



May 6, 2008

**Protective Relay Subcommittee**

**Subject:** May 22-23, 2008 Protective Relay Subcommittee Meeting Agenda

Dear Subcommittee Members:

The Protective Relay Subcommittee is scheduled to meet May 22, 2008 from 12:00pm – 5:00pm and May 23, 2008 from 8:00am – 12:00pm at the Embassy Suites located at 7901 34<sup>th</sup> Avenue South in Bloomington, MN. Overnight accommodations can be made by contacting the hotel directly at (952) 854-1000. There is no negotiated rate for this meeting.

The Transmission Assessment Subcommittee will join the Protective Relay Subcommittee for a joint meeting from 2:00pm – 5:00pm on May 22, 2008. Please use the following information when connecting to the joint meeting:

**Topic:** 05/22-23/08 PRS Meeting (TAS - Day 1 only)  
**Date:** Thursday, May 22, 2008  
**Time:** 2:00 pm, Central Daylight Time (GMT -05:00, Chicago)  
**Meeting number:** 597 819 342  
**Meeting password:** This meeting does not require a password

Audio Portion of Call

**Time:** 5/22/2008 2:00:00 PM (Central)  
**Dial In Number:** 866-390-4645  
**Conference ID:** 59935  
**Conference PIN:** 6822

Video Portion of Call

Web conference link:

<https://intercall.webex.com/intercall/j.php?ED=105192787&UID=1017720512>

If you have questions regarding this meeting please contact Sandy Humenansky via e-mail at [sl.humenansky@midwestreliability.org](mailto:sl.humenansky@midwestreliability.org) or via telephone at (651) 855-1730.

Sincerely,

Deven Bhan, Chair  
Protective Relay Subcommittee

DB:sh

Attachment

Cc: Transmission Assessment Subcommittee





**MEETING AGENDA  
MIDWEST RELIABILITY ORGANIZATION  
PROTECTIVE RELAY SUBCOMMITTEE**

Embassy Suites – Bloomington, MN  
May 22, 2008 – 12:00pm – 5:00pm  
May 23, 2008 – 8:00am – 12:00pm

1. **Welcome** Deven Bhan
  - a. *Determination of Quorum*
  - b. *Agenda Additions*
  - c. *Review MRO Policy and Procedure 4*
2. **Approve Minutes of March 4, 2008 Meeting** Dan Jesberg
3. **Chairman's Report** Deven Bhan
4. **MRO Guideline for NERC PRC-014 Discussion**
  - a. *Joint TAS Meeting to Review PRC-014 Draft Procedure* Dan Jesberg
  - b. *Draft Regional SPS Review Schedule* John Seidel
5. **Special Protection Systems Review Team**
  - a. *Update on Recent SPS Review Team Activities* Dede Subakti
  - b. *Presque Island SPS Review Status (ATC)* Keith Orsted
6. **Mis-operations**
  - a. *2007 Mis-operations Wrap-up Status* Dan Jesberg
  - b. *First Quarter - 2008 Mis-operations Review* Dan Jesberg
7. **Technical Reference Paper on Recommended Auto-Reclosing** Len Yee
8. **Technical Reference Paper on Thermal Overload vis a vis Effect on CT's, Relays, Meters RTU Scales (First Draft)** Steve Mittelsteadt
9. **Miscellaneous**
  - a. *SPCTF Update* Deven Bhan
  - b. *PRC-023 [ Zone 3 mitigation] Update* Don Raveling
  - c. *Other*
10. **Next Meeting**
  - a. *Scheduled*
    - August 26, 8am-4pm
    - November 13-14 12:00pm – 5:00pm 8:00am – 12:00pm
  - b. *Additional Meetings (if needed)*
11. **Adjourn**

**Agenda 1.**  
**Welcome**

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**Agenda 1.a.**  
**Welcome**

*Determination of Quorum*

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**Protective Relay Subcommittee**  
2008 Roster

