Entity Guide for Reporting Protection System Misoperations

EG-01
Rev. 2.1

This non-binding entity guide is provided for NPCC registered entity information and use to assist in processing Protection System Misoperations.

Process Owner: Manager, Compliance Audits and Investigations – Ops & Planning

Effective Date: 6/20/2013
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Review and Re-Approval Requirements
This document will be reviewed every two years from the effective date, or as appropriate for possible revision. The existing or revised document will be posted to the NPCC website for NPCC registered entity Reference.
1. Introduction

All Registered Entities within the NPCC Region are subject to compliance with the NERC Reliability Standards. Entities registered with NERC as Generator Owner (GO), Transmission Owner (TO), or Distribution Provider (DP) with Protection Systems are required to comply with applicable NERC Standards associated with protection system misoperations (PRC-004, PRC-016, PRC-022 & EOP-004).

NPCC shall establish, document and maintain its procedures for, review, analysis, reporting and mitigation of transmission and generation protection system misoperations.

PRC-003, Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems, is the NERC Reliability Standard which governs the processing of misoperations. PRC-003 is a "fill in the blank" standard.

NERC issued metric ALR4-1, Automatic Transmission Outages Caused by Protection System Misoperations for consistent reporting across NERC and all Regions (Refs 8.5 & 8.6).

NPCC has developed this Entity Guide, EG-01, to provide guidance in supporting the above.

Note: All References are listed in Section 8.0: "References".

2. Purpose

The purpose of this procedure is to provide guidance for the consistent, complete, and comprehensive capture of protection system misoperations (hereafter known as "misoperations") and associated data to ensure that analysis, corrective actions and implementation have been performed so that they can be trended. This procedure will

- Provide the entity with a Misoperation Reporting Template (hereafter known as the "template") for capture of protection system operations and misoperations information in a consistent format.
- Describe the roles and responsibilities of personnel responsible for preparing the template, submitting the template, and users of information on the template.
- Provide guidance for the scope of applicable protection systems, reportable operations, and reportable misoperations.
- Provide the procedural steps and instructions for preparing, completing and submitting the completed template.
- Provide the schedule for both Misoperation and Protection System Operations ("PSO") Reporting.

The Misoperation Reporting Template was carefully developed considering the NERC Glossary of Terms and approved NERC Reliability Standards to ensure that there would be no conflicts. The template and other references listed in Section 8.0 provides uniform guidance to the Regions as to which misoperations and associated data must be reported per NERC Reliability Standards PRC-004, PRC-016, and PRC-022.

Adherence to this procedure will help the entity improve its compliance position. The template may serve as a work tracking summary sheet for misoperations and their required actions. This will help the entity determine whether all required actions for Misoperation Reporting have been completed to affirm annual Self Certification of compliance to PRC-004, PRC-016, and PRC-022 as applicable.
The template has been augmented by NPCC with an additional separator for Bulk Power System (BPS) (Ref 8.12 and Ref 8.13) and with additional explanation of information to be entered in each field (Ref 8.12).

Quarterly Misoperation Reporting is not the same as certification of compliance to NERC Standard PRC-004, Analysis and Mitigation of Transmission and Generation Protection System. Self-certification of compliance to PRC-004, takes place in January of the year following the reporting period (i.e. for the reporting period Jan-Dec 2013, self-certification in NPCC CDAA is due by January 20, 2014).

3. Applicability

The procedure described herein applies to all NERC registered entities with the following functions:

- Generator Owner (GO)
- Transmission Owner (TO)
- Distribution Provider (DP) with transmission protection systems
- Other entities acting as authorized agents for the entities having the above functions.

Hereafter, the above will be referred to as the “entity” or “entities”.

4. Roles and Responsibilities

4.1. Protection System Subject Matter Expert (SME): Filling out the Misoperation Reporting Template completely and accurately requires personnel cognizant of the misoperation event, involved in the analysis and corrective actions for correction, and knowledgeable in the terminology and expectations of the Misoperation Reporting Template. This person is usually part of the entity’s Engineering or Protection System group.

