

APPROVED MEETING MINUTES
MIDWEST RELIABILITY ORGANIZATION
Reliability Assessment Committee
Holiday Inn Select – Bloomington, MN
March 5, 2008 – 9:00am

1. Call to Order

Chairman Nguyen called the meeting of the Reliability Assessment Committee to order at 9:10am. The following Members, Guests, and Staff were present:

Members Present

Hoa Nguyen, MDU, Chairman	Randy Lindstrom, NPPD, Vice Chairman
John Seidel, MRO, Secretary	Dale Burmester, ATC
Dennis Florom, LES	Ron Mazur, MH
Dan Dahlgren, OPPD	Ed Weber, WAPA
Kavita Maini, WIEC (via phone)	Chris Plante, WPS

Guests Present

Dave Rudolph, BEPC	Alan Burbach, LES (via phone)
Tim Owens, NPPD (via phone)	Stuart Hughes, SPC
Devan Bhan, WAPA	Earl Cass, WAPA
Leo Ganser, XEL	

Staff Present

Salva Andiappan	Adam Flink
Sandy Humenansky	Andrew Lucero

2. Determination of Quorum

Secretary Seidel determined that a quorum was present.

3. Standards of Conduct and Anti-Trust Guidelines

Pursuant to Policy and Procedure 4, Chairman Nguyen reviewed the Standards of Conduct and Anti-Trust Guidelines.

4. Consent Agenda

b. Approve Meeting Minutes of November 2, 2007

Chairman Nguyen referred the Committee to Tab 4 which contained the minutes from the November 2, 2007 meeting.

Upon motion duly made by Mr. Lindstrom and seconded by Mr. Mazur, the Reliability Assessment Committee unanimously approved the minutes from the November 2, 2007 meeting as amended.

c. Approve Gerry Steffens, RPU, as Reliability Assessment Committee Member

No action was taken by the Committee. Mr. Steffens had been elected by the Municipal Utilities sector, and his appointment to the Reliability Assessment Committee would be approved by the Board of Directors at its incoming meeting on March 27, 2008.

d. *Appoint RAC Liaison to Compliance Committee*
Chairman Nguyen reported that since Kavita Maini is a member of the Compliance Committee, Ms. Maini had agreed to serve as the RAC liaison to the Compliance Committee.

a. *Elect Chairman and Vice Chair*
Chairman Nguyen called on Vice Chairman Lindstrom to conduct the nominations for the position of Chair.

Vice Chairman Lindstrom opened the floor for nominations to the position of Chair. The following nominations were heard:

Hoa Nguyen, Montana-Dakota Utilities
Chris Plante, Wisconsin Public Service Corporation

Upon motion duly made by Mr. Weber and seconded by Mr. Mazur, the Reliability Assessment Committee closed nominations for the position of Chair.

By secret ballot, the Reliability Assessment Committee re-elected Mr. Nguyen its Chairman with a two-year term ending December 2009.

Chairman Nguyen opened the floor for nominations for the position of Vice Chair. The following nominations were heard:

Chris Plante, Wisconsin Public Service Corporation

Upon motion duly made by Mr. Weber and seconded by Mr. Dahlgren, the Reliability Assessment Committee closed nominations and elected Chris Plante, WPS Resources, Vice Chairman of the Reliability Assessment Committee.

5. Chairman's Report

Chairman Nguyen referred the Committee to Tab 5 which contained the highlights from the December 6, 2007 Board of Directors meeting.

6. Future of Model Building Process

Chairman Nguyen referred the Committee to Tab 6 which contained the current agreement between the Midwest ISO and the MRO for model building services provided by Secretary Seidel for discussion. There is a question on what the requirement/obligation of the region is. Mr. Burbach reported that if the Committee wishes to have the Model Building Subcommittee look at alternative methods, it would do so at its subsequent March 19 meeting. The Committee discussion led to the recommendation that the Model Building Subcommittee wait until after the completion of the 2008 models. If the Model Building Subcommittee feels there are significant issues, it will report those issues to the Committee.

