

**SETTLEMENT AGREEMENT**

**BETWEEN:**

**NEW BRUNSWICK ENERGY AND  
UTILITIES BOARD (the Board)**

**-AND-**

**NEW BRUNSWICK POWER CORPORATION  
(NB Power)**

**WHEREAS** the New Brunswick Energy and Utilities Board (“the Board”) is authorized, pursuant to section 122 of the *Electricity Act S.N.B. 2013 c. 7 (Electricity Act)* to monitor and assess compliance and enforce reliability standards in the province of New Brunswick;

**AND WHEREAS** the Board is responsible for administering the New Brunswick Compliance Monitoring and Enforcement Program pursuant to section 14 of Regulation 2013-66 being the *Reliability Standards Regulation- Electricity Act (Regulation)*;

**AND WHEREAS** New Brunswick Power Corporation (“NB Power”) is a registered entity pursuant to section 121 of the *Electricity Act* and responsible to comply with applicable reliability standards;

**AND WHEREAS** the Board has determined that NB Power has violated Board approved North American Electric Reliability Corporation (“NERC”) reliability standards, namely Requirement 1 Sub-requirement 1.5 and Requirement R2 of FAC-003-1 Transmission Vegetation Management Program, Requirement 6 of IRO-002-2 Reliability Coordination-Facilities, Requirement 1 Sub-requirements 1.3, 1.4 and 1.10 of IRO-005-3.1a Reliability Coordination-Current Day Operations and Requirement 1 of PRC-023-2 Transmission Relay Loadability;

**AND WHEREAS** on February 29, 2016 the Board approved a request by NB Power to enter into settlement negotiations to resolve NB Power violations of the above named reliability standards;

**AND WHEREAS** the settlement negotiations between the Board and NB Power are now concluded and both the Board and NB Power agree to the within terms as a settlement agreement in resolution of the violations;

**AND WHEREAS** the Board has carefully considered the requirements of the *Electricity Act* and the *Regulation*;

**AND WHEREAS** the Board is satisfied that the reliability of the Bulk Power System will not be compromised and that a violation of a Board Approved Reliability Standard will not occur as a result of this settlement;

**NOW THEREFORE** the Board and NB Power execute this Settlement Agreement (“Settlement Agreement”) pursuant to Section 4.9 (i) of the New Brunswick Compliance Monitoring and Enforcement Program being Schedule A of the *Regulation* and upon the following terms:

**I. Introduction**

1. The Board and NB Power enter into this Settlement Agreement to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in the Board’s determination and findings, pursuant to the *Regulation*, of violations by NB Power of the following Board approved NERC reliability standards:

<b>Reliability Standard</b>	<b>Requirement</b>	<b>Violation Tracking Number (VTN)</b>
FAC-003-1 Transmission Vegetation Management Program	R1 SR1.5	2014004
FAC-003-1 Transmission Vegetation Management Program	R2	2014005
IRO-002-2 Reliability Coordination-Facilities	R6	2014006
IRO-005-3.1a Reliability Coordination-Current Day Operations	R1 SR1.3 SR1.4 SR1.10	2014007
PRC-023-2 Transmission Relay Loadability	R1	2014011

2. NB Power is registered with the Board as a Balancing Authority (BA), Distribution Provider (DP), Generator Owner (GO), Generator Operator (GOP), Interchange Authority (IA), Load Serving Entity (LSE), Planning Authority (PA), Purchasing-Selling Entity (PSE), Reliability Coordinator (RC), Resource Planner (RP),

Reserve Sharing Group (RSG), Transmission Owner (TO), Transmission Operator (TOP), Transmission Planner (TP), and Transmission Service Provider (TSP).

