

e-FILING REPORT COVER SHEET

REPORT NAME: **RE – 18 (2) 2014 New Construction Budget Report**

COMPANY NAME: PORTLAND GENERAL ELECTRIC COMPANY

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION?  No  Yes

If yes, please submit only the cover letter electronically.

Submit confidential information as directed OAR 860-001-0070 or the terms of an applicable PROTECTIVE ORDER.

If known, please select designation:  RE (Electric)

Report is required by:  OAR

Statute **ORS 757.105 and ORS 759.100**

Order **Send to Melanie Forsyth**

Other **Utility Program**

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

If Yes, enter docket number: Not Applicable

Key words: Electric Utility Annual New Construction Report

If known, please select the PUC Section to which the report should be directed:

Economic and Policy Analysis

Electric and Natural Gas Revenue Requirements



**Portland General Electric Company**  
121 SW Salmon Street • Portland, Oregon 97204  
PortlandGeneral.com

January 29, 2014

*E-Filed only*

Oregon Public Utility Commission  
3930 Fairview Industrial Dr., SE  
Salem, OR 97308-1088  
[pucfiling.confirmation@state.or.us](mailto:pucfiling.confirmation@state.or.us)

Attn: Filing Center

**RE: Report 18 (2) – New Construction Budget Report – PGE**

Enclosed for filing is Portland General Electric Company's New Construction Budget Report for the 2014 calendar year. This report is being provided per OAR 860-027-0015 and the October 1, 2011, OPUC E-Report Filing requirements. No hardcopy will be submitted.

Should you have any questions, please contact me at 503-464-7580 or Josh Kliever, Manager – Corporate Planning at 503-464-8652.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick G. Hager". The signature is written in a cursive, somewhat stylized script.

Patrick G. Hager  
Manager, Regulatory Affairs

Encls.

Includes E-File Report Cover Sheet

cc: Josh Kliever



PUBLIC UTILITY COMMISSION OF OREGON  
 3930 FAIRVIEW INDUSTRIAL DRIVE, SE  
 PO BOX 1088, SALEM OR 97308-1088

**ELECTRIC COMPANY NEW CONSTRUCTION BUDGET FOR 2014**

**GENERAL INSTRUCTIONS**

1. EACH ENERGY AND LARGE TELECOMMUNICATIONS 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 DECEMBER 31ST, AND REPORT INFORMATION ON NEW CONSTRUCTION, EXTENSION, AND NEW ADDITIONS TO PROPERTY OF THE UTILITY IN ACCORDANCE WITH OREGON ADMINISTRATIVE RULE 860-027-0015.
2. THE CONSTRUCTION BUDGET SHOULD BE RETURNED TO THE PUBLIC UTILITY COMMISSION OF OREGON, 3930 FAIRVIEW INDUSTRIAL DRIVE, PO BOX 1088, SALEM, OR 97308-1088, NO LATER THAN DECEMBER 31ST OF THE YEAR PRECEDING THAT FOR WHICH THE BUDGET IS MADE.

**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: PROVIDE 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 PROVIDED. ALL THE UNDERLYING ASSUMPTIONS OF THE ECONOMIC ANALYSES ARE TO BE SPECIFIED.
3. CONTINGENCIES: PROVIDE 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 PROVIDE 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.

FULL NAME OF ELECTRIC COMPANY			
Portland General Electric			
ADDRESS: PO BOX OR STREET NUMBER	CITY	STATE	ZIP CODE
121 S.W. Salmon St.	Portland	OR	97204
CERTIFICATION: I CERTIFY THAT THE INFORMATION REPORTED IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.			
SIGNATURE	TITLE	DATE	
	SVP FINANCE, CFO, TREASURER	1-20-14	

