

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President of Market and Infrastructure Development

Date: December 9, 2009

Re: **Transmission Maintenance Coordination Committee Activity Update**

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The Transmission Maintenance Coordination Committee (Committee) met on October 22, 2009 and discussed the following significant topics:

1. Revision of *ISO Transmission Maintenance Procedure 3 (Section 3.4.3)* ;
2. California Public Utility Commission (CPUC) *General Order for Substation Inspection*;
3. Recent Committee experiences with NERC reliability standards;
4. California Independent System Operator Corporation (the ISO), Western Electricity Coordination Council (WECC), North American Electric Reliability Corporation (NERC), and CPUC overlapping maintenance standards;
5. Plug-in, hybrid, electric vehicle technology; and
6. Major grid events.

The Committee will meet on January 21, 2010 to decide on the minutes of its October 22, 2009 meeting. Minutes are posted at <http://www.caiso.com/pubinfo/BOG/documents/grid/mcc/archives.html>.

BACKGROUND

Revision of ISO Transmission Maintenance Procedure 3 (Section 3.4.3)

ISO Grid Assets Transmission Asset Engineer, Tom Halford, led the discussion on revising *ISO Transmission Maintenance Procedure 3 (Section 3.4.3)* language to clarify when and if a midyear standard maintenance report (SMR) is required. Pacific Gas & Electric Director of Transmission Services and Construction, Gregg Lemler, moved for approval of the revised language. The motion was seconded by Los Angeles Department of Water and Power's representative, David Haerle, and approved, 8-0-0. The approved redline version of the *ISO Transmission Maintenance Procedure 3 Section 3.4.3* now reads:

“A midyear Actual SMR (w/o text) for January 1 through June 30 of the current calendar year **may be requested by the ISO no later than July 1. If requested the midyear Actual SMR shall be submitted to the ISO by Sept 1.** ~~should be submitted to the ISO by Sept 1, but may be requested by the ISO no later than July 1.~~ The ISO will specify the equipment types to be included in this version. The PTO, the effective year of the report, and SMRS Midyear shall be incorporated into the file name in that order (e.g.SCE1998SMRS_Midyear.xls).”

The newly revised, clean version of the *ISO Transmission Maintenance Procedure 3* can be viewed at <http://www.caiso.com/docs/2005/10/08/2005100817555415240.html>.

CPUC proposed General Order for Substation Inspection

San Diego Gas & Electric Substation Construction & Maintenance Manager, Frank Johnson, Southern California Edison Manager of Maintenance & Inspection, Mel Stark, and Mr. Haerle provided the current status on the development of the *General Order for Substation Inspection*. They indicated the document is currently set up to allow the CPUC to determine if the station owners are inspecting the stations and correcting any problems found. It was also noted that the document was almost complete, with only two questions still to be resolved.

- Should language similar to rule 31.1 of *General Order 95* be placed in the proposed general order, to reference a design, construction, and maintenance standard for substations? and
- Should inspection of **all** substations appear in the current language of the proposed general order?

The CPUC answers yes, preferring to retain these items in the document, whereas the other stakeholders would prefer to have neither in the document. The stakeholders do not want a general design, construction, and maintenance standard in the proposed general order, as the CPUC often cites a violation of the general standard in *General Order 95* when the utilities have a failure not attributed to any specific rule or requirement. The stakeholders do not want language in the proposed general order to allow duplicate station inspections if other organizations such as the ISO had already performed such inspections. CPUC and the stakeholders participated in a web-conference on October 23, 2009, but did not reach consensus on these questions.

Recent Committee experiences with NERC reliability standards

ISO Senior Grid Assets Engineer, James McHan, and ISO Grid Assets Senior Protection Engineer, Louis Fonte, described the WECC audit of the ISO during the week of October 12-16, 2009 as successful. The participating transmission owners asked: what was the format, how many individuals from WECC and NERC were involved during the audit, what types of questions were asked regarding protection schemes (why, what, and how monitored), and how long did the individual interviews last?

Mr. Stark requested those in attendance to remain aware of any comment periods and provide comments to NERC with regard to the consolidation of NERC protection and control (PRC) reliability standards *PRC-005-1 (Transmission and Generation Protection System Maintenance and Testing)*, *PRC-008-0 (Under frequency Load Shedding Equipment Maintenance Programs)*, *PRC-011-0 (Under Voltage Load Shedding System Maintenance and Testing)*, and *PRC-017-0 (Special Protection System Maintenance and Testing)* into one NERC *PRC-005-2 (Protection System Maintenance and Testing)* standard.

ISO, WECC, NERC, and CPUC overlapping maintenance standards

Mr. Halford led a discussion on options available to reduce duplication of record reviews of *ISO Transmission Maintenance Standards*, and WECC, NERC, and CPUC maintenance standards. Mr. Halford reiterated that *Public Utility Code 348 (PUC 348)* requires the ISO adopt maintenance standards including records review for facilities under ISO operational control. Options for how the ISO can perform record reviews are available in *ISO Transmission Maintenance Procedure No. 4*. This allows participating transmission owners to recommend acceptance of another review or a waiver of the ISO annual maintenance review. Mr. Lemler suggested considering a higher level of review, which would not be as detailed or encompassing as current ISO annual reviews. Other Committee members suggested the post-review reports sent out by the other organizations could satisfy the ISO review requirements. Each of the participating transmission owners would need to check with those organizations to determine whether the reports are subject to non-disclosure agreements. If so, that would preclude their use with other organizations. ISO Management agreed to continue to look at ways to reduce the burden on participating transmission owners, when results from other agency maintenance reviews can satisfy the intent of the ISO maintenance standards.

Plug-in, hybrid, electric vehicle technology

ISO Grid Asset Engineer, Duke Luu, provided a presentation that indicated the ISO was involved in the nationwide effort to develop plug-in, hybrid, electric vehicle technology. After briefing the Committee on how this technology could provide power into the Grid during off-peak hours, the audience was asked what questions or concerns they had about this new source of power. City of Riverside representative, Jorge Somoano, indicated most cities were looking at the plug-in, hybrid, electric vehicle technology from the distribution level rather than the transmission level. Mr. Somoano stated that if utilities could provide a system whereby spare battery systems were being charged, they wouldn't have to be as concerned about users unplugging their vehicles after they had been charged. Mr. Haerle indicated that distribution was the limiting part of this technology. Because homes would be doubling their power needs, existing transformer and feeder infrastructure capacities would be exceeded. California Energy Commission Senior Electrical Engineer, Jamie Patterson, stated that socioeconomics would drive this technology to create "hot pockets" because these vehicles would be more common in some neighborhoods than others. Others suggested several regulations may be needed to control when battery systems could be charged.

Major grid events

Mr. Lemler updated the Committee on the status of the root cause investigation of similar conductor hardware failures on PG&E's 500kV Moss Landing-Los Banos line on October 13, 2009 and the 500kV Tracy-Los Banos line on September 5, 2009. He expects the investigation to be completed and reviewed by the end of November 2009. The results of this investigation will be shared with the Committee at the January 21, 2010 Committee meeting.

Bonneville Power Administration representative, Jim Jackson, stated their 500kV Alvey substation was taken out of service due to copper thieves using bolt cutters to cut control cables.

Mr. Halford indicated SCE would brief the Committee at the January 21, 2010 Committee meeting on a recently completed root cause investigation report for the February 2009 yoke plate failure on their 500kV Midway-Vincent #1 line.