report is being provided per OAR 860-027-0015 and the 2019 OPUC E-Report Filing requirements. No hardcopy will be submitted.

Should you have any questions, please call Darrington Outama, Manager, Corporate Planning at (503) 464- 2919 or Stefan Brown, Manager, Regulatory Affairs, at (503) 464 - 7805.

Sincerely,

A handwritten signature in blue ink, appearing to read "Stefan Brown", is written over a faint, light blue circular stamp or watermark.

Stefan Brown  
Manager, Regulatory Affairs

Enclosure

cc: Darrington Outama, PGE



PUBLIC UTILITY COMMISSION OF OREGON  
 PO BOX 1088, SALEM, OR 97308-1088  
[PUC.FilingCenter@state.or.us](mailto:PUC.FilingCenter@state.or.us)

## ELECTRIC COMPANY NEW CONSTRUCTION BUDGET FOR 2019

### 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>.

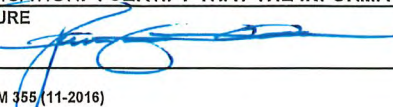
### PROJECT NARRATIVE

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.**

FULL NAME OF ELECTRIC COMPANY <b>PORTLAND GENERAL ELECTRIC</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.			
SIGNATURE 	TITLE <b>SUP FINANCE, CFO, TREASURER</b>	DATE <b>3-27-19</b>	

**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>											
Port Westward 2 Construction		100%	Mar-19	281,781	149	0	0	0	0	0	281,930
WSH Structural/Reliability Upgrades		100%	Dec-19	33,510	8,912	0	0	0	0	0	42,422
Hydro Control System Upgrade		100%	Oct-21	10,482	6,571	6,134	2,948	0	0	0	26,136
FY: Repower Faraday Units 1-5		100%	Dec-20	9,763	27,059	29,214	0	0	0	0	66,036
<b>Non-Major Production Projects</b>											
<b>Total Production Projects</b>					<b>56,359</b>	<b>93,555</b>	<b>63,086</b>	<b>61,944</b>	<b>63,730</b>	<b>0</b>	<b>300,377</b>
<b>Major Transmission Projects:</b>											
Horizon Phase II Project		100%	Sep-19	22,959	1,277	0	0	0	0	0	24,235
Round Butte Transmission Upgrades		100%	Oct-20	7,090	790	2,370	0	0	0	0	10,249
Harborton Reliability Project		100%	Jun-21	9,095	17,093	12,790	0	0	0	0	38,978
Blue Lake Phase II		100%	Dec-21	3,703	18,796	12,627	0	0	0	0	35,126
<b>Non-Major Transmission Projects</b>											
<b>Total Transmission Projects</b>					<b>24,497</b>	<b>25,300</b>	<b>26,140</b>	<b>26,925</b>	<b>27,701</b>	<b>0</b>	<b>130,563</b>
<b>Distribution (See Instruction 3):</b>											
Station Equipment					73,971						
Poles, Towers, and Fixtures					29,905						
Overhead Conductors and Devices					48,246						
Underground Conductors and Devices					60,295						
Underground Conduit					1,220						
Line Transformers					9,931						
Services					34,271						
Meters					3,777						
Street Lighting and Signal Systems					7,014						
Other:					3,766						
<b>Total Distribution</b>					<b>272,396</b>						
<b>Major General Plant Projects:</b>											
Field Voice Communications System			Sep-19	23,199	9,745	0	0	0	0	0	32,944

Substation Communication Upgrade			Dec-22	17,023	11,121	1,743	1,861	1,875	0	0	33,623
Integrated Operations Center - IOC			Dec-21	2,116	115	0	0	0	0	0	2,231
Vintage Vehicle Replacement II			Dec-21	11,464	12,483	12,995	13,248	0	0	0	50,190
<b>Non-Major General Plant Projects</b>					<b>101,234</b>	<b>104,554</b>	<b>108,023</b>	<b>111,267</b>	<b>114,474</b>		<b>539,552</b>
<b>Total General Plant Projects</b>				<b>53,802</b>	<b>134,699</b>	<b>119,292</b>	<b>123,131</b>	<b>113,142</b>	<b>114,474</b>	<b>0</b>	
<b>Total New Construction Budget</b>				<b>600,400</b>	<b>568,597</b>	<b>265,935</b>	<b>212,357</b>	<b>202,011</b>	<b>205,905</b>	<b>0</b>	<b>2,055,204</b>