SCHEDULE B: ELECTRIC COMPANY NEW CONSTRUCTION BUDGET (SYSTEM)	COMPANY: Portland General Electric	BUDGET YEAR: 2014
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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 <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>MAJOR PRODUCTION PROJECTS:</b>										
Tucannon River Wind Facility		100%	Dec-15	0	385,788	14,924				400,712
Carty Generating Facility		100%	Sep-16	0	165,262	112,103	45,164			322,529
Port Westward 2		100%	Jun-15	0	127,907	9,745				137,652
North Fork - Down Stream Migrant Surface Collector		100%	Dec-15	1,736	22,573	20,911	848			46,068
Bull Run - Engineering/Decommissioning		100.00%	Dec-15	148	0					148
Boardman Emissions Controls <sup>(5)</sup>		80% [6]	Aug-14	13,198	0					13,198
Round Butte Rewind Generators 2 & 3		66.67%	Dec-14	5,325	2,567					7,892
<b>NON-MAJOR PRODUCTION PROJECTS</b>				53,629	41,686	42,645	43,792	44,987	46,152	272,891
<b>TOTAL PRODUCTION PROJECTS</b>				74,036	745,783	200,328	89,804	44,987	46,152	1,201,089
<b>MAJOR TRANSMISSION PROJECTS:</b>										
Cascade Crossing Project			Dec-17	4,305	0					4,305
Blue Lake/Gresham - Substation Upgrades			Jun-18	0	1,100	6,228				7,328
<b>NON-MAJOR TRANSMISSION PROJECTS</b>				4,269	3,870	3,959	4,066	4,177	4,285	24,627
<b>TOTAL TRANSMISSION PROJECTS</b>				8,574	4,970	10,187	4,066	4,177	4,285	36,260
<b>DISTRIBUTION (SEE INSTRUCTION 3): <sup>(7)</sup></b>										
STATION EQUIPMENT					38,984					
POLES, TOWERS AND FIXTURES					15,601					
OVERHEAD CONDUCTORS AND DEVICES					25,573					
UNDERGROUND CONDUCTORS AND DEVICES					29,975					
UNDERGROUND CONDUIT					745					
LINE TRANSFORMERS					6,865					
SERVICES					18,134					
METERS					2,543					
STREET LIGHTING AND SIGNAL SYSTEMS					2,798					
OTHER:					28,613					
<b>TOTAL DISTRIBUTION</b>				172,634	169,831	173,737	178,411	183,282	188,029	1,065,924
<b>MAJOR GENERAL PLANT PROJECTS:</b>										
2020 Vision Next Wave			Dec-16	19,418	39,143	11,315				69,877
Readiness Center			Dec-13	15,479	21					15,500
Avery Project			Dec-13	11,389	0					11,389
Customer Engagement Transformation			Aug-18	0	3,000					3,000
Underground Core Crew Bldg Purchase			Dec-14	0	3,979					3,979
<b>NON-MAJOR GENERAL PLANT PROJECTS</b>				45,466	71,076	72,711	74,667	76,705	78,692	419,318
<b>TOTAL GENERAL PLANT PROJECTS</b>				91,752	117,220	84,026	74,667	76,705	78,692	523,063
<b>TOTAL NEW CONSTRUCTION BUDGET</b>				346,995	1,037,805	468,279	346,948	309,151	317,158	2,826,335

1) Based on 2013 OPUC Construction Budget Schedule B report.

2) Budget includes costs that are subject to change and future Board of Directors approval.

3) Based on 2014 forecast with 2015, 2016, 2017, 2018 trended for inflation by Global Insight Chained Price Index - Public Utilities - Nov 2013 with the exception of Major Projects which are current estimates.

4) Total does not necessarily equal total project cost due to timing and expenditures prior to 2013.

5) Total includes costs associated with the installation of nitrogen oxide (NOx), mercury controls, and sulfur oxide (SO2) controls.

6) PGE's ownership in Boardman is 80%.

7) Includes the 2014 portion of three major Distribution projects which are detailed in the Major Project narrative (> \$10 million): Construct Marquam Substation, West Union 115kV Conversion, and Shute Substation - Construct New Substation

SCHEDULE B: ELECTRIC COMPANY NEW CONSTRUCTION BUDGET (SYSTEM)				COMPANY: Portland General Electric						BUDGET YEAR: 2014	
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>		
2014 OPUC Construction Budget B	-	-	-	-	-	-	-	-	-	-	-
Trojan Decommissioning	-	-	-	-	-	-	-	-	-	-	-
Independent Spent Fuel Storage Installation	-	67.50%	-	2,546	2,430	2,498	2,633	2,633	2,498	60,400	75,636
Non-Major Decommissioning Projects	-	67.50%	-	103	1,249	0	0	0	0	1,688	3,039
Total Decommissioning Projects				2,649	3,679	2,498	2,633	2,633	2,498	62,088	78,676

- 1) Based on 2013 OPUC Construction Budget Schedule B report.
- 2) Budget includes costs that are subject to future Board of Directors approval.
- 3) Based on capital forecast 2015-2018.
- 4) Total does not necessarily equal total project cost due to timing and expenditures prior to 2013.