<b>Name</b>	<b>Sector</b>	<b>Company</b>
Ding Lin	Canada	Manitoba Hydro
Len Yee	Canada	Saskatchewan Power
Don Ravling, Vice Chair	Dakotas	Montana-Dakota Utilities
Deven Bhan, Chair	Dakotas	Western Area Power Administration
Russ Miller	Iowa	Alliant Energy
Ken Birt	Iowa	MidAmerican Energy Company
Mark Peterson	Minnesota	Great River Energy
David Bisel	Minnesota	Minnesota Power
Steve Wadas	Nebraska	Nebraska Public Power District
Ron McIvor	Nebraska	Omaha Public Power District
Keith Orsted	Wisconsin	American Transmission Company
Terry Hopkins	Wisconsin	Dairyland Power Cooperative
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Dede Subakti	MISO Liaison	Midwest ISO
Richard Quest	PAC Liaison	Xcel Energy
Steve Mittelsteadt	RTC Liaison	Basin Electric Power Cooperative
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Dan Jesberg, Secretary		Midwest Reliability Organization
John Seidel, Alt. Secretary		Midwest Reliability Organization

**Agenda 1.b.**  
**Welcome**  
*Agenda Additions*

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**Agenda 1.c.  
Welcome**

*Review MRO Policy and Procedure 4*

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## Standards of Conduct

FERC Standards of Conduct prohibit MRO staff, committee, subcommittee and task force members from sharing non-public transmission sensitive information with anyone who is either an affiliate merchant or could be a conduit of information to an affiliate merchant.

1

## Anti-Trust Reminder

Participants in Midwest Reliability Organization meeting activities must refrain from the following when acting in their capacity as participants in Midwest Reliability Organization activities (i.e. meetings, conference calls, and informal discussions):

- Discussions involving pricing information; and
- Discussions of a participant's marketing strategies; and
- Discussions regarding how customers and geographical areas are to be divided among competitors; and
- Discussions concerning the exclusion of competitors from markets; and
- Discussions concerning boycotting or group refusals to deal with competitors, vendors, or suppliers.

2

**Agenda 2.**  
**Approve Minutes of March 4, 2008**

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**MEETING MINUTES**  
**MIDWEST RELIABILITY ORGANIZATION**  
**PROTECTIVE RELAY SUBCOMMITTEE**  
Holiday Inn Select – Bloomington, MN  
March 4th, 2008 – 9:00am – 5:00am

**1. Welcome - Deven Bhan**

Chair Bhan called the meeting of the Protective Relay Subcommittee (PRS) to order at 9:00am. The following Members and Guests were present:

**Members Present**

Deven Bhan, Chair, WAPA  
Dan Jesberg, MRO, Secretary  
Russ Miller, ALT  
Mark Peterson, GRE  
Ding Lin, MH  
Ron McIvor, OPPD  
Richard Quest, XEL (PAC Liaison)

Don Raveling, MDU, Vice Chair  
John Seidel, MRO, Alt. Secretary  
Keith Orsted, ATC  
Ken Birt, MEC  
Steve Wadas, NPPD  
Len Yee, SPC

**Members Absent**

Terry Hopkins, DPC  
Steve Mittelsteadt, BECP (RTC Liaison)

David Bisel, MP  
Dede Subakti, MISO

**Guests Present**

Hoa Nguyen, MDU  
Pratap Mysore, XEL

*a. Determination of Quorum*

Secretary Jesberg determined that a quorum was present.

*b. Agenda Additions*

Chair Bhan reviewed today's agenda.

After discussions the agenda item (5) was modified to include a vote by the PRS to approve the MRO Procedure for PRC-013 and an agenda item was added to include Mr. Nguyen's presentation on the Scenario Assessment Task Force.

It was also noted that the meeting time originally agreed upon was 8:00am.

*c. MRO Standards of Conduct and Anti-Trust Guidelines*

Pursuant to Policy and Procedure 4, Chair Bhan reviewed the Standards of Conduct and Anti-trust Guidelines.

**2. Approve Minutes of November 27-28, 2007 Meeting**

Chair Bhan called for discussion on the minutes of the November 27-28, 2007 meeting.

*Upon motion duly made by Mr. Quest and seconded by Mr. Peterson, the Protective Relay Task Force unanimously approved the minutes of the November 27-28, 2007 Protective Relay Task Force meeting as amended.*

**3. Chairman's report**

Chair Bhan conveyed to attendees the regrets of those members who were unable to attend due to other obligations.

Chair Bhan also informed the PRS that RAC Chair Nguyen may attend the meeting to give a presentation on a proposed Scenario Assessment Task Force (SATF). Mr. Nguyen has stated that there is interest among the RAC that the PRS send a representative to serve on the new task force if it is formed.