4.2. NPCC CDAA Technical Contact: Submittal of the Misoperation Reporting Template to support NERC compliance and ERO-RAPA data reporting requires personnel authorized to submit Self Certifications for PRC-004 for the entity using the NPCC CDAA (CMEP Data Administration Application) compliance portal application. This person may or may not be the same as the Protection System SME.

4.3. NPCC Compliance Group: NPCC Compliance staff will consolidate the individual quarterly Misoperation Reporting Templates submitted by the applicable entities and provide them to SP-7 and ERO-RAPA per the requested schedule. Compliance Auditors may review misoperation submittals and their status prior to audits/spot checks of PRC standards.

4.4. Protection System Misoperation Review Working Group (SP-7): SP-7, a Working Group under the NPCC Task Force on System Protection (TFSP), will review and analyze misoperations of transmission and generation protection systems and Type 1 Special Protection Systems (SPS) on the Bulk Electric System in the NPCC region. This group will analyze the quarterly Misoperation Reporting Templates submitted to CDAA.
4.5. **TADS (Transmission Availability Database System) representative**: any misoperations on transmission protection systems for 200KV or above are to be captured in the NERC TADS database. If the TADS representative is not the same person as the NPCC CDAA Technical Contact, the TADS representative should be consulted to verify the cause codes and other TADS related fields on the template with the Protection System SME for correctness. The misoperation information should be used by the TADS representative for TADS.

5. **Definitions and Scope**

5.1. The terminology used herein is defined in the NERC Glossary of Terms (Ref 8.7). Further clarification is provided in the list of References shown below.

5.2. These References do not alter the NERC Glossary of Terms for “Misoperations”, “Operations”, “Protection Systems”, or the requirements in the NERC standards. They provide guidance and clarification to the scope and reportability of misoperations:

- Ref 8.5: ERO RAPA Letter, Appendix A, Proposed Protection System and Misoperation Reporting
- Ref 8.8: NERC Webinar on Consistent Protection System Misoperation Reporting
- Ref 8.9: NERC Webinar, Questions and Answers on Consistent Protection System Misoperation Reporting
- Ref 8.10: ERO-RAPA Misoperation Reporting Template, “Definitions” tab
- Ref 8.18: NPCC Protection System Operations Reference

5.3. The specific Protection Systems of interest for which misoperations are to be reported are listed in the NERC Glossary (Ref 8.7) and repeated in Section 1 of Appendix A in Reference 8.5 with clarification in Reference 8.9 (the updated NERC Q&A document on Consistent Protection System Misoperation Reporting, which includes a new section addressing PSOs).

5.4. The specific types of misoperations of interest are:

- “Dependability”: when a protection system does not operate when desired.
- “Security”: when a protection system operates when not desired.

These are described in greater detail in Section 2 of Appendix A in Reference 8.5.

5.5. Page 4 of Ref 8.5 provides a list of nine (9) notes which very specifically describe what constitutes “Reportable” and “Non-Reportable Misoperations”.

Noteworthy is Note “A” (Page 4 of Reference 8.5) which states:

> “The composite Protection System in the context of this standard is the total complement of protection for a system Element (line, bus, transformer, generator, etc.). Primary and secondary protection of a given Element is considered as the composite Protection System, not two separate Protection Systems”
5.6. Based on the above definition, consider the following situation: a line is protected by (composite) System A and System B protection systems. A fault occurs on the line. System A fails to operate to clear the fault, but System B successfully operates to clear the fault as designed. This is not a Reportable Misoperation because the composite protection system operated to clear the fault.

5.7. Question 4a and 4b in NERC Webinar, misoperations Q&A (Reference 8.9) provides additional clarification for the situation above.

5.8. Misoperation Reporting is required for all GO, TO and DP protection systems that affect the reliability of the Bulk Electric System (BES).

