

## ATTACHMENT 1

### **August 2008 Status Report on AmerenUE's Implementation of Recommendations in KEMA's November, 2007 Storm Adequacy Review**

KEMA's report, released in November of 2007, identified 37 opportunities for improvement. These 37 recommendations were grouped into the following three categories:

1. Continue with AmerenUE identified improvements,
2. Modify existing processes and systems to better address severe storms, and
3. Develop new processes and systems to support Levels III and IV restoration efforts.

KEMA's recommendations are listed below along with an explanation of whether AmerenUE is adopting the recommendation and, if the recommendation is adopted, the implementation status of that recommendation as of August, 2008.

**Category One:** Continue with AmerenUE's already identified improvements. AmerenUE has already established a need for these 12 improvements and has incorporated them into current budgets. The numbers in parentheses (4.4.1) represents the recommendation number and section in the KEMA report.

- Continue emphasis on the vegetation management program to achieve the committed schedule by the 4<sup>th</sup> quarter of 2008 and to implement the program enhancements. Address the out of easement tree removal issues and review total budget periodically with the anticipation of the growing tree canopy. (3.4.1)

Status August 2008: AmerenUE remains on track to fulfill its commitment to establish a four year urban and six year rural cycle by the end of 2008. By the end of 2007, the City of St. Louis was on a four year cycle. This was accomplished a full year ahead of schedule. AmerenUE has continued with the implementation of overall program enhancements i.e. broader clearances, more removals and for 2008 has scheduled 22 circuits to be included. Effective January 1, 2008, the Company has also incorporated the Commission's vegetation management rules into the program.

- Continue the revised pole inspection at the targeted inspection rate. The pole inspection planning, record keeping, analysis and auditing functions should be improved. (3.4.2)

Status August 2008: AmerenUE is on track with the implementation of the overall circuit inspection program which includes a visual inspection of all facilities once every four years and a complete strength assessment of all poles once every 12 years. AmerenUE maintains inspection planning records within the newly developed Circuit and Device Inspection System (CDIS) database.

This database is linked to the pole plant record in the AM/FM system, thus providing improved functionality. Planned enhancements for data analysis are being developed as data is gathered. These include standardized reporting functions as well as enhanced access to the data for analysis purposes. To address the auditing recommendation, CDIS now tracks completion of the pole replacement work through DOJM, AmerenUE's work management system.

- Complete and distribute the automated pole loading calculation tool currently in development in the standards department. (4.4.1)

Status August 2008: The Automated Pole Loading Calculation Tool was completed and will be released to users this month. An instructional tutorial will be included in the tool along with an instructional document. The Standards Group will be available to answer questions or make site visits if a user group requests.

- Continue the evaluation of the enhanced vegetation management program and apply the same approach to pole inspection and distribution line equipment programs. (5.4.2)

Status August 2008: AmerenUE continues to review both the vegetation management program and circuit inspection program on an annual basis. In addition, both programs are reviewed on a monthly basis for forecasted/ planned vs. actual work completed and adjustments are made accordingly.

The CDIS users group, consisting of field construction and engineering personnel as well as other subject matter experts, continues to meet on a regular basis to monitor the programs' effectiveness and to make recommendations as needed for program enhancements and/or clarifications.

- Continue with AmerenUE's plan to deploy additional weather recording sites and develop improved forecasting of potential damage capability. (8.4.1)

Status August 2008: In the St. Louis Metropolitan Area, 15 weather recording sites have been installed and are operational. Another 35 sites are scheduled to be installed in Missouri the end of the 3<sup>rd</sup> quarter. Data from the operational sites is being sent to St. Louis University for analysis, and will be available in real time at our St. Louis dispatch office.

- Continue with AmerenUE's practice for notifying, mobilizing, and managing foreign and mutual aid resources. (8.4.2)

Status August 2008: AmerenUE continues to be involved in the Midwest Mutual Assistance Group and utilizes the resources of that group when the need arises. The acquisition, management and support of foreign and mutual aid resources continues to be a priority focus for AmerenUE.