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- 1) Includes cumulative actual expenditures through Budget Year.
- 2) Budget includes costs that were approved at the October 2018 Board of Directors meeting and tie to the approved 2019 Operating Plan & Budget. These budgets are subject to change with future Board of Directors approval. Does not include Integrated Resource Plan projects that have not begun construction.
- 3) Based on 2019 forecast with 2020, 2021, 2022, 2023 trended for inflation by Global Insight Chained Price Index - Public Utilities - Nov 2018 with the exception of Major Projects which forecasts at the time of the time the Operating Plan & Budget was established.
- 4) 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 actual and budgeted dollars with that classification, with the remainder rolled into the "non Major Project" sections of the other functional categories.
- 5) Total does not necessarily equal total project cost as projects are broken by Functional category and exclude AFUDC. Full project costs are listed in the Major Project Narrative document.
- 6) Includes only the non-major projects for the current Budget Year and subsequent four years.
- 7) Includes the 2019 portion of twelve major Distribution projects which are detailed in the Major Project narrative (> \$10 million): Port Westward 2 Construction, WSH Structural/Reliability Upgrades, Hydro Control System Upgrade, FY: Repower Faraday Units 1-5 Horizon Phase II Project, Round Butte Transmission Upgrades, Harborton Reliability Project, Blue Lake Phase II, Field Voice Communications System, Substation Communication Upgrade, Integrated Operations Center - IOC, Vintage Vehicle Replacement II

SCHEDULE B: ELECTRIC COMPANY NEW CONSTRUCTION BUDGET (SYSTEM)				COMPANY: Portland General Electric						BUDGET YEAR: 2019	
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 <sup>(4)</sup>
				PRIOR TO B.Y. <sup>(1)</sup>	B.Y. <sup>(2)</sup>	B.Y. + 1 <sup>(3)</sup>	B.Y. + 2 <sup>(3)</sup>	B.Y. + 3 <sup>(3)</sup>	B.Y. + 4 <sup>(3)</sup>		
2018 OPUC Construction Budget B Trojan Decommissioning:											
Independent Spent Fuel Storage Installation		67.5%		2,593	3,115	3,289	3,453	3,625	4,184	86,871	107,130
Non-Major Decommissioning Projects		67.5%		0	0	0	0	0	0	3,592	3,592
<b>Total Decommissioning Projects</b>				<b>2,593</b>	<b>3,115</b>	<b>3,289</b>	<b>3,453</b>	<b>3,625</b>	<b>4,184</b>	<b>90,463</b>	<b>110,722</b>

- 1) Actuals up through December 2018
- 2) Budget includes costs that are subject to future Board of Directors approval.
- 3) Based on capital forecast 2019-2022.
- 4) Total does not necessarily equal total project cost due to timing and expenditures prior to 2018

