

March 12, 2009

### Email/US Postal Mail

Vikie Bailey-Goggins Administrator 550 Capitol Street, N.E., Ste 215 Salem, OR 97301-2551

### RE: UE-189 AMI Project Revised Quarterly Status Updates

OPUC Order No. 08-245 adopted the AMI Conditions filed with the Joint Party stipulation. The provisions of the Joint Party stipulation require that PGE file quarterly status reports throughout the deployment period with the Public Utility Commission of Oregon, detailing:

- Progress under the implementation plans, including any significant changes in timing, budget, or scope;
- Number of meters installed; and
- Actual costs by category.

Staff and PGE met in January and February to design a new format for PGE's quarterly status reports. Pursuant to these discussions, PGE provides the attached revised Quarterly Reports for Q1-2008 through Q4-2008.

If you have any questions or require further information, please call Alex Tooman at (503) 464-7623. Please direct all formal correspondence and requests to the following email address pge.opuc.filings@pgn.com

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Manager, Regulatory Affairs

cc: UE 189 Service List Joel Westvold Alex Tooman Margo Bryant



For quarter ending March 31, 2008

Revision#2 on 2/16/09

### **Advanced Metering Infrastructure (AMI) Project**

<u>Summary</u>: This project carries out activities to deploy a two-way, fixed-network AMI system throughout PGE's service territory. Scope includes project planning, IT readiness, vendor selection & contracting, business process development, system acceptance testing, deployment of 852,000 meters and related radio-frequency (RF) communications equipment, and evaluation of certain customer & systems-related benefits.

Project Start Date	Project Completion Date	# of AMI Meters Deployed to Date	# of Meters Read by Network for Billing	JMR Routes Remaining with PGE	JMR Routes Remaining with NNG
August 2005	September 2010	0	0	1,691	568

Project Cost Summary  * In Thousands	AMI Tariff Budget*	Actual Cost This Quarter*	Actual Cost to Date*	Remaining Cost to Complete*	Over / (Under) Budget*
Capital (Tariff) Costs					(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
Meters Jobs	\$107,719	\$127	\$127	\$106,040	\$(1,552)
Network Jobs	5,507	0	0	4,449	(1,058)
IT Equip. & License Jobs	14,161	781	2,594	13,056	1,488
Vehicles	0	0	0	96	96
Capital Sub-Total (Unloaded)	127,387	908	2,721	123,640	(1,026)
Capital Loadings	4,777	134	995	4,876	1,093
Total Capital (Loaded)	\$132,164	\$1,042	\$3,715	\$128,516	\$67
Total O&M (Loaded)	\$12,000	\$357	\$4,057	\$7,902	(41)
Total Capital and O&M (Loaded Costs)	\$144,164	\$1,399	\$7,773	\$136,418	\$27

<u>Variance Explanation</u>: This report was revised to provide an unchanging basis (the AMI tariff budget) that can be measured against in review of budget status and performance.

The meter job is under budget primarily due to expected savings in the types of meters that will be purchased compared to what was anticipated when the tariff budget was created.

The network jobs are under budget due to extensive planning work bringing down the overall cost of construction that were not known to the same level of detail when the AMI tariff was provided.

IT Equipment and License jobs have increased due to additional costs identified for certain computer hardware to meet availability requirements and due to increases in the cost of implementing business processes to produce benefits that were above that previously anticipated.

Vehicles are now broken out from their previous inclusion in the meter jobs. These vehicles are necessary for use by meter deployment personnel traveling throughout the service territory in support of deployment activity.

Loadings are over budget because the mix between costs with loadings versus costs without loadings has changed. Mainly, labor costs shifted from contractor hours (which do not have loadings) to employee hours (which have loadings).

Project Milestones	Due Date	Status
■ Begin System Acceptance Testing (SAT)	06/02/2008	16,000 meters to be deployed for functionality & end-to-end testing
■ Complete System Acceptance Testing	12/31/2008	Final stages of test design and planning
Begin Mass Meter Deployment	01/05/2009	Preliminary month-to-month deployment schedule prepared
Complete RF Network Installation	12/31/2009	RF propagation study and tower location analyses nearing completion
Complete Mass Meter Deployment	09/12/2010	To be followed by up to six-month system optimization process