5.8.1. Currently in NPCC, the BES is the Bulk Power System (BPS) as defined in NPCC Criteria A-10 (Ref 8.13) and Compliance Guidance Statement, CGS-002, Generation Materiality (Ref 8.14). The NERC BES definition is currently under revision, and the completion of the approval process for this updated BES definition would correspond to its adoption across the continent that would impact the definition of the BES in the NPCC footprint.

5.8.2. In order to obtain more complete information to support the NERC ALR4-1 initiative, entities are asked to provide “bright line” (≥100kV) misoperations so that this information does not have to be requested later.

5.8.3. The template has been modified to include a column to distinguish between BPS and “bright line” misoperations.

5.9. Notes on Page 4 of Reference 8.5, and Reference 8.9, NERC Webinar Misoperation Reporting Q&A, address delayed clearing, targeting, reclosing, human error; maintenance, testing, construction and out-of-service status of equipment and their relationship to misoperations; and fine points for various failure and fault conditions related to misoperations.

5.10. In a letter to Regional Entity Executives dated November 1, 2012, (See Ref 8.17):

5.10.1. NERC ERO-RAPA recommended to NERC Region Staff the implementation of an updated Misoperation Reporting Template designed to capture an aggregate count of Protection System Operations (PSOs), a move that was endorsed by the NERC Planning Committee in June 2012. The letter states the ability of the enhanced reporting template to “enable the [Regional Entities] and NERC to normalize misoperation statistics on a consistent basis while minimizing additional burden to registered entities” as the reason given for the request for additional data.

5.10.2. The updated Misoperation Reporting Template also included changes to data fields, including the addition of a drop-down list for Column U to identify the name of a generator if the misoperation involved a forced generator outage. Background information and instructions on selecting a generator using the drop-down list in this Column can be found in the NPCC Misoperation Reporting Template Instructions (Ref 8.12).
5.11. In a letter to the NPCC Reliability Coordinating Committee dated May 15, 2013, (See Ref 8.20), the NPCC Task Force on System Protection (TFSP) discusses the SP-7 Working Group’s recommendation regarding the implementation of additional sub-cause codes for Column P of the quarterly reporting template. These additional codes are designed to capture specific root cause details of misoperation events involving microprocessor relays. This recommendation was approved by the TFSP and will be implemented into the NPCC Quarterly Misoperation Reporting process starting with the Second Quarter of 2013. A listing of the additional sub-cause codes for entry in Column P, can be found in the NPCC Misoperation Reporting Template Instructions (Ref 8.12).

6. Procedure

6.1. As mentioned in Section 5.0, NERC ERO-RAPA has prescribed the expansion of the quarterly Misoperation Reporting process to include the capture of aggregated count of Protection System Operations. This Section describes the process set up by NPCC to collect the pertinent information.

6.1.1. There are two main components to quarterly Misoperation Reporting for the NPCC region:

- Completion of NPCC CDAA Quarterly PRC-004-1 Reporting Form, including the number of Protection System Operations (PSO)
- Completion and submittal of the NPCC Misoperation Reporting Template (if applicable) via attachment to the NPCC CDAA Quarterly PRC-004-1 Reporting Form

NOTE: In the event that the CDAA application is unavailable, or for entities that do not use CDAA for Self Certifications and reporting, see Section 6.4 for means of submittal.

6.1.2. Use of the NPCC CDAA Quarterly PRC-004-1 Reporting Form will greatly enhance the reporting process.

- This process will reduce the volume of submittals. The updated Misoperation Reporting Process that includes the reporting of Protection System Operations totals would require NPCC GO, TO, or DP registered entities to complete and attach the reporting template regardless of whether any protection system misoperations occurred for each reporting period.
- Submittal through NPCC CDAA significantly improves the efficiency by which NPCC Staff and the NPCC SP-7 Working Group can aggregate all received Misoperation reports for review and submittal to NERC ERO-RAPA, a time-consuming quarterly process.
- If the entity is registered for more than one of the GO, TO or DP registered functions, information regarding Protection System Operations and Misoperations for all registered functions shall be captured on one NPCC CDAA Quarterly PRC-004-1 Reporting Form.
6.1.3. Use of the Misoperation Reporting Template to capture all misoperations will greatly enhance the reporting process.

