Examples in Operational Efficiencies

- **Customer Service and Delivery (CS&D):** In 2009, CS&D area took a system-wide approach. Managers were asked to implement cost efficiency measures. The goal was threefold: 1) to train and provide tools to managers to identify cost efficiencies, 2) have them implement at least one process improvement, and 3) tie incentives to their successes. Before choosing what to do, managers received training on business process mapping to identify key business processes to a business unit output and note all handoffs and decision points from the start of the process to the output. Managers were encouraged to identify a customer of their business unit and interview the customer on customer experience with the unit. The next step was to map the unit's processes using the tools. Within the business processes, the managers then identified inefficiencies or "pain points" and drilled down to identify potential improvements in quality of service and cost. Once the process was selected, mapped, and the streamlining or efficiency effort identified, the manager calculated the cost of implementation and the benefit of streamlining. Those processes which yielded net benefits were undertaken. A goal of this exercise was to inculcate this type of thinking into all managers and supervisors and lay the groundwork for continuous improvements.
- **New Install Customer Experience (NICE):** This improvement effort was focused on improving PGE's ability to meet customer requested connect dates, and decreasing work completed for jobs that customers ultimately end up canceling. The effort is expectto reduce by half job design hours for jobs that were cancelled before approval. The customer benefit is more certainty that

PGE will meet its desired connect date and better customer understanding of the process including when PGE is awaiting information from the customer.

- **Streamlining of distribution damage claims recovery process:** Prior to starting the process improvement, two PGE groups responded to customer inquiries concerning damage claims. The process was time consuming, frustrating for customers, and slowed down the time from the start of the claim to PGE recovery of damages due. The efficiency involved streamlining the claims process, including improvements to reduce aged receivables. One group now responds to customer claims inquiries; distribution aged receivables decreased by almost a million dollars, from $1.2 million in 2007 to $280,000 in 2009; the average invoice cycle time shortened from 80 days to 60 days; and the annual cost of claims processing went from 16,704 hours to 11,484 hours in 2009, enabling the redeployment of 2 FTEs. This improvement applied best practices used in companies with similar processes/work.
- **Direct access enrollment process improvements:** Nineteen PGE business units are involved in the direct access enrollment processes. The business units reviewed the processes which resulted in streamlining to assure a smoother ESS enrollment process and regulatory compliance.
- **Customer electronic payments:** In 2009, the number of customers paying electronically surpassed those with mail-in or walk- up payments. Electronic payments include Auto Pay, E-banking through the PGE Web site or IVR, or phone payments. At year end 2009, 49% of all customers and 54% of all residential customers pay electronically. Automated mail payments cost one to two cents more per payment to process. What this means in hard dollar savings

is that we have been able to reduce staffing over time in our mail-in payment processing operation (i.e. Cash Remittance). We eliminated one position in 2005, and eliminated another position in 2009 due to lower volumes of mail. The elimination of these positions saves PGE about $93,000 per year. The increase in customer electronic payments is attributable to work by several business groups including: customer service, corporate communications, customer research and analysis, the web team, market management and more.

- **Customer Technical Services and energy efficiency seminars for business:** When faced with increased demand from business customers and not enough PGE staff within the Customer Technical Services group, employees from other PGE business groups were recruited to help deliver the increased number of energy efficiency seminars for business customers. The aim of the seminars is to get business customers to adopt energy efficient technologies and equipment systems. As a result in 2009, the number of seminar attendees doubled and the number of employees knowledgeable about energy efficiency practices grew.
- **Agency Web Portal to ease energy assistance payments:** Starting in February 2010, agencies distributing Low Income Energy Assistance Program, Oregon Energy Assistance Program and Oregon HEAT funds are able to access customer information (with customer consent) as well as make commitments on customer accounts through the online agency portal. The agency representative will no longer have to speak to a customer service representative to obtain customer information on arrearage or shut off. Instead the agency representative, with the customer's consent, can access the customer's information directly, check the customer's account status and make an agency

payment commitment to the customer's account. When an agency makes a commitment on the account, it will be immediate. Provided the commitment is made prior to the day of disconnect and covers the amount due to avoid disconnection, the shutoff will be voided. The agency avoids having to call PGE for the information and has direct access. PGE has fewer agency calls, avoids manual entry of commitments into the Customer Information System (which prior to the portal arrived by fax), the payments are immediately noticed, and any shut off activity stopped. The customer receives more efficient service for energy assistance.

