

**THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS,
INC.**



**INDUSTRY APPLICATION SOCIETY
Industrial and Commercial Power Systems Department
TBCC – P3006 Reliability Working Group and
PSEC – Reliability Subcommittee**

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- 1) The P3006 Reliability Working Group met on Wednesday, May 21, 2014, at 8 AM at the Renaissance Worthington Hotel in Fort Worth, TX. The meeting was chaired by Bob Arno.
- 2) Bob Arno announced that P3006.5 has been balloted but had not achieved a 75% return. He requested that anyone who had not voted yet please vote.
- 3) Bob announced that Masoud Pourali will be presenting a tutorial at IAS in October in Vancouver. He said that he had volunteered to assist Masoud but may not be able to attend and asked for volunteers to help out. Bob Schuerger and Neal Dowling volunteered.
- 4) Bob announced that P3006.2 has been PAR'd. (This revises IEEE 493-2007, Chapter 4, "Evaluating and improving the reliability of an existing electrical system".) Carey Cook has put this into the DOT standard template. Bob asked for a volunteer to lead this revision effort. Tim Coyle volunteered.
- 5) P3006.3 has also been PAR'd. (This revised IEEE 493-2007, Chapter 5, "Preventive maintenance".) Bob Schuerger volunteered to lead this revision effort, and pointed out that 3007.2 is coming up for revision and that this effort should be harmonized with the release of IEEE 3006.3.
- 6) There was a discussion of Reliability Centered Maintenance, Reliability Based Maintenance, and Failure Modes and Effects Analysis. Collection of the right kind of data was emphasized, e.g., PREP and IEEE 3006.9. Bob Schuerger asked which DOT standard was the right place to cover predictive maintenance, and Bob Arno agreed that 3006.3 was the right place. Bob thinks that Chapter 5 of the 2007 Gold Book should be completely restructured for 3006.3. It should cover Reliability Based Maintenance and Reliability Centered Maintenance as a subset. Mike Simon asked if 3006.3 would cover optimization of lifecycle costs. Bob Arno expanded on this and how to relate the monitoring of key variables to this optimization.
- 7) Bob Schuerger asked for a source of maintenance and reliability data for switchgear. Bob Arno replied that most of the information he has is with regard to replacement parts.
- 8) Mentor has PDFs of all of the IEEE Color Books. Lisa Perry has arranged for all Working Group members to have access to them.

- 9) Mike Anthony brought up the MADCAD standards database and access to IEEE standards. He asked for how to get IEEE and MADCAD to work together. It was suggested that he contact Lisa Perry at IEEE to find out who can push this forward there.
- 10) Mike Anthony also emphasized the importance of harmonizing references in NFPA standards to IEEE standards. As NFPA 70/70B/70E are revised, it is important that the new revisions point to the latest IEEE standards.
- 11) Bob Arno asked if we planned to use Mentor for Working Group communication going forward. It was agreed that we should. Neal Dowling suggested that Bob ask Lisa Perry to arrange for more Working Group members to have Editor permissions in Mentor.
- 12) Bob Arno is submitting a paper on optimizing maintenance for I&CPS 2015 in Calgary.
- 13) Bob Schuerger is giving a paper on Reliability Centered Maintenance at IAS 2014 in Vancouver. He will be uploading this paper to Scholar.
- 14) The possibility of a paper on ATS reliability was discussed.
- 15) Bob Arno advised that the revision effort for 3006.2 should get it to ballot as soon as possible.
- 16) There was a discussion of the material on diesel generator reliability in the Orange Book and where this belongs in the DOT standards.
- 17) There was a discussion of material on Reliability Centered Maintenance that currently resides in 3007.2 and where it might belong in 3006.3. The example FMEA in 3007.2, 4.4.3, was briefly reviewed.
- 18) Mike Anthony asked for suggestions on how to maintain references between NFPA 70, 70B, and 70E and the Gold Book and its successor DOT standards. Revision proposals need to be submitted to the NEC committees. These committees cannot allow references to unreleased standards but can refer to published papers. Mike will put together a list of references in NFPA 70, 70B, and 70E that need to coordinate with the Gold Book and DOT standards. There was a brief discussion of the revision cycle and deadlines for the NFPA standards and how to work with their revision process. Mike would like to teach more people how to effectively achieve revisions to NFPA standards.
- 19) Bob Arno recommends TM 5-698-2 as a reference for Reliability Centered Maintenance. It is easily available to the public via the Web. He also mentioned that NASA is starting to reference the Gold Book for some of their maintenance activities.
- 20) The meeting adjourned at 9 AM.