For quarter ending March 31, 2008

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Project Job Status	Due Date	Actual Capital Cost This Quarter*	Actual Capital Cost to Date*	Remaining Capital Cost to Complete*
Meter Installation – SAT	09/2008	127	127	7,233
Meter Installation - Full Deployment	09/2010	0	0	98,806
Meters - Total		127	127	106,040
Tower Site Deployment	12/2009	0	0	4,449
Towers – Total		0	0	4,449
Project Office	09/2010	36	371	484
Automated Meter Exchange (AME)	06/2008	25	855	317
IT Infrastructure Support	09/2010	690	866	3,371
Remote Connect/Disconnect	04/2009	0	0	476
Move-in/Move-out	01/2010	0	0	348
On Cycle Billing	06/2008	0	0	160
Host System Installation – SAT	05/2008	. 0	225	275
MDC - General AMI Requirements	01/2010	0 .	0	0
MDC - CS SAT Testing	12/2008	0	0	0
Lost Revenue Protection (LRP)	01/2010	0	2	167
Meter Reading Process Redesign	09/2009	0	0	0
Routine Meter Exchange	08/2008	0	0	157
IT AMI Software	06/2010	0	148	1,543
Information-Driven Energy Savings (IDES)	08/2010	0	0	416
Customer-Selected Due Date (CSDD)	08/2009	0	0	125
Host System Installation - Full Deployment	12/2008	0	0	700
Interval Date Storage & Usage	11/2009	30	126	1,171
Contingencies	09/2010	0	0	3,346
IT Equipment & Licenses - Total		781	2,594	13,056
Vehicles	12/2008	0	0	96
Vehicles – Total		0	0	96

### Implementation Activities - 2005 to 2007

- Completed initial AMI business case and project plan (March 2005); updated AMI business case (August 2005).
- Received PGE Board approval and funding for initial phase of AMI project (August 2005).
- Initiated RFP processes for selection of AMI vendor (January 2006) and contract meter installer (July 2006).
- Completed IT readiness assessment and initial cost estimates (March 2006).
- Received PGE Board approval and funding for Phase 2 of AMI project (May 2006).
- Selected Sensus as preferred AMI vendor and initiated contract negotiations (August 2006).
- Initiated planning and development on seven core business processes (September 2006).
- Initiated radio frequency (RF) propagation analysis work with AMI vendor (December 2006).
- Submitted preliminary draft AMI Implementation Plans to OPUC (January 2007).
- Filed AMI tariff request with OPUC (March 2007).
- Completed first round of testing on automated meter exchange (AME) process (June 2007).



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- Completed pre-contract scalability testing on vendor's AMI host system software (September 2007).
- Executed contracts with AMI vendor (Sensus) and contract meter installer (Wellington) (September 2007).
- Received initial AMI host system software version (1.2) (October 2007).

### Implementation Activities - Q1 2008

- Received AMI host system software version 1.4 for testing; version 1.5 for use during SAT is due May 19.
- Continued refinement of RF propagation analysis to determine tower locations for SAT/mass deployment phases.
- Successfully tested proof of concept for interfaces between AMI vendor's system and PGE's meter data consolidator.
- Entered testing requirements and test plans into TestDirector system in preparation for SAT phase.
- Met with NW Natural (NWN) to plan orderly transition from joint meter reading (JMR) program.
- Continue working with affected employee groups as part of employee transition plan activity.
- Completed customer focus groups on AMI communications and field deployment practices (Feb. 25-27).
- Completed second round on-site assessments of vendor's manufacturing facilities (week of March 17).
- Ordered first sets of AMI meters for SAT; meter deliveries expected May 5, May 12 and June 9.
- Initiated meeting to prepare for training for Community Action Agencies.

### Planned Activities - Q2 2008

- Install version 1.5 of AMI vendor's host system software in readiness for SAT.
- Receive/test initial orders of AMI meters.
- Begin meter deployment in three SAT test areas: inner SE Portland, downtown Portland, Banks/Gales Creek rural area.
- Complete implementation of system to facilitate automation of meter exchange data transfer into PGE's meter inventory, meter data management and customer information systems during SAT and mass deployment phases.
- Complete deployment of RF towers for SAT.
- Complete requirements gathering and submit revised project plans to OPUC (mid-July) for business processes.
- Continue site reviews and documentation of tower locations for mass deployment.
- Conduct pre-SAT employee training (Customer Service, Meter Services, Distribution, Billing & Credit, etc.).
- Finalize detailed test plans, testing requirements and ready test scripts for SAT; initiate testing activity.
- Complete work with OPUC on revisions to Periodic and Sample Testing requirements.
- Complete long-range staffing plan for Meter Reading and Field Collections.