- **Employee Compensation Generally:** PGE actively controls costs in many ways, among them: targeting our compensation attributes and costs to reflect market median conditions; actively negotiating with health care insurance providers for the lowest plan rates; offering an employee wellness program, "Fit For Life," which emphasizes good overall health; and having employees share the cost of their health care. The wellness program is designed to address employee health risk factors that then drive health care cost increases over the longer run. Decreasing health risk factors help contain increasing health care costs.
- **Employee direct deposit of paychecks:** Starting in 2010, all job applicants, will be required, as a condition of employment, to have direct deposit for paychecks rather than paper checks. The avoided cost is $6.55 per paycheck. For current employees, we have been successful in efforts to have 90% or 2,500 of our employees opt for direct deposit of paychecks rather than paper checks.

Oregon law, ORS 652.110, prohibits requiring the direct deposit of paychecks for current employees.

- **Decreasing internal mail runs** PGE outsourced internal mail runs in 1998. Starting in 2010, internal mail runs to five PGE locations are reduced from twice daily to one. This results in a $30,000 savings annually.
- **Dispatchable Standby Generation (DSG):** In exchange for PGE maintaining customer owned generators on their sites, PGE can support its operating reserve requirements and provide peaking resources for the system by having its customers with standby generators agree to allow PGE to use their generation in defined circumstances. The customer owned generators are connected to the grid and may supply capacity to the PGE system within 10-15 seconds upon PGE dispatch via a high-speed network. DSG customers receive the benefits from the provided maintenance, repairs and fuel and all PGE customers receive low cost capacity benefits and operating reserve savings. This program is a working demonstration of smart grid technology applied to reduce PGE's operation costs.
- **Heating Biglow Warehouse:** To mitigate the increasing and high cost of propane to heat the Biglow warehouse, we permitted and installed a waste oil burner that burns used motor oil and waste oil from wind turbines. The warehouse used a propane based radiant heating system. The heating costs averaged $600-900 per week during the winter of 2007-2008. The new system was designed and installed in early 2009 and has a less-than four year payback. Other benefits include environmental gains: recycling used oil onsite eliminated the possibility of accidental spills, improper disposal and vehicle emissions

generated during transport of used oil off-site; and superfund liability and any uninsured expense for proper disposal is eliminated.

- **Fleet Management:** As a result of a third party conducted fleet vintage replacement plan and benchmarking study, we found opportunities to standardize certain specific vehicles and help reduce acquisition costs. The purpose of the plan was to determine total cost of ownership and optimize maintenance and replacement of fleet vehicles. In reviewing our performance against 25 EEI member utilities' fleets, we found that PGE keeps fleet vehicles on the road longer than the industry average. We are using this as a baseline for examining asset utilization and redeploying underused assets.
- **Solar financing model:** PGE identified a long-term ownership option for solar facilities that is more cost efficient than if PGE were to build them and own them from the outset. The process involves finding an equity partner to provide most of the up front capital and receive the tax credits for the project over the eligible time period. At the end of that time period, the ownership transitions to PGE. Customers receive the benefit of the asset without the up front cost.
- **Port Westward and Coyote Springs' labor agreements:** The new Union contract was negotiated to have fewer employee labor specializations so that employees can work on a variety of work tasks at the plants. This translates to a leaner staff to run the plants.
- **Reliability Centered Maintenance (RCM):** RCM is used by the plants to reduce failures and breakdowns and increase plant reliability and availability. RCM studies operations, maintenance practices, patterns and trends to determine the optimum maintenance for a given system or piece of equipment.

When an unplanned outage happens at a plant, the increased costs include unplanned covering for power generated (purchased power), and employee overtime. Timing maintenance activities based on better information means more efficient running of the plants. A specific application of RCM involves the pulverizers at Boardman. RCM was used to decrease the amount of reactive maintenance done on the pulverizers at Boardman. The pulverizers grind coal into a fine powder for combustion in the boiler. The cost for maintenance between January and July in 2007 was $350,000. In 2009 the same costs were about $98,370. A similar analysis was undertaken for the reheater at Boardman. The reheater is a section of the boiler that takes steam, reheats it and sends it to the steam turbine. A reheater leak can take the plant offline for up to four days, costing PGE around $500,000 per day in replacement power cost. Through the RCM analysis, we were able to forecast expected reheater tube leaks in the coming years and justify the cost to replace the upper section of the reheater.