Chair Bhan will attend the RAC meeting on March 5, 2008 to give an oral report of PRS activities.

The MRO guideline for NERC PRC-002 has been publicly issued to MRO members and registered entities. Several members voiced concerns that there is confusion in the industry regarding the effective date of the said MRO guideline. Consensus among the PRS members was to republish procedure PRC-002 and emphasize that the established effective date for the guideline is January 15, 2008.

**Action:**

Secretary Jesberg or Alt. Secretary Siedel to reissue the MRO guideline for NERC PRC-002 to registered transmission owners. The reissue is to emphasize that the guidelines effective date was January 15, 2008.

**4. PRC – 023 (BZ3) Update**

Vice Chair Raveling updated the PRS on the Beyond Zone 3 mitigation plan data request. The entities that have not yet submitted data include Western Area Power Administration, Saskatchewan Power Company and Minnkota Power Cooperative.

The NERC Board of Trustees has formally approved PRC-023 as a NERC standard. The date of approval was February 12, 2008. Wording within the standard states that applicable entities must comply with the standard by the beginning of the first quarter following FERC approval.

**Action:**

Vice Chair Raveling to draft a letter for the benefit of transmission owners and protection system owners informing them of the status of NERC PRC-023. The letter is to be finalized and formally sent to applicable entities by MRO staff.

**Action:**

Chair Bhan to update the MRO-RAC and SPCTF-NERC on the MRO regional status on its compliance with PRC-023.

**5. Update on Approval of PRC-013**

Secretary Jesberg gave an overview of the current draft of the MRO procedure for PRC-013 and of the SPS database it prescribes. The floor was opened for final comments from PRS attendees.

Several attendees commented on the databases potential future role in providing a documentation base per the requirements of PRC-012 and PRC-014.

***Upon motion duly made by Vice Chair Raveling and seconded by Chair Bhan, the Protective Relay Subcommittee unanimously approved the MRO procedure for NERC PRC – 013.***

**6. Review of Procedure for PRC - 014**

Alt. Secretary Seidel reviewed the history of the protective relay group's involvement in drafting a procedure for PRC-014. The latest version of the procedure was drafted by the SPS Review Team in January 2008.

The PRS deliberated on the latest draft presented by Mr. Jesberg (secretary of the SPSRT) in details, made modifications and agreed on a new draft .

The PRS then directed MRO staff to make available the new draft for a joint commenting period to include members of both the PRS and the TAS. MRO staff shall compile the comments and present them to the PRS at during the May 2008 meeting.

**7. Special Protection Systems Review Team**

*a. Update on Joint PRS/TAS/MISO SPS Review Team (SPSRT)*

Secretary Jesberg presented to the PRS the SPS Review Team log as well as an update on its activities since the November, 2007 PRS meeting.

Projects that the SPSRT has been working on include: reviews of the retirements of the Dewey – Nelson and Stonelake SPS, the first draft of the MRO procedure for NERC PRC-014, and the review of the Fieldon Bypass SPS. Furthermore, the MRO has completed its review of all the SPS presented to it during 2007.

*b. SPS Retirement - Dewey-Nelson Retirement*

Secretary Jesberg updated the PRS on the status of the SPS Review Team's review of the Dewey-Nelson SPS Retirement. The PRS postponed the approval of the review pending the SPSRT's re-evaluation of the MRO's review procedure regarding SPS retirements.

*c. Procedural Review for SPS Retirements Review Process*

The PRS deferred the issue of the re-evaluation of the MRO's review procedure regarding SPS retirements to the SPS Review Team.

**8. Mis-Operations Review Team**

*a. 2007 Yearly Review – Summary of 2007 Mis-Operations*

Mr. McIvor reviewed the 2007 Mis-operations spreadsheet as it has been filled out by the review team. The review team made a series of small modifications to the spreadsheets and has advised the MRO to make the modifications permanent.

As of present, the review team has identified the need to request follow-up data from data submitters regarding official completion dates of mis-operation mitigation plans.

**Action:**

Secretary Jesberg to submit, to all reporting entities, the 2007 mis-operations spreadsheet upon its completion. Furthermore, MRO staff shall conduct further data requests to obtain the remaining mitigation plan completion dates as they become available.

