



DRAFT MEETING MINUTES
MIDWEST RELIABILITY ORGANIZATION
Reliability Assessment Committee
Holiday Inn Select, Bloomington, MN
March 10, 2010 – 8:30am – 3:30pm

1. Call to Order

Chair Mazur called the meeting of the Reliability Assessment Committee to order at 8:30am.

2. Determination of Quorum

Chair Mazur asked for introductions from the committee members and guests. Chair Mazur determined that a quorum was met at 8:33am.

The following RAC members, guests and staff were present:

Members:

Hoa Nguyen, MDU
Ron Mazur, Chair, MH
Dennis Florom, LES
Hamish Wong, WPS
Dale Burmester, ATC

Jay Porter, GRE
Dave Rudolph, BEPC
Gerry Steffens, RPU
Mike Wish, GSE

Guests:

Wenchun Zhu, ATC (phone)
Amr Eldamaty, SPC
Dave Duebner, MISO
Larry Brusseau, MAPPCOR (phone)
Larry Larson, OTP (phone)

Alan Burbach, LES (phone)
Dan Lenihan, OPPD (phone)
John Mayhan, OPPD (phone)
Omar Elabbady, MAPPCOR (phone)

Staff:

John Seidel
Salva Andiappan
Jennifer Matz

Laura Elsenpeter
Dan Jesberg (phone)

Members Absent:

Kavita Maini, WIEG
Gayle Nansel, WAPA

3. Standards of Conduct and Anti-Trust Guidelines

Mr. Seidel reviewed the Standards of Conduct and Anti-Trust Guidelines with the meeting attendees.



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4. **Consent Agenda**

- a. *Approve Meeting Minutes of November 18, 2009 Meeting*

Upon motion duly made by Mr. Nguyen and seconded by Mr. Steffens, the Reliability Assessment Committee approved the November 18th, 2009 RAC meeting minutes as written.

5. **Chairman's Report – Ron Mazur**

Chair Mazur provided highlights of the Board of Director's (BOD) meeting from December 3, 2009. The board approved the revisions to the By-laws and Policy and Procedures, and the NERC Committee Appointments. A presentation was given by Mr. Roy Snell, President, and CEO of the Society of Corporate Compliance and Ethics (SCCE). The presentation covered how to improve Compliance and the lessons learned from other industries. Chair Mazur directed the committee to view the board meeting minutes to learn more.

Chair Mazur also discussed a concern from MRO Standards Committee Chair Mr. Acton. Chair Acton is concerned the wording of the RAC guidelines looking too similar to standards. Chair Mazur pointed out to the committee that the RAC guidelines clearly state they are only guidelines, and he does not see the need to address Chair Acton's concern.

6. **Reliability Assessment Committee 2010 Membership**

- a. *Election of RAC Vice Chairperson*

Chair Mazur opened the discussion to the committee on election of a new Vice Chair by asking for nominations. Mr. Steffens nominated himself, since there were no other volunteers. Chair Mazur asked the committee for a motion to nominate Mr. Steffens as Vice Chair.

Upon motion duly made by Mr. Wish and seconded by Mr. Burmester, the Reliability Assessment Committee approved Mr. Steffens to serve as Vice Chair of the Reliability Assessment Committee.

- b. *2010 Membership*

- i. *NERC Load Forecasting Working Group – New MRO Representative*

Chair Mazur asked for a motion to elect Mr. Kaseman as the new MRO Representative on the NERC LFWG.

Upon motion duly made by Mr. Nguyen and seconded by Mr. Florum, the Reliability Assessment Committee approved Mr. Kaseman of Otter Tail Power Company to represent MRO on the NERC Load Forecasting Working Group.



7. MRO Reliability Assessment Group Activities – Update - John Seidel

Chair Mazur called for discussion on the following items listed below:

a. *MRO and SPP Coordination of Nebraska Companies*

Mr. Seidel discussed the letter MRO drafted proposing a plan for the coordination between MRO and SPP for the Nebraska Entities. The intent of the letter was to minimize duplication of efforts as the Nebraska entities become part of the SPP RTO.

b. *Existing UFLS Program- 2010 Data Collection and Excel Engineering's Report and Recommendations*

Mr. Seidel provided an update to the committee on the letter he presented at the November 18, 2009 RAC Meeting. The letter was sent to Registered Entities (who are owners or potential owners of UFLS equipment) with two recommendations to consider. MRO asked entities to consider replacing electromechanical relays, and have evidence of how they are meeting their 3 steps of 10% load shed.