- **Postage savings with use of intelligent barcode:** The United States Postal Service (USPS) has introduced a replacement to the current Delivery Point Barcode that provides for much more data content and tracking capabilities, known as the Intelligent Mail Barcode (IMB). PGE's Print and Mail Services has rolled out the IMB with "basic service" by the end of 2009 which will allow for continued work-share discounts that equate to over $1.0 million dollars in annual cost avoidance. In 2010, the group saved an estimated $60,000 and reduced its budget accordingly.
- **Customer Service Representative Feedback Form Automation:** This improvement developed a specific form that customer service representatives

(and all employees) can use to submit customer feedback. Both forms include drop down menus that employees select to indicate categories and subjects. This information automatically populates the database and can be sorted by category or subject. Customer Relations staff no longer receives/prints emails or re-enters the same information already keyed by a CSR.

- **PGE's Power Operations and the "Web Trader" system:** The Power Operations group recently implemented a new system called WebTrader that combined the department's daily activities into one integrated system, managed by a third party and hosted off-site. Prior to this system, Power Operations was using three separate systems to manage daily activities. PGE was paying for license agreements for all three systems. PGE's IT department was supporting these systems.
- **AVL Auto Vehicle Locating:** GPS devices were placed in a subset of fleet vehicles to allow tracking of the vehicles through a vendor hosted website. The improvement over a manual tracking system allows PGE employees to readily identify where a specialized vehicle is for more efficient dispatch. In addition the tracking supports safety. If PGE was unable to reach a single man crew, for example, the vehicle could be located and someone could check on the welfare of the crew.
- **Derivatives accounting:** For financial reporting involving derivatives accounting, the software code was re-written to reduce the number of labor hours required to complete the report and increase accuracy. Increasing automation reduces the opportunity for human error. The time savings for

preparation and review is estimated at about a day's worth of work by an exempt employee, per month during the accounting close.

- **811 Partner with Home Depot:** As one means to decrease the amount of damages to underground facilities from digging, PGE partnered with Home Depot and 3,000 Oregon Home Depot employees were trained on the importance of calling 811 before digging to avoid damage to underground facilities. The training encouraged Home Depot employees to tell customers. In addition, informational key chains for keys to Home Depot rental equipment and brochures were distributed. While damages from digging have decreased, it is not possible to determine the impact of the Home Depot training and information.
- **Tax credits for fleet vehicles:** PGE is taking advantage of Federal and State Tax Credits for purchase of certain hybrid vehicles and plug-in hybrid technology. Oregon State Business Energy Tax Credits (BETC) can be up to 35% of the incremental cost of purchasing a hybrid vehicle and federal tax credits could result in up to $12,000 per vehicle. 2009 savings total approximately $34,270 from the tax credits.
- **Pre-purchase of diesel fuel:** Early in 2009, PGE saw an opportunity to pre-purchase a portion of the diesel fuel needed for fleet operations. We negotiated with a fuel supplier and were able to lock in a price for a volume of fuel at a fixed price. The vendor was able to store and deliver fuel as needed and PGE saved an estimated $80,000. Pre-purchasing unleaded fuel was investigated but no agreement was reached due to fuel storage and price volatility issues.

- **Using recycled oil in PGE vehicles:** In 2009, PGE started using recycled oil in our vehicles for a savings of $8,000 per quarter or $32,000 annually. The oil is cleaned and additives added back in and it is re-used.
- **Discontinuing Dun and Bradstreet report:** PGE's wholesale credit business group decided to no longer routinely obtain a Dun and Bradstreet (D&B) report on every counterparty. Instead the need was challenged, asking whether the D&B report added information to the analysis or whether they had enough information. The D& B reports are about $100 each. This is not a big ticket item but rather an example of a culture shift to not do what has always been done before but think and challenge the status quo.
- **PGE's reuse center:** PGE uses a large quantity of office supplies. To allow for re-use when the supplies are usable, PGE created a "simply reuse" center. Items include binders, hanging file folders, tape dispensers, desk trays, staplers, calculators, markers, pens, pencils, paper clips, binder clips, and many other items. The center offers to employees a place to send items for reuse and a center to pick up items to be reused. The center also uses a high school intern to maintain the center, the database, and the delivery of items to employees. The net savings from re-using office supplies is less than $5,000 per year and helps infuse in employees an ethic of recycling and cost efficiency.
- **Tax department negotiations with Oregon Department of Revenue:** Negotiations with the Department of Revenue over the valuation attributed to PGE owned land near Pelton Round Butte, designated "flowage easement," resulted in an estimated $700,000 savings in 2009 The state agreed to lower the