*b. 2008 Preview – New Team and Updates Spreadsheet*

Secretary Jesberg informed the PRS that the 2008 data requests for mis-operations will begin in April. Furthermore, the 2008 review team will be responsible for the review of 2008 mis-operations and SPS operations.

Several minor modifications and updates to the mis-operations and SPS operations spreadsheets will be made by MRO staff in preparation for the 2008 data requests.

**9. Technical Reference Paper on Recommended Auto-Reclosing Practices**

Mr. Yee presented to the PRS his first draft for the proposed whitepaper "Recommended Auto-Reclosing Practices in the MRO Area." The technical paper was discussed and well received by PRS. The PRS advised Mr Yee to continue with the work

**Action:**

Mr. Yee shall submit the draft white paper to the PRS for comment. Furthermore, Mr. Yee shall compile the comments and present them at the next PRS meeting.

**10. Technical Reference Paper on Thermal Overload vis a vis Effect on CTs, Relays, Meters RTU Scales**

Mr. Mittlesteadt was not in attendance to give an oral report and so this item will be addressed at the next meeting.

**11. Miscellaneous**

*a. PRS Representation on the SATF*

RAC Chair Nguyen gave a presentation to PRS on the Scenario Assessment Task Force. The proposed task force would be primarily responsible for developing and executing reliability assessment scenarios that apply to the MRO region. The new group would report to the Reliability Assessment Committee.

*b. PRS Representation on the SATF*

Chair Bhan called upon members of the PRS to volunteer for membership on the Scenario Assessment Task Force, once it has been formed by the RAC. It was pointed out that the installation of wind resources throughout the region has led to a significant increase in the installation of special protection schemes. Therefore a PRS representative may be beneficial in the analysis of wind resource relation projects carried out by the SATF.

**12. Miscellaneous**

*a. Scheduled*

The PRS agreed change the meeting end time for the August 26<sup>th</sup> meeting to 4pm. Planned future meeting dates and times for the PRS are as follows.

May 22-23	12:00pm – 5:00pm	8:00am – 12:00pm
August 26,	8:00am – 4:00am	
November 13-14	12:00pm – 5:00pm	8:00am – 12:00pm

*b. Additional Meetings (if needed)*

Chair Bhan proposed a possible joint meeting between the TAS and the PRS to discuss the MRO procedure for PRC-014. The details of this meeting will be discussed during the next PRS meeting if the meeting is deemed necessary following the PRC-014 procedure commenting period.

**13. Adjourn**

Having no further business, Chair Bhan adjourned the meeting of the Protective Relay Subcommittee at 3:22pm.

Prepared by:

Dan Jesberg, Protective Relay Subcommittee  
Midwest Reliability Organization

Reviewed by:

Sandy Humenansky  
Deven Bhan  
Don Raveling  
Dan Jesberg

**Agenda 3.  
Chairman's Report**

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**Agenda 4.**  
**MRO Guideline for NERC PRC-014 Discussion**

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**Agenda 4.a.**  
**MRO Guideline for NERC PRC-014 Discussion**  
*Joint TAS Meeting to Review PRC-014 Draft Procedure*

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**Midwest Reliability Organization Procedure for  
Special Protection System Assessment**

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**A. Introduction** - The following procedure developed by the MRO Protective Relay Subcommittee is considered a technical guideline and should be followed as good utility practice.

- 1. Title:** Special Protection System Assessment
- 2. Reference NERC Standard PRC-014-0**
- 3. Purpose:** To ensure that all Special Protection Systems (SPSs) are properly designed, meet performance requirements, and are coordinated with other protection systems. To ensure that maintenance and testing programs are developed and mis-operations are analyzed and corrected.
- 4. Applicability:** The BES within the area under the MRO.
- 5. Most Recent Update:** January 31, 2008

**B. Requirements**

- R1.** The MRO shall review the operation, coordination, and effectiveness of all SPSs installed in its Region at least once every five years for compliance with NERC Reliability Standards and MRO criteria.
- R1.1** SPS shall be reviewed during the year of its 5<sup>th</sup> anniversary following its last previous review. A record of "last reviewed" and "next scheduled" dates shall be maintained in the MRO SPS database along with other documentation required by NERC Standard PRC-013-0.
- R1.1.1** The MRO, at its discretion, may review an SPS at any time within the normal five year cycle.
- R1.1.2** MRO shall notify SPS owner(s) 90 calendar days in advance of an upcoming SPS review.
- R1.2** The SPS owner(s) shall review their SPS and the SPS documentation in accordance to PRC-012-0-MRO procedure at least once every five years. The following issues should be addressed in the review:
- R1.2.1** Review BES changes that may require re-study of the SPS actions taken and/or the SPS design.