Contacts:

Joel Westvold, AMI Director, 503-464-7583

Alex Tooman, Rates & Regulatory Affairs, 503-464-7623



For quarter ending June 30, 2008 Revision #2: March 09

### **Advanced Metering Infrastructure (AMI) Project**

<u>Summary</u>: This project carries out activities to deploy a two-way, fixed-network AMI system throughout PGE's service territory. Scope includes project planning, IT readiness, vendor selection & contracting, business process development, system acceptance testing, deployment of 852,000 meters and related radio-frequency (RF) communications equipment, and evaluation of certain customer & systems-related benefits.

Project Start Date	Project Completion Date	# of AMI Meters Deployed to Date	# of Meters Read by Network for Billing	JMR Routes Remaining with PGE	JMR Routes Remaining with NNG
August 2005	September 2010	714	0	1,691	568

Project Cost Summary  * In Thousands	AMI Tariff Budget*	Actual Cost This Quarter*	Actual Cost to Date*	Remaining Cost to Complete*	Over / (Under) Budget*
Capital (Tariff) Costs					
Meters Jobs	\$ 107,719	\$394	\$521	\$105,646	\$(1,552)
Network Jobs	5,507	830	830	3,619	(1,058)
IT Equip. & License Jobs	14,161	102	2,696	12,953	1,488
Vehicles	0	71	71	25	96
Capital Sub-Total (Unloaded)	127,387	1,397	4,118	122,243	(1,026)
Capital Loadings	4,777	213	1,207	4,663	1,093
Total Capital (Loaded)	\$132,164	\$1,610	\$5,325	\$126,906	\$67
Total O&M (Loaded)	\$12,000	\$568	\$4,625	\$7,334	(41)
Total Capital and O&M (Loaded Costs)	\$144,164	\$2,177	\$9,950	\$134,241	\$27

### Variance Explanation:

This report was revised to provide an unchanging basis (the AMI tariff budget) that can be measured when reviewing budget status and performance.

- AMI budget did not change between Q1 2008 report and this Q2 report so over / under budget amounts are the same as reported in Q1.
- IT Infrastructure job had a net credit of \$0.44 million in Q2 2008. This was because we transferred \$0.65 million to the Tower Site Deployment job for the cost of six Tower Gateway Base Stations (TGBs) that were paid for in Q1 2008.
- Please Note: In Q3 2008, AMI budgets will be revised due to reorganization of business process jobs.

Project Milestones	Due Date	Status
■ Begin System Acceptance Testing (SAT)	06/02/2008	Started 6/2/08 with meter deployment and testing
■ Complete System Acceptance Testing	12/31/2008	Final stages of test design and planning
Begin Mass Meter Deployment	01/05/2009	Preliminary month-to-month deployment schedule prepared
Complete RF Network Installation	12/31/2009	RF propagation study and tower location analyses nearing completion
Complete Mass Meter Deployment	09/12/2010	To be followed by up to six-month system optimization process



For quarter ending June 30, 2008

Revision #2: March 09

Project Job Status	Due Date	Actual Capital Cost This Quarter*	Actual Capital Cost to Date*	Remaining Capital Cost to Complete*
Meter Installation - SAT	09/2008	394 .	521	6,839
Meter Installation - Full Deployment	09/2010	0	0	98,806
Meters – Total		394	521	105,646
Tower Site Deployment	12/2009	830	830	3,619
Towers - Total		830	830	3,619
Project Office	09/2010	137	508	348
Automated Meter Exchange (AME)	06/2008	37	892	279
IT Infrastructure Support	09/2010	(446)	421	3,817
Remote Connect/Disconnect	04/2009	0	0	476
Move-in/Move-out	01/2010	0	0	348
On Cycle Billing	06/2008	0	0	160
Host System Installation - SAT	05/2008	275	500	0
MDC - General AMI Requirements	01/2010	0	0	0
MDC - CS SAT Testing	12/2008	0	0	0
Lost Revenue Protection (LRP)	01/2010	4	6	163
Meter Reading Process Redesign	09/2009	0	0	0
Routine Meter Exchange	08/2008	. 0	0	157
IT AMI Software	06/2010	51	199	1,492
Information-Driven Energy Savings (IDES)	08/2010	11	11	405
Customer-Selected Due Date (CSDD)	08/2009	0	0	125
Host System Installation - Full Deployment	12/2008	0	0	700
Interval Data Storage & Usage (IDU)	11/2009	34	159	1,137
Contingencies	09/2010	0	0	3,346
IT Equipment & Licenses - Total		102	2,696	12,953
Vehicles	12/2008	71	71	25
Vehicles - Total		71	71	25