Mr. Rudolph asked Mr. Seidel for the floor.

Mr. Rudolph discussed the Standards Committee request for a representative from the RAC to participate on the MRO UFLS drafting team. The representative of the RAC would assist the drafting team in updating the Standards Process Manual. Mr. Burmester of ATC nominated Chuck Lawrence of ATC to be the RAC liaison if no other volunteers come forward. Chair Mazur stated if no one volunteers; he will contact Mr. Lawrence.

Mr. Seidel handed the floor to Ms. Elsenpeter.

Ms. Elsenpeter briefly discussed the progress of the UFLS data collection for 2010 Model series. Ms. Elsenpeter pointed out how the data was collected, and that the statistics she has compiled to date are preliminary.

Mr. Lenihan of OPPD raised concern about the existing language in the MRO Guideline for PRC-006 for UFLS. The MRO guideline presently states that *"If frequency continues to decline below 58.7 Hz, all appropriate entities shall take any action necessary to arrest the frequency decline, except for the opening of transmission tie lines."* Mr. Lenihan pointed out that the legacy MAIN criteria originally stated that major transmission lines not be opened; however, legacy MAPP criteria had no similar restriction. MRO agreed to modify the present UFLS guideline language to clarify this difference between the legacy MAPP and MAIN criteria. Additionally, Mr. Florum suggested that the guideline wording be changed from "shall" to "should" since it is a guideline. Mr. Seidel also mentioned that MRO would query all TOs/GOs for similar schemes (auto-tie opening or auto-islanding to preserve local load and generation), and he asked



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OPPD to send a detailed description of their scheme so that the RAC can better understand what is occurring on the OPPD system.

The committee recessed at 10:00 am.

The committee reconvened at 10:10 am.

c. *System Event Analysis:*

- *7-30-09 Event – Endorse Final Report*

Mr. Seidel referred the committee to the power point slides presented at the meeting regarding the July 30, 2009 System Event Analysis Report. He indicated the final public report would be posted to the website once received. Mr. Seidel wanted to ensure the RAC reviews it for informational purposes.

- *8-29-09 Event – Ongoing – Endorse Interim Report*

Mr. Seidel referred the committee to the power point slides presented at the meeting regarding the August 29, 2009 System Event Analysis Interim Report. He summarized how the event occurred and the lessons learned. Mr. Seidel wanted to ensure the RAC reviews it for informational purposes.

Mr. Mazur confirmed that the RAC has reviewed both reports and consider them informational.

d. *WPS Crane Creek Wind Plant SPS Update*

Mr. Seidel informed the committee that WPS submitted two requests to NERC for interpretation on two reliability standards. NERC informed WPS that the requests do not appear to seek clarity on any requirement of the standards, and referred WPS to the Compliance Registry Criteria for their answers. Mr. Seidel also mentioned that the SPS never went into service, and WPS has agreed to upgrade the transformer, which may make this a non-issue.

e. *Request for SPSs with in the MRO Region*

Mr. Seidel explained the purpose of the letter that MRO intends to send requesting all owners or potential SPS owners report them to MRO. MRO will review the submittals and compare them to the SPS database. If any SPSs are missing, Staff will notify the Registered Entity, so a review process will be set up per Standard PRC-012. The drafted letter is in the Agenda Packet under item 7.e.

The committee recommended that the SPS letter acquire SPSs that monitor transformers with 69kV low-sides, but indicate that their inclusion in the MRO database and review process is still to be determined.



8. Proposed New MRO Operating Subcommittee – John Seidel

Mr. Nguyen informed the committee of the recommendations presented at the last BOD meeting. The recommendations addressed the RAC's concern about creating a new operating committee. However, the Board requested that MRO staff draft a charter for a new operating committee and present it at the next BOD meeting in March. The drafted charter is in the agenda packet under agenda item 8. The committee reviewed the proposed objectives and responsibilities for the new committee in the drafted charter, and proposed changes to the document.

**The committee recessed at 12:00 pm.
The committee reconvened at 12:50 pm.**

9. NERC Assessments

a. *Coordination of Transmission Reliability Studies in the Long Term Reliability Assessments – Future of TRAWG - All*

Mr. Seidel discussed MRO's request to NERC about switching to a Planning Authority based assessment process rather than by Region. Mr. Seidel also mentioned MRO is concerned about late and inaccurate data for the NERC Summer Assessment. The committee discussed and agreed that MRO staff should inform the MRO Compliance group of companies with late data submittals.

