HANUKKAH EVE WINDSTORM
DECEMBER 2006
2010 UPDATE ON KEMA RECOMMENDATIONS

Dated 8/31/2010

PSE PUGET SOUND ENERGY
The Energy To Do Great Things

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INTRODUCTION

On November 29, 2007 Puget Sound Energy (PSE) provided to the Washington Utilities and Transportation Commission (UTC) a summary of the KEMA recommendations and subsequent actions taken by PSE. An update to the KEMA Recommendations Matrix was provided as part of a General Rate Case (GRC), Docket numbers UE-072300 and UG-072301, in response to Data Request #54 from the UTC Staff.

Pursuant to Paragraph 9 of the Multiparty Settlement re: Emergency Response and Storm Preparedness in Docket Nos UE-072300 and UG-72301, PSE provided its annual report dated August 31, 2009, which addressed PSE's progress in implementing and/or further considering KEMA and supplemental recommendations identified in the after action review of the December 2006 Hanukkah Eve Windstorm.

This Annual Report provides a summary of actions taken by PSE on the KEMA recommendations since the August 31, 2009 annual report.

As noted in this update, PSE has accepted and implemented most of these recommendations and they are now integrated into PSE's emergency preparedness processes. PSE will continue to refine these processes as a result of post-event and annual reviews.

The following matrix has been updated for this year's annual report to reflect the status of KEMA's recommendations as of August 31, 2010. This past year, the recommendations for Materials Management and Logistics were completed, and as noted in the comments for Infrastructure Conditions Recommendations, we have completed discussions with Washington State Representatives to enhance PSE's transmission vegetation management policy and standards for right-of-way width.

Pursuant to the Emergency Restoration - Information Systems and Processes, PSE continues its work to implement an Outage Management System (OMS). The related business process flows and systems to close functionality gaps will be addressed as part of the implementation of PSE's OMS.

PSE will continue to report in 2011 on the progress for 10.4.1 and 10.4.2 (Establish enterprise-level technology, data, and integration architecture for outage management related processes; Develop end-to-end information and business process flows for outage management and emergency restoration processes), and 14.4.2 (Aggressively develop and maintain cross-country transmission access roads).

2010 KEMA RECOMMENDATIONS MATRIX

REC #	Recommendation Title	8/31/2010 Update
4.4	**EMERGENCY RESTORATION - ANNUAL PLANNING RECOMMENDATIONS**	
4.4.1	Expand the company emergency response capability through enhanced personnel utilization.	**C**
5.4	**EMERGENCY RESTORATION - IMMINENT EVENT PLAN RECOMMENDATIONS**	
5.4.1	Develop a storm categorization methodology and tailor aspects of the CERP to various levels of storms.	**C**
6.4	**EMERGENCY RESTORATION - EVENT ASSESSMENT RECOMMENDATIONS**	
6.4.1	Enhance the damage assessment capability and process to provide better and faster estimates of restoration times and resource requirements.	**C**
7.4	**EMERGENCY RESTORATION - EXECUTION RECOMMENDATIONS**	
7.4.1	Institute consistent accountability for executing the storm plan.	**C**
7.4.2	Formalize local area coordination and transmission restoration priority activities.	**C**
8.4	**EMERGENCY RESTORATION - EXTERNAL COMMUNICATIONS RECOMMENDATIONS**	
8.4.1	Create an integrated corporate and local communication strategy that is scalable to storm severity.	**C**
9.4	**EMERGENCY RESTORATION - CUSTOMER SERVICE RECOMMENDATIONS**	
9.4.1	Formalize a customer-escalated call process.	**C**
9.4.2	Use local carrier phone network in front of CLX/IVRU to enhance call-taking capacity and capabilities.	**C**
10.4	**EMERGENCY RESTORATION - INFORMATION SYSTEMS AND PROCESS RECOMMENDATIONS**	
10.4.1	Establish enterprise-level technology, data, and integration architecture for outage management related processes.	
10.4.2	Develop end-to-end information and business process flows for outage management and emergency restoration processes.	
10.4.3	Enhance existing technology and systems to close functionality gaps with the strategy of migrating them toward the final architecture.	**Part of 10.4.2**
10.4.4	Deploy new systems to close the functionality gaps and build out the outage management architecture.	**C**
10.4.5	Develop a phased implementation plan for outage management related information system and processes.	**C**
11.4	**SUPPORT SERVICES RECOMMENDATIONS**	
11.4.1	Refine the Emergency/Storm Event Response Services Contract (ESERSC) to add the planning, training, communication, and evaluation roles necessary to plan for and implement major restoration efforts.	**C**
12.4	**MATERIALS MANAGEMENT AND LOGISTICS RECOMMENDATIONS**	
12.4.1	Enhance logistics to better support the number of crews supporting the restoration.	**C**
12.4.2	Document material management policies and processes created to support storm levels.	**C**
13.4	**POST-EVENT REVIEW RECOMMENDATIONS**	
13.4.1	Ensure the existing post-storm actions and recommendations are consistent with the leading practice model presented in this report.	**C**
14.4	**INFRASTRUCTURE CONDITIONS RECOMMENDATIONS**	
14.4.1	Enhance PSE's transmission vegetation management policy and standards for ROW width.	
14.4.2	Aggressively develop and maintain cross-country transmission access roads.	
14.4.3	Evaluate hardening opportunities for both transmission and distribution.	**C**