### Implementation Activities - Q2 2008

#### Previously Planned Activities

- Installed versions 1.4, 1.5 and 1.5.1 of AMI vendor's host system software (FlexWare) in readiness for SAT.
- Received/tested initial deliveries of AMI meters from primary meter vendor, Sensus Metering Systems.
- Began meter deployment in inner SE Portland SAT test area; completed 714 meter exchanges in first month.
- Completed implementation of system to facilitate automation of meter exchange data transfer into PGE's meter inventory, meter data management and customer information systems during SAT and mass deployment phases.
- Completed construction and commissioning of four of five radio towers required for SAT.
- Completed requirements gathering for business processes in preparation of submitting revised project plans to OPUC.
- Completed site reviews and documentation for all radio tower locations for mass deployment.
- Conducted pre-SAT employee training (Customer Service, Meter Services, Distribution, Billing & Credit, etc.).
- Finalized detailed test plans, testing requirements and readied test scripts for SAT; initiated testing activity.



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- Completed work with OPUC on revisions to Periodic and Sample Testing requirements.
- Continuing to work on long-range staffing plan for Meter Reading and Field Collections.

#### Additional Activities Undertaken

- Submitted project plans to OPUC for Improved Outage Management, Distribution Asset Utilization, Interval Data Usage and Information-Driven Energy Savings.
- Selected vendors and established rules for processing/recycling of non-AMI meters removed from the field.
- Established policy/procedure for when customer-owned equipment requires repairs before meter exchange can be completed.
- Launched "smart metering" pages on PGE customer website (www.PortlandGeneral.com/smartmeter).
- Initiated customer telephone survey to evaluate meter exchange and customer notification processes.
- Provided NWN with notification of PGE's intent to terminate joint meter reading (JMR) agreement effective September 2010; filed letter with OPUC on 5/28/2008.
- Attended US DOE workshop in Washington DC on Smart Grid and appliance market transformation.

### Planned Activities - Q3 2008

- Continue meter deployment in SAT test areas: SE Portland, downtown Portland and Banks/Gales Creek area.
- Complete construction/commissioning of final RF tower for SAT (Main substation).
- Receive/install version 1.6 FlexNet software.
- Submit revised business process project plans to OPUC.
- Apply for permits to construct additional radio towers in preparation for start of full deployment in January 2009.
- Continue monthly training for Customer Service personnel.
- Conduct training for Distribution personnel, including line departments, field connection, service & design.
- Initiate AMI meter deployment for all new construction and routine meter exchange work.
- Continue SAT testing activity.
- Complete long-range staffing plan for Meter Reading and Field Collections.
- Prepare amendment to JMR contract with NWN to cover operational issues during AMI deployment.
- Conduct second annual Career Fair for employee groups whose positions are affected by AMI implementation.
- Complete telephone surveys of customers who received new meters during SAT period.
- Conduct meeting with Low Income Agencies to discuss AMI efforts.

#### **Additional Notes and Updates**

- PGE expects a proposed change to the December 15, 2008 training date for CAPO and associated organizations. In Q3 we will meet with CAPO to review our work plan and training schedule.
- PGE anticipates issuing the RFP for peak demand side capacity from large business customers by the end of Q3 2008. The RFP will be expanded to include additional peaking capacity from residential and small business customers which was not scheduled to be issued until 2010. PGE believes that by combining the two requests that awareness and enrollment synergies will be facilitated.
- PGE is developing an experimental critical peak pricing (CPP) program design that will utilize AMI meter data for determining target customer segments and integration of price responsive enabling technology. Prior to hosting an informal workshop with stakeholders in approximately Q3 2008, PGE has scheduled an update meeting with OPUC Staff in July 2008.

Contacts:

Joel Westvold, AMI Director, 503-464-7583

Alex Tooman, Rates & Regulatory Affairs, 503-464-7623

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### Advanced Metering Infrastructure (AMI) Project

<u>Summary</u>: This project carries out activities to deploy a two-way, fixed-network AMI system throughout PGE's service territory. Scope includes project planning, IT readiness, vendor selection & contracting, business process development, system acceptance testing, deployment of 852,000 meters and related radio-frequency (RF) communications equipment, and evaluation of certain customer & systems-related benefits.