3. The five violations noted above (“Violations”) were discovered during a scheduled on-site Compliance Audit of NB Power by the Northeast Power Coordinating Council Inc. (“NPCC”), a recognized compliance body in New Brunswick, conducted between June 16 and October 29, 2014.
4. The Board approved the final Audit Report and issued NB Power a Notice of Potential Violations on March 13, 2015 and initiated further enforcement action with a Notice of Alleged Violations and Proposed Penalties to NB Power on January 25, 2016 to address the Violations.
5. On February 29, 2016 the Board approved a request by NB Power to enter into settlement negotiations to resolve the Violations and engaged NPCC to assist the Board with settlement negotiations, and NPCC has provided recommendations to the Board on the terms of this Settlement Agreement.
6. NB Power has agreed to pay an assessed financial penalty of one hundred thousand dollars (\$100,000) for the Violations, and to carry out the mitigation actions described in the Board approved Mitigation Plans referenced herein to mitigate the Violations and ensure future compliance under the terms and conditions of the Settlement Agreement.

## **II. Violations**

### **A. FAC-003-1 R1 SR1.5 VTN2014004**

#### **Standard and Requirement**

7. The purpose of FAC-003-1 is: “To improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines and vegetation on and along transmission ROW, and reporting vegetation related outages of the transmission systems to the respective Regional Reliability Organizations (RRO) and the North American Electric Reliability Council (NERC).”
8. FAC-003-1 R1 R1.5 states:  
*RI. The Transmission Owner shall prepare, and keep current, a formal transmission vegetation management program (TVMP). The TVMP shall include*

*the Transmission Owner's objectives, practices, approved procedures, and work specifications. ...*

*R1.5 Each Transmission Owner shall establish and document a process for the immediate communication of vegetation conditions that present an imminent threat of a transmission line outage. This is so that action (temporary reduction in line rating, switching line out of service, etc.) may be taken until the threat is relieved.*

### **Violation Description**

9. During the Compliance Audit, it was found that the NB Power Integrated Vegetation Management Program ("IVMP") document did not provide clear instructions for communicating imminent vegetation threats to the power system operator.
10. NB Power had not established a clear process for the immediate communication of vegetation conditions that present an imminent threat of a transmission line outage. NB Power provided its IVMP document as evidence of its TVMP. As the NB Power IVMP referenced a separate NB Power procedure that contained the reporting requirement, the requirement was not clearly stated in the IVMP document.
11. In conclusion a lack of clarity in the process and lack of reinforcement by the manager to follow process resulted in a failure to communicate vegetation imminent threats to the power system operator.

### **Risk Assessment**

12. This violation posed a serious risk to the reliability of the bulk power system. The power system operator was not being informed of imminent threats to the operation of the bulk power system ("BPS") posed by vegetation. Without this information, the power system operators cannot take any necessary actions (such as line de-ratings) to mitigate the risk that the vegetation poses. This increased the probability that the power system operator would be forced to operate in an unsecure state. No actual harm to the bulk power system is known to have occurred as a result of the violation.
13. This violation has a High Violation Risk Factor ("VRF") and a Severe Violation Severity Level ("VSL").

### **Mitigation Plan**

14. NB Power submitted a Mitigation Plan through the NBEUB Compliance Monitoring and Reporting System (CMRS) on February 19, 2015 and NPCC recommended approval of the Mitigation Plan to the Board on April 14, 2016.

15. The Board gave provisional approval of the NB Power Mitigation Plan FAC-003-1 R1 VTN2014004 (Rev 6) on May 5, 2016.
16. The Mitigation Plan comprises the following milestone activities to mitigate this violation and take further steps to prevent a reoccurrence:
  - a. On June 15, 2014, NB Power formally separated the implementation function of its IVMP from the process ownership and oversight function. Additionally, on November 1, 2014, a senior forestry engineer was added to the asset management group tasked with the responsibility of the IVMP process and oversight function.
  - b. NB Power implemented several enhancements to its IVMP procedure document, such as clarifications to definitions of imminent threats and abnormal conditions (on July 1, 2014), and new prioritization of hazardous vegetation conditions and imminent threat conditions requiring immediate communication to the system operator (on March 11, 2015).
  - c. NB Power provided formal training to transmission vegetation field staff on two occasions - August 28, 2014, and April 23, 2015 – that focused on the prioritization of hazardous vegetation conditions and the requirement to immediately notify the power system operator in the event of an “Emergency” vegetation condition.
17. The Board approves the NB Power Mitigation Plan FAC-003-1 R1 VTN2014004 (Rev 6) and may require further information from NB Power to verify completion of the Mitigation Plan under the terms of this Settlement Agreement.