7. Model Release Process- Proposed NDA

Secretary Seidel referred the Committee to Tab 7 which contained a draft of a non-disclosure agreement to be used when non-members request access to MRO models.

After Committee discussion, the Reliability Assessment Committee directed staff to: (1) draft a procedure for Non-Disclosure Agreement implementation,

(2) determine if members and staff need to sign the agreement, and (3) if staff determines that members and staff need to sign, then staff gather a legal review of the process.

Upon motion duly made by Mr. Burmester and seconded by Mr. Plante, the Reliability Assessment Committee approved the Non-Disclosure Agreement to be used by Midwest Reliability Organization staff to disseminate models to non members. There was one abstention.

The Committee recessed at 10:50am.
The Committee reconvened at 11:08am.

8. Future of SPS

Mr. Burmester referred the Committee to the Transmission Issues Subcommittee report contained under Tab 14.i. Mr. Burmester reported the major issues with TPL-001-1 standard and the current discussion at the TIS regarding the Remedial Action Schemes (RAS), also known as Special Protection Systems (SPS). Many TIS members want the (draft) TPL-001-1 standard to disallow the use of SPS, despite the objection of MRO and WECC, who feel their use is necessary to maintain reliability. By unanimous consent, the Committee supports Mr. Burmester's effort to voice MRO position on SPS.

NEW RES-501-MRO-01 Discussion

Chairman Nguyen called on Mr. Cass, chairman of the Compliance Committee, who attended the meeting as a Compliance Committee liaison, to discuss the Planned Resource Adequacy Assessment standard. Mr. Cass reported that the Compliance Committee will act as the "notifier" of all new standards. The Compliance Committee directed staff to send notice to all LSEs regarding their obligations for complying with RES-501-MRO-01. Mr. Cass then reviewed the highlights from the March 4, 2008 Compliance Committee meeting.

13. Subcommittee and Task Force Reports

i. Protective Relay Subcommittee

Mr. Bhan gave an oral report on the highlights from the March 4, 2008 Protective Relay Subcommittee. Mr. Bhan is asking the Committee to ratify the appointment of Dede Subakti, Midwest ISO, as the MISO liaison to the Protective Relay Subcommittee.

Upon motion duly made by Mr. Lindstrom and seconded by Mr. Burmester, the Reliability Assessment Committee unanimously ratified Dede Subakti, Midwest ISO, as the MISO liaison to the Protective Relay Subcommittee.

ii. Special Protection Systems Review Team

Mr. Bhan is also asking the Committee to ratify the appointment of Dede Subakti, Midwest ISO, as the chairman of the Special Protection Systems Review Team. Chairman Nguyen noted that since the Special Protection Systems Review Team is a subgroup of the Protective Relay Subcommittee and the Transmission Assessment Subcommittee, the Reliability Assessment Committee does not need to ratify this appointment.

The Committee recessed at 12:30pm.
The Committee reconvened at 1:22pm.

9. 2008 NERC Assessments Preparation

a. 2008 Summer Assessment

Secretary Seidel referred the Committee to Tab 9 which contained the 2008 Summer Assessment request letter from NERC. The deadline to submit MRO regional assessment and data spreadsheet is March 31. Secretary Seidel reported that most of the TAS information has been received. . A phone conference of the Reliability Assessment Committee is scheduled for 2:00 pm Central Time on March 24, 2000 to review the 2008 Summer Assessment.

b. 2008 Long Term Reliability Assessment

Mr. Seidel referred the Committee to Tab 9 which contained the 2008 Long-Term Reliability Assessment request letter from NERC. Secretary Seidel reported that 21 of approximately 30 entities have submitted their data by the MRO-requested due date, February 2, and they have also been submitting the Summer Assessment data at the same time. The deadline for the assessment due at NERC is May 18. A phone conference of the Reliability Assessment Committee is scheduled for 10:00 am on May 9 to review the 2008 Long Term Reliability Assessment.

The Committee recessed at 2:53pm
The Committee reconvened at 3:08pm

c. MRO Scenario Analysis and Proposed Scenario Assessment Task Force
Chairman Nguyen reviewed the background on the need for a task force. The scope for the proposed task force is attached to the minutes as Exhibit #1.

