



NORTHEAST POWER COORDINATING COUNCIL, INC.
1040 AVE OF THE AMERICAS, NEW YORK, NY 10018 TELEPHONE (212) 840-1070 FAX (212) 302-2782

June 7, 2011

Re: NPCC Open Process-C-17 “Procedures for Monitoring and Reporting Operating Critical Operating Tool Failures” Document

Dear Sir Madam,

Attached for NPCC Open Process Review is the revised NPCC C-17 “Procedures for Monitoring and Reporting Operating Critical Operating Tool Failures” Document. This document outlines the reporting requirements, responsibilities and obligations of the NPCC Reliability Coordinators (RCs), Balancing Authorities (BAs) and Transmission Operators (TOPs) [responsible entities] in response to failures of the operating tools identified in Section 2 of this document and to evaluate failures of these tools and systems from the standpoint of identifying lessons learned.

This document provides:

- 1) A list of the operating tools and systems whose failure requires completion of a Critical Operating Tool Failure Form,
- 2) The reporting requirements,
- 3) A Critical Operating Tool Failure Form (Appendix A) to allow an affected responsible entity to notify NPCC of a critical operating tool or system failure. NPCC staff will forward the form to CO-8 and CO-10 and to the TFCO for their review, and
- 4) A process to analyze the failure of critical operating tools and systems and to identify lessons learned and trends where applicable to help prevent future common failures.

This document was written by the CO-10 System Operational Tools Working Group and was approved by the Task Force on Coordination of Operation in November, 2007. Redline and clean copies of the document are attached.

The NPCC Open Process Review may be accessed through:

<http://www.npcc.org/regStandards/opOther.aspx>

When you are on the NPCC web site, the draft of NPCC Document C-17 submitted for comment may be viewed and / or downloaded by clicking on the link "[document.](#)" Comments may be posted on the NPCC Web Site by clicking on the number indicated under "[comments](#)" and following the prompts provided. All comments must be submitted electronically through the NPCC Web site. Comments will be received for forty-five days through **Friday, July 22, 2011**, and they will be addressed by both the CO-10 Systems Operational Tools Working Group and the Task Force on Coordination of Operation.

Sincerely,

James H. Hartwell

James H. Hartwell
Manager, Operations Awareness

cc: Members, NPCC Task Force on Coordination of Operation
Members, CO-10 System Operational Tools Working Group



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*Procedures for Monitoring and Reporting
Critical Operating Tool Failures*

~~Approved by the Task Force on Coordination of Operation on January 13, 2011
(Conditional Approval)~~

~~2010~~ March 15, 2011 June 6, 2011

Revised by CO-10: ~~December 8,~~

NPCC Document C-17
Procedures for Monitoring and Reporting
Critical Operating Tool Failures
June 6, 2011

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2. Identification of Critical Operating Tools and Systems

3. Reporting and Monitoring Requirements for Critical Failure Modes

4. Non-Reportable Events

Appendix A: Critical Operating Tool Failure Form

1. Introduction

The purpose of this document is to outline the reporting requirements, responsibilities and obligations of the NPCC Reliability Coordinators (RC's), Balancing Authorities (BA's), and Transmission Operators (TOP's) and Transmission Owners (TO's) ~~and Transmission Owners (TO's)~~ [responsible entities] in response to failures of the operating tools ~~failures that are critical to the operation of the RC controlled grid~~ identified in Section 2 of this document and to evaluate failures of these tools and systems from the stand point of identifying lessons learned. ~~RC's use and rely on various critical operating tools and systems to perform their necessary operating functions, including those RC critical operating tools and systems that are dependent on input or support from Transmission Operators and Transmission Owners.~~

This document will provide:

- 1) A list of the operating tools and systems ~~that are critical to the operation of the RC controlled grid, whose failure requires completion of a Critical Operating Tool Failure Form,~~
- 2) The reporting requirements,
- 3) A Critical Operating Tool Failure Form (Appendix A) to allow an affected RC responsible entity to notify NPCC CO-8, CO-10 and TFCO of a critical operating tool or system failure. NPCC will forward the form to CO-8, CO-10 and TFCO, and
- 4) A process to analyze the failure of critical operating tools and systems to identify lessons learned and trends where applicable to help prevent future common failures.