Project Start Date	Project Completion Date	# of AMI Meters Deployed to Date	# of Meters Read by Network for Billing	JMR Routes Remaining with PGE	JMR Routes Remaining with NNG
August 2005	September 2010	8,826	0	1,691	568
Project Cost Sur	nmary	MIT TO THE ALCOHOLOGICAL			0/01-3

Project Cost Summary * In Thousands	AMI Tariff Budget*	Actual Cost This Quarter*	Actual Cost to Date*	Remaining Cost to Complete*	Over / (Under) Budget*
Capital (Tariff) Costs	45.4				
Meters Jobs	\$ 107,719	\$2,314	\$2,835	\$100,350	\$(4,534)
Network Jobs	5,507	343	1,174	3,539	(794)
IT Equip. & License Jobs	14,161	274	2,970	15,373	4,182
Vehicles	0	0	71	. 49	120
Capital Sub-Total (Unloaded)	127,387	2,931	7,049	119,312	(1,026)
Capital Loadings	4,777	251	1,457	4,413	1,093
Total Capital (Loaded)	\$132,164	\$3,182	\$8,506	\$123,725	\$67
Total O&M (Loaded)	\$12,000	\$442	\$5,068	\$6,891	(41)
Total Capital and O&M (Loaded Costs)	\$144,164	\$3,624	\$13,574	\$130,616	\$27

Variance Explanation: In Q3 2008, AMI budgets were revised due to reorganization of business process jobs. Due to the business process reorganization, the Remote Connect/Disconnect job was renamed to Connects. The Move-In/Move-Out job was eliminated as its budget and tasks were moved into the Connects job. In addition, we created a new job: Work Orders for Business Process Jobs. Summary of cost changes as a result of reorganization follows:

- Meter Jobs- Changes in cost estimates, mostly a decrease in meter pricing, resulted in \$2.98 million reduction from Q2 2008 Report.
- Network- Changes in costs estimates, mostly budget addition for Project Manager, resulted in \$0.26 million increase from Q2 Report.
- IT Jobs- Major changes were: Addition of IT Architect, Business Analyst, Testing Labor and End-to-End Testing detail. For Business Process jobs, budget now includes addition of IT resources to complete development. Net result is \$0.27 million increase from Q2 Report. The need for these positions and resources were unforeseen previously.
- Vehicles-Budget was increased by \$0.02 million for one additional field vehicle. Vehicle will be used by PGE field personnel to perform meter exchanges not able to be completed by the contract meter installer.

Project Milestones	Due Date	Status
<ul> <li>Begin System Acceptance Testing (SAT)</li> </ul>	06/02/2008	Started 6/2/08 with meter deployment and testing.
Complete System Acceptance Testing	12/31/2008	Delays in meter supply and subsequent deployment will result in completion of testing being moved into the first quarter of 2009. When the completion date is confirmed, PGE will notify OPUC Staff.
■ Begin Mass Meter Deployment	01/05/2009	Preliminary month-to-month deployment schedule prepared.  Delay in completion of SAT will result in a corresponding delay in full meter deployment.
Complete RF Network Installation	12/31/2009	RF propagation study and tower location analyses completed; five SAT tower locations constructed and commissioned.
■ Complete Mass Meter Deployment	09/12/2010	To be followed by up to 6-month system optimization process.