Project Narrative  
 Projects Greater Than \$10 Million

Title	Start	End	Amount	Notes
Round Butte Rewind Generators #2 and #3 (P35157)	1/1/2012	12/31/2014	\$8,830,400	This project will purchase and install coils for the Round Butte generating plant. In addition, this project will rewind the rotor poles. Examination of coils removed from Round Butte generator #1 during its rewind showed them to be in a state of significant deterioration which also indicates that the coils of generators #2 and #3 were likely to be deteriorated. All three generators are made by the same vendor. The state of the generator coils in generators #2 and #3 leaves the company exposed to higher than acceptable risk of an extended outage. Rewinding Round Butte Generator #3 will increase the reliability of the generator by lowering the chances of generator winding failure. The value of Round Butte generation for load management has increased, as have the negative consequences of a failure due to the introduction of large wind power sites in the region.
Underground Core Crew Building Purchase (P35669)	1/1/2013	12/31/2014	\$11,045,000	This project will purchase the former Rose City Printing Building at 3100 NW Industrial Street, Portland, Oregon, for the purpose of relocating PGE's Underground Core Crew to the west side of the Willamette River for system reliability. PGE's Underground Core Crew is responsible for construction and maintenance of PGE's downtown Portland underground utility infrastructure. The "core" area is bounded by the Willamette River to the east, I-5/I-405 to the South and I-405 to the north. Currently, the Underground Core Crew resides east of the Willamette River in a leased facility near Clinton Street and SE 14th. For system reliability and business continuity, the Underground Core Crew will be relocated west of the Willamette River in proximity to the downtown core.
West Union - 115kV Conversion (P35570)	1/1/2014	10/31/2015	\$12,285,000	This project will convert West Union substation to 115kV. Work includes installing a second transformer, metalclad switchgear, and two new feeders and replacing the existing distribution box structure with a new metalclad switchgear. The second transformer will be the existing Sunset WR1 transformer, which will be replaced under a different project. The purpose of this project is to provide service to new industrial load north of Hwy 26 and offload the heavily-loaded Sunset-Pauling feeder.  Currently, West Union substation has two feeders that are mostly overhead; serving urban, rural, and remote locations. Urban customers are subject to disturbances in a rural or remote setting. West Union substation has only one transformer; N-1 feeder and transformer redundancy is not available. In the event of an extended transformer outage, PGE must roll a mobile substation

Project Narrative  
Projects Greater Than \$10 Million

Title	Start	End	Amount	Notes
				to West Union, which could result in a 12-18 hour outage. New industrial customers on Jacobson Rd will be served by a feeder that also serves rural and remote load and is primarily overhead. The Sunset-Pauling feeder exceeds its summer planning loading guideline during peak summer conditions. This feeder serves Quality and Reliability Program (QRP) customers in a high-reliability area on Evergreen Parkway. Future load additions to this feeder could result in reliability concerns for customers.
Shute Substation – Construct New (P35571)	2/1/2013	6/1/2015	\$17,600,000	The purpose of this project is to build a new substation to provide service to manufacturing load growth in Hillsboro. This load growth is temporarily served by Sunset substation, which will not be sustainable in the long-term.
Blue Lake/Gresham - System Upgrades (P35329)	1/1/2014	6/1/2018	\$18,191,000	<p>This project will construct the new Blue Lake-Gresham 230kV circuit and the new Blue Lake-Troutdale BPA #2 230kV circuit. It also encompasses rebuilding the Blue Lake 230kV substation yard to a 6-position ring bus and adding new breaker positions at Gresham substation. Antiquated and underrated equipment in the Gresham 230kV yard will be replaced. New fiber communications will be constructed between Blue Lake and Gresham and between Blue Lake and Troutdale BPA.</p> <p>Currently, an outage of one or more 230kV circuits in the Blue Lake/Gresham area can cause an overload to another 230kV circuit or bulk power transformer in the area. These overloads can occur on both PGE facilities and PacifiCorp facilities. These overloads would violate the NERC Transmission System Planning Performance standards for transmission planning.</p>
North Fork – Install Down Stream Migrant Surface Collector. (P26389)	01/01/2004	12/31/2015	\$50,743,000	This job constructs and installs a floating fish collector facility, fish transport pipe and a tertiary dewatering facility at North Fork Dam. The floating surface collector will be installed to attract and collect juvenile migrating fish. The existing fish facilities do not meet current regulatory criteria. As part of relicensing and PGE's response to the Endangered Species Act, we will be required to upgrade our facilities. Migrating fish will pass through the surface collector to a new fish transport pipe. The fish pipe will be provided to transport the juvenile fish through the dam and along the backside of the dam to a new tertiary dewatering facility to be constructed on the right bank adjacent to the spillway. Fish exiting this facility will bypass the three Clackamas River dams through the migrant fish by-pass pipe that is to be provided by another job.