- Aside from ensuring consistency, this process will reduce the volume of submittals. If there are new misoperations or updates of previous misoperations to report, the submittal will contain a single template for the applicable misoperations related to the entity’s registered function.

- Each misoperation and all its details shall appear on a separate row of the template. All new misoperations, and updates for previously reported misoperations, should appear on one template for the quarter.

- If the entity is registered for more than one of the GO, TO or DP registered functions, the misoperations for all registered functions shall be entered on one template.

- It is neither necessary nor desired to submit individual misoperation report forms or templates for every misoperation to NPCC.

- If there are no new misoperations or updates of previously reported misoperations to report, do not attach a blank template to the CDAA Quarterly PRC-004-1 Reporting Form. See Section 6.2.5 for directions on reporting “No Misoperations” or “N/A” to NPCC.

- If providing updates to previously reported misoperations on the template, please prepare a separate text (i.e. Microsoft Word) document describing the changes from the previous report (e.g. "Column M: further analysis showed that additional equipment became unavailable due to the misoperation."); "Column X: the Corrective Action Plan scheduled for completion on 6/30/13 (Column W) has been completed ahead of schedule on 6/1/13"; "Columns V & W: the Corrective Action Plan has been expanded to verify harmonic restraint settings of all Brand ABC relays and the completion date has been extended to 9/30/13")

6.1.4. NPCC CDAA submittals will also be reduced by use of the Misoperation Reporting Template.

- Misoperations are required to be submitted on a quarterly basis and not as they happen (see Section 7.0).

- Each entity is required to perform only one composite quarterly NPCC CDAA submittal for the Protection System Operations and Misoperations of its applicable registered functions.

6.1.5. The completed Misoperation Reporting Template is attached to the NPCC CDAA Quarterly PRC-004-1 Reporting Form by the CDAA Technical Contact and submitted prior to the due date shown on CDAA.

NOTE: The following sections are presented in the order that the CDA user would follow to complete the CDAA Form that was updated for 2013 Reporting.

6.2. CDAA Quarterly PRC-004-1 Reporting Form Submittal

Refer to the document, “NPCC CDAA Quarterly Protection System Misoperation Reporting Guidance” Ref 8.15, located on the NPCC public website for visual guidance of the following steps:
6.2.1. CDAA Technical Contact shall login to the NPCC CDAA application and choose the “PRC-004-1” Periodic Data Submittal Form, paying attention to the “Due Date” in order to select the form corresponding to the correct reporting period.

6.2.2. Answer the first question on the form, “This form applies to [the entity]” by selecting “Yes.”

6.2.3. If the answer to the question on the form, “Does [the entity] own a transmission/generation Protection System?” is that the entity has no protection systems applicable to PRC-004, then

- Click “No” in response to the question.
- Click the “Save” button at the top of the form.
- Click the “Submit” button at the top of the form to submit the completed form. A Certification Statement is not required. The entity has completed Misoperation Reporting for the reporting period.

6.2.4. If the answer the question on the form, “Does [the entity] own a transmission/generation Protection System?” is that the entity owns applicable protection systems, then

- Click “Yes” in response to the question.
- Enter the Protection System Operations Totals by voltage level in the Protection System Operations Reporting Table. Each text box in the Table has a default value of “0”. For each voltage level listed in the Table, enter the number of Protection System Operations experienced or initiated by the entity during the reporting period.
- If no Protection System Operations for a particular voltage level occurred, leave the value of the text box at “0”.