Mr. Mazur asked for a motion to approve the instruction for MRO staff to inform the MRO Compliance group of late data submittals.

Upon motion duly made by Mr. Nguyen and seconded by Mr. Steffens, the Reliability Assessment Committee approved to instruct MRO staff to inform MRO Compliance staff of any late data submittals for assessments.

b. *Enhancements to NERC Reliability Assessments Commencing in 2010 - Hoa Nguyen and John Seidel*

- *2010 LTRA- Individual gen units req'd*

This is currently in progress.

- *2009-2010 Winter post-seasonal (new)*

This is currently in progress. Report is due to NERC by April 30th.

c. *Representation of wind capacity in 2010 Assessments (8% vs. 20% nameplate) - Hoa Nguyen and John Seidel*

Ms. Elsenpeter provided an update to the committee of the data collection of wind capacity at this time.



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The committee discussed using 8% nameplate for capacity versus 20%. Mr. Seidel indicated that 8% will be used in the 2010 LTRA and Summer assessments.

d. *Regional Boundaries for Future NERC Assessments – John Seidel*

Mr. Seidel informed that MRO sent a letter to NERC requesting time to speak at the next NERC Planning Committee meeting on March 16-17th. MRO wants to propose a concept on aligning Assessment geographies with Planning Authorities.

e. *NERC 2010 Scenario Assessment - Hoa Nguyen and John Seidel*

- *Early Retirement of Steam Units*
- *Rapid Demand Growth Following Recession*

Mr. Nguyen provided highlights from the NERC RAS on both topics.

Mr. Nguyen and Mr. Andiappan plan to review both assessments.

10. Midwest ISO Updates - Dave Duebner

Mr. Duebner provided highlights on the multiple projects and studies MISO has currently, and what is on the agenda for the Wind Planning Analysis Task Team.

Ms. Matz will include Mr. Duebner's report with the draft of the meeting minutes.

11. Compliance Committee Activity - Compliance Committee Liaison

Mr. Eldamaty attended the Compliance Committee meeting on March 9. He stated that the Compliance Committee is having a workshop on May 25, at which OATI will train attendees on the new CDMS updates.

12. Standard Committee Activity - Standard Committee Liaison

Mr. Rudolph provided highlights on the Standards Committee meeting held March 8. The committee agreed upon a SAR for updating the Standards Process Manual, and sent MRO standards RES-01 and PRC-502 out for comment, and TPL-503 out for ballot. The committee determined that TPL-504 is not ready for ballot, due to needing more clarification. Saskatchewan Power discussed their efforts to change their standard adoption process. Mr.

Rudolph also mentioned that Mr. Burley gave an overview of the changes within MRO and the future of the Standards area.



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13. Subcommittee and Task Force Reports

a. Generator Testing Review Task Force - None

No report provided, due to no new activity.

b. Model Building Subcommittee - Alan Burbach

Mr. Burbach referred the committee to his report in the Agenda Packet to identify the highlights of the subcommittee. The report is located under agenda item 13.b.

c. Protective Relay Subcommittee – Ding Lin

Mr. Lin was not in attendance at the meeting. Mr. Jesberg spoke on Mr. Lin's behalf. Mr. Jesberg provided highlights about Mr. Lin's presentation in the agenda package under item 13c.

i. Subcommittee Report

ii. Special Protection Systems Review Team

d. Resource Assessment Subcommittee - Dave Rudolph

No new activity to report.

Mr. Rudolph did comment that the subcommittee would like to have a Vice Chair. He will solicit the existing newer members of the subcommittee and go from there.

e. Scenario Assessment Task Force - None

No new activity at this time.

f. Transmission Assessment Subcommittee - Terry Torgerson

No report provided.

14. Eastern Interconnection Reliability Assessment Group Reports

a. ERAG Management Committee - Gayle Nansel/John Seidel

No new activity to report.

b. Multiregional Modeling Working Group - Adam Flink

No new activity to report.

15. NERC Reports

a. Data Coordination Working Group - Dan Jesberg

No new activity to report.



b. *Demand Response Data Task Force* – Laura Elsenpeter

Ms. Elsenpeter's report is included in the Agenda Packet under item 15.b.

c. *Load Forecasting Working Group* – Kerry Kaseman/Dennis Jackson

Mr. Jackson's report is included in the Agenda Packet under item 15.c.

d. *Operating Committee* - Larry Larson

Mr. Larson provided brief highlights on NERC's OC plan and activities. His report is included in the Agenda Packet under item 15.d.

e. *Operations Review Subcommittee* - Steve Sanders

No report provided.