- R1.2.2** Report study years, system conditions, and contingencies analyzed in the technical studies on which the assessment is based and when those technical studies were performed.
  - R1.2.3** Review any old and/or new coordination requirements that may exist with other protection and control systems.
  - R1.2.4** Summarize past correct and incorrect SPS operations; include corrective actions taken for any misoperations over the past five year period.
  - R1.2.5** If SPS has operated in the past five year period, review and evaluate the effectiveness of the SPS performance.
- R1.3** SPS owner(s) to submit a report on its review of the SPS to the MRO within the 90 calendar day period.
- R1.4** The SPS owner(s) may be required to present its review report of the SPS to the MRO. Presentation to be of sufficient technical detail so the group understands the scheme and can perform an assessment.
- R1.5** Any SPS modifications needed as a result of this review process shall follow the process outlined in the MRO procedure PRC-012-0-MRO.
- R1.6** Legacy SPSs within the MRO region will be integrated into the review process over a five year period beginning in July, 2008 with the intention of completing their reviews by the end of June, 2013.
  - R1.6.1** Priority of review of legacy SPSs shall be based on its impact to the wide area BES.
- R2.** The MRO shall provide either a summary report or a detailed report of its review of the assessment of the operation, coordination, and effectiveness of all SPSs installed within the MRO region to the affected RROs or NERC on request (within 30 calendar days).
- R3.** The documentation of the MRO SPS review group's assessment shall be filed in the MRO SPS database and shall include the following elements:
  - R3.1.** Identification of group conducting the assessment and the date the assessment was performed.
  - R3.2.** Study years, system conditions, and contingencies analyzed in the technical studies on which the assessment is based and when those technical studies were performed.

- R3.3.** Identification of SPSs that need a modification or decommissioning review (per the review process outlined in PRC-012-0-MRO) as a result of this review process.
- R3.4.** Discussion of any coordination problems found between a SPS and other protection and control systems.

**Procedure Review and Approval**

The MRO shall review this procedure at least every five years or following a revision of any relevant NERC standards and shall submit a review report and/or revised procedure for approval.

**Agenda 4.b.**  
**MRO Guideline for NERC PRC-014 Discussion**  
*Draft Regional SPS Review Schedule*

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**Agenda 5.**  
**Special Protection Systems Review Team**

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**Agenda 5.b.**  
**Special Protection Systems Review Team**  
*Presque Island SPS Review Status (ATC)*

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**Agenda 6.**  
**Mis-operations**

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**Agenda 6.a.**  
**Mis-operations**

*2007 Mis-operations Wrap-up Status*

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**Agenda 6.b.**  
**Mis-operations**

*First Quarter – 2008 Mis-operations Review*

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**Agenda 7.**  
**Technical Reference Paper on Recommended Auto-Reclosing**

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**Agenda 8.**  
**Technical Reference Paper on Thermal Overload vis a vis Effect on CT's,**  
**Relays, Meters RTU Scales**

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**Agenda 9.  
Miscellaneous**

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**Agenda 9.a.**  
**Miscellaneous**  
*SPCTF Update*

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**Agenda 9.b.**

**Miscellaneous**

*PRC-023 [Zone 3 Mitigation] Update*

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**Agenda 9.c.**  
**Miscellaneous**  
*Other*

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**Agenda 10.  
Next Meeting**

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**Agenda 10.a.**  
**Next Meeting**  
*Scheduled*

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The next scheduled meetings for the Protective Relay Subcommittee are:

August 26, 2008	8:00am – 4:00pm	
November 13-14, 2008	12:00pm – 5:00pm	8:00am – 12:00m

**Agenda 10.b.**  
**Next Meeting**  
*Additional Meetings*

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**Agenda 11.**  
**Adjourn**

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