Project Narrative  
 Projects Greater Than \$10 Million

Title	Start	End	Amount	Notes
				<p>This job calls for significant design effort beginning about 5 years before the start of construction. This modification is expected to significantly improve the downstream migrant by-pass efficiency at the North Fork Dam in a cost-effective manner.</p>
Construct Marquam Substation (P35679)	1/1/2014	12/31/2018	\$52,204,000	<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. PGE does not carry an inventory of system spares for associated 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 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>
Customer Engagement Transformation (CET) (Multiple projects)	1/1/2014	6/30/2018	Estimated at \$80,000,000	<p>This program is a set of initiatives targeted specifically at the Customer Service functional areas. The CET program includes both large and small initiatives that focus on process improvements, business strategies, operational efficiencies, employee development, and replacement of PGE's Customer Information System (CIS) and Meter Data Management System (MDMS). The primary drivers for the CET program include obsolescence of customer systems, changing customer behaviors and expectations, planning for emerging channels, and a new competitive landscape. Projects will be implemented in several waves, starting in 2014 through 2018. Projects include:</p> <ul style="list-style-type: none"> <li>• Replace Banner</li> </ul>

Project Narrative  
Projects Greater Than \$10 Million

Title	Start	End	Amount	Notes
				<ul style="list-style-type: none"> <li>• Replace Meter Data Consolidation (MDC)</li> <li>• Quality, Metrics &amp; Performance Management</li> <li>• Knowledge Management &amp; Governance</li> <li>• Workforce Planning &amp; Management</li> <li>• Enterprise Data Quality</li> <li>• Interactive Voice Response (IVR) Fitness</li> </ul> <p>PGE's Board of Directors has approved \$3 million to date as part of the 2014 budget. Another \$9.3 million spend in 2014 is contingent on finance committee approval which will be requested in May 2014.</p>
2020 Vision Enterprise Program	10/15/2009	12/31/2016	Estimated \$140,000,000 to \$170,000,000	<p>The 2020 Vision Enterprise Program modernizes and consolidates Portland General Electric's technology infrastructure to ensure that the future technology path will accommodate the changing needs of PGE and its customers. The 2020 Vision program, comprised of a number of individual projects, represents the transformation of PGE's current Enterprise Technology landscape into a flexible and integrated technology platform that supports PGE's business from end to end. It replaces obsolete technologies and streamlines a number of applications and vendors PGE uses in order to gain efficiencies, better meet customer and PGE needs for accurate "real-time" information, and provide a solid foundation for future Smart Grid technologies.</p> <p>Phase I of the 2020 Vision establishes the foundation that underpins all future work and consists of two main components: modernizing PGE's financial systems and creating the foundation for a single enterprise-wide work and asset management system. These two components, along with the Infrastructure and Project Office project, and replacing the company's time collection system comprise the projects necessary to complete Phase I of the 2020 Vision Program. Phase I was completed in mid-2013.</p> <p>The second phase, called the Next Wave of the program will upgrade or replace the following PGE systems at a total estimated cost of \$84 million.</p> <ul style="list-style-type: none"> <li>• Maximo Mobile and Scheduling</li> <li>• Geospatial Information System and Graphic Work Design Replacement (GIS/GWD)</li> <li>• Outage Management System Replacement (OMS)</li> </ul>