valuation, which not only resulted in 2009 savings but sets a lower base for future years' property tax assessments.

- **IT contracts negotiation and management:** The IT group implemented a program several years ago to save costs by negotiating beneficial terms in IT contracts and assuring that negotiated terms are honored. For example, we have negotiated discounts for IT contractors, caps on many of our IT software licenses and maintenance agreements, and discounts on bundle purchases rather than individual and separate purchases. We estimate that we have saved, by paying less, an estimated $1.5 million between 2006 and 2009. The savings is conservatively calculated by comparing amounts PGE paid with amounts paid by others for the same products or by the vendor's best offered price.
- **Government Affairs and negotiation of franchise agreements:** Challenged with over forty five franchise agreements coming due over a four year period, the Government Affairs group identified the franchise negotiation process as an opportunity to resolve longstanding and time consuming issues and build a better relationship with cities. The group assembled a cross functional project team of PGE employees from an array of business units, all of whom worked with cities in some way, e.g. streetlighting, system designers, corporate accounting, pole attachments, and others. The team created an optimal franchise agreement template for negotiation with cities. In addition, members of the team were prepared to participate as subject matter experts in negotiations. The project team brought a focused and coordinated approach to franchise agreements and minimized the need for PGE negotiators to seek information from the affected PGE business units during negotiations. The development of a

template also meant consistency in all the franchise agreements. Consistency saved time because the Government Affairs group does not have to train and communicate with employees on the applicable rules for one city versus another. Finally the project led to a more transparent process for which city customers expressed appreciation.

- **Labor agreement efficiencies:** PGE negotiates for work rule flexibility and efficiency and effectiveness. During the last bargaining with the Local 125, International Brotherhood of Electrical Workers union, PGE gained agreement to restructure the cost share of health care premiums for both active and retired employees. This included a new more efficient and consumer driven medical plan. In addition work rules for our first responders we modified to allow them to do non-traditional work without calling out a crew.

Examples in procurement cost efficiencies

- **Process efficiencies:** Electronic ordering and confirming receipt of supplies with our major T&D materials suppliers. PGE storekeepers enter requirements for materials into our system and orders are electronically dispatched to our suppliers. When materials are received, we confirm the receipt electronically. PGE has also achieved efficiencies in processing payments through the use of automatic payments based upon inventory receipts, saving the manual process of invoice matching.
- **Pole and line hardware:** Our supplier reviews their costs and profit margins with us annually. We work with them to control costs and if a supplier's profits exceed the agreed-upon target, the supplier agrees to a refund to PGE.

- **Biglow construction contract:** PGE avoided escalated construction materials costs of nearly $1.0 million in the Biglow Canyon phase 3 construction by negotiating with the contractor to start the work earlier than the Biglow phase 3 contract schedule provided. When construction for Biglow phase 2 was nearing completion, the Biglow phase 3 construction contractor requested that it be permitted to start work on Biglow phase 3 earlier than the contract provided. The contractor was interested in avoiding the costs of remobilizing staff several months in the future according to the Biglow phase 3 contact commencement date. As a condition of starting Biglow phase 3 early, we negotiated the reprising of materials, taking advantage of depressed commodity prices. In addition, the contractor agreed to purchase materials for Biglow phase 3 on its credit, avoiding cost escalations for materials originally built into the contract; and defer billing PGE for the materials until the original Biglow phase 3 contract milestone date. Had the contractor not started earlier, the materials would have been purchased much later at a higher expected cost. The avoided cost is calculated by subtracting the materials cost from the escalated future cost.