Ms. Matz will include Mr. Sander's report with the draft of the meeting minutes.

f. *Planning Committee* - Dale Burmester

Mr. Burmester briefly highlighted NERC PC activities and observations. Mr. Seidel will be presenting MRO's proposal on aligning Assessment Geographies with Planning Authorities at the next NERC PC meeting on March 16-17. Mr. Burmester also mentioned the Event Analysis Working group will be looking more deeply into what constitutes an event. This has been a big concern, and hot topic for the group. See Agenda item 15.f of the Agenda Packet for Mr. Burmester's report.

g. *Reliability Assessment Subcommittee* - Hoa Nguyen

Mr. Nguyen briefly highlighted on the last NERC RAS meeting. Mr. Nguyen plans to attend the next meeting. Mr. Nguyen's report can be found in the Agenda Packet under item 15.g.

h. *Reliability Metrics Working Group* - Greg Pieper

Ms. Elsenpeter referred the committee to the print out provided at the meeting.

Ms. Matz will provide Ms. Elsenpeter's report with the draft of the meeting minutes.

i. *Resource Issues Subcommittee* – Neal Balu

No report provided.



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j. *Resource Subcommittee* – Terry Bilke

Mr. Bilke's report is provided in the Agenda Packet under agenda item 15.j.

k. *System Protection and Control Subcommittee* – Rich Quest

Mr. Quest's report is provided in the Agenda Packet under agenda item 15.k.

l. *Transmission Issues Subcommittee* - Wenchun Zhu

Ms. Zhu briefly highlighted NERC TIS activities. The subcommittee held its 2010 first quarter meeting on January 19 and 20. Ms. Zhu's report is provided in the Agenda Packet under item 15.l.

16. Other Business

a. *MRO UFLS Drafting Team – Representation from RAC or Subcommittees – Carol Gerou*

This was discussed under agenda item 7.

b. *Review of Work plans*

Chair Mazur raised a concern regarding subcommittees work plans. He would like to see the subcommittees provide their work plans to the RAC, so the committee has a sense of what they have planned. Chair Mazur asked the committee for feedback. Mr. Florom suggested holding off till NERC approves the new MRO standing committee. Mr. Nguyen

suggested the next RAC meeting the committee should look at reviewing the restructure.

Mr. Mazur summarized that the committee will focus on discussing the roles and responsibilities from the restructure at the next RAC meeting.

17. 2009-10 Committee Meeting Dates

2010 Board of Directors Meeting Dates

March 25
June 24
September 23
December 2

2010 MRO RAC Meeting Dates

June 9
September 8
November 17



18. Adjourn

Having no further business, Mr. Mazur adjourned the meeting at 3:08pm.

Upon motion duly made by Mr. Burmester and seconded by Mr. Wong, the Reliability Assessment Committee approved to adjourn the meeting.



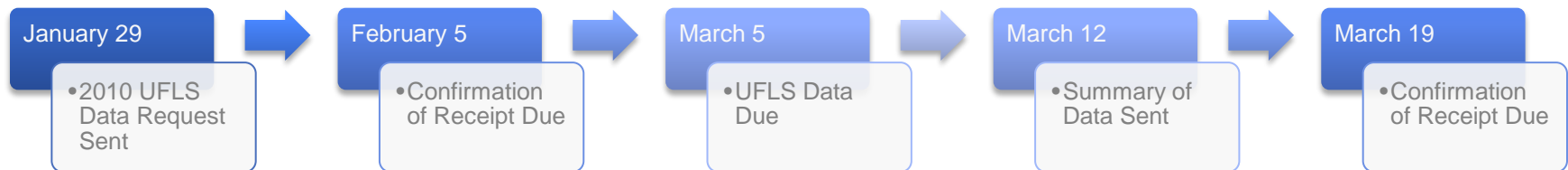
UFLS Data Collection

2010 Model Series



MRO 2010 UFLS Data Collection

- Required Data Requested
 - Breaker Time (sec) (Tb)
 - Point Pickup time for each step (sec) (tx)
 - Load Shed at each step (MW) (Px)
- Additional information Requested
 - Entity Name & Contact Information
 - Data Submitter Name & Contact Information
 - Electro-Mechanical Relay Information
 - Company participation in MRO Load Shedding Program