For quarter ending September 30, 2008 Revision #1: March 09

Project Job Status	Due Date	Actual Capital Cost This Quarter*	Actual Capital Cost to Date*	Remaining Capital Cost to Complete*
Meter Installation – SAT	09/2008	2,314	2,835	3,021
Meter Installation - Full Deployment	09/2010	0	0	97,329
Meters - Total		2,314	2,835	100,350
Tower Site Deployment	12/2009	343	1,174	3,539
Towers - Total		343	1,174	3,539
Project Office	09/2010	59	567	41
Automated Meter Exchange (AME)	06/2008	19	911	41
IT Infrastructure Support	09/2010	33	454	3,488
Connects	04/2009	0	0	1,035
On Cycle Billing	06/2008	7	7	323
Host System Installation - SAT	05/2008	0	500	94
MDC - General AMI Requirements	01/2010	0	0	. 0
MDC - CS SAT Testing	12/2008	0	0	0
Lost Revenue Protection (LRP)	01/2010	0	6	162
Meter Reading Process Redesign	09/2009	0	0	0
Routine Meter Exchange	08/2008	0	0	503
IT AMI Software	06/2010	109	308	2,124
Information-Driven Energy Savings (IDES)	08/2010	8	19	389
Customer-Selected Due Date (CSDD)	08/2009	0	0	521
Host System Installation - Full Deployment	12/2008	0	0	1,247
Interval Data Storage & Usage (IDU)	11/2009	40	199	1,074
Work Orders for Business Process	12/2009	0	0	984
Contingencies	09/2010	0	0	3,346
IT Equipment & Licenses - Total		274	2,970	15,373
Vehicles	12/2008	0	71	49
Vehicles - Total		0	71	49

### Implementation Activities - Q3 2008

#### Previously Planned Activities

- Completed work with OPUC on revisions to Periodic and Sample Testing requirements.
- Continued meter deployment in SAT test areas: SE Portland, Downtown Portland/West Hills and Banks/Gales Creek; 8,826 meters deployed in SAT areas as of 9/30/2008.
- Initiated AMI meter deployment for new construction and routine meter exchange work throughout PGE's service territory; approximately 2,400 AMI meters installed during routine work through 9/30/2008.
- Completed construction/commissioning of 5th and final RF tower (collector) for SAT.
- Initiated permitting and construction activity on first set of RF tower locations for full deployment.
- Installed and began testing version 1.6 FlexNet host system software.
- Communicated to OPUC about changes in business process project plans; plans to be provided in the 4<sup>th</sup> quarter 2008.
- Conducted AMI meter training for line departments, field connection, and service & design personnel.
- Completed long-range staffing plan for Meter Reading and Field Collections.
- Prepared amendment to JMR contract with NWN to cover operational issues during AMI deployment.



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- Conducted second annual Career Fair for employee groups whose positions are affected by AMI implementation; nearly 40 employees have transited to other opportunities within PGE since January 2008.
- Conducted meeting with Low Income Agencies to discuss AMI efforts.

#### Additional Activities Undertaken

- Selected qualified electrical contractor to be on call when customer-owned equipment requires repairs before meter exchange can be completed.
- Formed Field Response Team to address meter exchanges the contractor is unable to complete and to respond to other issues in the field.
- Continued work on troubleshooting process for non-communicating meters.
- Continued work on meter reading staffing plan for full deployment period.

#### Planned Activities – Q4 2008

- Complete meter deployment in SAT test areas.
- Continue SAT testing.
- Finalize end-to-end test plan.
- Complete construction & commissioning of an additional five (5) RF towers in preparation for full deployment
- Submit revised business process project plans to OPUC.
- Continue monthly training for Customer Service personnel.
- Complete long-range staffing plan for Meter Reading and Field Collections.
- Reach agreement with NWN on coordination and timing of joint metering reading dissolution.
- Complete telephone surveys of customers who received new meters during SAT period.
- Conduct follow-up meeting with Low Income Agencies to discuss AMI efforts.
- Update customer communications approach based on experienced gained during SAT period.

#### **Additional Notes and Updates**

- PGE communicated a change to the December 15, 2008 training date for CAPO and associated organizations; new date
  is scheduled for the third quarter of 2009.
- PGE issued an RFP for peak demand side capacity from large business customers, which also includes requests for proposals for additional peaking capacity from residential and small business customers.
- PGE is conducting external stakeholder meetings to gather input to the development of an experimental critical peak pricing (CPP) pilot. In the first meeting held on September 24, 2008, PGE presented five types of designs and discussed three of them in detail. At the next meeting, expected to be held in December 2008, PGE will present a proposed design, results of pilots by other companies, and a research plan.

Contacts:

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For quarter ending December 31, 2008

### Advanced Metering Infrastructure (AMI) Project

Summary: This project carries out activities to deploy a two-way, fixed-network AMI system throughout PGE's service territory. Scope includes project planning, IT readiness, vendor selection & contracting, business process development, system acceptance testing, deployment of 852,000 meters and related radio-frequency (RF) communications equipment, and evaluation of certain customer & systems-related benefits.