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
Port Westward 2 Construction (P35205)*	1/01/2013	3/31/2019	\$284,068,509	<p>Port Westward Unit 2 is a flexible capacity resource for PGE located adjacent to the existing Port Westward Unit 1, with nameplate capacity of 220 MW. The project consists of twelve state-of-the-art, highly efficient natural gas-fired reciprocating engine-generator sets (Wärtsilä model 18V50SG).</p> <p>The engineering, procurement, and construction (EPC) contractor for the project is Columbia River Power Constructors (a joint venture of Black &amp; Veatch Construction Inc. and Harder Mechanical Contractors Inc.). The equipment purchase agreement (EPA) supplier is Wärtsilä North America.</p> <p>The plant was placed into service in December 2014. Additional costs in 2018 and 2019 are associated with the NW Natural North Mist Expansion Project (NMEP), which serves Port Westward II. The targeted in service date for NMEP is March 2019.</p>
Blue Lake/Gresham - System Upgrades (P35329) *	1/1/2014	2/1/2019	\$33,575,608	This project went into service in December, 2018 and expects to complete wrap up activities in February, 2019
Build New Rock Creek Substation (P35572)	6/01/2015	12/1/2020	\$12,039,829	This project will construct a new substation in Rock Creek. The Bethany substation does not have the capacity to service an additional 17MW of load without exceeding equipment ratings. West Union substation is currently undergoing a rebuild with a goal to market the substation as a high-reliability substation to service large commercial and industrial load north of Hwy 26. In addition, West Union substation will not be able to provide a strong enough source for loads at the east end of the North Bethany area.

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
CET Install Oracle CC&B/ MDM System (P35619)	1/1/2014	2/1/2019	\$ 150,708,222	The new CC&B & MDM Systems went into service in May, 2018.
Construct Marquam Substation (P35679)*	1/1/2014	9/30/2019	\$75,094,664	<p>This project will construct Marquam substation with a 12-position 115kV Gas Insulated Switchgear (GIS) breaker and a half bus and 3-50 MVA transformers. Harrison substation will also be reconstructed with a six-position ring bus and 1-28 MVA transformer. The work includes an upgrade to the 115kV bus at Eastport substation and replaces motor operated switches with circuit switchers; upgrades relays at Urban substation; installs and reconfigures 115kV transmission lines to serve the new Marquam and upgraded Harrison substations; installs distribution infrastructure and circuits to serve the existing downtown network system currently served by Stephens substation; and installs associated fiber communications and materials.</p> <p>Stephens substation, currently serving approximately 25 MVA in the core network has old, antiquated, non-standard equipment. The growing South Waterfront area currently served by Urban substation will need additional capacity. There is currently no adequate substation backup plan for network substations (Canyon and Stephens). Marquam substation installation will</p>



**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
				<p>improve on efficiencies by removing non-standard 11kV feeders from the PGE system, providing adequate future backup to the existing core network, and providing future service to the growing South Waterfront district.</p> <p>The Marquam Radial scope will expand Marquam substation to serve new additional load in the South Waterfront. Project infrastructure includes design, materials and construction of two 50 MVA transformers, three metal-clad switchgear, two new capacitor banks, and the vault and conduit system to accommodate future radial feeder getaways. The project also includes the construction of two underground feeders along SW Bond Ave and nearby streets to deliver service to South Waterfront.</p>
Horizon Phase II Project (P35802)	1/1/2015	12/31/2019	\$34,849,639	<p>Additional bulk power transformation in the Hillsboro area is required no later than June, 2018 to accommodate load growth and maintain compliance with the NERC Transmission Planning (TPL) standards. Installing the second 230kV source into Horizon substation eliminates the loss of the entire substation for the loss of a transmission circuit.</p> <p>Project scope includes: Install a second bulk power transformer at Horizon substation. Provide a second source to Horizon substation by constructing a new 4.4-mile 230kV line segment to create a Horizon-St Mary's-Trojan 230kV circuit. Replace underrated equipment at Sunset substation and install a second 115kV capacitor bank for voltage support. Replace relays and associated equipment at St Mary's, Trojan, and Orenco substations to support the Horizon and Sunset upgrades. Perform communication upgrades at multiple sites to increase reliability of the communication network. The project total has increased from the prior year due to entering the construction phase.</p>
SAM: Proactive Underground Cable Program (P35908)	1/1/2015	12/31/2019	\$44,593,771	The Strategic Asset Management (SAM) program was established to ensure long-term system reliability by identifying asset-related