2010 UFLS Data Submitted

Graph will be provided at meeting



2010 UFLS Data Submitted

- Preliminary Data
 - Based on data received so far
 - Missing information from 3 Entities

MRO U.S. 2010 Summer Peak Load:				53305.92
Frequency (Hz)	59.3 Hz	59.0 Hz	58.7 Hz	Total
Load Shed (MW)	5868.51	5292.83	5382.6	16543.94
Percent %	11.01%	9.93%	10.10%	31.04%



Midwest ISO Update
MRO RAC March, 2010**MTEP10 Scope of Work**

- MTEP10 Reliability Analysis
 - Models reviewed, Analysis to start soon: Steady State, Voltage Stability, Dynamic stability, Small Signal stability for MRO PRC-502 PowerTech.
- MTEP10 Project Review & SPMs: West April 5
- Loss of Load Expectation Study
- Long-term Resource Assessment
- Congested Flowgate Study (MISO)

- Targeted Studies
 - Regional Generation Outlet study (RGOS)
 - Generator Deliverability & LTTR Feasibility
 - Cross Border Coordinated Congested Flowgate Study
 - Western Interface Limit Study
 - Draft scope development prior to Kickoff

Wind Integration

- Wind Planning Analysis Task Team
 - Screening analysis of other system conditions. Confirm what critical systems to study and what sensitivity cases would be good to check periodically
 - Kickoff meeting March 3rd.
 - Next meeting March 15th.

**MIDWEST RELIABILITY ORGANIZATION (MRO)
NERC REPRESENTATIVE REPORTING FORM**

Date: 03/10/2010

To: MRO - Reliability Assessment Committee (RAC)

From: Steve Sanders

Re: NERC Operating Reliability Subcommittee (ORS) Report

Meetings/Conference Calls Attended on behalf of MRO/RAC:

1. NERC ORS Meeting (via phone) on November 18-19, 2009
2. (Missed Meeting – Home Sick; However I've provided a summary of minutes) NERC ORS Meeting on February 10, 2010

Items Raised (of potential interest to MRO) and Summary of actions taken by ORS:

a) NERC Reliability Tools/Compliance Issues:

The ORS reviewed a draft SAR during its 2/10/10 meeting that proposes revising EOP-002-2, EOP-005-1, IRO-003-2, IRO-005-3, and IRO-006-4.1 to remove references to specific reliability tools (e.g. RCIS) and to add new requirements in the event that the primary tools are unavailable. The current requirements automatically place the RC in a potential non-compliance situation when a NERC reliability tool is unavailable. The draft SAR also notes the need for more clarity on how to meet the requirements in the absence of a specified NERC reliability tool. By unanimous consent the ORS endorsed forwarding the SAR to the Standards Committee.

b) Reliability Standards Reviews, Requests for Interpretation

- i) EOP-001-0: The ORS Executive Committee reviewed the comments received from balloters during the initial ballot of the ORS' interpretation of Requirement R1 of EOP-001-0 and approved a response to the comments and a revised interpretation during its 2/25/2010 meeting (see minutes link below). The revised interpretation is shown in Appendix 1 below. The full record of the interpretation of EOP-001-0 is available at http://www.nerc.com/filez/standards/EOP-001-0_ Interpretation_RECM.html
- ii) EOP-002-2: At its 2/10/10 meeting, the ORS discussed the history of the request for interpretation of EOP-002-2 (Capacity and Energy Emergencies) Requirements R6.3 and R7.1 for Brookfield Power. A recirculation ballot window for a revised interpretation of EOP-002-2 began on August 20, 2009 and ended on August 31, 2009. The ballot pool approved the interpretation; however, NERC received two formal appeals. The NERC Board of Trustees will address this request for interpretation at its February 16, 2010 meeting and, in all likelihood, remand the request for interpretation to the drafting team (ORS executive committee) for

additional work. The full record of the interpretation of EOP-002-2 is available at http://www.nerc.com/filez/standards/EOP-002-2_Interpretation_Brookfield_Power_2008-07.html.

c) Revised Reliability Plans

- i) The ORS reviewed and approved the proposed changes to the Midwest ISO Reliability Plan (dated 1/8/2010) on 2/10/2010 to address Dairyland Power Cooperative (DPC) changing from a Balancing Authority (BA) to a local balancing authority (LBA) and being incorporated into the Midwest ISO BA area. The change becomes effective 6/1/2010.
- ii) The ORS Executive Committee reviewed and approved the proposed changes to the SPP Reliability Plan (dated 4/1/2010) on 2/25/2010 to reflect the operation of the DENL BA moving from the Constellation Energy Control and Dispatch to NRG Energy.
- iii) UPCOMING changes: The Midwest ISO plan will be updated for BREC BA transition from TVA to MISO on 9/1/2010.