**B. FAC-003-1 R2 VTN2014005**

**Reliability Standard and Requirement**

18. The purpose of FAC-003-1 is: “To improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines and vegetation on and along transmission ROW, and reporting vegetation related outages of the transmission systems to the respective Regional Reliability Organizations (RRO) and the North American Electric Reliability Council (NERC)”

19. FAC-003-1 R 2 states:

*R2. The Transmission Owner shall create and implement an annual plan for vegetation management work to ensure the reliability of the system. The plan shall describe the methods used, such as manual clearing, mechanical clearing, herbicide treatment, or other actions. The plan should be flexible enough to adjust to changing conditions, taking into consideration anticipated growth of vegetation and all other environmental factors that may have an impact on the reliability of the transmission systems. Adjustments to the plan shall be documented as they occur. The plan should take into consideration the time required to obtain permissions or permits from landowners or regulatory authorities. Each Transmission Owner shall have systems and procedures for documenting and tracking the planned vegetation management work and ensuring that the vegetation management work was completed according to work specifications.*

#### **Violation Description**

20. During the Compliance Audit, it was found that the NB Power IVMP applicable to the Audit period (October 1, 2013 – June 30, 2014) lists five types of abnormal conditions in order of decreasing adverse impact to system reliability. The IVMP document makes reference to NB Power's operating procedure OP1-T50000-0006 (Rev. #3, in effect from June 30, 2010) as the principal document for (among other uses):

- i. classifying abnormal conditions on the transmission system
- ii. assigning responsibilities to specific personnel including reporting requirements.
- iii. directing Air and Ground Patrol to enter information on the preventive maintenance system via completion of a work order
- iv. directing the TLM group to correct abnormal conditions.

21. The nature of the violation consisted of both documentation and implementation failures. All four of the above processes had been violated on numerous occasions. For example, an instance of a leaning/rotten tree, discovered by the Air Patrol on October 16, 2013, affecting span 455-456 of Line 2145 (230kV) was classified as an Emergency (i.e. a vegetation condition to be remedied within 24 hours of discovery, according to the procedure in place), but was not entered in the Work Order system at the time of discovery, contrary to requirement. This potentially serious threat to the transmission system was entered in the Work Order system 8 days later (on October 23, 2013), but with a downgraded priority level (Priority 1), without an explicitly stated reason for the downgrade. The issue was remedied over a month after discovery. The actual remediation completion date (November

20, 2013) exceeded the response time associated with the downgraded priority, thereby not meeting the time requirements of the process.

22. NB Power's vegetation management program did not accurately describe the methods used by NB Power for documenting and tracking the unplanned vegetation management work and ensuring that the vegetation management work was completed according to work specifications. This deficiency is evidenced by NB Power's failure to execute the process and procedures described in the IVMP and the OP1-T50000-0006. Additionally, adjustments to work priority levels were not documented as they occurred.

### **Risk Assessment**

23. The violation posed a serious risk to the reliability of the BPS. NB Power exceeded remediation time requirements of its procedure and in one case downgraded a priority without proper documentation. The incorrect assignment and subsequent downgrading of priorities was exacerbated by additional delays in removing vegetation threats, which resulted in exceeding (i.e. violating) the remediation schedules associated with the already downgraded priorities. While no actual harm to the bulk power system is known to have occurred, the consequence of not following the established process on multiple occasions increased the probability of flashovers/contacts from vegetation with electrical equipment.
24. This violation has a High VRF and a Lower VSL.

### **Mitigation Plan**

25. NB Power submitted a Mitigation Plan through the CMRS on February 20, 2015 and NPCC recommended approval of the Mitigation Plan to the Board on April 14, 2016.
26. The Board gave provisional approval of the NB Power Mitigation Plan FAC-003-1 R2 VTN2014005 (Rev 7) on May 5, 2016.
27. The Mitigation Plan comprises the following milestone activities to mitigate this violation and take further steps to prevent a reoccurrence:
  - a. On June 15, 2014, NB Power formally separated the implementation function of its IVMP from the process ownership and oversight function. Additionally, on November 1, 2014, a senior forestry engineer was added to the asset management group tasked with the responsibility of the IVMP process and oversight function.