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
				risks in the T&D system, and advocating for risk reduction activities that are optimal in nature, meaning they are specifically focused and have high economic value compared to other work. Underground cable was selected for analysis by PGE due to concerns about the age of the asset class and the possibility that failures could rapidly escalate in the near term. SAM developed an economic life model that examined PGE's cable population (approximately 11,300 conductor miles) and ascertained which sections were most likely to fail. SAM then assessed the consequences of cable failure, identifying sections that have the highest number of customers and/or loading, and thus would most negatively impact customers should they fail. From this effort, a prioritized list of advisable, proactive cable projects was developed, consisting of injection or replacement of 203 conductor miles of cable.
Field Voice Communication System (P35938)*	6/30/2014	9/30/2019	\$48,804,657	This project replaces the transmission & distribution regionally based crew analog radio system that was installed in the mid-1990s with a territory wide digital radio system, which should allow higher quality communications, increased flexibility in dispatching our crews, higher reliability, and increased safety. The project would replace approximately 1200 mobile (vehicle based) and portable (handheld) units.
West Side Hydro Structural/Reliability Upgrades (P35959)	7/1/2015	12/31/2019	\$38,323,415	<p>This project provides funding from 2015 to 2019 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.</p> <p>The four facilities that are included in the scope of this project are:</p> <ol style="list-style-type: none"> <li>1) Sullivan Powerhouse and Facility Improvements</li> <li>2) River Mill Powerhouse, Gatehouse, and Facility Improvements</li> <li>3) Faraday Powerhouse Replacement and Facility Improvements</li> <li>4) Oak Grove Powerhouse and Facility Improvements</li> </ol>

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
PCB Transformer Replacement (P35980)	8/1/2015	9/30/2021	\$73,986,225	<p>This project will identify and replace distribution line transformers containing PCBs in critical locations (i.e., locations where a release could cause significant harm to humans, wildlife and/or the environment). This project will meet anticipated changes to PCB regulations and reduce PGE's liability associated with the potential release of PCBs into the environment.</p> <p>The program is a five-year program and includes O&amp;M primarily for analytical testing of equipment PCB concentrations and capital spending for replacement of distribution line transformers that meet the criteria for replacement. Transformer loading will also be evaluated in order to verify that the current size is the most efficient for the customer's load characteristics. Replacement transformers will use a natural ester fluid (vegetable oil) which is an operationally superior, environmentally preferred alternative to mineral oil.</p> <p>The 2019 plan includes design, replacement and removal of 1,500 transformers</p>
Harborton Reliability Project (P36039)	7/1/2015	6/30/2021	\$47,173,674	<p>The Harborton Reliability Project consolidates the substation equipment into one physical security perimeter, installs a second distribution power transformer, rebuilds the 115kV yard to a breaker-and-one-half configuration, and installs a new breaker-and-one-half 230kV yard with a bulk power transformer. The second distribution transformer provides full transformer redundancy at Harborton substation, which is an electrical island with no ties to other substations.</p> <p>The installation of the bulk power transformer provides redundancy for the existing Rivergate VWR1 transformer from a physically diverse source; and addresses transmission operations constraints in the North Portland area.</p> <p>The project routes five 230kV lines into Harborton substation; this will require the expansion of existing Right of Way and subsequent tree removal in Forest Park. The 115kV system will</p>

