

FFT Summary

Canadian Hydro Developers Audit - July to November 2015

Entity	NBCRN	EUBVTN	Standard	Req	Compliance Issue	Risk Assessment	Mitigation Action
Canadian Hydro Developers, Inc. (CHD)	NBCR002	2015004	EOP-004-2	R1	During a compliance audit conducted by NPCC from July 23, 2015 through November 13, 2015, it was discovered that CHD, as a Generator Owner (GO) and Generator Operator (GOP), had a compliance issue related to EOP-004-2 R1. EOP-004-2 requires GOs and GOPs to have an event reporting Operating Plan in place that includes the protocol to report events to the Reliability Coordinator, NERC, NPCC and law enforcement. CHD self- identified deficiencies with their event reporting Operating Plan and reported the compliance issue through the audit process. The contacts list in CHD's event reporting Operating Plan had the following deficiencies: • the Regional Entity (NPCC) and the Reliability Coordinator (NB Power) contacts were missing, and • the NERC contact email address did not align with	This compliance issue posed a minimal risk and did not pose a serious or substantial risk to the reliability of the bulk power system. No harm is known to have occurred as a result of the compliance issue. Although CHD was not fully compliant with the standard, the compliance issue is considered to be a documentation issue. For example, although the NB Power contacts were inadvertently removed in an earlier version of their Operating Plan (Rev. 1 - May 2014) document, there is corroborating evidence that operators of the Kent Hills generating facilities were indeed using the appropriate contact information when communication with the NB Power System Operator was required.	To mitigate the compliance issue: 1) on May 22, 2015, CHD updated its event reporting Operating Plan document (Rev. 3) by correcting information pertaining to the contacts list contained therein. 2) on June 30, 2016, CHD included a review step in its procedure document to ensure that any inaccuracies in the Operating Plan are promptly rectified.

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					information provided in Attachment 2 (“Event Reporting Form”) of the standard. The duration of the compliance issue was from April 1, 2014 (the effective date of the EOP-004-2 standard in New Brunswick) through May 21, 2015 when CHD corrected the deficiencies in its event reporting Operating Plan. The cause of the compliance issue was CHD’s failure to rigorously review its Canadian-wide model Operating Plan for site-specific contact information related to its Kent Hills wind generating facilities.		
Canadian Hydro Developers, Inc. (CHD)	NBCR002	2015005	PRC-005-1.1b	R1	During a compliance audit conducted by NPCC from July 23, 2015 through November 13, 2015, it was discovered that CHD, as a Generator Owner (GO) had a compliance issue related to PRC-005-1.1b R1. PRC-005-1.1b R1 requires that GOs that own generator protection systems have a maintenance and testing	This issue posed a minimal risk and did not pose a serious or substantial risk to the reliability of the bulk power system. No harm is known to have occurred. Although CHD was not fully compliant with the standard, the compliance issue is considered to be primarily a documentation issue.	To mitigate the compliance issue: 1) on October 31, 2015, CHD updated its maintenance and testing procedure to include a maintenance and testing process for DC circuitry, transferred the procedure into its parent company’s (Transalta’s) new procedure database on December 18, 2015, with the

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					program for generator protection system devices. It was found that the CHD's maintenance and testing program for generator protection system devices did not include a summary of maintenance and testing procedures as well as testing intervals (and their basis), for DC circuitry. The duration of the compliance issue was from May 14, 2014 (the effective date of the PRC-005-1.1b standard in New Brunswick) through January 13, 2016, when new procedures addressing the maintenance and testing of DC circuitry became effective. The cause of this issue was CHD's misinterpretation of the full scope of requirement R1.	For example, in spite of CHD's lack of rigorous documentation of a maintenance/testing process for DC circuitry, CHD has been, in fact, performing basic verification of its DC circuitry's functionality when testing circuit breakers associated with its facilities. New relay and DC circuitry test forms add more specificity to the types of maintenance/tests to be performed and will be retained as evidence to show full compliance with the standard.	procedure becoming effective on January 14, 2016. 2) on July 28, 2016, CHD completed testing of its DC circuitry 3) on July 31, 2016, CHD developed a Reliability Standard Audit Worksheet (RSAW) customized specifically to address the requirements of this standard. The RSAW is to be used as an internal control to facilitate compliance with the standard. 4) on July 28, 2016, CHD completed its review of a report prepared by an external contractor to verify the completion and adequacy of its DC circuitry tests. 5) on November 10, 2016, CHD received a report from an independent consulting firm hired to assess whether CHD's updated maintenance and testing plan is in full compliance with PRC-005-6 (the newest version of the standard). The report did not identify any issues or compliance gaps.