**IMPORTANT**: There MUST be at least the same number of Misoperations reported by each entity (in the next Section of the form) as Protection System Operations observed for each quarter. In concert with the definition of “Misoperation” listed in Section 5.4, a Protection System Operation must also be counted for an event in which the Protection System failed to operate when it should have.

- The value shown in the “Total # of Protection System Operations” box is automatically populated to equal the sum of the values of Protection System Operations entered across all the different voltage levels.
- If an Protection System Operations occurred at a voltage level not included on the form, enter the total number of Protection System Operations at all voltage levels not included on the form into the field labeled “Other/Unlisted KV” and use the text field labeled “Comments for ‘Other KV’” to list the corresponding voltage levels.

6.2.5. If the entity has no misoperations for the reporting quarter AND no misoperations for any previous quarters AND no resubmittals of reports from previous quarters, then click “No” in response to the question, “Did any misoperations or updates to prior misoperations occur during the period covered by this report?”.
6.2.6. If the entity has misoperations or updates to previously reported misoperations during the quarter or unreported misoperations from any quarter, then in response to the question, “Did any misoperations or updates to prior misoperations occur during the period covered by this report?”

- Click “Yes”. A pop-up message will appear to remind the user to attach the necessary documents for Misoperation Reporting.
- Enter the total number of misoperations that occurred during the reporting quarter plus any previously unreported misoperations from prior quarters in the first box. If there were no misoperations occurring during the reporting period nor any previously unreported misoperations, leave the value in the first box at “0”.
- Enter the total number of previously reported misoperations that are being resubmitted this quarter in the second box. If there are no previously reported misoperations to resubmit, leave the value in the second box at “0”.

6.2.7. Click the “Save” button (at the top of the CDAA Reporting Form) to start the process of attaching the Misoperation Reporting template and any related documents. A button labeled “Attachments (0)” will appear at the top of the form after “Save” is clicked.

- Click “Attachments (0)”
- On the “Attachment Form Search” screen, click on the “New Attachment” button at the top of the form
- On the “Edit – Attachment” screen enter a Description and click Browse to find the template you wish to attach. Choose the file you wish to attach. Click “Open” at the bottom of the window.
- Click the “Save” button at the top of the next screen.
- Click the “New Attachment” button to repeat the process for attaching additional documents (e.g., an explanation for resubmittals), or click “Return to Periodic Data Submittal Form” if no more files to attach.

6.2.8. Click the “Submit” button when the submittal form, including all attachments, has been completed. Form and attachments will be submitted to NPCC. The Certification Statement is not needed.

6.2.9. NPCC Compliance will provide the submitted templates to SP-7 Working Group for review, and consolidate them for submittal to ERO-RAPA per the requested schedule.

6.3. Completing the Misoperation Reporting Template

6.3.1. Any new misoperations (or updates of previous misoperations) to report are to be captured on a blank template. If there are none of the above, no Misoperation Reporting Template is to be submitted (refer to Section 6.2.5).

6.3.2. Obtain the blank electronic template from the link to Ref 8.10.

- The blank template may also be found either on the NPCC CDAA Announcements screen or the NPCC public website under Compliance > Documents > CDAA.
6.3.3. Begin completing the template with misoperation information from left column to right column. Protection System SME should provide input to the template.

- Each misoperation should be listed on its own row.
- Refer to the ERO example template and NPCC Instructions (Refs 8.11 & 8.12).
- Review the scope, template “Definitions” tab, and Q&A in the various References for additional guidance in data capture.
- Ensure that the point of contact is entered in Column Y of the template.

6.3.4. If this is the first time the misoperation is being reported, choose “Resubmittal” = NO in Column A of the template.

6.3.5. For previously reported misoperations, choose “Resubmittal” = YES in Column A of the template.

- Resubmittals should appear with mostly duplicate information with updated status and/or more information.
- For all resubmittals, prepare a separate document as an attachment containing an explanation of the changes from the original submittal. See Section 6.2.7 for instruction on how to submit this attachment.

