EPRI Alarm Management Survey Results

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Abstract

In 2014, EPRI conducted a survey of electric power system operators in order to determine industry needs. The focus of the survey was to identify current practices, the need for enhanced techniques, and any issues and challenges associated with managing alarms in system operations of the bulk electricity system. In addition, EPRI conducted a survey of power industry energy management system (EMS) vendors as well as vendors in other industries, including manufacturing processes and transportation. The focus of this survey was to identify current capabilities of vendor tools for alarm management and near-term plans for improvements. The results of the two surveys were synthesized and evaluated for any gaps between industry needs and vendor capabilities along with any significant trends. This report documents the results of this synthesis and evaluation. This effort extended over three months and includes results from 12 operator responses and five vendor responses. Expert guidance from staff at the North American Electric Reliability Corporation (NERC), PJM Interconnection regional transmission organization, ISO New England (independent system operator), and Electric Reliability Council of Texas (ERCOT) helped ensure the practical relevance of the results.

This presentation will present result based on the survey data and analysis. The project team reached recommendations for continued work in 2015 that are divided according to the category of the identified gaps, as follows:

- Information Sharing—There is an identified need, but no technology gap in this area. The goal is to share information collaboratively across operators and vendors. Areas of focus for information sharing include 1) a workshop on existing international standards for alarm management, 2) examination of the current state of alarm management and expected near-term developments (including that in related industries), and 3) identification of future trends and the state of alarm management solutions.
- Demonstration—There are identified needs and vendor capabilities in this area, but there may be differences in the understanding or assessment of vendor capabilities. The response is to conduct a collaborative demonstration project in order to implement an existing or emerging capability/technology and to assess its performance, including categorizing alarms, grouping alarms, fast alarm processing, and visualization for maintenance.
- R&D—There is need for technical improvements, but no existing or expected near-term development is available to fulfill it. The response has been to initiate a collaborative research project that will better define needs and determine and develop implementable technical

solutions for eventual demonstration. The most challenging R&D subjects involve high-order logistics that synthesize typical control center data into forecasts and recommended actions.