- b. NB Power implemented several enhancements to its IVMP procedure document, such as clarifications to definitions of imminent threats and abnormal conditions (on July 1, 2014), and new prioritization of hazardous vegetation conditions and imminent threat conditions requiring immediate communication to the system operator (on March 11, 2015).
  - c. NB Power provided formal training to transmission vegetation field staff on two occasions - August 28, 2014, and April 23, 2015 - that focused on the prioritization of hazardous vegetation conditions and the requirement to immediately notify the Power System Operator in the event of an “Emergency” vegetation condition.
28. The Board approves the NB Power Mitigation Plan FAC-003-1 R2 VTN2014005 (Rev 7) and may require further information from NB Power to verify completion of the Mitigation Plan under the terms of this Settlement Agreement.

**C. IRO-002-2 R6 VTN2014006**

**Standard and Requirement**

29. The purpose of IRO-002-2 states: “Reliability Coordinators need information, tools and other capabilities to perform their responsibilities.”
30. IRO-002-2 R6 states:  
*R6. Each Reliability Coordinator shall have adequate analysis tools such as state estimation, pre and post-contingency analysis capabilities (thermal, stability, and voltage), and wide-area overview displays.*

**Violation Description**

31. During the Compliance Audit, NB Power self-identified a possible violation as a result of the fact that the new State Estimator and Contingency Analysis (“SE/CA”) tools had not been functioning since their commissioning date of August 27, 2013. The new SE/CA tools were part of a larger project, the replacement of a twenty year old SCADA/EMS system, which was also commissioned on August 27, 2013.
32. NB Power did not appropriately staff the testing and maintenance of its SCADA/EMS State Estimator and Contingency Analysis tools and did not have an appropriate contingency strategy to cover for when an employee went on leave. NB Power cut over to the new SCADA/EMS system and its State Estimator and Contingency Analysis tools did not fully function.

33. NB Power lacked an adequate tool required in real time to monitor operating conditions on their system, and predict reliability impacts of monitored contingencies. The SE/CA tools are essential tools for monitoring operating conditions on a system and predicting the reliability impacts of monitored contingencies. Although NB Power had these tools, they have not been properly functioning since their commissioning date.
34. Although the new SE/CA tools were tested prior to commissioning the testing was limited to data snapshots that did not include enough variety and volume of system conditions to detect issues. As a result, NB Power failed to anticipate issues and allocate internal and external (vendor) resources to address the non- functionality of the SE/CA tools after commissioning.
35. In conclusion, NB Power had effected a cut over to the new SE/CA tools without proper assurance that the tool would function resulting in a violation that lasted for a considerable amount of time. The function of the State Estimator is to validate faulty/missing SCADA readings so that the online Contingency Analysis tool may be used to perform analytical assessments that are based on accurate real-time operating parameters.

#### **Risk Assessment**

36. The violation posed a serious risk to the reliability of the BPS. NB Power was not monitoring current and post contingency conditions in real time, or predicted system conditions from computer-simulated events. No actual harm to the BPS is known to have occurred as a result of the violation.
37. The violation has a High VRF and a Severe VSL.

#### **Mitigation Plan**

38. NB Power submitted a Mitigation Plan through the CMRS on February 20, 2015 and NPCC recommended approval of the Mitigation Plan to the Board on April 14, 2016.
- 39.
40. The Board gave provisional approval of the NB Power Mitigation Plan IRO-002-2 R6 VTN2014006 (Rev 15) on May 5, 2016.
41. The Mitigation Plan comprises the following milestone activities to mitigate this violation and take further steps to prevent a reoccurrence:

- a. NB Power worked with the SCADA/EMS vendor to correct configuration and modeling problems and on December 2, 2014, NB Power successfully completed testing of the new SE/CA tools to ensure its functionality and made the new tools available to operations in the Control Room.
  - b. On January 28, 2015, NB Power provided formal training to its system operators on the operation of the new SE/CA tools.
42. NB Power took steps to mitigate the risk to reliability by modifying operator processes so that additional on-demand operational contingency studies would be triggered by a variety of system changes. Additionally, NB Power relied on offline day ahead planning studies and SCADA alarming on predefined IROL conditions to maintain real-time situational awareness.
43. The Board approves the NB Power Mitigation Plan IRO-002-2 R6 VTN2014006 (Rev 15) and may require further information from NB Power to verify completion of the Mitigation Plan under the terms of this Settlement Agreement.