- Expand the use of AmerenUE's leading practice of using Public Safety Advisors and Cut-and-Clear crews, permitting Field Checkers to focus on damage assessment while simultaneously ensuring the public is safeguarded from electric hazards. (9.4.2)

Status August 2008: AmerenUE believes the use of these personnel is critical during storm restoration. When compared to 2005, the number of trained and fully equipped Public Safety Advisors has increased from 21 to 32.

- Expand the number and use of Mobile Command Centers during Level III and IV events. (10.4.4)

Status August 2008: A second Mobile Command Center is budgeted for 2008. AmerenUE has a final proposal in place with a vendor and is moving through the internal approval process. The vendor has committed to deliver the finished unit by the end of 2008.

- Continue nurturing the strong working relationship AmerenUE already has with the Missouri Department of Transportation, the State Emergency Operations Center and local emergency operations centers. (10.4.5)

Status August 2008: AmerenUE continues to nurture these relationships. AmerenUE representatives attended an Earthquake Preparedness Conference held by State Emergency Management Agency (SEMA)/Federal Emergency Management Agency (FEMA). AmerenUE representatives maintained a presence in the St Louis County Emergency Operations Center (EOC) during the March, 2008 flood event and have participated in the SEMA conference calls during the June, 2008 flood event. The Company's Mobile Command Centers have been designed to provide communications with these agencies.

- Continue with the practice of issuing information cards to foreign and mutual aid crews, as part of the overall orientation package, to streamline the interface with the Distribution Dispatch Office for clearance taking and ensure that the process is formalized in the Electric Emergency Restoration Plan (EERP). (10.4.6)

Status August 2008: AmerenUE issues an orientation manual to all foreign crews during the orientation process. This manual contains safety information, detailed Workers Protection Assurance information, and contact information. The

orientation package were revised based on the experiences of the December 2007 Ice Storm. AmerenUE will review this process annually and following major storm events.

- Continue with the 24-hour coverage practice for vegetation restoration activities, where 20% of the tree crews work through the night on an as-needed basis. (10.4.8)

Status August 2008: AmerenUE continues to provide appropriate shift coverage for personnel involved in vegetation management activities based upon the unique requirements of each restoration effort.

- Complete the review of the loss of customer call situations. (12.4.1)

To eliminate the call gapping issue AmerenUE has determined that it needs to move to an 800 number based system for outage calls. The process of going to an all 800 system will begin October of this year and it is expected to take five years to fully transition to the point where the Company no longer receives calls on the old system. The process will begin with a media campaign to make St Louis Area customers aware of the change along with changing the phone numbers on bills and other literature.

**Category Two:** AmerenUE's current processes and structures are adequate for Levels I and II restoration efforts, but need to be modified to support the restoration efforts of Levels III and IV. The following 15 modifications will enable existing systems, processes and structures to better support more severe events.

- Make use of detailed pole loading analyses done for foreign attachment applications by cataloging the loading data by circuit, location or other identifier. The assembled information may then be used as a data sample in future studies of loading, pole condition, failure analysis, etc. (4.4.3)

Status August 2008: AmerenUE will evaluate the usefulness of this recommendation and, if appropriate, use data for internal studies.

- Develop and maintain current knowledge of technological developments in pole and conductor materials and designs. (4.4.4)

Status August 2008: Ameren's Standards Department is charged with keeping abreast of the industry's technological developments in pole and conductor materials and designs, and considers this part of its daily mission. This department has studied various composite materials associated with distribution facilities as well alternate design configurations. Among the more recent

changes made in AmerenUE's construction standards has been the introduction of cambered poles, fiberglass crossarms for distribution voltages, and armless construction configurations for subtransmission voltages. As other opportunities present themselves that make economic sense to pursue, the standards group will give them due consideration.

- Redefine the existing storm level classifications to include at least one additional level. (7.4.1)

Status August 2008: Storm level IV has been added to the EERP as part of the revision process. The EERP revision will be completed by October 15, 2008.

- Integrate all subordinate emergency plans into the master EERP. (7.4.2)

Status August 2008: All subordinate emergency plans have been integrated into the master EERP, under the direction of the Superintendent of Emergency Planning.

