

Memorandum

To: ISO Board of Governors

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

Date: October 19, 2016

Re: Transmission Maintenance Coordination Committee update

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The Transmission Maintenance Coordination Committee (TMCC) held a conference call on March 15, 2016 and met on April 21, 2016. The following were the main topics discussed:

March 15, 2016

1. Nominate and confirm TMCC members for 5 open positions.

April 21, 2016

- 1. PacifiCorp presentation on its Pinto substation phase shifter transformer;
- 2. NextEra presentation on its initiatives in reducing injuries around fleet vehicles;
- 3. SDG&E presentation on its unmanned aircraft system;
- 4. NERC reliability standards and compliance;
- 5. Major grid events.

The TMCC agreed to forgo the July quarterly meeting, thus the next regular scheduled TMCC meeting will be held on October 20, 2016 at the ISO Folsom Headquarters.

BACKGROUND

The TMCC is an advisory committee to ISO Management. TMCC membership includes one member representing each participating transmission owner with transmission facilities subject to the ISO transmission maintenance standards, two members representing organizations representing labor interests, five members representing other organizations, and the ISO vice president responsible for transmission maintenance, or his or her designee, who serves as the Chair of the TMCC. Members of the TMCC perform duties specified in Appendix C to the transmission control agreement, including:

- Convey transmission facility maintenance related information to the ISO vice president responsible for transmission maintenance;
- Seek input from other participating transmission owners and interested stakeholders regarding the ISO transmission maintenance standards; and
- Review any proposed changes to the ISO transmission maintenance standards, submitted by the ISO, a participating transmission owner, or any interested stakeholder; and recommend revisions to the ISO transmission maintenance standards for submittal to the Board for decision.

SUMMARY OF TMCC RECENT ACTIVITIES – March 15, 2016

The purpose of the conference call was to review nominations and confirm TMCC members for 5 positions. The open TMCC positions were filled by the following existing members since only existing members received nominations:

- Dave Hahn, Supervisory Maintenance Management Specialist for Western Area Power Administration's Sierra Nevada office;
- James Andresen, Assistant Manager of Operations for Valley Electric Association;
- Ryan Yakamoto, Senior Utilities Engineer for the California Public Utilities Commission;
- Jamie Patterson, Senior Electrical Engineer for the California Energy Commission; and
- Jack Vranish, Director of Asset Management for PacifiCorp

SUMMARY OF TMCC RECENT ACTIVITIES – April 21, 2016

PacifiCorp presentation on its Pinto substation phase shifter transformer:

Jack Vranish gave a presentation on PacifiCorp's new phase shifter transformer at their Pinto substation located in southern Utah. The phase shifter transformer is a 345kV 400MVA transformer and is the second largest unit ever manufactured. It will be operated in parallel with two existing 315MVA phase shifting transformers at Pinto Substation and was expected to be in-service in May 2016.

NextEra presentation on its initiatives in reducing injuries around fleet vehicles:

James Alligan, NextEra Energy Transmission's Project Director, presented on some initiatives currently being implemented at NextEra in an effort to reduce injuries

occurring on or around bucket trucks. NextEra has implemented training programs focusing on vehicle inspections and operations, and have developed a computer based training module for vehicle entry and transfer.

SDG&E presentation on its unmanned aircraft system:

Monica Curry, Transmission Construction & Maintenance Engineer at SDG&E, presented on SDG&E's unmanned aircraft system (UAS). Ms. Curry provided a brief history on the development of SDG&E's UAS and highlighted benefits realized in the areas of safety, environment and economics. The UAS program is operated by SDG&E's Aviation Services Department and is being utilized to provide photo/video assessments for various groups within SDG&E.

NERC reliability standards and compliance:

Chris Hillman and Scott Vaughan, Lead Grid Asset Engineers for the ISO, gave brief updates on pending NERC regulations FAC-003-4 and PRC-005-6.

Major grid events:

Tom Wright, Director Substations Maintenance & Construction, shared PG&E's experience with the failure of two ELIN 500/230kV 420 MVA transformers. PG&E has 18 similar units in service that all have less than 10 years of service and are currently installing partial discharge monitors on the ELIN banks.

Bret Ball, Manager Transmission Construction & Maintenance at SDG&E, shared their recent experience in restoring a 69kV transmission circuit that fell across the DC feed for the San Diego Metropolitan Transit System trolley.