Upon motion duly made by Mr. Weber and seconded by Mr. Steffens, the Reliability Assessment Committee approved the scope and formation of the Scenario Assessment Task Force. It further directed staff to start the nomination process.

10. MRO Response to FERC on UFLS System

Mr. Flink referred the Committee to Tab 10 which contained the MRO response to NERC's request for additional data and clarifications to NERC's November 13 filing with FERC on UFLS systems.

Mr. Flink distributed a copy of his presentation. A copy of this presentation is attached to the minutes as Exhibit #2.

13. Subcommittee and Task Force Reports

a. Resource Assessment Subcommittee

Mr. Rudolph referred the Committee to Tab 12 which contained the Resource Assessment Subcommittee report.

- b. *Model Building Subcommittee*
Mr. Burbach referred the Committee to Tab 12 which contained the Model Building Subcommittee report.

- i. Wind Generator Modeling Task Force
Mr. Burbach referred the Committee to Tab 12 which contained the Wind Generator Modeling Task Force report.

- c. *Transmission Assessment Subcommittee*
Ms. Zhu gave a presentation on the activities of the Transmission Assessment Committee. A copy of her presentation is attached to the minutes as Exhibit #3.

- i. Appoint Jeff Hart as Representative on Transmission Assessment Subcommittee
Ms. Zhu referred the Committee to Tab 12 which contained the nomination form for Jeff Hart as the Iowa representative on the Transmission Assessment Subcommittee.

Upon motion duly made by Mr. Burmester and seconded by Mr. Weber, the Reliability Assessment Committee unanimously appointed Jeff Hart, MidAmerican Energy Company, as Iowa representative on the Transmission Assessment Subcommittee.

- d. *Generator Testing Review Task Force*
Mr. Lucero, GTRTF Secretary, provided a brief report on GTRTF activity and asked for the Committee actions on the following two items.

- i. Appoint Ethan Vaagene, GRE, and Joe Meyers, ALT, to Generator Testing Review Task Force
Upon motion duly made by Mr. Weber and seconded by Mr. Plante, the Reliability Assessment Committee unanimously appointed Ethan Vaagene, Great River Energy, and Joe Meyers, Alliant Energy, to the Generator Testing Review Task Force.

- ii. Approve Generator Testing Guidelines (Section 2.3.3.3) Language Changes
Mr. Lucero referred the Committee to Tab 12 which contained the proposed language changes to Section 2.3.3.3 of the Generator Testing Guidelines.

Upon motion duly made by Mr. Plante and seconded by Mr. Weber, the Reliability Assessment Committee unanimously approved the proposed language changes to Section 2.3.3.3 of the Generator Testing Guidelines.

14. **NERC Reports**

- a. *Data Coordination Working Group*
Mr. Owens referred the Committee to Tab 14 which contained the NERC Data Coordination Working Group report.
- b. *Disturbance Analysis Working Group*
No report.

- c. *Load Forecasting Working Group*
No report.
- d. *Operating Committee*
Chairman Nguyen referred the Committee to Tab 14 which contained the NERC Operating Committee report.
- e. *Operations Review Subcommittee*
No report.
- f. *Planning Committee*
Mr. Weber referred the Committee to Tab 14 which contained the draft meeting minutes from the December 12-13, 2007 meeting in Florida.
- g. *Reliability Assessment Subcommittee*
Mr. Nguyen referred the Committee to Tab 14 which contained the NERC Reliability Assessment Subcommittee report.
- h. *RAS Data Advisory Task Force*
No report. This group is no longer active.
- i. *Transmission Issues Subcommittee*
Mr. Burmester referred the Committee to Tab 14 which contained the NERC Transmission Issues Subcommittee report.
- j. *Adequacy Assessment Task Force*
No report.

11. NERC Survey for "Inventory of Regional Resource Adequacy Assessment Criteria"

Mr. Weber referred the Committee to Tab 11 which contained NERC's survey of information for inventory of regional resource adequacy assessment criteria.

