

APPROVED MINUTES
Midwest Reliability Organization
Protective Relay Task Force
Holiday Inn Select, Bloomington MN
December 6th, 2006 – 1:00 PM to 5:00 PM &
December 7th, 2006 – 8:00 AM – 12:00 PM

1. Welcome, Roll Call and Introductions

Chairman Bhan of the Protective Relay Task Force (PRTF) called the meeting of the MRO Protective Relay Task Force (PRTF) to order at 1:00 PM. . The meeting attendees introduced themselves.

a. Determination of Quorum

The following members and staff were present:

Members:

Deven Bhan, WAPA, Chairman	Andrew Lucero, MRO & Secretary
Don Raveling, MDU, Vice Chair	John Seidel, MRO & Alt. Sec.
Steve Wadas, NPPD	Rich Quest, Xcel, PAC Liaison
Terry Hopkins, DPC	Steve Mittelsteadt, BEPC, RTC Liaison
Ding Lin, MH	David Bisel, MP
Ken Birt, MEC	Keith Orsted, ATC
Mark Peterson, GRE	Ron McIvor, OPPD
Len Yee, Saskatchewan Power	Russ Miller, ALT

Members Not Present:

Guests:

b. Agenda Additions

Under Frequency Load Shedding by John Seidel.

2. Review Policy and Procedure 4

Chairman Bhan presented the MRO and NERC Committee Membership Policy #4 and the Standards of Conduct and Anti-trust Guideline.

3. Acceptance of New Member

Chairman Bhan presented Len Yee's application to the PRTF for acceptance and he was unanimously voted in.

4. Minutes from the October 26, 2006 Meeting

The October 26 minutes were discussed with no changes or additions.

• **Motion**

Motion made by Terry Hopkins moved and Don Raveling seconded, the minutes were unanimously approved.

5. Review the Schedule of Due Dates and Exception Requests, and Status of BZ3 Compliance by MRO TPOs - Don Raveling

Vice-Chair Raveling stated that since the last meeting we have not received any additional letters. Alliant and Dairy Land Power were not aware that they had received letters however their contact persons may have.

a. 200 kV and Above

Mitigation must be complete by December 31, 2007. Sask Power commented that if mitigation is needed in absence of NERC approved standards .. Chairman Bhan stated that the Zone 3 requirements have already been approved by the NERC Board of Trustees and that a relay Loadability Standard is under development by NERC. Alliant has additional issues in that MAIN has its own PRTF which includes 345 kV which may differ from the MRO and Alliant is not a part of ATC. Vice Chair Raveling next reviewed the summary spread sheet of the 200 kV and above including the exceptions. A discussion ensued regarding various transformer exceptions including the two 500 kV transformers and 15 others already accepted by MISO and related to NERC exemptions 7, 11 and 12. The 2-500kV transform technical exceptions does not fall under any of the "numbered" exceptions. The transformer bushing current limitation is simply a "technical exception". Exemptions must be reviewed annually by the PRTF,

- **Motion**

Motion made by Don Raveling and seconded by Ken Birt for PRTF to approve and accept the spreads sheets as presented recognizing that more information will follow. The motion was unanimously approved.

Next the MPC/MHEB and the OTP/MHEP interconnections were discussed as they have OOS relaying which were set to maintain regional stability and accepted by the regional power companies and approved by MISO, however, they could trip for load in rare instances.

- **Motion**

Motion made by Don Raveling and seconded by David Bisel for PRTF to approve and accept the 2-MHEB and 2-MPC OSS for technical exemptions as discussed. The motion was unanimously approved.

MHEB then requested exemptions under NERC exemption 12 for the 2-500 kV transformers due to bushing limitation. The request will depend on a follow up written request.

- **Motion**

Motion made by Don Raveling and seconded by David Bisel for PRTF to approve and accept the 2-MHEB 500 kV transformer limitations for technical exemptions as discussed and pending a documented follow up. The motion was unanimously approved.

There are 20 additional temporary exemption requests, 4 from MDU concerning equipment replacements for SOTF compliance, and 16 from MPC concerning OOSB review and possible settings changes. MDU has already replaced some of the relays with a plan to replace the remaining 4; 2 in 2007 and 2 in 2008.

- **Motion**

Motion made by Steve Mittelsteadt and seconded by Terry Hopkins for PRTF to approve and accept the 4-MDU exemptions as discussed and pending completion of the follow up work. The motion was unanimously approved.

MPC OOSB's planned setting changes were discussed. The PRTF has no mitigation schedule dates for the temporary exemptions requested. The PRTF still needs to receive a mitigation plan from MPC.

Sask Power is reviewing relay setting but using the existing relays. The switch on fault and transformer loading are not completed, but will likely be complete by mid January, 2007. There are less than 100-230 kV lines and far less transformers.

c. 200 kV and Above – SOTF

No detailed discussion but Steve Wadas mentioned that NPPD has 69 circuits with resets enabled but that voltage is needed to close in at the far end.

d. 100 kV-200 kV Circuits

A letter has been sent out to the MRO members requesting reports on the 100 to 200 kV. MISO transmission system loadability requirements are listed on the MISO web site however it requires a certificated machine to access. Vice-Chair Raveling reminded all that RAC Chairman Nguyen's letter requests a list of these lines and that the MRO will not send the list to NERC and that Utilities need to self identify.

A discussion ensued for the purpose of further refining "critical lines" for PRTF purposes. The MRO audit looks at the MISO critical lines list. John Seidel suggested that lines that have been a part of a recent flow gate list need to be included. A list need to be to the RAC by December 31, 2006 and the PRTF is to maintain the list of Critical circuits.