Update provided in 8/31/2010 report

C *Completed*

10.4 Emergency Restoration—Information Systems and Process Recommendations

10.4.1 Establish enterprise-level technology, data, and integration architecture for outage management related processes.

PSE Actions:

PSE accepted KEMA's recommendation and is initiating the next phase of planning and analysis of various implementation scenarios for a Geographic Information System (GIS) and an integrated Outage Management System (OMS). PSE believes that a thoughtful plan and implementation is required to recognize benefits and to clearly understand the extent of business process, workflow, organizational, and competency changes necessary to realize them.

In January of 2010, PSE began an initial evaluation to better understand the current functionality offered by OMS vendors. In an effort to explore alternative approaches to the implementation of a geographic information system (GIS) in conjunction with an OMS, PSE invited vendors to help validate that data from PSE's electric SynerGEE model could be used as the basis for the requisite electric network connectivity model. (SynerGEE is a program PSE's distribution system planners use to model the electrical system and forecast future system needs.)

Seven OMS vendors responded to PSE's initial request for information (RFI); all of whom were invited to demonstrate their OMS application(s) using sample data from SynerGEE. These initial vendor demonstrations successfully validated that SynerGEE data could be used to gain partial OMS benefits, as an alternative to a full GIS integration, if that approach is selected.

Six OMS vendors were subsequently invited back (June-August, 2010) to provide in-depth demonstrations of their OMS application suites; those demonstrations are being concluded now. PSE anticipates narrowing the number of OMS vendors to three finalists and will be finalizing the design of our formal selection process, anticipating a project kick-off in 2011.

10.4.2 Develop end-to-end information and business process flows for outage management and emergency restoration processes.

PSE Actions:

Process mapping will be conducted as a preliminary step of the OMS/GIS implementation, which is to be tasked to the implementation project team. With the successful demonstration of use of SynerGEE data in OMS functionality, the process mapping may consider a phased-in approach of initially using SynerGEE and then GIS.

10.4.3 Enhance existing technology and systems to close functionality gaps with the strategy of migrating them toward the final architecture.

PSE Actions:

In order to close functionality gaps, PSE continues to invest in SCADA, Automated Meter Reading System (AMR), and CLX integration. These are all addressed as part of the implementation of an OMS; however, additional progress updates are noted below.

SCADA:

As reported in the August 31, 2009 update, PSE continues to install SCADA in nearly all of the PSE-owned substations. As of December 31, 2009, all of PSE's transmission substations (61 facilities) currently have SCADA, and of the 292 distribution substations in PSE's system, 265 have SCADA. Of the 26 remaining distribution substations, nine are planned for SCADA installation. Eighteen substations will not have SCADA installed. These 18 stations include stations where SCADA provides minimal value—submarine cable stations and substations being retired over the next several years.