6.3.6. If the misoperation involves protection systems for elements on NPCC’s A-10 list, or generators material to the Bulk Power System (BPS) per CGS-002, then choose “YES” in Column AB of the template. If the misoperation involves protection systems for elements that are not NPCC BPS, but are ≥ 100kV, then enter the information and choose “NO” in Column AB of the template. See Section 5.8 for explanation.

6.3.7. When completed, save the template with a unique filename and syntax adherent to CDAA attachment requirements in preparation for submittal to NPCC CDAA:

- Only alphanumeric characters (including the space and underscore characters) allowed. NOTE: This excludes the parentheses and bracket characters.
- File name size is limited to 100 characters in length, including the extension (e.g., “.xls”).
- The filename cannot start or end with a period character (e.g. “filename.docx.” and “.filename.docx” are invalid). The period character cannot be used consecutively in the middle of a filename (e.g., “file..name.docx” is invalid).
- The file must be less than 50MB in size.
- Example filenames:
  - 2013_Q1_Misops_entityname.xls
  - 2014_Q4_Misops_entityname.xls
6.4. Non-CDAA Reporting Forms Submittal

**NOTE:** If CDAA is normally used for Self Certification, refer to Section 6.2.

In the event that CDAA is unavailable, or for entities that do not use CDAA for Self Certifications and reporting, the method for submitting Protection System Operations and Misoperations in accordance with the reporting schedule (Section 7.0) is as follows:

6.4.1. Reporting the quarterly count of Protection System Operations can be performed by downloading and filling out the Protection System Operations Reporting Form (Ref 8.19) using the instructions found in Section 6.2.4. These instructions for completing the Protection System Operations section of the CDAA Quarterly PRC-004-1 Reporting Form also apply to the Protection System Operations Reporting Form (Ref 8.19).

6.4.2. Quarterly reporting of Protection System Misoperations may be performed by downloading the Misoperation Reporting Template (Ref 8.10) and filling out the form using the instructions found in Section 6.3.

- If there are updates to previously submitted misoperations, please prepare a separate document as an attachment containing an explanation of the changes from the original submittal.
- If there are no new misoperations (or updates to previously submitted misoperations) to report for the quarter, simply state so in the email notification to NPCC Staff (Section 6.4.3). State the specific quarter, year and the NERC Compliance Registry number of the entity. It is not necessary to attach the Misoperation Reporting Template in this scenario.

6.4.3. Submittal of reporting documents may be performed using one of the following steps:

- Submit via secure FTP hosted by NPCC with email notification to misoperations@npcc.org.
  
  For support in using the FTP site, contact compliance-support@npcc.org

- Provide entity-hosted FTP address and password to misoperations@npcc.org for NPCC Staff to access and download the documents.

- Submit all documents via zip file attached to an email sent to misoperations@npcc.org.
  
  If password protection is applied to the zip file, then provide a separate email containing the password.

7. Misoperation Reporting Schedule

7.1. The following table compares the NERC ERO-RAPA suggested Submittal Schedule and the NPCC Proposed Submittal Schedule for Misoperation Reporting for GO, TO, and DP entities and authorized agents to submit misoperation data to Regional Entities. NPCC requests that quarterly Misoperation Reports be submitted by the 20th day of the month following the end of each quarter. This earlier due date is requested:
To allow adequate time for NPCC Compliance to compile all quarterly data, and

To allow adequate time for the SP-7 Working Group to perform reviews prior to the NERC Metric Data due date