**D. IRO-005-3.1a R1 SRs 1.3, 1.4 and 1.10 VTN2014007**

**Standard and Requirement**

44. The purpose of IRO-005-3.1a states: “The Reliability Coordinator must be continuously aware of conditions within its Reliability Coordinator Area and include this information in its reliability assessments. The Reliability Coordinator must monitor Bulk Electric System parameters that may have significant impacts upon the Reliability Coordinator Area and neighboring Reliability Coordinator Areas”.
45. IRO-005-3.1a R1 SR 1.3, 1.4, and 1.10 states:
- R1. Each Reliability Coordinator shall monitor its Reliability Coordinator Area parameters, including but not limited to the following: ...*
    - R1.3. Current post-contingency element conditions (voltage, thermal, or stability), including any applicable mitigation plans to alleviate SOL or IROL violations, including the plan’s viability and scope.*
    - R1.4. System real and reactive reserves (actual versus required) ...*
    - R1.10. Contingency events.*

## **Violation Description**

46. During the Compliance Audit, NB Power self-identified a possible violation as a result of the fact that the new SE/CA tools had not been functioning since their commissioning date of August 27, 2013. The new SE/CA tools were part of a larger project, the replacement of a twenty year old SCADA/EMS system, which was also commissioned on August 27, 2013.
47. NB Power did not have an adequate tool to monitor current element conditions (e.g. system real and reactive reserves), as well as for predicting the reliability impact of post-contingency events. The SE/CA tools are essential tools for the accurate monitoring of real-time parameter conditions (e.g. system real and reactive reserves, line loadings, and substations' voltage), and simulations of contingency events. Although NB Power had these tools, they had not been properly functioning since their commissioning date.
48. Although the new SE/CA tools were tested prior to commissioning the testing was limited to data snapshots that did not include enough variety and volume of system conditions to detect issues. As a result, NB Power failed to anticipate issues and allocate internal and external (vendor) resources to address the non-functionality of the SE/CA tools after commissioning.
49. In conclusion, NB Power had effected a cut over to the new SE/CA tools without proper assurance that the tools would function resulting in a violation that lasted for a considerable amount of time. The function of the State Estimator is to validate faulty/missing SCADA readings so that the online Contingency Analysis tool may be used to perform analytical assessments that are based on accurate real-time operating parameters.

## **Risk Assessment**

50. The violation posed a serious risk to the reliability of the bulk power system. NB Power was not monitoring current and post contingency violations in real time. NB Power was seriously hampered in its ability to dependably monitor/assess real-time system parameters and resources (e.g. reactive resources), as well as assessing potential adverse reliability impact caused by contingency events. However, no actual harm to the bulk power system is known to have occurred while NB Power relied on SCADA monitoring capabilities (albeit deprived of its SE/CA functionality) and offline studies to maintain real-time situational awareness, during the violation period.
51. This violation has a High (pending) VRF of and a High VSL.