d) Transmission Loading Relief

The IDC Working Group reported to the ORS on the data requirements, IDC changes, vendor needs, and calculation methodology during the 11/18/2009 and 2/10/2010 meetings. The working group selected OATI as the vendor for the project. The ORS reviewed and approved the Revision 3 of the IDC CO-283 (Generation to Load Reporting Requirements). The project implementation timeline is: 1) Functional Spec completed Feb 2010, 2) Software tool completed Mar 2010, 3) RCs identify submitting entities for test period by Apr 2010, 4) Tool open for registration and login by May 2010, 5) Full Load Data Testing by Aug 2010, 6) Training by Sept 2010, 7) Production (parallel test mode of 12-18 months) starting Nov 2010.

The TLR standard drafting team reported during the 2/10/10 ORS meeting that it is still reviewing and developing responses to the comment received on draft four of IRO-006-5 and IRO-006-E1-1 (originally posted on 10/27/2009 for 30 day comment period).

e) ACE Diversity Interchange (ADI)

The ORS appointed a task group to explore reliability and equity issues associated with ADI programs and processes during its November 18, 2009 meeting. The chairman of the task group reported during the February 10, 2010 ORS meeting that the task group is proceeding with its review and specifically looking at the following issues: 1) Mechanics of interchange (e.g. pseudo ties versus dynamic schedules, 2) IDC modeling, 3) CPS and DCS performance, 4) Do ADI participants need to be adjacent Bas, and 5) transmission impacts to neighboring Bas that are not part of the ADI program. (Note: the ADI is a process where balancing authorities share area control error.)

f) Other items:

The Transmission Availability Database System (TADS) project manager reported to ORS on 2/10/2010 that the phase 1 of the TADS captures outages for 200 kV and above and 2009 data will be available by July 2010. It was noted from the 2008 TADS data that 10.2% of sustained outages of AC circuits were the result of human error.

FERC NOI – TLR Reliability Standard: The ORS discussed the FERC notice of inquiry and the NERC staff noted that they will circulate a preliminary draft of NERC's response to interested parties such as the IDC Working Group.

Voltage Reactive Planning and Control: At its 2/10/10 meeting, the ORS reviewed the Reliability Standard Project 2008-01 – Voltage Reactive Planning and Control. The scope of Project 2008-01 addresses FERC directives issued in Order 693. The Reactive Support and Control Subteam of the Transmission Issues Subcommittee of the Planning Committee developed a whitepaper titled "Reactive Support and Control," dated May 18, 2009, which is available at: http://www.nerc.com/docs/standards/sar/Project2008-01_White_Paper_2009May18_Appendix_1-11_2009Aug17.pdf. The SAR drafting team expects to issue another version of the SAR on or about March 1, 2010.

Action or Feedback requested from RAC/MRO:

1. Provide MRO position, if any, to be forwarded on any reliability standards coming to ORS for review.
2. Provide any comments or MRO position for ORS on the MISO/PJM proposed changes to the TLR process (Parallel Flow Visualization).

Upcoming Meetings:

1. May 5-6, 2010, ORS Meeting (New Orleans, Hosted by Entergy)
2. September 22-23, 2010, ORS Meeting (Loveland, Hosted by WECC)
3. November 18, 2010 (Austin, hosted by ERCOT)

The NERC ORS minutes/agendas of the recent meetings are available at the following links:

- November 18-19, 2009 ORS Meeting:
http://www.nerc.com/docs/oc/ors/ORS_Minutes_18Nov09.pdf
- February 2, 2010 ORS (Executive Committee) Meeting
www.nerc.com/docs/oc/ors/ORS_Ex_Comm_Conf_Call_Minutes_02Feb10.doc.pdf
- February 10, 2010 ORS Meeting:
www.nerc.com/docs/oc/ors/ORS_Minutes_10Feb10.pdf
- February 25, 2010 ORS (Executive Committee) Meeting:
www.nerc.com/docs/oc/ors/ORS_Ex_%20Comm_Conf_Call_Minutes_2-25-10.doc.pdf

Please let me know if you have any questions, or would like additional information.