- Expand Section Six of the EERP to include the development of self-administered work islands during Level III and IV storms. (7.4.4)

Status August 2008: Section 6 of the EERP has been expanded to adopt the use of self-administered work islands, including specific detail regarding initiation criteria, staffing requirements, and a systematic approach guideline.

- Define the process and enhance the communications between AmerenUE's Emergency Operations Center (EOC), Resource Management and the Divisions relating to resource volume and arrival times to assist the Divisions in improving efficient crew dispatching. (10.4.2)

Status August 2008: AmerenUE is working to define the communication process among the EOC, Resource Management and the Divisions as it relates to incoming resources and their estimated arrival times. This process will be reviewed at least on an annual basis for possible enhancement of communications among all groups. AmerenUE plans to upgrade to Version 3.2 of Resources on Demand, which is the utilization tool used to communicate information relating to incoming resources and their estimated time of arrival, which will also enhance this process. The Company has also taken steps to more efficiently assign incoming resources to Divisions to optimize crew productivity

- Refine the Certified Functional Agent program to secure more employee participation. (10.4.7)

Status August 2008: The Certified Functional Agent Program has been refined as part of the revision to the EERP that will be released on October 15, 2008

- Evaluate the AMI (Advanced Metering Infrastructure) system ability to support large scale restoration events. (11.4.3)

Status August 2008: AmerenUE and Cellnet studied a number of software options given the limitations inherent in the existing one-way AMI technology, which is more than ten years old. Based upon this evaluation, AmerenUE and Cellnet have modified several system parameters to improve response times. AmerenUE and Cellnet have also monitored system conditions and identified several other areas for improvement opportunities. These improvements, for both Cellnet and AmerenUE, are in progress.

- Develop a process to deliver AmerenUE's restoration information and estimates directly to customers in a form under AmerenUE's control. (13.4.2)

Status August 2008: AmerenUE is investigating the use of pre-planned information outlets, such as the purchase of radio time and newspaper ad space, so that it may deliver restoration information and statements directly to customers.

- Develop a critical facility list and define responsibilities and expected outcomes. (13.4.3)

Status August 2008: A critical facility list has been developed for AmerenUE's operating territory. Maintenance and control of the critical facility list is the responsibility of the AmerenUE Distribution Operating Department. An EOC staff member will be assigned the duty of monitoring the critical facility list and communicating outage information to the responsible division.

- Develop and perform a realistic test for EMPRV, the system AmerenUE has for materials management. (14.4.1)

Status August 2008 - EMPRV's interfaces were replaced with faster interfaces. On March 28<sup>th</sup>, 2008, EMPRV moved to a faster computer platform and continues to refine the performance of the server and database. The system was tested at the end of July and performance met expectations.

- Develop an implementation plan for Resources on Demand (3.0) to support the logistics function and all contractors and mutual aid crews. (15.4.1)

Status August 2008: AmerenUE's vendor completed enhancements to Version 3.2 of Resources on Demand are installed and available for use during a restoration event.

- Develop a restoration communications process that uses the EOC informational dashboard and twice daily conference calls to obtain and provide timely and consistent information to all external communications stakeholders. (13.4.1)

Status August 2008: The Company's restoration communications process now uses an informational dashboard, and the Company has developed multiple templates to help provide timely and consistent information. Division ERT templates are available on the StormInfo SharePoint Site. An ERT Coordinator position is being added to the EOC staff to work with the divisions in developing ERT's and in turn communicating that information to the proper outlets. In addition, a task team has been formed to review the Estimated Restoration Time process.

- Refine and formally adopt a Corporate Communications Strategy. (13.4.4)

Status August 2008: AmerenUE has improved its Communications Strategy in many respects. For example, AmerenUE has engaged in extensive outreach to customers including customer focus groups, numerous meetings with community groups, and development of an AmerenUE speaker bureau.