Project Narrative  
 Projects Greater Than \$10 Million

Title	Start	End	Amount	Notes
Port Westward Unit 2 (P35205)	1/31/2013	6/30/2015	Estimated at \$300,000,000	Port Westward Unit 2 will be a flexible capacity resource for PGE located adjacent to the existing Port Westward Unit 1, with nameplate capacity of 220 MW. The project will consist of twelve state-of-the-art, highly efficient natural gas-fired reciprocating engine-generator sets (Wärtsilä model 18V50SG). The Engineering, Procurement, and Construction (EPC) contractor for the project is Columbia River Power Constructors (a joint venture of Black & Veatch Construction Inc. and Harder Mechanical Contractors Inc.). The Equipment Purchase Agreement (EPA) supplier is Wärtsilä North America.
Carty Generating Plant (P35769)	6/3/2013	9/30/2016	Estimated at \$450,000,000	Carty Generating Station is a base load combined cycle gas plant located adjacent to the Boardman Coal Plant, with a nameplate capacity of 441 MW (fired) output. The major equipment for the project will be provided by Mitsubishi, including the 501GAC gas turbine, Heat Recovery Steam Generator (HRSG), and steam turbine. The Engineering, Procurement, and Construction (EPC) Contractor is Abeinsa, Abener, Abengoa, Teyma Partnership.
Tucannon River Wind Farm (P35654)	6/3/2013	1/1/2015	Estimated at \$500,000,000	Tucannon River Wind Facility is a fully-permitted wind generation facility located in Columbia County, Washington. The contracting structure includes an Asset Purchase Agreement with Puget Sound Energy (PSE), a Balance of Plant Agreement with Renewable Energy Systems (RES), and Turbine Supply Agreement with Siemens Energy (SEI). The project has a nameplate capacity of 266.8 MW and an annual average capacity of approximately 101 MWa.

Project Narrative  
Projects Greater Than \$1.0 Million Starting in 2014

Title	Start	End	Amount	Notes
AMI Meter Encryption (P35685)	1/1/2014	12/31/2014	\$1,101,482	This project will implement functionality that will allow PGE to roll out encryption of the AMI meters as well as to store and manage encryption keys used to secure the encrypted meters. The functionality must allow for access to the meters in the field in a secure fashion while at the same time limiting the impact to operational efficiencies. Functionality should also include key rotation management. Project scope includes all PGE meters on the Sensus AMI system as well as associated server and remote base station equipment.
Grizzly Relay Replacement (P35730)	3/1/2014	11/30/2014	\$1,102,351	This project will replace the existing 500kV line relays on the Grizzly-John Day #1 & #2 lines, the Grizzly-Malin #1 line, the Grizzly-Ponderosa-Summer Lake line, and the Grizzly-Buckley#1 line. It will also replace transfer trip relays, relays on the reactor on the Grizzly-Malin #2 line, and install OHSU cards for each line. In 1987, PGE entered into a Grizzly Construction Trust Agreement which provides for ongoing replacements and upgrades to jointly owned facilities at Grizzly. PGE is responsible for 40% of the work.
Purchase Spare CTG Coils at Beaver (P35710)	1/1/2014	12/1/2014	\$1,172,978	This project purchases one set of spare coils and one rewind kit to be used to rewind a Combustion Turbine Generator (CTG) in the event of a winding failure during operation or testing. Diagnostic testing indicates that all 6 CTGs at Beaver have a high level of deterioration but are stable. In order to improve the confidence level of CTG operability a more thorough testing program is planned. The spare rewind coils and kit will be used to allow a faster CTG rewind in the event of winding failure due to either an in service event or failure during testing.
Test Enviro PGE Unified IVR/ACD System (P35701)	3/1/2014	12/1/2014	\$1,183,661	This project will build an environment for the Integrated Voice Response (IVR) and Automatic Call Distribution (ACD) system to test various patching and code updates, mandatory upgrades, version releases and functionality of the system, as well as various network devices supporting these systems. The project scope includes acquisition, configuration and deployment of the following equipment/systems: Cisco Call Manager (Phone System), Cisco Unified Contact Center Enterprise (IVR/ACD), Virtual Hold, Email Interaction Manager(EIM), NICE Call Recording, network switches, routers/voice gateways, and related servers.
Build Fiber Port Westward – Rainier (35760)	4/1/2014	12/1/2014	\$1,317,314	This project will replace the existing reflected microwave connection between the Beaver/Port Westward complex (PW) and the World Trade Center (WTC) with a dedicated aerial fiber-optic cable from PW to PGE's microwave station near