12. Eastern Interconnection Reliability Assessment Group Report

- a. *Multiregional Modeling Working Group*
Secretary Siedel reported on the activities of the joint meeting of the ERAG and MMWG.

15. Other Business

No other business.

16. Adjourn

Having no further business, Chairman Nguyen adjourned the meeting of the Reliability Assessment Committee at 4:50pm.

Prepared by:
Sandy Humenansky, Administrative Assistant
Midwest Reliability Organization

Reviewed and Submitted by:
John Seidel, Secretary
Reliability Assessment Committee

Midwest Reliability Organization Scenario Assessment Task Force

Scope

The Scenario Assessment Task Force (SATF) shall report to the Midwest Reliability Organization Reliability Assessment Committee (RAC). The principal task of the SATF is to conduct regional Scenario Assessments for the MRO. These Scenario Assessments are requested by the NERC Planning Committee as part of the NERC *Long-Term Reliability Assessment* (LTRA).

The ten-year LTRA forms a basis for the NERC reference case, which is generally based on the assumptions that policy and regulations will be constant throughout the reported horizon and that the variety of economic trends, weather patterns, and system equipment behave as expected. Scenario assessments would indicate the relative sensitivity of the reference case to changes in pre-specified conditions and provide insight into risks to regional reliability. The scenario to be studied and the assessment completion timeframe are to be specified by the NERC Planning Committee.

Membership

The SATF membership shall be flexible to allow changes in the task force's expertise as the scenario topic changes. The SATF membership shall consist of:

- Members representing the following geographical areas within the MRO:
 - Dakotas
 - Minnesota
 - Nebraska
 - Iowa
 - Canada (Manitoba and Saskatchewan)
 - Wisconsin/Upper Peninsula Michigan
- Liaison Members from the MAPP Regional Transmission Committee, MAPP Pool Administrative Committee, Midwest ISO, Southwest Power Pool, and ReliabilityFirst Corporation, and other organizations as deemed necessary by the RAC for specific scenario assessments.
- Guest Members who, as industry experts, are requested to support specific scenario assessments.
- MRO staff member as the administrative facilitator for the task force.

Except the MRO staff member, all the SATF participants are voting members of the SATF. The Reliability Assessment Committee will appoint the Members from the MRO geographical areas, ratify the Liaison Members, and request the participation of the Guest Members. The Chairman and Vice Chairman of the SATF will be appointed by the Chairman of the RAC. The MRO staff members will serve as the Secretary to the SATF.



Report to MRO RAC on
Underfrequency Load Shedding
(UFLS) Program
March 5th, 2008



NERC UFLS Data Request

- In December 2007 NERC requested that regions provide demonstration of how much load would have been shed at each frequency set point during the summer peak period of 2007
- MRO staff submitted a response based on UFLS data collected during the 2007 Model Building Series



MRO Response to NERC

January 18, 2008

Regional Total Load Shed at Frequency				
Frequency (Hz)	59.3	59.0	58.7	Total
Load Shed (MW)	4267.88	4295.96	4257.94	12821.78
Percent*	10.10%	10.17%	10.08%	30.34%

*Percentage based on MRO-U.S. total 2007 Summer Peak Load of 42258 MW as found in the MRO 2007 series powerflow models. (All MRO control area loads less station service loads identified by load ID in PSSE model)



Problems with Current UFLS Data

- The source of data for the "total load" for a company is not consistent or well defined; this number is used for calculating percentages of load shed
- In many cases, the percentage of load shed for the second and third frequency set points was calculated based on the total remaining load, rather than the total system load; this does not appear to be consistent with the MAIN and MAPP guides currently used by the MRO
- Some MRO member companies did not submit any load shedding data since they do not own any UFLS equipment



Problems with Current UFLS Program

- Currently, the MRO UFLS requirements consist of old UFLS guides from MAIN and MAPP
- The MAIN guide requires that the total load shed from all three steps is “not less than 30% of system load prior to step 1”
- The MAPP guide requires that each Load Serving Entity shed “about thirty percent of its load in ten percent steps”
- It is not clear who is required to own and operate UFLS equipment