- **Action Items**

- *Don Raveling will send the NERC url to the group.*
- *Andrew Lucero to send out compliance contact list. The list is also on the MRO website in the Compliance area, under Compliance Contacts.*
- *Andrew Lucero to follow up with another call to MPC (both Tim Bartell and Jim Burley) reminding them that the PRTF is still awaiting a mitigation plans and now a replacement plan for the OOSB's.*
- *Andrew Lucero to send out a second reminder regarding 100 to 200kV circuits to Companies that haven't responded to earlier request from PRTF..*

- *Don Raveling will send out the risk factors for violation which are assessed and available on the NERC website.*

6. MRO Guidelines for Review of Relay Operations - Review the First Draft Prepared by Rich Quest and Mark Petersen

Rich Quest discussed the draft of the PRC-003-1 Reporting Requirements which was included in the documents e-mailed prior to the December 6th meeting. Rich took questions and comments from the group related to its modification. Some such comments were; the assumption of relay systems not just the relay, the inclusion of PRC-016 with PR-003.

It was also stated that Appendix K of the MAPP has been filed for misoperations for 100kV and above lines and the next filing is due on January 31, 2007.

- **Action Item**

- *Based on the input from the group Rich Quest and Mark Peterson will redraft the PRC-003-1 Reporting and Review Requirement for the next meeting.*

(Recessed 12/6/06 at 4:55 PM)

(Reconvened 12/7/06 at 8:00 AM)

Additional discussion regarding Attachment K and reporting on relay failures carried forth from the previous day, as well as discussions about the MAPP PRWG.

It was decided that the PRWG will be replaced by the MRO PRTF.

It was also decided that even if the primary relaying fails and the back up works it should be reported.

Many suggestions come forth regarding reporting format; i.e. RPSM, IEEE, design our own spread sheet and is there a NERC specific format. It was decided that a subgroup should look at this.

A discussion was held regarding the size of generators to be included for reporting purposes and it was decided that the minimum size should be 50 to 150 MW. IPP's were also discussed and their having the same responsibility for reporting misoperations as do the utilities.

All PRTF data and technical papers/guidelines produced by should be posted on the PRTF web page maintained by MRO.

- **Action Item**

- *Chairman Bhan to advise the PRWG that they have been replaced by the PRTF.*
- *Chairman Bhan to check with NERC to see if they have any suggestion on formatting and generator sizes.*
- *David Bisel to work with Rich Quest and Mark Peterson to determine database and archiving requirements by [MRO]PRTF for presentation to the group at the next meeting.*
- *Secretary Lucero to acquire a list of the MRO area IPP is needed. Both the TO's and MISO should be able to supply this information to us.*

7. Operationally Significant Lines Between 100 kV and 200 kV Discussions

This discussion was held within the context of item 5 above.

8. Update on NERC-SPCTF Activities- Deven Bhan

Chairman Bhan reported that the SPCTF started as a Task Force after the 2003 black out as the system protection arm of NERC. Reclosing standards were developed also due to the 2003 blackout. NERC has a slide show presentation wherein the PRC 001 through PRC 022 are discussed. The SPCTF is presently developing a white paper on reclosing, coordination between Generators and Transmission , and will follow thereafter with a white paper on Battery Testing and Performance as well as Telecommunication protection. There is also a plan to review all PRC series standards.

9. Plan for implementing NERC Series Standards by MRO.

Chairman Bhan asked for volunteers to work on PRC 003, 004, 002, 012, 013 and 014 for the discussion at the next meeting. Further discussed was held on PRC 005, transmission and generator protection schemes' testing, all being reviewed by the SPCTF. The NERC audit of MAIN did request a list of relays and their testing.

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Action Items

- *Rich Quest and Mark Peterson will continue to work on PRC 003 and 004.*
- *Andrew Lucero and Dave Bisel will work on PRC 002 and will review the work that MAIN has done.*
- *Ding Lin, Keith Orsted and Len Yee will work on PRC 012, 013 and 014.*
- *Ken Birt and Russell Miller will review PRC 005 and present to the group at the next meeting.*

10. Other Business

RAC Secretary Seidel held a discussion regarding Under Frequency Load Shedding (UFLS) stating that it is being developed for implementation by the RAC as required in PRC 006 and that the RAC Task Force is looking at going from 3 steps of 10% to 6 steps of 5%. This plan was to be in place by December 31, 2006 but the RAC will request a 3 month extension. This will include all loads which have been managed in various fashions in the past. John also noted that the MRO has jurisdiction over RFC in the MRO foot print. In the group discussion it was decided that the TO Planners would need to decide which circuits, when and how much load needs to be shed according to the proposed 6 steps. The PRTF can then implement the desired actions. It was further noted that this plan will require the replacement of the existing electro-mechanical load shedding relays.

11. Next Meeting & Adjourn

The next meeting will be held at the Holiday Inn Select in Bloomington, MN on January 17 from 1:00 to 5:00 PM and January 18, 2007 from 8:00 AM to 12:00 PM.

- **Motion**

Having no further business, Chairman Bhan called for a motion to adjourn the meeting of the Midwest Reliability Organization Protective Relay Task Force at 11:30 AM.

Dave Bisel moved to adjourn the meeting and the motion was seconded by Terry Hopkins and approved unanimously.

Prepared and submitted by:

Andrew Lucero, Secretary

John Seidel, Alt. Secretary

MRO Protective Relay Task Force