Project Narrative  
 Projects Greater Than \$1.0 Million Starting in 2014

Title	Start	End	Amount	Notes
				Rainier. The link from Rainier to the WTC will use the existing high-capacity line-of-site microwave system which is currently serving the Trojan site.
EMS Readiness Center Enhancement (P35683)	1/1/2014	12/31/2014	\$1,322,919	The Emergency Management Service (EMS) Readiness Center Enhancement project will upgrade the Backup Control Center (BUCC) EMS system to be identical to the primary World Trade Center EMS. This project also adds interchange metering and monitoring/control of feeder recloser Distribution Automation capabilities at the Carver Readiness Center which currently does not exist at the Portland Service Center BUCC. It upgrades existing WTC capabilities for interchange metering to support future retirement of the Inven Tone Telemetry system. NERC Reliability Standard EOP-008-1 Loss of Control Center Functionality requires every control center to have a BUCC which allows it to continue to meet its functional obligations with regard to the reliable operation of the Bulk Electric System in the event that its primary control center functionality is lost.
Faraday Switchyard Ring Bus Upgrade (P35764)	10/1/2014	10/1/2015	\$2,149,222	This project will upgrade the switchyard by replacing three 115kV oil circuit breakers with 5 new 115 kV SF6 gas circuit breakers and reconfiguring the existing bus arrangement into a 5 position ring bus. New 115 kV potential devices, protective relaying and disconnect switches will also be installed to match the ring bus upgrade. The existing bus arrangement is unconventional and has significant reliability and maintainability issues negatively impacting North Fork with Oak Grove and Faraday impacted to a lesser extent.
2014 Web Fitness – Remove Self Service Barriers (P35684)	6/1/2014	6/30/2015	\$2,537,314	This project supports the Customer Engagement Transformation strategy of moving more customers to lower cost self-service options, and the Customer Strategies and Business Development market plan priority to remove barriers to self-service. The project brings PGE to current standards for top quartile customer service websites. Includes four components: <ul style="list-style-type: none"> <li>• Simplify Login: use "remember me," "cookie" and password recovery functionality to improve login. Responds to customer feedback and reduces the number of web accounts that are abandoned due to forgotten passwords.</li> <li>• User Experience Redesign: Makes the site customer based instead of account based, implements touch-screen friendly components and delivers a site that adjusts to mobile, tablet and desktop screens. Redesigns pages to improve marketing opportunities.</li> <li>• Payment Improvements: Streamlines steps to enroll and use online payment</li> </ul>

**Project Narrative  
Projects Greater Than \$1.0 Million Starting in 2014**

Title	Start	End	Amount	Notes
				<p>methods. Responds to site surveys, and customer feedback.</p> <ul style="list-style-type: none"> <li>• Paperless communication: Increases opportunities for paperless communication.</li> </ul>
Replace Emergency Generators-WTC (P35709)	1/1/2014	10/31/2014	\$2,761,530	<p>This project will replace the Turbine standby power generators which serve the World Trade Center complex. The existing "Solar" Brand Turbine generators would be replaced with traditional standby generators. This improvement will increase reliability and capacity of standby power for the World Trade Center complex. The existing generators are aging and not in step with current technologies which causes difficulty for parts and service. Current service is from a sole source provider without a secondary vendor available. This project will allow more capacity for critical PGE business units which can be added to the standby system. The switch gear will be upgraded to allow power to be exported through PGE's Dispatchable Standby Energy (DSG) group.</p>
ETRM Risk Management Consolidation (P35672)	1/1/2014	6/1/2015	\$5,080,244	<p>This project will replace existing software (BookRunner v10), which is obsolete &amp; unsupported by the vendor (SAS). BookRunner does not run on Windows 7 and requires a user desktop Windows XP virtual machine. It requires multiple exceptions from IT Security due to using an unsupported Oracle desktop client and other security vulnerabilities. The project will consolidate Risk Management systems into an integrated Energy Trading &amp; Risk Management (ETRM) solution to support PGE's wholesale energy activities. This technology will enable efficient, effective and transparent wholesale business processes work flow.</p>