Project Start Date Project Completion Date		# of AMI Meters Deployed to Date	% of Customer Repairs Needed	# of Meters Read by Network fo Billing	JMR Routes	JMR Routes Remaining with NNG	
August 2005	October 2010	0 21,488	0.04%	0	1,691	568	
Project Cost Summary  * In Thousands		AMI Tariff Budget*	Actual Cost This Quarter*	Actual Cost to Date*	Remaining Cost to Complete*	Over / (Under) Budget*	
Capital (Tariff)	) Costs						
Meters Jobs		\$ 107,719	\$1,392	\$4,227 \$98,958		\$(4,534)	
Network Jobs		5,507	915 2,089 2,624		2,624	(794)	
IT Equip. & License Jobs		14,161	2,171	5,140	14,028	5,008	
Vehicles		0	. 0	71	49	120	
Capital Sub-Total (Unloaded)		127,387	4,478	11,527	115,660	(201)	
Capital Loadings		4,777	291	1,748	3,297	268	
Total Capital (Loaded)		\$132,164	\$4,769	\$13,275	\$118,956	\$67	
Total O&M (Loaded)		\$12,000	\$476	\$5,543	\$6,416	(41)	
Total Capital and O&M (Loaded Costs)		\$144,164	\$5,245	\$18,818	\$125,372	\$27	

### Variance Explanation:

- In Q4 2008, AMI budgets were revised. We evaluated available employee hours vs budgeted employee hours. Net result was movement of budget to contractor hours from employee hours. Because outside contractors have a higher hourly rate, capital costs for IT Equipment and License jobs were increased by \$0.83 million. However, this difference was netted to zero because less employee hours resulted in capital labor loadings decreasing by \$0.83 million.
- Host System Installation-SAT job had a net credit of \$0.49 million this quarter. This was a result of \$0.53 million accrual in December 2008 for Sensus liquidated damages.
- Similarly, we accrued \$0.78 million for Sensus liquidated damages in the Meter Installation-SAT job.
- IT Infrastructure costs were \$2.04 million this quarter, which included \$1.79 million for hardware purchases in December.

Project Milestones	Due Date	Status		
■ Begin System Acceptance Testing (SAT)	06/02/2008	Started 6/2/08 with meter deployment and testing.		
Complete System Acceptance Testing	02/27/2009	Delays in meter supply, software delivery and subsequent deployment will result in completion of testing being moved into the first quarter of 2009.		
Begin Full Meter Deployment	03/02/2009	Preliminary month-to-month deployment schedule prepared.  Delay in completion of SAT will result in a corresponding delay in full meter deployment.		
■ Complete RF Network Installation	12/31/2009	Five SAT tower locations constructed and commissioned plus four tower locations for full deployment commissioned as of end of Q4 2008.		
Complete Full Meter Deployment	10/15/2010	To be followed by system optimization.		



For quarter ending December 31, 2008

Project Job Status	Due Date	Actual Capital Cost This Quarter*	Actual Capital Cost to Date*	Remaining Capital Cost to Complete*
Meter Installation – SAT	09/2008	1,362	4,197	1,659
Meter Installation - Full Deployment	09/2010	30	30	97,299
Meters - Total		1,392	4,227	98,958
Tower Site Deployment	12/2009	915	2,089	2,624
Towers - Total		915	2,089	2,624
Project Office	09/2010	1	567	40
Automated Meter Exchange (AME)	06/2008	5	916	36
IT Infrastructure Support	09/2010	2,044	2,498	1,444
Connects	04/2009	0	0	1,035
On Cycle Billing	06/2008	57	64	266
Host System Installation – SAT	05/2008	(492)	8	585
MDC - General AMI Requirements	01/2010	0	0	0
MDC - CS SAT Testing	12/2008	0	0	0
Lost Revenue Protection (LRP)	01/2010	0	6	162
Meter Reading Process Redesign	09/2009	0	0	0
Routine Meter Exchange	08/2008	1	1	503
IT AMI Software	06/2010	130	438	2,147
Information-Driven Energy Savings (IDES)	08/2010	22	41 .	441
Customer-Selected Due Date (CSDD)	08/2009	0	0	521
Host System Installation - Full Deployment	12/2008	300	· 300	947
Interval Data Storage & Usage (IDU)	11/2009	100	299	1,573
Work Orders for Business Process	12/2009	3	3	981
Contingencies	09/2010	0	0	3,346
IT Equipment & Licenses - Total		2,171	5,140	14,028
Vehicles	12/2008	0	71	49
Vehicles - Total		0	71	49