<table>
<thead>
<tr>
<th>Action</th>
<th>NERC ERO-RAPA Suggested Submittal Schedule</th>
<th>NPCC Proposed Submittal Schedule</th>
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<tr>
<td>Submission of the 1st Quarter 2013 data</td>
<td>May 31, 2013</td>
<td>April 20, 2013</td>
</tr>
<tr>
<td>Submission of the 2nd Quarter 2013 data</td>
<td>August 31, 2013</td>
<td>July 20, 2013</td>
</tr>
<tr>
<td>Submission of the 3rd Quarter 2013 data</td>
<td>November 30, 2013</td>
<td>October 20, 2013</td>
</tr>
<tr>
<td>Submission of the 4th Quarter 2013 data</td>
<td>February 28, 2014</td>
<td>January 20, 2014</td>
</tr>
<tr>
<td>Submission of the 1st Quarter 2014 data</td>
<td>May 31, 2014</td>
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<td>Submission of the 4th Quarter 2014 data</td>
<td>February 28, 2015</td>
<td>January 20, 2015</td>
</tr>
</tbody>
</table>

7.2. Late Reporting

Although the CDAA portal may show the Misoperations Report Form locked out after its due date, you may still use the form to enter information in accordance with Section 6.2. Provide any late or missing information as soon as you can.

7.2.1. Example: a protection system operation may have occurred on the day before the end of the 1st quarter. You may have already submitted your 1st quarter misoperation report on or before 4/20/13 without reporting the latest misoperation because
- Little or no information was available at the time and/or
- Resources were directed at restoring the system and unavailable to gather event data and perform analysis.

7.2.2. If you encounter difficulties in providing late or missing information for a recently submitted CDAA Reporting Form, contact NPCC at compliance-support@npcc.org.

7.2.3. Do not Self Report non-compliance with PRC-004, R3 in CDAA if you:
- Submit your quarterly misoperation report after the scheduled due date.
- Fail to submit information about a misoperation in the quarter that it occurred.

7.2.4. Provide the information as soon as you can with as much information as you can. It is acceptable to provide information about the misoperation in the quarter that it occurred and list the Cause as “Unknown/unexplainable” and the Analysis and Corrective Action Status listed as “Analysis – In Progress.” (Ref 8.9, Question 20)
7.2.5. You are encouraged to provide information for misoperations. It is preferred that you would not be late with your submittals, but late information is better than no information at all. Having you self-report for missing a due date would discourage you from providing information that is important for enhancing reliability.

7.2.6. Note: Quarterly Misoperation Reporting is not the same as certification of compliance to NERC Standard PRC-004, Analysis and Mitigation of Transmission and Generation Protection System. Self-certification of compliance to PRC-004, takes place in January of the year following the reporting period (i.e. for the reporting period Jan-Dec 2013, self-certification in NPCC CDAA is due by January 20, 2014).
8. References

8.1. NERC Reliability Standard PRC-004, Analysis and Mitigation of Transmission and Generation Protection System Misoperations

8.2. NERC Reliability Standard PRC-016, Special Protection System Misoperations

8.3. NERC Reliability Standard PRC-022, Under-Voltage Load Shedding Program Performance

8.4. NERC Reliability Standard EOP-004, Disturbance Reporting

8.5. NERC ERO-RAPA Letter to Regional Executives, 10-12-2010

8.6. NERC ERO-RAPA Letter to Regional Executives, 01-17-2011

8.7. NERC Glossary of Terms - Misoperations, Protection Systems

8.8. NERC Webinar, Consistent Protection System Misoperation Reporting 02-10-2011

8.9. NERC Webinar, Misoperation Reporting Q&A

8.10. ERO-RAPA Misoperation Reporting Template (blank)

8.11. Misoperation Reporting Template - ERO example

8.12. Misoperation Reporting Template - NPCC Instructions

8.13. NPCC Criteria A-10, Classification of Bulk Power System Elements, 12-01-09


8.15. NPCC CDAA Visual Guide - 1st Quarter 2013 Misoperation Reporting and Number of Protection System Operations

8.16. NPCC Document C-45, Procedure for Analysis and Reporting of Protection System Misoperations

8.17. NERC ERO-RAPA Letter to Regional Executives, 11-01-2012

8.18. NPCC Protection System Operations Reference

8.19. Non-CDAA Protection System Operations Submittal Form

8.20. NPCC TFSP Letter to the RCC Re: Status Report of SP-7 Working Group on Protection System Misoperation Review
9. Summary of Changes