Two of the nine substations currently without SCADA are planned to have SCADA installed by 2011, with SCADA installed in the other stations after 2011, so that all 274 distribution substations will provide open/close SCADA status. Fifty-two distribution substations are planned to be upgraded by 2015, so that the current of each phase at the feeder breaker can be read remotely.

Note: These substation numbers do not include the customer leased stations.

Distribution Automation:

PSE did not receive U.S. Department of Energy grant funds in 2009 for the implementation of smart grid technologies. PSE will submit its initial Smart Grid Technology Report to the UTC on September 1, 2010. In brief, PSE's on-going smart grid technology strategy is to evaluate, then pilot and/or deploy, cost-effective plans that provide customer value.

- Improve electric system reliability and reduce the length of outages through technologies that enable remote monitoring, control, and automated restoration of the electric system.
- Provide PSE with more detailed and timely information about damage to the system.
- Mitigate peak energy needs by more accurately monitoring and controlling system voltage.
- Evaluate the demand response and load-control pilot programs, which reduce overall energy peak and demand.
- Support customers with greater information about their energy use.
- Continue SCADA installation, for improved reliability.
- Evaluate and develop pilots related to distribution automation (remote monitoring and control of switching devices, and automatic operation of switching devices to minimize outage time to the customers) in one to two select areas where reliability is an issue, as budget funding allows.

Future updates will be provided through bi-annual updates to PSE's Smart Grid Technology Report.

AMR - Landis&Gyr (Formerly Cellnet):

As reported last year, PSE has begun a project to enhance outage verification functionality by taking advantage of a new messaging service by Landis&Gyr. Corresponding changes to PSE's Meter Data Warehouse (MDW), necessary for this project, will be completed by third quarter 2010. The original timing of the MDW upgrade project, December 2008, was delayed due to budget and resource constraints. Once completed, PSE will be able to trigger an AMR outage restoration verification shortly after power has been restored to a circuit, and receive restoration results for customers with AMR metering being served by the circuit within minutes.

Status 8/31/09: Completed (SCADA, Automated Meter Reading System (AMR) will be addressed as part of the implementation of an OMS).

10.4.4 Deploy new systems to close the functionality gaps and build out the outage management architecture.

Status 8/31/2010: Addressed as part of 10.4.1 – Completed.

10.4.5 Develop a phased implementation plan for outage management related information system and processes.

Status 8/31/2010: Addressed as part of 10.4. 1 – Completed.

14.4 Infrastructure Conditions Recommendations

14.4.1 Enhance PSE's transmission vegetation management policy and standards for ROW width.

PSE Actions:

PSE has concluded planned discussions with Washington State Representatives, and no further discussions are planned at this time; however, PSE will continue to monitor for future opportunities. PSE continues to work through agencies (such as the Department of Natural Resources) on matters related to vegetation management policy and standards.

Status 8/31/2010: Completed.

14.4.2 Aggressively develop and maintain cross-country transmission access roads.

PSE Actions:

PSE has collected cross-country right-of-way access data, and is in the process of developing the appropriate mapping tool. The mapping tool will consider security requirements and can be used in an emergency to assist patrols and repair crews who need to access cross-country rights-of-way.

PSE continues to fund and make improvements to selected critical access points and corridors. During the past year, 25 locked access gates were added to 230 kV corridors. These gates provide a visual access point for patrollers and crews, as well as protect the rights-of-way from trespassers who might create situations that inhibit easy access for emergencies.

The following are other examples of improvements completed in the past year:

- Mowed overgrown access roads to improve access in several locations on the Cascade-White River and Sammamish-Bothell transmission corridors.
- Opened up a new access road on the Cascade-White River transmission corridor.
- Constructed a ford at a creek and installed a locked gate for a new access point.