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Canadian Hydro Developers, Inc. (CHD)	NBCR002	2015006	PRC-005-1.1b	R2	During a compliance audit conducted by NPCC from July 23, 2015 through November 13, 2015, it was discovered that CHD, as a Generator Owner (GO) had a compliance issue related to PRC-005-1.1b R2. PRC-005-1.1b R2 requires that GOs that own generator protection systems provide evidence that it is implementing its maintenance and testing program for generator protection system devices. CHD was could not provide maintenance/test records for its 138kV breaker - Breaker 138CB -, and for DC circuitry tripping functionality for transformer and buss protection. The duration of the issue was from May 14, 2014 (the effective date of the standard in New Brunswick) through July 28, 2016. The cause of this issue was CHD's misinterpretation of the full scope of requirement R2.	This issue posed a minimal risk and did not pose a serious or substantial risk to the reliability of the bulk power system. No harm is known to have occurred. Although CHD was not fully compliant with the standard, the compliance issue is considered to be primarily a documentation issue. Although CHD did not have rigorous documentation of a maintenance/testing process for DC circuitry, CHD has been, in fact, performing basic verification of its DC circuitry's functionality when testing circuit breakers associated with its facilities. New relay and DC circuitry test forms will add more specificity to the types of maintenance/tests to be performed and will be retained as evidence to show full compliance with the standard.	To mitigate the compliance issue: 1) on October 31, 2015, CHD updated its maintenance and testing procedure to include a maintenance and testing process for DC circuitry, transferred the procedure into its parent company's (Transalta's) new procedure database on December 18, 2015, with the procedure becoming effective on January 14, 2016. 2) on July 28, 2016, CHD completed testing of its DC circuitry and the 138kV breaker. 3) on July 31, 2016, CHD developed a Reliability Standard Audit Worksheet (RSAW) customized specifically to address the requirements of this standard. The RSAW is to be used as an internal control to facilitate compliance with the standard. 4) on July 28, 2016, CHD completed its review of a report prepared by an external contractor to verify the completion and adequacy of its DC circuitry tests.

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							5) on November 10, 2016, CHD received a report from an independent consulting firm hired to assess whether CHD's updated maintenance and testing plan is in full compliance with PRC-005-6 (the newest version of the standard). The report did not identify any issues or compliance gaps.
Canadian Hydro Developers, Inc. (CHD)	NBCR002	2015007	VAR-002-3	R3	During a compliance audit conducted by NPCC from July 23, 2015 through November 13, 2015, it was discovered that CHD, as a Generator Operator (GOP) had a compliance issue related to VAR-002-3 R3. VAR-002-3 R3 requires GOPs to notify their Transmission Operator of changes in the state of Automatic Voltage Regulators (AVRs) within 30 minutes of the occurrence. CHD could not provide corroborating evidence that its notifications to the NB Power System Operator (SO) of changes in status of their AVR system were provided within 30 minutes of	This issue posed a minimal risk and did not pose a serious or substantial risk to the reliability of the bulk power system. No harm is known to have occurred. Although CHD was not fully compliant with the standard, the compliance issue is considered to be primarily a documentation issue. Although CHD was not able to demonstrate that its notifications to the SO were effected within the required timeline, a review of the Wind Control Center (WCC) event logs shows that its staff at the WCC had consistently	To mitigate this compliance issue: 1) on March 29, 2016, CHD updated its procedure to reflect the appropriate steps required when information is being logged, in order to be able to demonstrate compliance with both aspects of this requirement: 1) communication was made, and 2) communication was made within 30 minutes of the occurrence of the event. 2) on May 10, 2016, CHD reviewed the updated procedure with responsible staff at the WCC, who are responsible for all communications related to the Kent Hills facilities.

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					occurrence of such events, as required by the standard. The duration of the issue was from January 1, 2015 (the effective date of the standard in New Brunswick) through March 28, 2016. The cause of this issue was CHD's internal procedure which did not specify that a change in status of the AVR would have to be first recorded and then reported to the SO within 30 minute of occurrence, and did not instruct generator operators to retain records of the events timeline, in order to demonstrate compliance with the standard.	notified the SO of status changes of their AVR system within the audited period. The updated internal procedure contains the necessary specificity to ensure compliance with all aspects of R3 of the standard.	3) on June 10, 2016, CHD performed an internal verification to ensure that the WCC staff are logging information in accordance with every step in the updated procedure. 4) on June 20, 2016, CHD further updated its procedure to include the need to re-train responsible personnel on future updates to the procedure that may be required by future changes in the standard.