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
				be reconfigured to reduce exposure and provide a stronger source to the NW Portland area. The 115kV circuits from Harborton to Wacker, from Wacker to Station E, and from Station E to Canyon will be reconducted to provide the necessary transmission capacity. Equipment at Wacker and Station E will also be upgraded due to the additional capacity requirements.
Substation Communication Upgrade (P36101)	1/1/2016	12/31/2022	\$49,905,800	This multi-year project procures the necessary network hardware to replace the current communication infrastructure to 92 of PGE's substations. Telephone companies are discontinuing the analog communication circuits that PGE uses to relay data to and from its substations and thus needs to be replaced.
Hydro Control System Upgrade (P36134)*	8/1/2015	10/31/2020	\$22,584,539	<p>This multi-year project will upgrade the control systems for generation and fish handling facilities at Pelton Round Butte (PRB) and West Side Hydro (WSH). The new control systems will be integrated to PI (Plant Information system) for archiving and data mining for investigation of off-normal operating conditions. All new and existing cyber assets will be secured, and related Critical Infrastructure Protection (CIP) procedures and documentation will be updated accordingly and remain within the existing compliance framework.</p> <p>This project has a timeline from 2015 through 2019 but it will be approved in two stages: one to engineer and design (2015/2016) and one for procurement and construction (2017/2019).</p>
FY: Repower Faraday Units 1-5 (P36167)	11/23/2015	12/31/2020	\$55,260,086	<p>PGE has identified many asset management projects to be complete in the next five years that replace equipment or features that are long overdue.</p> <p>This project will make the Faraday Powerhouse a new, modern, reliable powerhouse versus investing money into refurbishing equipment that has exceeded its useful life. The construction on the new unites will also take advantage of the civil work involved with the powerhouse seismic upgrade.</p>

**Project Narrative**  
**Projects Greater Than \$10 Million**  
**(All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)**

Title	Start	End	Amount	Notes
McGill Sub Capacity Additions (P36229)	8/1/2016	6/30/2020	\$13,776,135	<p>This project will add capacity to the McGill substation. There is one industrial customer that is on both lines and served by the McGill Substation. The customer experienced reliability issues, including two outages in the last year that have cost the customer money. Through this project, PGE is solving an identified customer problem by improving reliability.</p> <p>The project scope will expand the existing 115 kV four breaker ring scheme to eight position breaker and half scheme: Install seven new 115 kV circuit breakers and thirteen 115 kV disconnect switches Install two new 28 MVA transformers. Install two new metalclad switchgears and add 4-3000 KVAR capacitors.</p> <p>Replace existing 20 relays associated with the protection of the two transmission lines (Glisan-McGill 115 kV and Hogan South-McGill 115 kV) with 8 relays in the following substations: McGill - 4 relays, Glisan -2 relays and Hogan South - 2 relays. Install a new Control House (50'x15'). Install new transmission relay racks, communication relay racks and transfer existing protection scheme to the new control house. Leave the SCADA racks in the existing metalclad switchgear location.</p>
T&D Substation Reliability Upgrades (P36272)	1/1/2017	12/31/2020	\$58,125,310	<p>This project targets aging substations and related infrastructure to improve system reliability and safety.</p>

**Project Narrative**  
**Projects Greater Than \$10 Million**  
 (All dollars include Overheads, those with \* are Board-approved projects that also include AFUDC)

Title	Start	End	Amount	Notes
				<p>Project Scope Includes: Projects expected to be presented for budget approval have been identified as stations and equipment at the end of their economic of life, in need of communications/SCADA upgrades, or currently operating in non/standard conditions. There is increasing risk of equipment failures, reducing overall system reliability if these projects are not executed.</p> <p>Project Scope Excludes: Projects that are already approved or are have sufficiently detailed designs and estimates to be submitted as standalone projects, and projects that are being driven by increased customer load and/or customer need for high reliability power.</p>
Blue Lake Phase II (P36373)*	6/1/2017	12/31/2021	\$31,735,397	<p>This project is requesting funding to design and permit the distribution feeder improvements to serve a new Amazon distribution center, which has started construction near the Blue Lake Substation.</p> <p>Project Scope Includes:          The Blue Lake Phase II project will construct a second 115kV ring bus and install a second 230/115 kV bulk power transfer at the Blue Lake Substation, install a second 115/13kV distribution transformer and three position switchgear, construct two new distribution feeders from Blue Lake Substation, upgrade existing Blue Lake substation feeders, construct the new Blue Lake-McGill 115vK transmission circuit, construct the new Blue Lake – Tabor 115kV transmission circuit, and decommission the Lineman substation.</p>

**Project Narrative**  
**Projects Greater Than \$1.0 Million Starting in 2019**  
**(All costs are fully loaded, excluding AFUDC)**