## **Mitigation Plan**

52. NB Power submitted a Mitigation Plan through the CMRS on February 20, 2015 and NPCC recommended approval of the Mitigation Plan to the Board on April 14, 2016.
53. The Board gave provisional approval of the NB Power Mitigation Plan IRO-005-3.1a R1 VTN2014007 (Rev 10) on May 5, 2016.
54. The Mitigation Plan comprises the following milestone activities to mitigate this violation and take further steps to prevent a reoccurrence:
  - a. NB Power worked with the SCADA/EMS vendor to correct configuration and modeling problems and on December 2, 2014, NB Power successfully completed testing of the new SE/CA tools to ensure its functionality and made the new tools available to operations in the Control Room.
  - b. On January 28, 2015, NB Power provided formal training to its system operators on the operation of the new SE/CA tools.
55. NB Power took steps to mitigate the risk to reliability by modifying operator processes so that additional on-demand operational contingency studies would be triggered by a variety of system changes. Additionally, NB Power relied on offline day ahead planning studies and SCADA alarming on predefined IROL conditions to maintain real-time situational awareness.
56. The Board approves the NB Power Mitigation Plan IRO-005-3.1a R1 VTN2014007 (Rev 10) and may require further information from NB Power to verify completion of the Mitigation Plan under the terms of this Settlement Agreement.

## **E. PRC-023-2 R1 VTN2014011**

### **Reliability Standard and Requirement**

57. The purpose of PRC-023-2 states: "Protective relay settings shall not limit transmission loadability; not interfere with system operators' ability to take remedial action to protect system reliability and; be set to reliably detect all fault conditions and protect the electrical network from these faults".

58. PRC-023-2, R1 states:

*R1 Each Transmission Owner, Generator Owner, and Distribution Provider shall use any one of the following criteria (Requirement R1, criteria 1 through 13) for any specific circuit terminal to prevent its phase protective relay settings from limiting transmission system loadability while maintaining reliable protection of the BES for all fault conditions. Each Transmission Owner, Generator Owner, and Distribution Provider shall evaluate relay loadability at 0.85 per unit voltage and a power factor angle of 30 degrees.*

### **Violation Description**

59. During the Compliance Audit NB Power self-identified a possible violation of Requirement 1 because NB Power had not adequately protected six transmission circuits according to Requirement 1 of the standard.

### **Risk Assessment**

60. The violation posed a serious risk to the reliability of the BPS. NB Power was operating its system in a less reliable state, as the loadability of six of its transmission lines was limited by relays that had not been set in accordance with Requirement 1 of the standard. The effect of this violation resulted in a reduction of the transfer capability of NB Power's transmission system. In order to restore the loadability of the affected transmission lines, those relay settings should have been set based on Requirement 1.. No actual harm to the bulk power system is known to have occurred as a result of the violation.

61. This violation has a High VRF and a Severe VSL.

62. NB Power submitted a Mitigation Plan through the CMRS on April 13, 2015 and NPCC recommended approval of the NB Power Mitigation Plan PRC-023-2-R1 VTN2014011 (Rev 20) Mitigation Plan to the Board on December 20, 2016.

63. The Mitigation Plan comprises the following milestone activities to mitigate this violation and take further steps to prevent a reoccurrence.

- a. On March 24, 2015, NB Power corrected relay settings in accordance with R1 of the standard for circuits whose loadability had been limited by previous relay settings.
- b. On July 17, 2015, NB Power revised its "Transmission Guide for Electrical Facility Ratings" document and associated databases to provide a clarification in those instances where relay settings limit circuit loadability.

- c. On May 16, 2016, NB Power further revised its "Transmission Guide for Electrical Facility Ratings" document to include a reference to its line capacity (LCAP) database.
64. The Board approves the NB Power Mitigation Plan NB Power Mitigation Plan PRC-023-2-R1 VTN2014011 (Rev 20) and may require further information from NB Power to verify completion of the Mitigation Plan under the terms of this Settlement Agreement.

### **III. Financial Penalty**

65. After careful consideration of the various factors and circumstances related to the NB Power Violations described above, the Board has determined that NB Power shall pay a financial penalty of one hundred thousand dollars (\$100,000) under this Settlement Agreement.

### **IV. Parties Separate Representations**

#### **Board**

66. The Board agrees that this Settlement Agreement is in the best interests of the parties, in the best interest of bulk power system reliability, avoids extended litigation with respect to the matters described or referred to herein and effectuates a complete and final resolution of the issues set forth herein.