Actions Taken

- UFLS data was requested as usual with the 2008 Model Series, originally due March 7th
- After compiling the NERC response, MRO staff issued an updated request for UFLS data with the following changes:
 - A redesigned data collection spreadsheet
 - A requirement to use total system load data from the 2007 series model
 - A requirement to account for all MRO load since the guides currently in use do not exclude any load
 - The due date was extended to March 21st
 - The Data Reps were informed that this request will come between MRO model series, in the fall or winter



Future of UFLS Program

- MRO staff plans to collect UFLS data in the fall or winter for the following summer peak; this way the Data Reps can use the model data after the models are finalized
- Due to the confusion being caused by the conflicting and outdated MAIN and MAPP guides, it would be beneficial for the MRO to develop and adopt a new UFLS program to meet NERC requirements; this program would be based on the recommendations of the UFLS Task Force



Transmission Assessment Subcommittee (TAS) Report

Report to MRO
Reliability Assessment Committee

March 5, 2008



TAS Report to RAC 3-5-08

- The TAS last met on Feb 20, 2008.
- Highlights:
 - UFLS NERC standards discussion (with guest Larry Brusseau)
 - ✓ Initial thoughts by a number of TAS members: recommend to RAC to start SAR for MRO UFLS standard as soon as possible. There were also questions about coordination with the UFLS standard under development at NERC level.
 - ✓ TAS invited Larry B to provide a status update. As it stands, the standard includes two parts: continent wide requirement and region wide requirement. The SDT is finalizing the draft Continent Wide Standard for posting and the regional performance characteristics for a complementary regional standard. Applicability includes transmission owners, distribution owners, distribution providers and reliability coordinators. The continent wide standard requires TO's and DP's to document and certify the UFLS data, and also to submit records of any event to RC's. RC's are required to document and analyze any event data and submit the analysis and data to NERC and RE's. Guidelines for the complementary region wide standard are specified in the regional performance characteristics draft.
 - ✓ With the information from Larry, TAS thought it is prudent for MRO to start SAR for MRO UFLS standard after the NERC standard is posted. TAS requested Larry to add the group for the UFLS related discussions within the standard development group so TAS members will be able to provide comments to the standard group once the NERC draft is posted.



TAS Report to RAC 3-5-08

- SPS review discussions
 - ✓ TAS reps on the SPS review team and MRO staff provided an update of the PRC12 SPS review status and the group engaged in further discussions. The group agreed with the reps' idea of a "report template" supplementing the checklist. The group also reviewed the draft MRO procedure for PRC13 – reviewing existing SPS's, put together by the SPSRT. There was not further comments to the draft, but one recommendation. The group agreed that the SPS review team should put together an implementation plan. As part of this plan, MRO staff should prepare a prioritized list of the existing SPS's in MRO database. This list can be shared with MRO members to obtain feedback regarding the review schedules.
- NERC 2008 summer and LTRA data request
- NERC 2008 summer assessment – narrative
 - ✓ The group went through the NERC questions (focused on the transmission related questions) for the traditional part of the NERC request – assessment with base assumptions. The group observed that NERC is asking more questions regarding voltage stability margin, dynamic reactive reserve and transient voltage dip. Criteria, application, etc. Not all members have such criteria. Sub-regional assessments have been submitted to MRO. TAS will have a conference call on March 6 to discuss a draft that is being put together by MRO staff.
- 2008 ERAG studies
 - ✓ MRO is in the MRSWS group within ERAG. At the end of last year the MRSWS group decided that the responsibilities for running the assessment studies should rotate among the participating regions. This year it rotates to MRO. MRO staff has been doing a good job running the studies and collecting input and comments from TAS.



TAS Report to RAC 3-5-08

- MRO procedures for NERC standards
 - ✓ MRO staff provided a presentation and the group engaged in further discussions on which NERC standards should be supported by TAS and whether there is any work needed at this point to develop any MRO procedures. So far there is no procedure work identified for TAS. This on-going discussion will be continued at the next TAS meeting.