2. Identification of Critical Operating Tools and Systems

Various operating tools and systems provide the information used ~~by the RCs~~ to monitor, assess and respond to power system problems including those RC critical operating tools and systems that are dependent on input or support from Transmission Operators and Transmission Owners. The normal function of these tools and systems allow the monitoring of the Bulk Power System (BPS) under a wide range of operating conditions. Each responsible entity ~~RC~~ should have as a minimum report the failure of the following monitoring and analysis tools:

- 1) Primary Voice Communication System
Primary Voice Communication System is the communication system that is used for the real time operating function.
- 2) Uninterruptible Power Supply (UPS)
Uninterruptible Power Supply is comprised of both primary and back up systems and standby generation.
- 3) Primary Tool Set
 - a) Real-Time Data Collection
The real time data collected by telemetry (SCADA or ICCP) for use in EMS to monitor the BPS.
 - b) Alarm Tools
Alarm tools are applications that emit real-time visible and audible signals to alert system operators to events and conditions affecting the state of the BPS.
 - c) Visualization Tools
Visualization tools allow system operators to view large amounts of data directly. Each [responsible entity RC](#) has different types of visualization tools (i.e. SCADA one-line displays, State Estimator one-line displays, reserve monitoring application and dynamic mapboards etc...)
 - d) Network Topology Processor
Network Topology Processor (NTP) validates the accuracy of data collection and electrical connectivity. NTP configuration model provides input to other system monitoring tools such as contingency analysis and State Estimator.
 - e) State Estimator
State Estimator models the real time system in order to provide an estimate of its state.
 - f) Contingency Analysis
Contingency Analysis tools identify problems such as stability or thermal limit violations, or voltage collapse that will occur if a contingency happens.
 - g) Any other reliability tools
Other operational tools deemed essential as determined by the [responsible entity individual RC](#) for monitoring and analyzing the BPS.

3. **Reporting and Monitoring Requirements for Critical Failure Modes**

The critical failure of any of the tools indicated above requires notification and a follow-up report if the failed state exists longer than 30 minutes.

The reporting requirements are as follows:

1. The affected responsible entityRC will provide initial notification using Appendix A ~~to the CO-8 and CO-10 and TFCO Chairpersons~~, within 10 business days of the tool failure to c17@npcc.org. The report, ~~submitted either by letter or email~~, shall identify the date and times of the failure as well as the failure type and summary. To avoid duplication in reporting, an initial appendix A shall not be required if the reporting entity has issued a disturbance report as a result of a critical tool failure, e.g. OE-417, EOP-004, etc.
2. The affected responsible entityRC will provide a final report using Appendix A to c17@npcc.org~~the CO-10 Chairperson~~ within 60 calendar days of the tool failure. The report, ~~submitted either by letter or email~~, shall identify the definitive cause of the failure, conclusions, corrective actions taken and any lessons learned.
3. The CO-10 Working Group will monitor and track critical operating tool failures by maintaining a Critical Operating Tool Failure Summary Report. CO-10 will then determine if there are any region-wide trends from the reported tool failures that are deemed relevant to other responsible entities ~~NPCC RCs~~ and forward those to TFCO.

4. Non-Reportable Events

It is recognized that operating tool or system problems occur that are determined to be minimal in nature or do not exceed the timing guidelines above. For these failures, ~~members~~ responsible entities are encouraged to share their experiences for the mutual benefit of others. A non-reportable event checkbox has been provided on the Appendix A reporting form for this purpose. ~~via informal discussion at regular CO-10 meetings although no formal reporting requirement exists.~~

Prepared by: CO-10 – Operational Tools Working Group
Review frequency: 3 years

References: *NPCC Glossary of Terms* (Document A-7)

NPCC

C-17 Appendix A

CRITICAL OPERATING TOOL FAILURE FORM

Submit to : c17@npcc.org

- Initial (Submitted within 10 days of event) MM/DD/YYYY**
- Final (With Conclusion Submitted within 60 days of event) MM/DD/YYYY**
- Non reportable event (for information only) MM/DD/YYYY**

Submitting RC Entity:	
RC Contact Person:	
Affected Organization:	
Event Time/Date:	
Mitigated Time / Date:	
Closed Time / Date:	
1) TYPE OF FAILURE:	
2) FAILURE SUMMARY:	
3) CAUSE OF FAILURE:	<input type="checkbox"/> Details to Follow
4) CONCLUSION and CORRECTIVE/MITIGATION ACTION:	<input type="checkbox"/> Details to Follow
LESSONS LEARNED (if any) :	<input type="checkbox"/> N/A



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Procedures for Monitoring and Reporting Critical Operating Tool Failures

Revised by CO-10: June 6, 2011

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1. Introduction

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The reporting requirements are as follows:

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Prepared by: CO-10 – Operational Tools Working Group
Review frequency: 3 years

References: *NPCC Glossary of Terms* (Document A-7)

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C-17 Appendix A

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Submitting Entity:	
Contact Person:	
Affected Organization:	
Event Time/Date:	
Mitigated Time / Date:	
Closed Time / Date:	
1) TYPE OF FAILURE:	
2) FAILURE SUMMARY:	
3) CAUSE OF FAILURE:	
<input type="checkbox"/> Details to Follow	
4) CONCLUSION and CORRECTIVE/MITIGATION ACTION:	
<input type="checkbox"/> Details to Follow	
LESSONS LEARNED (if any) :	
<input type="checkbox"/> N/A	