#### **NB Power**

67. NB Power agrees that this Settlement Agreement is in the best interests of the parties, in the best interest of bulk power system reliability, avoids extended litigation with respect to the matters described or referred to herein and effectuates a complete and final resolution of the issues set forth herein.
68. NB Power neither admits nor denies that the facts set forth and agreed to by the parties for purposes of this Settlement Agreement constitute violations with the aforementioned standards.

69. FAC-003-1 R1 VTN2014004 and FAC-003-1 R2 VTN2014005

NB Power's "Transmission Vegetation Management Program" is comprised of two independent activities.

1. Planned activities: Cutting transmission line vegetation at scheduled intervals where maintenance intervals are set to ensure that vegetation will not encroach into the Minimum Vegetation Clearance Distance (MCVD) for the full operating range of the transmission line.
2. Unplanned activities: Identification and timely response to vegetation issues between scheduled planned cutting intervals.

Overlaying these two activities provides NB Power with a high degree of assurance that vegetation will not encroach into the MVCD.

Auditor findings for FAC-003-1 Requirement 1 and 2 identified issues with item two above (i.e. unplanned activities). Upon review, NB Power found that field personnel were not following procedure in that priorities were often artificially elevated, which correspondingly reduced correction time, as a practice to keep visibility on work through the workorder system. Field personnel were not aware of the compliance implications of not completing the vegetation workorders within the required timeframe. The artificially elevated priorities contributed to the audit findings that work was not completed on time in accordance with NB Power's procedure as well as not informing the system operator of an imminent threat for artificial high priority cases as staff believed that it was not a potential threat.

70. IRO-002-2 R6 VTN2014006 and IRO-005-3.1a R1 VTN2014007

The new SE/CA tools, which were a part of a larger project to replace the SCADA/EMS system, were not sufficiently tested prior to the cutover on August 27, 2013. As a result the SE/CA tools did not function with adequate accuracy and reliability to allow operators to monitor transmission contingency events.

While the SE/CA was unavailable NB Power modified operator processes to provide additional on-demand operational contingency studies as well as instituting operational procedures requiring offline studies to be triggered by a variety of system changes. NB Power believes this modified process for additional on-demand operational contingency studies overlaid with the day-ahead study results, which included operations procedures for contingencies of concern, mitigated the risk to the system. Additionally, NB Power relies on offline day ahead planning studies and SCADA alarming on predefined IROL conditions, which were not impacted by SE/CA unavailability, to maintain real-time situational awareness. The SE/CA was placed in service on Dec. 2, 2014.

71. PRC-023-2 R1 VTN2014011

For those circuits that were deemed limited, NB Power had applied criteria 2 of requirement 1 and lowered its line operating limits as opposed to relaxing its protection relay settings. This was believed to meet the intent of the standard by ensuring that relay operation would not occur prematurely during emergency operations by providing the desired ride-through capability.

72. NB Power is committed to the reliability of the bulk power system and has taken the necessary steps to help ensure that similar circumstances will not occur in the future.

## V. Additional Terms

73. NB Power shall pay the financial penalty of one hundred thousand dollars (\$100,000) to the NBEUB within thirty days of the execution of this Settlement Agreement.

74. This Settlement Agreement represents a full and final disposition of the violation described above and NB Power waives its right to further hearings and appeal for the Violations.

75. In the event NB Power fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Settlement Agreement, the Board may initiate enforcement, penalty, or sanction actions against NB Power to the maximum extent allowed by the *Electricity Act* and its *Regulations*.

76. The Board will issue a Notice of Settlement Agreement and publicly post this Settlement Agreement once executed. A copy of the Notice of Settlement Agreement is attached hereto as Exhibit "A".

77. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts the Settlement Agreement on the entity's behalf.

78. The undersigned representative of each party affirms that he or she has read the Settlement Agreement, that all of the matters set forth in the Settlement Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that the Settlement Agreement is entered into by such party in express reliance on those representations.

79. This Settlement Agreement may be signed in counterparts.

80. This Settlement Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

Agreed to and accepted:

Kathleen Mitchell

Kathleen Mitchell  
Chief Clerk  
BOARD

April 27, 2017  
Date

Wanda Harrison

Wanda Harrison  
Corporate Secretary and General Counsel  
NB Power

April 18, 2017  
Date