Respectfully submitted,

Steve Sanders
Operations and Transmission Advisor
Western Area Power Administration
Upper Great Plains Region
406-247-7436 (work)
sanders@wapa.gov

Appendix 1

The following revised interpretation of EOP-001-0 — Emergency Operations Planning Requirement R1 was developed by the Executive Committee of the NERC Operating Reliability Subcommittee:

Interpretation of EOP-001-0 Requirement R1: (From ORS Executive Committee 2/25/10 meeting minutes)

1. In the context of this standard, emergency assistance is emergency energy. Emergency energy would normally be arranged for during the current operating day. The agreement should describe the conditions under which the emergency energy will be delivered to the responsible Balancing Authority.
2. The intent is that all Balancing Authorities, interconnected by AC ties or DC (asynchronous) ties within the same Interconnection, have emergency energy assistance agreements with at least one Adjacent Balancing Authority and have sufficient emergency energy assistance agreements to mitigate reasonably anticipated energy emergencies. However, the standard does not require emergency energy assistance agreements with all Adjacent Balancing Authorities, [nor does it preclude having an emergency assistance agreement across Interconnections.](#)
3. A remote Balancing Authority is a Balancing Authority other than an Adjacent Balancing Authority. A Balancing Authority is not required to have arrangements in place to obtain emergency energy assistance with any remote Balancing Authorities. A Balancing Authority's agreement(s) with Adjacent Balancing Authorities does (do) not preclude the Adjacent Balancing Authority from purchasing emergency energy from remote Balancing Authorities.
4. A Reserve Sharing Group Agreement that contains provisions for emergency assistance may be used to meet Requirement R1 of EOP-001-0.

March 10, 2010

Reliability Metrics Working Group Report

RMWG Scope and Charter Change

The RMWG will be presenting this charter to the PC/OC at its next meeting.

Purpose and Deliverables

The Group will provide input to and support the objectives of the NERC Reliability Assessment and Performance Analysis Program,¹ including the development and improvement of NERC's risk indices and key reliability metrics. Specific activities will include:

1. Develop general metrics² measuring the characteristics of an Adequate Level of Reliability (ALR);³
2. Develop and apply a risk-based tool to assess reliability trends;
3. Define and report reliability measures and risk assessments including formulae or methods for identification and calculations;
4. Define data collection and reporting guidelines;
5. Publish quarterly website updates and annual report on Bulk Power System Reliability Metrics;

The Group will report its progress at each joint meeting of the Operating Committee (OC) and Planning Committee (PC).

2010 Metrics – Dismissed

1. ALR1-2 Maintaining the required amount of reserve (BAL-002, reserve contingency requirement)
NERC staff will contact RC's about collecting preliminary data. TVA as an RC monitor's real time BA's balancing reserves as a self reported number updated every 10 sec.
There was a lot of effort done to collect data that proved to not be useful.
2. ALR2-2 SPS Operations
Definitions of SPSs are different in every region, so what is the definition of an SPS? Fall under 4-1 metric? Team agreed there isn't a lot of support for this metric.
3. ALR2-3 UFLS and UVLS Usage
A pilot data request was sent to the regions, there is some confusion as to what exactly the RMWG is requesting. MRO is working with the RMWG to submit the appropriate data requested.
The group decided there wasn't a lot of merit to this metric and it should not be pursued.

¹ Defined in Section 806 of the NERC Rules of Procedure, available at http://www.nerc.com/files/NERC_Rules_of_Procedure_EFFECTIVE_20100205.pdf.

² Metrics covering both operations (real-time) and future reliability.

³ http://www.nerc.com/files/Adequate_Level_of_Reliability_Definition_05052008.pdf

March 10, 2010

2010 Metrics – Tabled

1. Frequency Related Metrics pending FERC action
FERC is doing a study on frequency response and the report should be public by the end of winter (BAL-003). The RMWG has tabled this metric until the FERC study comes out. We will revisit if the study finds the metric necessary.
2. ALR4-3 system Operating Limit (SOL) Exceeded
This would require a special data request since investigation has determined data is not readily availability. This metric is tabled until further notice.