Title	Start	End	Current Year Amount	Total Amount	Notes
Substation FITNES 2019-2021 (P36582)	10/1/2018	12/31/2021	\$5,748,346	\$12,058,033	The FITNES program needs \$2.5M per year through 2021 to add, install, remove and replace obsolete and failed substation equipment. This will allow PGE to replace, repair and upgrade aging substation equipment and maintain a reliable and safe system. The project includes the replacement of circuit breakers, switches, regulators, arresters, batteries and chargers, potential devices, capacitor bank switches, operational technology devices, transformer load tap changers (LTC) and other substation capital equipment. This project also includes substation facilities work defined as capital, including repairing fences, gates, site drainage systems, control enclosure roof, and structural repairs.
2019 Facilities Management Fitness (P36615)	1/1/2019	12/21/2019	\$3,634,500	\$3,634,500	<p>2019 Capital Fitness Project for discretionary recurring and site requirements. This project allows Facilities to coordinate Safety projects along with the already budgeted and committed planned facilities projects. In 2019, PGE will initiate a LED lighting program, address building and safety concerns, and renovate outdated workspaces as described below:</p> <p><b>LED Lighting Program</b>  The current lighting systems that are in place are inefficient and require regular maintenance. Many of the older light fixtures are also no longer available and are very expensive to replicate. Replacing the current with new LEDs will not only drastically improve energy efficiency but will also lessen the overall costs for maintenance and improve reliability.</p> <p><b>Salem Line Center Maintenance</b>  The Salem Line Center (1981) Exterior EIFS wall assessment revealed numerous deficiencies within the building envelope that, if not addressed, could result in moisture intrusion, structural damage, safety concerns, material corrosion, and premature material failure.</p> <p><b>1WTC06 Renovations</b>  The current space hasn't been renovated since 2004. The employees are working with the old desks that do not raise up and down, which isn't ergonomic. The carpet is so old that each time the space is reconfigured there is a highly noticeable color difference between where the furniture used to be.</p> <p>The current space isn't up to the new PGE standards.</p>

**Project Narrative**  
**Projects Greater Than \$1.0 Million Starting in 2019**  
**(All costs are fully loaded, excluding AFUDC)**

Title	Start	End	Current Year Amount	Total Amount	Notes
2019 IT Growth Blanket (P36632)	1/1/2019	12/31/2019	\$6,000,000	\$6,000,000	This blanket will fund the purchase of new IT resources to meet the incremental growth needs of existing information systems. When appropriate, funding will be allocated from this blanket project to individual projects as Rough Order of Magnitude (ROM) 50% level of confidence estimates are completed.
Budget Only: Customer Svc Blanket (P36649)	1/1/2019	13/31/2019	\$3,971,880	\$20,518,703	This project is a placeholder for emerging customer service projects that are identified throughout 2019. When appropriate, funding will be allocated from this blanket project to individual projects as detailed estimates are complete and planning and/or execution is ready to begin.
T&D Base Portfolio Blanket (P36650)	3/1/2019	12/31/2021	\$6,634,205	\$87,735,806	This blanket project is for emerging strategy driven T&D projects. Funding will be allocated from this project to individual projects as detailed estimates are complete and planning and/or execution is ready to begin.
Budget Only-Facilities Blanket (P36652)	1/1/2019	12/31/2021	\$1,989,769	\$16,297,161	This blanket project is for emerging facility projects. Funding will be allocated from this project to individual projects as detailed estimates are complete and planning and/or execution is ready to begin.
Budget Only: Safety & BCEM Blanket (P36653)	1/1/2019	12/31/2021	\$2,000,000	\$5,311,205	This blanket project is for emerging business continuity/emergency management-based projects. Funding will be allocated from this project to individual projects as detailed estimates are complete and planning and/or execution is ready to begin.
Generation Portfolio Blanket (P36654)	1/1/2019	12/31/2021	\$9,396,463	\$86,549,463	This blanket project is for emerging generation projects. Funding will be allocated from this project to individual projects as detailed estimates are complete and planning and/or execution is ready to begin.