### Implementation Activities - Q4 2008

#### Previously Planned Activities

- Completed meter deployment in SAT test areas; 15,598 meters deployed.
- Continued meter deployment for routine work outside of SAT areas; 5,890 meters deployed as of 12/31/2008.
- Continued formal SAT testing.
- Finalized end-to-end test plan.
- Completed construction/commissioning of 4 tower locations for full deployment.
- Installed three patches to version 1.6 of FlexNet host system software and continued software testing activity.
- Communicated to OPUC that changes in business process project plans would not be finalized and provided until the 1<sup>st</sup> quarter 2009. Plans have not been provided.
- Continued training of Customer Service personnel.
- Continued work on long-range staffing plan for Meter Reading and Field Collections.
- Continued discussions with NWN and OPUC staff on amendment to JMR contract with NWN to cover operational issues during AMI deployment.



### For quarter ending December 31, 2008

- Completed telephone surveys of residential customers who received new meters during SAT period; continued phone surveys of business customers.
- Conducted follow-up meeting with Low Income Agencies to discuss AMI efforts.

#### Additional Activities Undertaken

- Added two additional qualified electrical contractor firms to be on call when customer-owned equipment requires repairs before meter exchange can be completed.
- Completed change out of 615 meters that were part of now-discontinued water district AMR project.
- Continued work on troubleshooting process for non-communicating meters.
- Initiated IT security testing of RF network.
- Began stress testing of RNI (FlexNet system's head-end).
- Selected three vendors as finalists for IDES pilot.
- Began functional testing of MDC and CIS for on-cycle billing project.
- Completed initial overall schedule and roadmap for business process work.

### Planned Activities - Q1 2009

- Complete SAT testing and confirm that the system meets all SAT functionality requirements.
- Initiate end-to-end testing of PGE's systems.
- Begin full meter deployment for both residential and business customers.
- Construct and commission seven (7) additional tower/network communications locations.
- Submit revised business process project plans to OPUC.
- Complete initial phase of long-range staffing plan for Meter Reading and Field Collections.
- Implement customer repairs policy consistent with approved tariff.
- Complete agreement with NWN on JMR dissolution and deployment coordination.
- Evaluate additional meter vendor for 12S remote connect meters.
- Select preferred vendor for IDES pilot.
- Update and refine meter deployment and meter order schedules for Full Deployment.
- Complete testing for route rollover to network reads.
- Complete telephone surveys of business customers in SAT area.
- Update customer communications materials and advanced notification plan based on customer feedback and operational experience.

### **Additional Notes and Updates**

- Training date for CAPO and associated organizations is scheduled for the 2<sup>nd</sup> quarter of 2010.
- PGE has received responses to its RFP for peak demand side capacity from large business customers, which also includes requests for proposals for additional peaking capacity from residential and small business customers. These are being evaluated.
- PGE is conducting external stakeholder meetings to gather input to the development of an experimental critical peak pricing (CPP) pilot. In Q4, using comments from stakeholders on three types of designs presented in September, and the results of pilots by other companies, PGE proposed a design and research plan. The draft tariff will be circulated to stakeholders in Q1 2009.
- PGE filed a tariff for a firm load reduction pilot program on December 23, 2008 (Advice No. 08-22).

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Printed on: 3/11/2009 1:37 PM Page 3 of 3

### CERTIFICATE OF SERVICE

I hereby certify that I have on March 12, 2009 caused the following:

PORTLAND GENERAL ELECTRIC COMPANY'S UE 189, AMI PROJECT

REVISED QUARTERLY STATUS UPDATE Q1-2008 THROUGH Q4-2008 to be served to the following parties or attorneys listed on the attached service list by electronic mail and by First Class US Mail, postage prepaid and properly addressed, to those parties on the attached service list who have not waived paper service.

Dated this 12<sup>th</sup> day of March, 2009.

Patrick C. Hager

Manager, Regulatory Affairs

On behalf of Portland General Electric Company

Printed: 3/12/2009

Summary Report

**UE 189 PORTLAND GENERAL ELECTRIC** 

Category: Electric Rate Case

Filed By: PORTLAND GENERAL ELECTRIC

This filing adds Schedule 111, Advanced Metering Infrastructure.

Filing Date: 3/7/2007

Advice No: 07-08

Effective Date: 6/1/2008

**Expiration Date:** 

Status: ACCEPTED

Final Order: 08-309

Signed: 3/7/2007

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