- Continue enhancing the outage determination business logic in the Outage Analysis System (OAS) to improve the estimation of Expected Restoration Times and resource requirements during Level III and Level IV restorations. (11.4.1)

Status August 2008: A review has identified software enhancements that are required to the "grouping" logic in the outage management for Level III and Level IV restorations. Some enhancements have been tested and installed, some have just finished being tested and will be installed in the next 2 months and the rest will be tested and installed by December 31, 2008.

**Category Three:** The following 10 enhancements will help ensure that AmerenUE's Transmission and Distribution (T&D) system is significantly robust to minimize future damage, and that future restoration efforts support the reasonable restoration of all AmerenUE customers in the shortest time possible.

- Develop, design, and implement an initial damage assessment methodology to be conducted during the first six hours of the event that provides the appropriate determination of the storm classification, estimated required restoration

resources, and initial restoration time estimates appropriate for public communication. (9.4.1)

Status August 2008: The EERP has been revised to require an initial damage assessment at the Division level. This process has been reviewed and discussed with the Divisions. Divisions will review OAS to determine which feeders are damaged and assign field checkers to conduct initial, high level assessments of those feeders. Field checkers will drive out the feeders counting broken poles, wire downs, tree or limb on wire, etc. This information will be used to determine resource requirements and establish ERT's.

- Adopt a "Restoration Work Island" approach under Level III and IV emergency conditions. (10.4.3)

Status August 2008: The EERP adopts the "Restoration Work Island" approach. Section 6 of the EERP has been expanded to provide additional guidance on this approach.

- Use the 800 network in front of Customer Service System/IVRU (Integrated Voice Response Unit) to enhance call-taking capacity and information capabilities. (12.4.2)

Status August 2008: AmerenUE agrees with this recommendation and plans to move outage calls to 800 number service. As stated above, the process of going to an all 800 system will begin October of this year and it is expected to take five years to fully transition to the point where the Company no longer receives calls on the old system.

- Modify the OAS data structure to capture outage root cause and affected components better, supporting post-storm infrastructure analysis or create a dedicated forensic database. (3.4.3)

Status August 2008: AmerenUE accepts this recommendation and is continuing to work to improve the accuracy of field reporting.

- Institute a formal Forensic Analysis process to run concurrently with damage assessment. (7.4.3)

Status August 2008: This procedure is being evaluated as part of the revision to the EERP which is scheduled for completion in the 3<sup>rd</sup> quarter of 2008.

- Develop design standards and guidelines related to NESC construction grades (B or C) and to specific applications in the service territory. (4.4.2)



Status August 2008: AmerenUE Distribution Construction Standards are in compliance with the 2007 edition of the National Electric Safety Code (NESC). The 2007 NESC requires the extreme loading condition to be applied to structures greater than 60 feet in height. As an enhancement, with the release of the automated pole loading program, AmerenUE designs now include the NESC extreme loading condition for structures 33 to 60 feet in height.

- Develop a statistical analysis methodology to ensure that maintenance is optimal for different classes of line equipment. (5.4.1)

Status August 2008: The circuit and device inspection program is currently in the implementation stage and enhancements to statistical analysis are planned.

- Enhance the internal informational dashboard displaying current and historical information during the progression of the storm that includes customer outage and restoration resource levels. (10.4.1)

Status August 2008: AmerenUE has enhanced its manual informational dashboard that provides information as the storm restoration progresses. In addition, AmerenUE has initiated discussions with a vendor aimed at purchasing an informational dashboard that will interface with OAS to show current and historical information.

- Evaluate the benefits and risks of providing temporary repairs to customers' weather head equipment under emergency conditions. (10.4.9)

Status August 2008: AmerenUE has determined that work on customer owned equipment is beyond the scope of a utility's responsibility.

- Integrate the CellNet system into the restoration verification process during Level III and IV events to the extent of the current AMI technology's capabilities. (11.4.2)

Status August 2008: AmerenUE continues to work with Cellnet to identify enhancements to the restoration verification functions. AmerenUE and Cellnet have made several changes to improve overall restoration verification functions by reducing some system limitations; we are performing additional testing of those changes, and we will be incorporating more automatic outage restoration verification processes throughout 2008 and 2009.