2010 Metrics – Moving Forward

1. ALR1-1 Generator Reactive Limit Metric: Voltage schedules
Team 1 recommends moving forward with this metric and starting a pilot data request. PJM will gather some preliminary data to discuss at the next meeting.
2. ALR1-5 System Voltage Performance
John & Scott will gather PJM data to see if data is usable.
3. ALR2-9 Minimum Generation Management
Team 1 would like to collect data and move forward.
4. TSA: Transmission System Unavailability due to Forced Outages (ALR6)
Forced outage can be collected from TADS; the group will not turn this metric over to TADS to include in their report. Team 2 will move forward with this metric.
5. Transmission System Availability (ALR3)
Team 2 will move forward with this metric.
6. CEA: Frequency of Load Interruption (ALR6)
Currently collected in Canada, measure is very mature, no need for pilot. This would be done with heavy data collection at the Regional level.
Concern with this dealing with the distribution side more than the transmission side, so does it carry merit with NERC?
Keep the request very simple so the regions can track trends. Shouldn't compare region to region or TO to TO.
Team 3 will continue to work on this metric
7. Unsupplied Energy (ALR6)
Impact event, what's the impact? Currently collected in Canada, measure is very mature, no need for pilot. This would be done with heavy data collection at the Regional level.
Team 3 will continue to work on this metric
8. Operable Capacity
Proposal out of RIS, team 3 will continue to work on this metric.

March 10, 2010

2009 Metrics Update

1. ALR3-5 IROL/SOL Excursion Data Request

This metric is currently at FERC for approval. Only count items greater than 10 seconds. Mandatory data request, but using 2010 as a learning year to make changes to data request as necessary.

2. ALR6-1 Transmission Constraint Mitigation

Team 3 would like to expand this request to all the regions and start trending the information over time. It is suggested to get these numbers from the RTO and not the regions

2010 Annual Report on Reliability Metrics

The RMWG reviewed the draft of the annual report at its face to face meeting on February 17, 2010. Included in the report is the 3 year work plan; the RMWG is looking at hosting a workshop or webinar later this year to educate the industry on the metrics development process.

Report from the G&TRPMTF Liaison (formed by PC)

Reliability Modeling task force

- LOLE – may not be good for modeling variable energy, only models 1 hour (metric proposed by RAS) (New LOLEWG formed)
- LOLH – could be better for modeling variable energy, fewer entities use (current LOLE software may calculate LOLH)
- EUE – similar to LOLH, measures amount of load loss (energy)

Above metrics recommendations will be submitted in the appropriate form.

Report from the Forum Liaison

The forum developed a system through OATI to track DADS data, data downloaded from 2008 and 2009 TADS. 2010 should be directly input into the OATI tool then uploaded to TADS by the entity.

Risk Management Tool

RMWG should work on the tool's authenticity, possibly a new group under the RMWG. Of particular interest is the Severity calculation; based on events that have already happened.

Data came from 1 year of TADS and GADS then repeated for each year.

Root cause severity instead of normal severity?

Items that occur more often could be an indicator of leading into worse events. The items in the graph that are greater than 50% occurrence should be displayed.

RMWG developed a team to research the risk assessment tool lead by Heidi Caswell (Team 4).

PMTF – Compliance Performance Measures

Greg Peirce (Chair, Performance Measure Task Force) presented measures on the performance of the compliance program since its initiation. The data is preliminary and Greg received good feedback from the RMWG in regards to improvement. For example, the Average Number of Days for Completing

March 10, 2010

Mitigation Plans graph indicates that the days to completion are getting less and less, but the graph does not include items still open.

PMTF will be giving a preliminary report/presentation at the CCC meeting in March.

Tasks

The RMWG is in the process of updating this table.

2009 Tasks				
Mar-09	Jun-09	Jul-09	Sep-09	Dec-09
Provide PC/OC a list of ALR metrics and other reliability measures for consideration	Recommend first set of ALR metrics for PC/OC endorsement in July	Obtain PC / OC endorsement of recommendations by the Group	Recommend data collection guidelines and an implementation plan	Present recommended report of metrics definitions for implementation and data collection
			Review and recommend leading indicators and event classification	Begin implementation of data collection assuming endorsement of PC/OC
			Enhance and update metrics definitions on the NERC website	Proposal for development of a centralized benchmarking repository

Tasks			
Mar-2010	Jun-2010	Dec-2010	2011
Publish 2009 annual reliability performance report	Recommend second set of ALR metrics	Monitor ALR metrics and leading indicators	Report on changes in reliability performance compared to established benchmarks
	Review and analyze performance trends periodically and establish benchmarks for each performance indicator	Propose changes and additions as needed	Develop and identify any areas for performance improvement. Identify needs revealed by the metrics program; recommend standard changes if indicated