<table>
<thead>
<tr>
<th>Revision</th>
<th>Reason for Change</th>
<th>Approved By</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None – This guide is the original issue. Prior to issue, this guide was a draft Compliance Procedure which was later endorsed by NPCC Compliance Committee as a non-binding entity guide.</td>
<td>Ben Eng/Manager, Compliance Audits</td>
<td>12/01/11</td>
</tr>
</tbody>
</table>
| 1        | Section 4.B: Spelled out CDAA  
Section 4.F: Removed GADS. Not involved at this time with misoperations.  
Section 6A: clarifying edits.  
Section 6B: clarifying edits. Added bullet describing updates to previously reported misoperations.  
Sections 6E.2, 6E.3, 6E.4: clarifying edits.  
Section 6E.5: bulleted statement from previous 6E.4 clarified and expanded. Previous Sections 6E.5 thru 6E.7 incremented by one.  
Section 6F: “NOTE:” revised to clarify when FTP, Misoperations mailbox, or CDAA should be used for Report Form submittals.  
Sections 6F.1 through 6F.5: Added new Reference to visual guide to CDAA Removed “strikeout” text which was pending implementation of CDAA changes to accommodate Quarterly Misoperation Reporting. Revised Section to synchronize steps with visual guide for CDAA use.  
Section 7.3: Added Section “Late Reporting” to provide guidance and address questions regarding late quarterly reporting vs. compliance to NERC standards.  
Section 8: Added new Reference 8.15, “NPCC CDAA Quarterly Protection System Misoperation Reporting Guidance”, a visual guide posted on the NPCC website. Moved previous Reference 8.15 to 8.16.  
Section 9: “Summary of Changes” changed to tabulation format to be consistent with NPCC Compliance Procedures. Transposed Revision 0 information into tabulation. | Ben Eng/Manager, Compliance Audits | 6/20/12  |
<table>
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<th>Revision</th>
<th>Reason for Change</th>
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| 2        | - Wholesale revision of document formatting: Section numbers will not match previous versions of this document, which mixed numbers and letters. Cross references have been reassigned.  
- Updated Purpose and Scope Sections (particularly Section 2.0 and Section 5.10) to cover the reporting of Protection System Operations  
- Updated Applicability (Section 3.0) to include authorized agents for entities having the GO, TO, or DP functions.  
- Updated reporting procedure (Section 6.1) to describe Misoperation Reporting process for NPCC region developed out of updated NERC ERO-RAPA data requests  
- Updated reporting procedure (Section 6.2) to match updated CDAA Quarterly PRC-004-1 Reporting Form and CDAA file attachment guidelines.  
- Updated reporting procedure (Section 6.3) to match updated Misoperation Reporting Template  
- Updated reporting procedure (Section 6.4) to describe non-CDAA reporting process.  
- Updated Reporting Schedule for 2013-2014 years (Section 7.0). | Ben Eng/Manager, Compliance Audits and Investigations – Ops & Planning | 4/1/13   |
## 2.1 Updated Definitions and Scope

- Revised Section 5.10 to describe addition of data fields to capture generation outages involved in misoperation events.
- Added Section 5.11 to describe addition of microprocessor relay sub-cause codes.
- Merged Section 6.3.7 (reporting instructions regarding BPS elements) into Section 6.3.6. Previous Section 6.3.8 becomes Section 6.3.7.
- Merged Sections 7.1, 7.2, 7.3 (reporting schedule). Previous Section 7.4 becomes Section 7.2
- Corrected Section 7.2 reference to “Section 6.2” from previously stated “Section 6.5”

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Ben Eng/Manager, Compliance Audits and Investigations – Ops & Planning

6/20/13